

Best and close friendships in adulthood: The ups, downs, and in between
(reciprocation, dissolution, distress, ostracism, and restoration)

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“they did not tell me it would hurt like this
no one warned me
about the heartache we experience with friends
where are the albums I thought
there were no songs sung for it
I could not find the ballads
or read the books dedicated to writing the grief
we fall into when friends leave
it is the type of heartache that
does not hit you like a tsunami
it is a slow cancer
the kind that does not show up for months
has no visible signs
is an ache here
a headache there
but manageable
cancer or tsunami
it all ends the same
a friend or a love
a loss is a loss is a loss”
- *The underrated heartache* (Kaur, 2017, p. 66)

Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint award of this degree.

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I acknowledge the support I have received for my research through the provision of an Australian Government Research Training Program Scholarship.

Signed

Sarah Elizabeth Williams

Date: 21/09/2023

Outline of Candidature

This thesis was completed as part of a Doctor of Philosophy at the University of Adelaide.

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Signed

Sarah Elizabeth Williams

Date: 21/09/2023

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Thesis playlist

Rationale

During this PhD many people expressed their interest in the topic of adult friendships and loss. People shared about the importance of close friends in their life, and the pain of losing these connections, grieving the loss of both the friendship and the future they envisioned together. At the same time, most people made comments about how they felt “silly” about continuing to feel sad, or trivialised their experience as “juvenile”, “like high-school”, or “friendship-drama”. What appeared to be missing was the understanding that loss of close friendships in adulthood is a common, universal experience, and that grief can be intense and long-lasting.

In recent years the music industry and other secular mediums (e.g., focus articles, podcasts, movies) have demonstrated an increase in social sensitivity to the wide range of emotions associated with friendships and friendship loss. In the past the focus of friendship music has been predominantly on the feelings of happiness, anger, and unrequited love. Whereas recently there has been an increased focus on sadness, shame, remorse, loneliness, fear, kindness, forgiveness, redemption, and restoration. This increased sensitivity may help people feel less isolated in their distress, increase willingness to seek social and professional support, and increase their sensitivity to the experiences of others.

To demonstrate the depth of emotion being explored in secular mediums I decided to create five short music playlists for this thesis that capture its five major themes. I hope this adds both theoretically and emotionally interesting elements to the thesis.

Listening to the playlists is optional but would be greatly appreciated. Tracks and playlist links are included below:

Playlist tracks

Reciprocation

“My same” (Adele, 2008, track 10)

“Best friend” (Laufey, 2021, track 1)

“How can I tell him” (Lekman, 2017, track 8)

“Thank you for being a friend” (Gold, 1997, track 1)

Dissolution

“How to lose a friend” (Wafia, 2020, track 6)

“End of a friendship” (Jacklin, 2022, track 10)

“Broke up with my best friend” (Tisdall, 2021, track 1)

“You want everyone to love you” (Bestfriend, 2021, track 1)

“Smoke” (Folds, 1997, track 7)

Ostracism

“That friend” (Tsai, 2021, track 1)

“Backseat rider” (Kays, 2021, track 1)

“Ex best friend” (Kole, 2021, track 1)

“Positively 4th Street” (Dylan, 1965, track 9)

Distress

“I lost a friend” (Finneas, 2019, track 1)

“Fine on the outside” (Ahn, 2014, track 1)

“Secret for the mad” (Dodie, 2017, track 5)

Restoration

“Forgive me friend – acoustic version” (Smith & Thell, 2019, track 1)

“That wasn’t me” (Carlile, 2012, track 4)

“Evening prayer” (Lekman & LaMotte, 2017, track 2)

“Old friends” (Coldplay, 2019, disk 2, track 5)

“Old friends” (Rector, 2018, track 4)

“I’ll stand by you” (Pretenders, 1994, track 7)

Playlist links

Songs names and playlist links found at the beginning of the following chapters: Method, Dissolution, Distress, Restoration and Ostracism. While the songs can be sourced individually, Spotify playlist links have been embedded in those chapters and can be clicked on to instantly play each list. A free standard Spotify account is required for the playlist links to be played, which can be accessed at <http://www.spotify.com>.

Option A: FULL playlist (all songs)

<https://open.spotify.com/playlist/4oW3xnK7E4J3q0oFrLvo0E?si=e7647f98bed4448c>

Option B: Individual playlists (themes only)

Playlist 1: Reciprocation (4 songs)

https://open.spotify.com/playlist/4fWYQvEfsfxTmc8HkmQSN0?si=_11naB8gQTez_s9qMpLH9Q

Playlist 2: Dissolution (5 songs)

<https://open.spotify.com/playlist/61TLNwZj22ayhKzYTj8kms?si=295f82b544bb4531>

Playlist 3: Ostracism (3 songs)

<https://open.spotify.com/playlist/4TL1cZIdf3CfyxSJYPgkhk?si=7e2a7c249bd44736>

Playlist 4: Distress (3 songs)

<https://open.spotify.com/playlist/0AIGjHstisqH47kOTJF5h3?si=cd08076819de4027>

Playlist 5: Restoration (6 songs)

<https://open.spotify.com/playlist/0MtTIwi8OHiZ0rBojwPzGD?si=6ed40b27848b4149>

Abstract

In this thesis, the aim was to identify the main predictors of dissolution, distress, and restoration of close and best friendships in adulthood. A second aim was to identify predictors of actor-ostracism of current and former close friends. A wide range of factors found to impact outcomes in romantic relationships and child/adolescent friendships in the literature were explored using prospective, current perspective, and retrospective designs. Data were collected in three waves over a 12-month period. The sample comprised fluent English speakers ranging from younger to older adulthood and spanned 28 countries of residence. The results showed that close and best friends were able to predict one another's ratings of friendship quality with high accuracy, and that there was high inter-rater agreement of friendship quality within these friendships. Inter-rater agreement of friendship quality was highest for reciprocated best friendships, followed by best-close friendships, and then reciprocated close friendships. Substantial contemplation of engagement in intervention programs targeting maintenance and restoration of close friendships was demonstrated in the sample. Univariate regression analyses demonstrated that close and best adult friendships were impacted by similar factors to both romantic relationships and child/adolescent friendships. A series of multiple regression analyses identified two major themes of predictors across all outcomes: bullying behaviours within peer groups and dyads (ostracism and verbal victimisation), and sexual interest between romantic couples and dyads. While the former uniformly predicted poorer friendship outcomes, the latter predicted higher friendship instability, including higher dissolution, distress, and ostracism, but also predicted higher likelihood of restoration. Practical and research implications include the importance of identifying bullying behaviours and sexual interest factors (within-dyads or romantic-partner) in the therapy context and incorporating these themes in the development of friendship-based intervention programs for adults.

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Chapter 1. Introduction and literature review: Wellbeing, status, and maintenance

1.1 Preamble

Friendship is a voluntary interpersonal connection between two people that is characterised by mutual affection or liking (Collins, 2022, Furman et al., n.d.), and where acquired resources (i.e., self-benefits) from the friendship are a by-product of, but not the reason for, the current connection (Allan, 2003; Glover & Parry, 2008). Over time, friendships may remain stable, experience fluctuations in closeness, dissolve completely, or transform into other forms of connection, such as romantic relationships (Roberts & Dunbar, 2011; Stinson et al., 2021). Longitudinal research has found that length of close or best adult friendship status at baseline is predictive of friendship closeness two decades later (Ledbetter, 2007).

Friendships in adulthood have the capacity to significantly impact mental and physical health in both the short- and long-term (e.g., Chopik, 2017; Forbes et al., 2020; Holt-Lunstad et al., 2015; Nezlek et al., 1994; Sutin et al., 2020). Good quality friendships tend to increase physical and mental health (e.g., Binder et al., 2012), and lower mortality rates (Holt-Lunstad et al., 2015). However, strain can occur when agreement about friendship status, or even the existence of friendship, is not mutual or clear (Aharony et al., 2011; Almaatouq et al., 2016; de Montjoye, 2014; Eagle & Pentland, 2006; Madan et al., 2012; Vaquera & Kao, 2008). Strain can also occur when conflict is present (Boulton et al., 1999). Strained friendships have been found to be detrimental to mental and physical health (e.g., Chopik, 2017; Forbes et al., 2020; Nezlek et al., 1994; Sutin et al., 2020; Troop-Gordon & Ladd, 2005).

In childhood and adolescence, friendships often exist in the context of peer groups. This may provide a supportive environment for close friendships to thrive or may add additional strain on close friendships via negative peer influence (Boulton et al., 1999; Lemay & Clark, 2009; Plamondon & Lachance-Grzela, 2018). In turn, close friendships within childhood peer groups act as a buffer from the negative effects of group bullying, or “mobbing” (Boulton et al., 1999). Mobbing has been defined as group level “verbal harassment, aggressive words, sarcasm, slander or social isolation repeatedly targeted at a specific person at a specific period of time” (Tatar & Yüksel, 2019, p. 57). When dyadic friendships (i.e., between the two individuals) themselves are characterised by bullying

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behaviours, and the friend takes on the role of either aggressor, pro-aggressor (i.e., supporting the perpetrator), or acts neutrally toward their targeted friend in the peer group setting, group bullying is exacerbated (Boulton et al., 1999; Wojcik & Flak, 2021).

Common bullying behaviours include direct behaviours (i.e., overt, visible, intentional, and the target and perpetrator are easily identifiable) or indirect behaviours (i.e., subtle, covert, intentional, and discreet behaviours that are used to humiliate, harm, or hurt the other person, and it is difficult to identify the target and/or the perpetrator), and regularly include verbal victimisation and ostracism (PACER's National Bullying Prevention Center, n.d.). Ostracism involves ignoring and excluding while in the presence of that person physically or online, such as being made to feel invisible (e.g., not being made eye contact with), as well as being forgotten, left out, being given the "cold shoulder", or being ignored via social messaging (Lutz, 2022; Rudert, 2020; Wesselmann & Williams, 2017; Williams, 2009).

Williams and Govan (2005) stated that "without exception, the consequences of exclusion on the targeted individual are negative" (p.47). Ostracism threatens people's need to belong and has been shown to negatively impact wellbeing, and to increase desire to restore interpersonal connections (Jaubert et al., 2022; Lutz, 2022). For example, ignoring via social media messengers (such as WhatsApp) has been found to decrease need fulfilment in victims and increase their desire to use messenger services in the short-term to cope with rejection and receive fulfilment of needs. In addition, there is a negative impact on their self-esteem, feeling of control, and sense of belonging and meaningful existence (Lutz, 2022). Friendships and social support systems can help or hinder the regulation of need fulfilment. For example, ostracism from religious groups has been found to increase existential concerns and decrease feelings of belonging, meaning and self-esteem, whereas inclusion and acceptance from religious groups has been found to decrease the negative effects of ostracism (Hales et al., 2020). Research has found that sharing experiences of ostracism with another in-group member or friend in a social group who has also experienced ostracism within the group can increase in-group identification but does not improve fulfilment of psychological needs, wellbeing, or recovery from the experience (Jaubert et al., 2022).

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Responses to ostracism have been found to be impacted by prior bullying events. For example, experiencing peer verbal victimisation prior to a simulated social exclusion event has been found to exacerbate negative responses to ostracism at a neural level in a sample of adolescent and adult females. This neural response affects emotional and cognitive responses to ostracism, and the potential for increased mental health issues following the ostracism (McIver et al., 2018).

Long-term costs of ostracism may also exist for both ostracisers and approving in-group members (i.e., group members who believe that ostracising the target is warranted). For example, ostracisers and supporters may experience decreased psychological health resulting from decreased relatedness and thwarted autonomy, even when the ostracism is believed to be justified (Legate et al., 2021).

It is unclear in the literature whether close adult friends personally ostracise each other or why this occurs. It is also unclear how ostracism effects the longevity of close friendships and the chances of restoration in the future. Similarly, dissolution (i.e., breakup) distress is not typically studied in relation to close adult friendships, rather it is studied following the termination of romantic relationships (Field et al., 2009), despite the impact of friendship strain and termination on physical and mental health in adulthood. Thus, it is unclear why dissolution distress is higher following the termination of some close friendships than others. In addition, there is a lack of understanding about why some close friendships are restored and others are not. Child and adolescent friendship literature research also tends to focus on the capacity to make friendships (e.g., Hall, 2018), and group inclusion and exclusion (Arslan, 2019), rather than on sustaining and restoring close friendships. Also, interpersonal relationship restoration strategies are typically studied in adult romantic (e.g., Vollmann et al., 2020) and workplace relationships (e.g., Van den Brande et al., 2017) rather than close friendships.

A compounding issue in the literature is the high saturation of factors that impact child and adolescent friendships and romantic relationships overall, which results in a plethora of different options for clinicians to focus on in individual therapy but can be overwhelming practically, especially when the number of therapy sessions is limited. A better understanding of which factors best predict future dissolution of close friendship status, which factors best predict current

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dissolution distress, which factors best predict future restoration, and a better understanding of any role ostracism may play may increase the chances of maintaining and restoring closeness in adult friendships and increase the mental and physical health benefits of good quality friendships. Increased understanding in these areas may assist in the development of more meaningful and achievable goals in the therapeutic context, especially for adults experiencing friendship ostracism, decay, or distress, or wanting to restore closeness with previous close friends (Skelly, 2020).

It is possible that adult friendships are influenced to a similar degree by factors that affect child and adolescent friendships. Brain maturation continues from childhood into early adulthood in areas of the brain that impact social functioning, adjustment, and impulse control, such as the prefrontal cortex and limbic system (Arain et al., 2013). However, the social environment becomes more sophisticated in adulthood (Hess et al., 2005). Similarities exist within the two populations; for example, other- and friendship-oriented social motivation exist in both adulthood and childhood (i.e., prioritising the welfare of the friend or the friendship over one's own welfare; Barnett et al., 2000; Crocker et al., 2017; Doenyas, 2017). Likewise, self-oriented social motivation exists in both adult and child populations (i.e., prioritising one's own welfare over the welfare of the friend or the friendship; Barnett et al., 2000; Crocker et al., 2017; Doenyas, 2017), regardless of personal morals, ethics, or the ability to understand the perspectives of others (Doenyas, 2017).

Difficult social dynamics, such as power imbalances, ostracism, and victimisation, are evident across the lifespan, such as in school and workplace environments, organisations, religious groups, and friendship groups (Hales et al., 2020; Lo Presti et al., 2019; Nauman et al., 2019; Reknes et al., 2019; Vveinhardt & Fominiene, 2020; Wójcik & Rzeńca, 2021), with decreases in these factors co-occurring with ages that correspond with life stages when social environments become less fixed and diverse (e.g., over 65 years), such as leaving the workforce (Rudert et al., 2020). Individual characteristics that have been found to predict being ostracised in the workplace environment include “the victim's big-five personality traits [as discussed later], positive and negative affect, dark personality traits of psychopathy [e.g., narcissism, Machiavellianism and psychopathy], paranoia, approach and avoidance tendencies, warmth and competence, and social abilities and skills” (Liu et al., 2021, p. 65).

The choice and ability to change social environments and friendships may be influenced by a range of factors in both child and adult populations, such as the perception of availability of support from peers or organisations (e.g., school, hobby organisations; Wójcik & Rzeńca, 2021), the level of self-blame people have for their victimisation (i.e., locus of control; Wojcik et al., 2021), and other associated costs (i.e., financial, practical, or community costs; Harasymchuk & Fehr, 2019; Wojcik et al., 2021; Wojcik & Flak, 2021; Wójcik & Rzeńca, 2021). Also, under similar conditions, adults tend to experience similar social challenges and costs to their mental and physical health as children (e.g., Lo Presti et al., 2019; Nauman et al., 2019; Reknes et al., 2019; Thornberg, 2017; Vveinhardt & Fominiene, 2020).

Within social groups, social ranking, peer pressure to conform to group norms, and the tendency to administer aggressive punishment for rule violations such as ostracism and victimisation, can lead to strain within close friendships (Boulton et al., 1999; Lemay & Clark, 2009; Plamandon & Lachance-Grzela, 2018). Some growth in ability to refrain from peer pressure occurs from ages 14-18 years of age, however, little growth occurs in the surrounding age groups (10-14 years or 18-30 years of age; Steinberg & Monahan, 2007). During early to older adulthood, increased age is related to a desire for harsher punishments for violations of group norms, especially if the individual believes themselves to be morally superior to the perceived rule breaker (Hofmann et al., 2018). Personal pressures, such as stress caused by external factors (Backes et al., 2017), and personal characteristics, such as narcissistic personality traits, can also result in aggression, strain, and decreased satisfaction within interpersonal relationships (Kalemi et al., 2019). Without sufficient repair to alleviate strain within close friendships, dyad members may experience impaired mental and physical health (Crocker et al., 2017), and closeness within the friendship may dissolve (Mac Carron et al., 2016; Dunbar & Machin, 2014).

It would be helpful to directly compare a wide range of factors such as individual characteristics, behaviours, and contextual influences of both dyad members, as well as friendship dynamics (e.g., time spent together), with peer-related factors (e.g., peer approval, general likeability, popularity, verbal victimisation, and ostracism) to examine how well these factors compare in predicting friendship dissolution, restoration, and distress. This would be

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especially useful in adult friendships, where fewer factors have been explored and compared.

Adult romantic relationships are also likely to be impacted by similar factors as close adult friendships. VanderDrift et al. (2012) argued that “romantic relationships are, at their core, friendships” (p. 115), and found that higher quality friendships within romantic relationships predicted higher relationship commitment and relationship longevity, whereas relationship aspects (e.g., sexual activity) did not predict these outcomes. This suggests that similar predictors of outcomes may exist for both friendships and romantic relationships.

Friendships and relationships are also similar in that they can both vary dramatically in length. For example, some friendships last for decades (Ng et al., 2021) and experience high emotional closeness (Fung et al., 2001; 2009; Lang & Carstensen, 1994), and some romantic relationships only last weeks or months (e.g., Field et al., 2009; 2011; Marshall et al., 2013). Thus, it is possible that people may experience varying levels of closeness in both friendships and romantic relationships, and also varying levels of distress and residual feelings following dissolution, such as love and commitment (Langeslag & Sanchez, 2018, p. 720). However, generalisability should not be assumed and should be examined empirically. Research examining the effects of known predictors of romantic relationship quality and outcomes may assist in understanding factors that predict close friendship dissolution, restoration, and distress. Comparing these predictors in the same sample would also assist in determining which predictors are the best at predicting outcomes in close adult friendships, especially if there are as many univariate predictors as there are in romantic relationships.

The present chapter reviews the literature on predictors of outcomes in both friendships across the lifespan and adult romantic relationships and establishes the basis for focusing on determining the best predictors of key outcomes (i.e., dissolution, restoration, and distress) and themes (i.e., ostracism) in close adult friendships in this research.

1.2 Wellbeing: interpersonal relationships, victimisation, and ostracism

Friendship and social support significantly impact mental and physical health. Friendlessness and peer victimisation have been found to be associated with negative peer beliefs (i.e., negative “cognitive representations of peers”; Troop-Gordon et al., 2019, p. 2428) increased loneliness (Ladd & Troop-Gordon, 2003), increased internalising, and increased externalising symptoms in children

(Troop-Gordon & Ladd, 2005). Peer victimisation has been found to have a pervasive negative effect on general psychopathology in adolescents and on specific symptom domains (i.e., anxiety, depression, hyperactivity and inattention, substance use, conduct problems), regardless of whether the peer victimisation is physical, verbal, or relational in nature (Forbes et al., 2020). Loneliness has been found to predict the development of chronic illnesses in adulthood, even when controlling for factors such as social isolation and genetics (Sutin et al., 2020). While loneliness and social isolation both predict adult mortality, only social isolation is significant when they are considered together (Steptoe et al., 2013). This indicates that loneliness predicts increased development of chronic illness and social isolation predicts increased chances of mortality in adulthood.

Social networks in general have been found to be protective against the negative effects of stress (Bukowski et al., 1994; Turner & Brown 2010), grief, trauma, and effects of childhood maltreatment or developmental challenges (King et al., 2016), and to increase individual interpersonal skills (Bukowski et al., 1994). Higher levels of social support in adulthood are associated with lower loneliness (Binder et al., 2012), better long-term therapeutic outcomes for a range of mental health conditions, and better mental health when controlling for the presence of additional stressors such as work stress (Gayer-Anderson & Morgan, 2013; Kotler et al., 2001; Norman et al., 2005). A large international study comparing the impact of familial relationships and friendships on wellbeing in older adults found that familial support predicts subjective wellbeing more strongly than friendships, whereas strained friendships predict the development of chronic illnesses longitudinally, but familial relationships do not (Chopik, 2017), indicating that different types of interpersonal relationships may have similar but distinct costs and benefits to long-term wellbeing.

The quality of friendships also significantly impacts wellbeing, with higher quality predicting better outcomes than lower quality friendships. For example, higher social integration and stronger social relationships predict lower mortality in adulthood by 91% and 50% respectively. These rates are similar to the impact of quitting smoking, and significantly higher than rates for other risk factors including lack of physical activity and obesity (Holt-Lunstad et al., 2015). Wellbeing can also be affected in closer status friendships, with research finding that lower emotional intimacy within adult best friendships is related to higher depressive symptoms (Nezlek et al., 1994). Thus, it is important not to assume

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that best and close status friendships are immune from having a negative impact on physical and mental health, and to determine factors that may predict higher and lower quality within close friendships, especially given that the negative effects of these friendships may be more hidden or less validated given the higher status of the friendship.

Both objective and subjective social support and isolation impact wellbeing. For example, a meta-analysis comprised of longitudinal studies (average 7.5 years) found that both subjective and objective social isolation were equally predictive of mortality in adults, and that samples with an average age of 65 years or lower demonstrated a higher risk of mortality than those with an average age of over 65 years, indicating that people under 65 years of age may be more at risk for this effect (Holt-Lunstad et al., 2015). A recent systematic review found that even the perception of having a low social rank predicts higher levels of depressive symptoms and suicidal ideation/self-harm, especially for people who ruminate or have low self-esteem (Wetherall et al., 2019). Given that both objective and perceived loneliness and social isolation have strong implications for psychological and physical health, it is important that research not only focuses on the existence of friendship but on the quality of friendships, possible predictors of quality (e.g., victimisation and ostracism), and changes in quality.

Quality of relationships has also been found to impact wellbeing in adult romantic relationships. For example, research found that suicide risk was highest for people in low quality romantic relationships, as measured by low satisfaction, lower for people not currently involved in a romantic relationship, and lowest for people in a happy relationship (Till et al., 2017). In addition, while marital status has been found to be predictive of higher life satisfaction than other forms of relationship status (i.e., single, dating, unmarried cohabiting, or divorce; Zhou et al., 2018), higher current relationship satisfaction in married couples predicts higher life satisfaction and wellbeing more strongly than marital status alone (Lehmann et al., 2015). Life satisfaction has also been found to be positively associated with staying together at 15-year follow up for couples who originally presented for marital counselling with mild relationship problems, and positively associated with being divorced for couples who had originally presented with severe relationship problems (Gustavson et al., 2012). Baker et al. (2017) summarised that the discontinuation of severely strained relationships may be necessary to “optimise personal wellbeing” (p. 700). Taken together, these results

indicate that stronger interpersonal relationships are beneficial to physical and mental health in the short- and long-term, but weaker relationships can be detrimental to both individuals involved (Proulx et al, 2007; Robles et al., 2014).

1.3 Cognitive limit, social network size and status

1.3.1 Dunbar's number

While there are many benefits of strong social connections, there are constraints on how many social friendships and relationships people can maintain at the same time (Dunbar, 1993). Linear correlations exist between brain size (neocortical volume) and both social group size (Dunbar, 1992) and sub-group (i.e., grooming clique) size in primates (Kudo & Dunbar, 2001) and in other species who form bonded social relationships (e.g., cetaceans; Marino, 1996; Tschudin, 1997; and carnivores; Dunbar & Bever, 1998). These bonded relationships involve a “[mutual] commitment to each other by a form of trust, reciprocity and obligation” and are not limited to reproductive relationships (Dunbar, 2021, p. 26), indicating that members of social networks may be made up of a range of types of interpersonal relationships (e.g., familial, romantic, friendship). According to the social brain hypothesis, larger primate brains have developed to assist in the survival of the species via more effective communication about survival resources (e.g., access to water, food, shelter), protection against survival threats (e.g., predators, environmental hazards), and the ability to manage intra-group conflict and stressors more efficiently (Dunbar, 1998).

Dunbar's number is the colloquial term used for the average number of people in human personal social networks (Goncalves et al., 2011). Dunbar (1993) initially predicted that this number would be 150-200 people based on human neocortical size and the predicted cognitive limit of the number of complex and mutually affectionate social relationships human brains can invest in. He also posited that language development allowed for communication with non-network individuals when required. Hill and Dunbar (2003) later suggested that this number averaged 150, including adults, children, genetic relations (kin) and non-genetic relationships (kith/friend) based on the average number of people that were included on participants' Christmas card list in a simulated study. This number includes genuine or close friends, defined as others who people would “like” to spend time with, actively make efforts to interact with (if possible), and would make efforts to assist if required (Dunbar, 2021).

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Other studies have also found an average personal social network of 150 (slightly fewer if child network members were not included in the study; Dunbar, 2021) using a wide range of methods in both modern and historical societies. For example, studies have examined the average number of friends people have on social media based on regular exchanges of online messages (Goncalves et al., 2011), the number of people others were willing to ask to do a favour for a study before re-asking the same people a second time (Killworth et al., 1984), the size of historical villages across time, clan community sizes (Dunbar, 1993), the number of people within social networks who regularly exchange emails (Haerter et al., 2012), regular phone communication exchanges prior to the development of the smart phone (Mac Carron et al., 2016), and the number of guests at weddings in the USA (The Knot, 2021). Individual differences in the social network number found in these studies typically ranged between 100 and 250 individuals (Dunbar, 1993; Goncalves et al., 2011; Haerter et al., 2012; Hill & Dunbar, 2003; Killworth et al., 1984).

The people in personal social networks are typically grouped in a series of concentric circles of relationships (R) that are separated by a factor of three ($N = 5$ ($R \times 3$); Zhou et al., 2005) and differentiated by emotional closeness (Hill & Dunbar, 2003), with more emotionally close individuals at the centre and consecutively less emotionally close relationships being in the middle or outer layers. Based on the average social network size (150 people) people may have a romantic partner at the innermost circle who takes up have approximately 1.5 positions (or the equivalent of 1.5-2 friend/kin relationship spaces; Dunbar, 2020); five very close people in the inner “support circle”, with whom people are likely to be in contact on a weekly basis (Hill & Dunbar, 2003); 12-15 people in the next circle who form the “sympathy circle” and are likely to feel devastated if the person died; approximately 50 other active or close friends in the next circle; and the remainder of the 150 people consisting of people who have weaker ties to the individual but their relationship is still characterised by a level of “[mutual] commitment to [the person based on] trust, reciprocity and obligation” (Dunbar, 2021, p. 26). Regarding the inner “support circle”, contact tends to be regular, or less often but for an extended period (e.g., spend the day together; Mac Carron et al., 2016; Roberts & Dunbar, 2011). Thus, space for maintaining close friendships and relationships is limited and these connections may be selected and then re-

classified to outer circles or deleted over time to make room for other connections.

A range of constraints impact the individual cognitive limit and selection preference of humans, including time, financial and information processing costs, and genetic relatedness (e.g., Burton-Chellow & Dunbar, 2011; Roberts & Dunbar, 2011; Stiller & Dunbar, 2007; Wise & King, 2008). Selection and filtering processes are applied if the number of people in any of the circles becomes too high, or if better matched alternative people present (Sutcliffe et al., 2012, Saramäki et al., 2014). Genetic relatedness (i.e., kin premium) has been found to take preference, followed by in-laws, and then genetically unrelated friends (Burton-Chellow & Dunbar, 2011). The researchers found that people who have large and close-contact families have been found to include more family members in their network and fewer friends. In addition, the researchers found that in-laws are treated more like kin than unrelated friends in terms of emotional closeness, perhaps because future generations share a genetic lineage with in-laws and there is a higher instinct to protect members of one's lineage. More contact has been found to be required to maintain the same level of emotional closeness with friends than with kin, indicating that maintaining friendships may be more costly than maintaining kin relationships (Roberts & Dunbar, 2011).

Other research into individual and interpersonal differences in social network size has found impacts of factors such as personality, mentalising skills (i.e., perspective-taking ability and ability to understand one's own mind-state), and memory capacity. For example, research into personality differences in social network size has found that higher extroversion is related to larger numbers of individuals in each of the concentric circles of the network, the ability to replenish friends when major life events occur, such as moving (Furukawa et al., 1998), and to predict higher relationship satisfaction with one's romantic partner (Malouff et al., 2010). Extroversion has also been found to be linked to better social skills (Lieberman & Rosenthal, 2001), the ability to gain and hold social attention (Ashton et al., 2002), higher participation and enjoyment of social activities (Argyle & Lu, 1990) and interactions (Asendorpf & Wilpers, 1998), higher support from social networks (Asendorpf & Wilpers, 1998), and lower levels of loneliness (Long & Martin, 2000). It is possible that these factors result in lower cost of friendship maintenance for extroverts and the capacity for higher numbers of people in their social network before reaching their cognitive limit. However,

emotional closeness with individuals who are classified as closer does not differ by level of extroversion or introversion (Pollet et al., 2011). In addition, introverts and extroverts have a similar level of satisfaction with their social groups overall (Swickert et al., 2002), and are considered equally likeable by peers (Rudert et al., 2020).

Differences in mentalising skills and memory capacity also predict individual differences in social network size, with higher memory capacity predicting more people in the sympathy circle of the network (e.g., those who would be devastated if the individual died), and better mentalising skills predicting higher numbers of individuals in one's inner-most support circle (Stiller & Dunbar, 2007). This is possibly because more accurate information processing may result in lower maintenance costs and "spare" cognitive capacity to invest in additional network members.

1.3.2 First impressions and models of selection

First impressions affect the likelihood that people will seek closer connections with others after meeting. These impressions are influenced by a range of factors, such as facial characteristics (Rudert et al., 2020) and perceptions of competence (Chang & Cikara, 2018). Even when in the same vicinity with unknown individuals people change their behaviours to create certain impressions of themselves to those around them. For example, males have been found to increase showing off behaviours when members of a different sex are in the immediate vicinity, such as being significantly more generous and engaging in more risk-taking behaviours (Iredale et al., 2008; Pawlowski et al., 2008).

People may form negative impressions of others, which may be because of characteristics of the other person (Rudert et al., 2020), and/or because of emotions elicited by other factors within the environment at the time of meeting. This has been demonstrated in research on negative priming, where people first encountered an image of an unknown person amid experiencing a negative response to an ambiguous stimulus and went on to attribute these negative emotions to the unknown individual (Hazlett & Berinsky, 2018; Mann et al., 2019; Payne et al., 2005). These impressions are often long lasting, unless new counter information presents that is highly informative, or diagnostic, about the character of the individual, which can then lead to a rapid reversal of the first impression (i.e., from positive to negative; Cone & Ferguson, 2015; Mann & Ferguson, 2015, 2017).

A range of psychological theories have evolved to explain how people select and categorise their social network members. First, the stimulus-value-role model (Murstein, 1970) stipulates that selection occurs over a sequence of three distinct and sequential steps: people who meet the criteria for the early steps are selected to be tested for the next step, and are filtered into layers based on how well and far they progress in the process. The first stage in the model is the stimulus stage, where people assess the physical attributes of others to determine if they believe that person will be able to meet their needs (e.g., age, appearance, ethnicity). People choose to ostracise others who have certain physical attributes that contrast with the stereotyped set of looks for that situation. The second stage in the model is the value stage, where people assess whether the other person's attitudes and values align with their own (e.g., political, religious, moral beliefs, and gender differences). The third stage in the model is the role stage, where people evaluate the practicalities of maintaining connection, and the roles required by each person. These stages are re-evaluated over time (e.g., at different life stages or when new information about the person comes to light) and people are filtered out or re-assigned a new classification or role based on best fit at that time.

Using the stimulus-value-role model, researchers have found that marital couples demonstrate strong similarities on a wide variety of stimulus characteristics (George et al., 2015). They also found marriage dissatisfaction was predicted by discrepancies in age, spirituality, and differences in growth orientation (i.e., the areas in which people want to personally grow).

Similar to the stimulus-value-role model, process theories, or models, focus on the development of friendships or relationships over time. However, unlike the stimulus-value-role model, process theories do not involve sets of distinct sequential steps. For example, intimacy theory (Reis et al., 2004; Reis & Patrick, 1996; Reis & Shaver, 1988), stipulates that the breadth and depth of personal disclosures, as well as the reciprocity of disclosures, validate and demonstrate shared emotional intimacy between individuals and sustain closeness in relationships. Supporting research has demonstrated that self-disclosure within dating couples is correlated with current satisfaction and commitment (Sprecher & Hendrick, 2004).

Similarly, social exchange theories of relationship development categorise exchanges between dyad members as rewards or costs that increase or decrease

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relationship quality (e.g., Adams, 1965; Hatfield et al., 1979; Homans, 1961; Walster et al., 1978). These theories are based on a range of assumptions, i.e., that relationship quality changes over time, that rewards increase and costs decrease relationship quality, that dyad members re-evaluate the equity of rewards and costs each member exchanges and this influences the level of closeness and satisfaction experienced, and that distress results from inequity in these exchanges (i.e., one person is under-benefited (receives fewer rewards and/or produces less costs) and the other person is over-benefited (receives more rewards and/or produces more costs) in the relationship) (McNulty & Dugas, 2019).

One type of social exchange theory is interdependence theory. Interdependence theory asserts that stability within relationships is influenced by whether the number of positive outcomes received from each dyad member exceeds or falls short of the recipient's own expectations (which increases or decreases current satisfaction) and also the accessibility of alternative people for either dyad member who are deemed to have more attractive qualities than their dyad member. When outcomes exceed expectations, even if attractive alternatives are available, relationship dependence and stability tend to be higher, and less attention is typically directed toward alternatives (Thibaut & Kelley, 1959).

Research testing the interdependence model in dating couples found evidence that when outcomes match or exceed expectations, satisfaction is increased and people respond by increasing their own maintenance behaviours in the relationship (Dainton, 2000), demonstrating the dyadic impact on outcomes. This is further supported by research findings that both actual and perceived partner commitment moderates the association between attractive alternatives and own commitment behaviours (Park & Park, 2021). In contrast, research has found that higher desire for specific attractive alternatives, rather than their presence per se, results in increased ambivalence towards current partners and reduced inattention toward specific alternatives (Zoppolat et al., 2022), indicating the possible bidirectionality of relationships between factors within the interdependence model. Further support for the interdependence model has been found in research exploring the sensitivity of actors to the levels of sexual interest their romantic partner has in attractive alternatives. For example, research has found that chronic actor jealousy is highly predictive of their romantic partner's level of sexual interest in alternate partners, as well as increases and decreases in

this sexual interest on a given day, as independently reported by the partner (Neal & Lemay, 2014).

Rusbult's investment model extends interdependence theory and proposes that dyadic commitment occurs when both principles of interdependence theory are met, and people feel that they have invested more heavily in that relationship (e.g., time, energy, creating shared history, or financially; Rusbult, 1983). This model is widely used by researchers at present because it considers a broader range of factors than earlier models and evidence for the model has been found in many studies (e.g., Branje et al., 2007; Chow & Tan, 2013; Le & Agnew, 2003). The interrelationship of factors within the investment model was examined in a large meta-analysis of romantic relationships by Le and Agnew (2003). The researchers found that current satisfaction, quality of alternatives, and level of investment predict level of relationship commitment. Le and Agnew's findings were replicated in a study of adult friendship dyads by Chow and Tan (2013). In their study, Chow and Tan also examined the impact of friendship attachment styles on the investment model and found that attachment avoidance is predictive of lower current satisfaction, investment, and commitment in both members of friendship dyads; and higher attachment anxiety is predictive of higher investment and commitment.

Branje et al. (2007) also examined the ability of the investment model to predict same-sex best friendship commitment and sustainability in early and middle adolescence. The researchers found that the investment model also predicted current commitment level and the continuation of best friend status longitudinally, and that commitment mediated the relationships between status sustainability to each of the other model factors: current satisfaction, investment, and alternatives, especially in females. Alternative friends were found to have a higher impact on best friend sustainability in older adolescents than early adolescents. The development of romantic relationships has also been found to impact the friendship quality of best friends in late adolescence and early adulthood (Camirand & Poulin, 2019).

1.3.3 Status classification and characteristics of interpersonal relationships

Friendship and romantic relationship classification systems are designed to explain the positioning of specific people inside and outside the personal social network. Friendship classification systems typically rank people as "close" or "not close", with two levels of "close" status levels (best or close friend) and three

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levels of “not close” status (casual friend, acquaintance, or no contact/stranger) (e.g., Tan et al., 2015; Hall, 2019). Similarly, longitudinal studies of romantic relationships typically use a two-level status system: “current meaningful romantic relationship” or “broken up” (e.g., divorced, separated, dissolved), with a range of possible sub classifications of interconnectedness (e.g., post-dissolution friendship status; Agnew & VanderDrift, 2015; Tan et al., 2015). As with romantic relationships and close kin relationships, best friendships are positioned in the inner circle of one’s social network, and are highly emotionally connected (Hill & Dunbar, 2003).

Hall (2019) found that significantly more hours on average are required to develop higher classification friendships than lower classifications (acquaintance to casual friend = 94 hours (likely to occur within first 6 weeks of meeting or not at all), casual friend to friend = 164 hours, friend to best friend = 219 hours). In addition, Hall found that while some activities assist in friendships progressing initially, others do not. For example, hours spent engaging in small talk, such as about pets, movies, or world events, together in a work or school environment (i.e., a closed environment) did not increase closeness, and sometimes led to decreases in closeness, whereas “hanging out”, playful interactions, or meaningful conversations increased the chance of the development of a higher friendship classification.

There are several differences between friendship, romantic and kin relationship classifications. First, while relational devaluation, or the perception that one’s value has decreased within an interpersonal relationship, may occur in friendships, romantic, and kin relationships (Leary & Acosta, 2018), it is possible to change classifications within or between friendships and romantic relationships, whereas kin relationships are typically fixed. For example, it is possible for platonic friendships (non-romantic) to be re-classified in the future as romantic and vice versa. Both friendships and relationships also require maintenance to reduce decay in quality and probability of future dissolution (Roberts & Dunbar, 2011). A recent meta-analysis found that two thirds of romantic couples were platonic friends prior to evolving into a romantic couple, and that on average these relationships became romantic after 22 months of friendship (Stinson et al., 2021). Thus, it is important for longitudinal studies to assess classification status at each wave in case changes have occurred. In addition, romantic relationships regularly involve formal contracts (e.g., pre-

nuptial agreements, marriage, mortgages) which add an official element and additional obligations and conditions to the relationship and may make changing status more difficult than in friendships (Amato, 2000). While friendships are arguably voluntary relationships (Wiseman, 1986), researchers have questioned the extent to which friendships are actually voluntary (Dane, 2001; Laursen & Bukowski, 1997; Mishna et al., 2008); for example, friendships may be less voluntary for individuals who have low self-esteem, low social status, mental health issues, or limited availability of alternative friends (Mishna et al., 2008). They may also be less voluntary when friendships are characterised by power imbalances, victimisation, or social threat (Dane, 2001), or if they exist within social groups characterised by these factors (Mishna et al., 2008).

Another way friendships and romantic relationships differ from kin relationships is that dyad members may not agree on the status classification of the connection and may experience relational uncertainty, whereas kin status is not subjective and remains unchanged over time (noting that it is possible for all three groups to move toward or away from the inner layers of the social network based on factors such as emotional closeness; Almaatouq et al., 2016). Relational uncertainty is defined as “the degree of confidence people have in their perceptions of involvement within interpersonal relationships” (Knobloch & Solomon, 2002, p. 245) and may involve uncertainty about one’s own or partner’s desire, value or future goals for the connection, or relationship factors such as the agreed acceptability of specific behaviours within the relationship, reciprocity of status, emotional closeness, or future goals for the relationship. In romantic relationships, unresolved relational uncertainty is associated with “increased jealousy, negative emotions, excitement, romance and relationship termination...decreased liking, attraction and boredom” (Knobloch & Solomon, 2002, p. 247).

Status reciprocity is based on a range of factors including the level of emotional closeness of each member (Hill & Dunbar, 2003), individual differences in the selection processes, and individual differences in cognitive limits of dyad members (Le & Agnew, 2003). Research into the level of observed or mutual agreement in the “friend” status between individuals has found international rates of friendship reciprocity range between 34% and 53% in young adults (Aharony et al., 2011; Almaatouq et al., 2016; de Montjoye, 2014; Eagle & Pentland, 2006; Madan et al., 2012). Regarding “best friend” reciprocity, a study

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found that 64% of adolescent best friendships were reciprocated within a school setting, and females reciprocated best friend status more than males (60% and 40% respectively; Vaquera & Kao, 2008).

People who feel more secure in their friendships and relationships (i.e., high emotional closeness/intimacy or an equal or higher level of interpersonal power or influence over their partner), and those who believe they are more likely to receive desirable feedback of information from the exchange, are more likely to use direct information seeking behaviours rather than indirect. Indirect information seeking strategies serve to reduce risks associated with attempts to reduce relational uncertainty or restore connections (e.g., further rejection; Knobloch & Solomon, 2002). It is common for “secret tests” to be used to reduce the negative effects of relational uncertainty, such as direct or indirect questioning of the other person or the social network about their perceptions of the relationship and using the desired status label in their presence to gauge the other person’s response (Baxter & Wilmot, 1984; Bell & Buerkel-Rothfuss, 1990).

1.4 Maintenance behaviours and intentions

Maintenance behaviours are used to regulate status and quality within interpersonal relationships (Stafford & Canary, 1991). Adults typically spend more time maintaining their romantic relationship than their friendships (Canary et al., 1993). However, decay and dissolution can occur in either if they are not maintained (Canary et al., 1993; Roberts & Dunbar, 2011). For example, researchers have found that adolescent and young adult friendships decay rapidly when there is a reduction in contact and time spent interacting in shared activities, such as following a life transition (i.e., transitioning out of secondary school; Roberts & Dunbar, 2011).

Oswald et al. (2004) identified four main categories of maintenance behaviours: positivity (opting to use optimism instead of negativity to manage aspects of the friendship), supportiveness (encouragement and support factors), openness (self-disclosure and general conversation), and interaction (joint contact, behaviours, and activities). Later, Weger and Emmett (2009) identified ten categories of relationships maintenance behaviours: routine contact and activity, emotional support and positivity, relationships talk, instrumental support, social networking, antisocial behaviour, humour, gossip, talk of outside romance, flirtation, and avoidance of negativity. Both studies demonstrate that a range of behaviours can be used to maintain interpersonal relationships.

The frequency and type of maintenance behaviour used is associated with the level of status and emotional closeness of individuals and dyads. Friendship maintenance behaviours have been found to increase when individuals perceive new social circles, new friends or existing close friends as being more able to provide them with more network resources and decrease when people are perceived as being less able to provide these resources (McEwan & Guerrero, 2012). This indicates that personal agenda and strategic behaviours typically impact the development and deliberate continuation or filtering out of friendships across time. Behaviours in early stages of friendship formation include spending time together and engaging in intense interactions and tend to occur when there is an initial liking of the other person and obvious similarities are present (such as physical attributes; Blieszner & Adam, 1992; Fehr, 2000; Hays, 1985; Wrzus, 2008). Friendship intensity is then increased using factors such as time spent engaging in positive shared activities, self-disclosures, and support, and tend to be used when there are more similarities in personal character or life transitions/events between dyad members (such as having children or caring for an elderly parent; Blieszner, 2004; Fehr, 2000; Wrzus, 2008).

Researchers have found that adults used supportiveness, openness, interaction, and positivity according to the status classification (i.e., most for best friends, next for close friends, then for casual friends; McEwan & Guerrero, 2012). Research into online behaviour maintenance strategies in friendships found that Facebook relationship maintenance behaviours were significantly related to feelings of closeness to specific friends in adolescents and predicted reciprocal closeness and Facebook relationship maintenance behaviours (Rousseau et al., 2019). Individuals who perceive themselves as engaging in more friendship maintenance behaviours within a friendship have been found to be more committed to the friendship (Mattingly et al., 2015) and experience increased happiness when engaging in the behaviours (Demir et al., 2011). Research has found that adults, regardless of their gender, expect their closer friends to be able to meet their friendship needs better in the future than their less close friends (Hall et al., 2011; Oswald et al., 2004). Meeting these expectations has been found to be related to higher current satisfaction in adult friendships (Hall et al., 2011).

Changes in life situations and similarities between dyad members may impact the level and type of maintenance behaviours used (Suitor, 1995). These changes may result in decreases in maintenance and deterioration of friendships

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(Suitor, 1995), or may result in an adjustment in maintenance behaviours to best suit the new changes and retain emotional closeness (Mac Carron et al., 2016; Roberts & Dunbar, 2011). For example, one study found that while adult best friends sometimes have less contact with each other than close or casual friends, this is typically balanced out with significantly longer and more emotionally intimate conversations or activities when contact is made to help protect against friendship decay, so results in more contact overall (Mac Carron et al., 2016; Roberts & Dunbar, 2011).

Maintenance behaviours have also been found to be impacted by mental health. For example, a study by King et al. (2016) found that the ability to maintain adult best friendships is significantly impaired in people who have current problem drinking behaviours, panic attacks, anger, or depressive symptomatology. In addition, this ability was impaired in people who reported a history of obsessive-compulsive disorder, alcohol or drug addition, schizophrenia, borderline personality disorder, suicide attempts, panic attacks, or fear of gaining weight. A history of childhood social issues increased the chances of several mental health issues but was not found to directly impact the ability to maintain adult best friendships.

Maintenance behaviours within dyads tend to be interrelated. For example, dyad members tend to increase their level of relationship maintenance behaviours when they feel supported by each other (Demir et al., 2011), and they tend to attend less to alternative friends when they believe that their friend engages in more maintenance behaviours (Mattingly et al., 2015). Even perceptions of routine use of maintenance behaviours (both self and friend's behaviours) have been found to be positively related to friendship satisfaction, rewards, and investments in adult dyads (Mattingly et al., 2015). Adult friends also adjust their maintenance behaviours and attitudes to match one another's (i.e., supportiveness, openness, interaction, and positivity; Oswald & Clark, 2006). Oswald and Clark (2006) summarised that friendship dyads co-jointly create the maintenance expectations and patterns for their friendship and that "although each person may bring to the relationship certain personal styles and social skills...it takes two people, working together, to maintain a friendship" (p. 346). However, when status disagreements occur in adult friendships (Aharony et al., 2011; Almaatouq et al., 2016; de Montjoye, 2014; Eagle & Pentland, 2006; Madan et al., 2012), it is unclear whether this matching is a result of similarities in desired maintenance by

both dyad members, if one member compromises their level of maintenance (increases or decreases) to match the other member, if they negotiate and meet somewhere between the desired levels of each member, or if other factors such as power imbalances or personality impact the level chosen. Researchers have found that people who perceive that their maintenance behaviours are not reciprocated or are unsuccessful in eliciting a desired increase in relationship quality tend to experience increased depressive symptoms (Baker et al., 2013).

It is important to note that maintenance behaviours may be used coercively (based on self-interest), altruistically (based on the interest of the other person), or a combination of both. The intention behind coercive or malicious behaviours may or may not be clear to the friend, but they tend to benefit the individual at the expense of the overall friendship quality of the dyad (McEwan & Guerrero, 2012). For example, a “frenemy” is defined as a friend who exists within a shared peer group that is typically characterised by bullying, and who themselves act as a pro-aggressor (i.e., condoning the bullying), or as neutral toward the victim friend when around the peer group, and as being pro-victim, or on the side of the victim friend, when alone with the victim (Wojcik & Flak, 2021). The target friend in these situations may have less social power than their frenemy and may adjust their behaviours to please their frenemy, but in return are likely to be perceived or co-constructed by the frenemy and peer group as deviating from the group norms deliberately, accidentally or by default (e.g., has a different physical attribute), and is ritually punished (Horton, 2011; Lyng, 2018; Teräsahjo & Salmivalli, 2003; Thornberg, 2011, 2015, 2017; Thornberg & Delby, 2019; Wojcik & Mondry, 2020). Victim self-blame has been found to be related to the continuation of frenemy relationships and bullying behaviours from peers long-term (Wojcik et al., 2021).

Researchers have found that malicious prosocial behaviours (i.e., strategic self-oriented behaviours that are used with the intention of causing harm to a target, such as impairing the other person’s autonomy or reputation, but are strategically made to appear other-oriented) are commonly directed toward more envied members of social groups, and may take the form of undermining envied members and creating situations where the envied person develops stronger dependence on their less envied friend, thereby deliberately reducing the envied friend’s independence long-term (Montal-Rosenberg & Moran, 2022). Research has found that people also use coercive strategies when attempting to poach

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romantic partners from friends, by gradually weakening the commitment of the romantic partner to their friend and increasing the friend's partner's sexual desire in themselves and perception of themselves as a valuable partner (Lemay et al., 2016).

Taken together, these findings suggest that interrelationships may exist between maintenance behaviours of dyad members and between shared peer groups and dyads, and that it is important for research into friendships to consider the behaviours of groups of shared peers when assessing maintenance behaviours and outcomes (e.g., quality and longevity) in dyads. Oswald and Clark (2006) also argue that it is important, where possible, for research to include both members of dyads to test for both individual and dyad-level correlations to reduce errors in interpretation of results, and also for future research to test dyads longitudinally in order to determine the direction of relationships between variables and causality. This would also help researchers to identify hidden intentions and motivations behind maintenance behaviours, and better explain their impact on friendship quality and longevity.

1.5 Summary

The development and maintenance of friendships involves first impressions, taking time to get to know one another, considering any new information about each other, selecting and re-evaluating where and if each other fits within one's social network, and adjustment of behaviours to maintain desired status levels. Selection involves an ongoing evaluation and re-evaluation of current satisfaction, quality of alternative people, and amount of investment to date, all of which impact the level of commitment to the friendship. Cognitive limit impacts the amount of time and energy people can put into friendships, and selection and re-evaluations include a comparison of where the friend fits relative to other people in their social network (e.g., having a new romantic relationship or friendship may result in one person reallocating people within their social network to outer layers or dissolving friendships so that they can redistribute their time and energy to develop and maintain the new connection).

When people are dissatisfied with the level of friendship or no longer have the capacity or desire to maintain a friendship to the same level, they may reduce their maintenance behaviours, ostracise their friend, or employ exit strategies to leave the friendship. This process may result in uncertainty in their friend regarding their intentions and desires for their friendship, and the friend may

employ strategies to better understand their new friendship status (i.e., secret tests) or attempt to restore their previous status level. This process may lead to repair or further strain and decay within the friendship. Once status uncertainty resolves, appropriate levels of maintenance behaviour are employed, and the level is typically matched by the friend. However, if uncertainty and discrepancies in desire continue, the friendship may dissolve or result in continued strain, which may be detrimental to the mental and physical health of one or both individuals, as well as their mortality.

Social influence appears to have an impact on the selection, maintenance, restoration, and quality of adult friendships, as it does in child and adolescent friendships, but it is unclear how much influence this has in the adult population compared to other, non-peer related, factors. It is also unclear how often ostracism and victimisation occur in adult friendships and what factors influence ostracising behaviours in current close adult friendships.

Chapter 2. Introduction and literature review: Interpersonal relationship outcomes and predictors

2.1 Preamble

A range of relationship outcomes and motives are studied in the field to help better understand interpersonal relationships. These concepts may be broad, such as overall relationship quality, or specific, measuring concepts such as commitment, current satisfaction, expected future satisfaction, emotional closeness, motivation, plans to improve the quality of the relationship, or readiness to change behaviours related to the relationship. In this chapter, the aim is to define and discuss the major outcome concepts, their predictors, and their impact on other relationship outcomes (such as dissolution and restoration) found in the existing friendship and adult romantic relationship literature to determine how these concepts and predictors may assist in better understanding reciprocation, dissolution, restoration, distress, and ostracism in the adult friendship population.

2.2 Global assessments of relationship quality and predictors

Relationship quality has predominantly been studied in romantic relationships. Kito (2016) identified seven key concepts in romantic relationship quality: love, trust, relationship quality, commitment, intimacy, passion, and satisfaction. All of these concepts share four features: loyalty, helpful relational communication skills, caring, and honesty. Thirteen additional features were also found to be shared by six of the seven key concepts: “attraction (physical, emotional), being there when needed/always being there, friendship, fun, happiness, respect, romance, sense of connection, sexual/sex, sharing, spending/enjoying time together, and understanding” (p. 773). Poor romantic relationship quality has been found to be associated with poor physical health in adults (McShall & Johnson, 2015), and depressed mood, self-harm, suicidal ideation, suicide attempts, and future relationship dissolution in adolescents and young adults (Mirsu-Paun & Oliver, 2017; Thomas et al., 2017).

The extent to which a partner meets an individual’s “ideal” romantic partner standards also impacts the individual’s global relationship satisfaction (Buyukcan-Tetik et al., 2017). Thus, while a person may be one person’s “ideal” partner, they may not be the ideal person for someone with a different set of expectations. This is also likely to be the case for adult friendships, where the

same person may meet the ideal expectations set by some friends but not others, whose expectations may be lower or may be equally stringent in different domains. If expectations are not met, relationship uncertainty may occur and behaviours such as ostracism may be used to reduce the status of the friendship until the desired level of friendship is achieved. It is possible that discrepancies in friendship status desire may result in distress in the more interested and committed party.

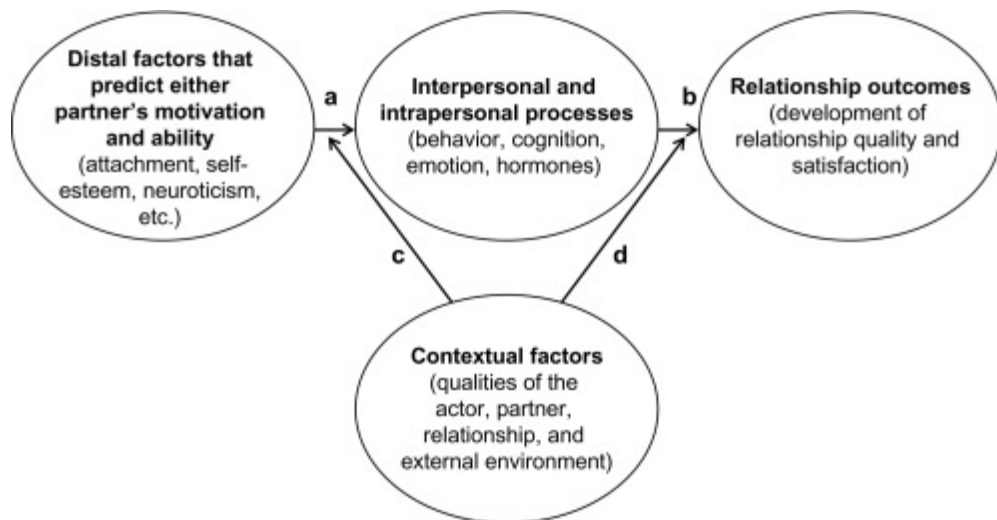
A wide range of factors has also been found to be associated with friendship quality (defined as the “bonding between two peers”, i.e., a dyad; Kochendorfer & Kerns, 2019, p. 5). Higher friendship quality in adolescents has been positively associated with better conflict management strategies, more help, validation, intimacy, companionship, and support, than low friendship quality (Freitas et al., 2019). While competition has been found to have an immediate negative impact on friendship quality, the use of positive prosocial behaviours and coping strategies have been found to buffer these effects (Verheijen et al., 2019).

A 19-year longitudinal study of undergraduate best friendships found that the significant predictors of future friendship closeness were number of months since becoming close friends ($M = 20.6$ months) and manifest similarity (especially communication efficiency, as measured by the use of fewer clues in a game where dyad members were required to help their dyad member guess seven words using only one-word clues). Interestingly, future emotional closeness was not found to be predicted by baseline measures of expression of intimacy (verbal self-disclosure and low-high physical intimacy ranging from handshake to sexual intercourse) or perceived difference (perceived social status difference and perceived protection of friend: avoidance of discussing potentially upsetting topics for the friend), or by subsequent proximity (number of times moved since leaving college) or life events (marital status or number of children), which the researchers argued may be required to develop best friendships but may not be required to maintain the best friendship longer-term. The researchers suggested that the number of months since becoming close friends may reflect the amount of time and effort invested in the friendship to date, which is predictive of commitment in interpersonal relationships (Ledbetter, 2007).

In his review of the literature, McNulty (2016) argued that the generalisability of the effects of factors on relationship quality should not be assumed. The researcher argued that associations between factors and relationship

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outcomes may be influenced by other contextual factors and can even have opposite effects on outcomes when these influencing factors are accounted for (e.g., direct conflict, validating behaviours, positive expectancies). For example, a meta-analysis by McNulty et al. (2021) found that stress differentially impacts marital satisfaction in the short- and long-term, depending on the individual qualities of both dyad members, communication exchanges when solving problems together, and the way stress is experienced by each member. McNulty (2016) explained these dynamics in his contextual model of relationship maintenance as shown in Figure 1, which illustrates that associations between factors and relationship outcomes may be confounded by a range of factors: distal factors or qualities about both members of a relationship dyad (such as the personality and attachment style of each dyad member), interpersonal processes between the dyad members (such as feelings, cognitions, and behaviours), contextual factors (such as each member's motivation, relationship skills and abilities, social group influences, external stressors, and friendship dynamics, such as amount of time spent together), and types of relationship outcome (i.e., quality and satisfaction), and that studies should consider these factors when interpreting and generalising results (McNulty, 2016). McNulty also suggested that it is helpful to consider both the short- and long-term implications of specific factors on relationship outcomes when determining the benefit and cost of factors, because their impact may be different across time.

Figure 1*A contextual model of relationship maintenance*

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K. McNulty, 2016, Elsevier. Copyright 2016 by Elsevier. Reprinted with permission (Appendix F).

Factors that affect generalisability include the type of interpersonal relationship (e.g., friendship, kin, or romantic relationship), age of dyad members, gender, and whether the relationship is between members of same sex or different sex, and relationship duration. For example, a meta-analysis found that empathy has a stronger impact on friendship quality than kin relationship quality (with parents) for adolescents (Boele et al., 2019). Individuals also tend to experience more negative qualities in their romantic relationships than their friendships (Kochendorfer & Kerns, 2019, p. 5).

A meta-analysis of relationship quality in romantic relationships over the adult lifespan has found a decrease in satisfaction between ages 20 and 40, then an increase from 40 years to 65 years, followed by a plateau in satisfaction from 65 years of age onwards (Buhler et al., 2021). The researchers found that the age-related patterns in relationship satisfaction aligns with the age-related pattern in life satisfaction across the adult lifespan and suggest that both relationship satisfaction and life satisfaction may be influenced by the same life situations that are characteristic of specific age groups (e.g., level of work commitments, having children, adult children leaving the home, menopause). However, while age effects were found, the researchers noted that the declines in relationship

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satisfaction were from high relationship satisfaction to relatively high relationship satisfaction (Karney & Bradbury, 1995).

Gender effects also impact the relationship between a range of factors and friendship outcomes at the individual and dyadic level. For example, both males and females have been found to expect that their male friends will be less capable of meeting their future friendship maintenance needs (Oswald et al., 2004). This indicates that while people expect to have lower quality friendships with male friends, friendships with males may not be as susceptible to sudden dissolutions or large decreases in emotional closeness because the expectations of them are set much lower than for female friends.

In addition, whether friendships are between members of the same or cross-sex (Ford, 2016; Hand & Furman, 2009) can also impact friendship quality. For example, cross-sex friendships are linked to both lower negative and lower positive friendship quality than same sex friendships in adults (Ford, 2016), suggesting higher emotional neutrality or stability within cross-sex friendships. Research has found that the majority of cross-sex friendships do not involve sexual (Afifi & Faulkner, 2000) or romantic activity because individuals value and do not wish to damage the friendship (Bisson & Levine, 2009), and that any levels of attraction tend to both be low (Reeder, 2000), and decrease further for both genders across the adult lifespan (Bleske-Recheck et al., 2012).

When romantic intentions exist within cross-sex friendships, relational uncertainty tends to increase, resulting in reduced current satisfaction within the friendship, which may resolve when the intentions of each member are made clear and boundaries put in place to keep the friendship at a level agreed upon by both members; otherwise, the friendship is likely to be terminated (Weger & Emmett, 2009). Typically, these romantic intentions are considered a burden within adult friendships (Bleske-Recheck et al., 2012) and are regulated within the dyad by members employing behaviours to indicate escalation disinterest (i.e., talking about other romantic partners, creating physical distance), or escalation interest (i.e., flirting, physical touching, support and positivity) until boundaries are understood by both members (Akbulut & Weger, 2016; Guerrero & Chavez, 2005; Weger & Emmett, 2009). While most friendships do not become romantic, most romantic relationships (both same and cross sex relationships) do begin as friendships, especially for same sex couples (Stinson et al., 2021).

It is unclear how sexual interest within friendship couples impact close friendships, such as partner sexual interest in one of the dyad members or vice versa. It is possible that instances of sexual interest among any of the members of close friend dyads or their partners may elicit regulatory or mate defending behaviours. This may result in a permanent or a temporary lowering of friendship status until acceptable boundaries are set and met by relevant parties. It is possible that this may create a cognitive discrepancy between dyad members feeling emotionally close and seeing their friend or their friend's partner as a potential threat to their own romantic relationship, thereby creating relationship uncertainty and distress in the close friends, especially when bullying behaviours, such as ostracism or verbal victimisation, are used to achieve a lowered friendship status. It is also unclear whether same-sex friendships or other cross-gender combinations of dyads are impacted by regulatory behaviours to reduce sexual interest issues.

2.3 Specific assessments of relationship outcome and predictors

A meta-analysis by Kochendorfer and Kerns (2020) found that the discrepant definitions of friendship quality in the literature rendered comparisons between studies difficult and that analyses were underpowered. It is important for different types of quality concepts to be compared in the same sample so that differences in their underlying factors and ability to predict future relationship states and related factors can be compared. Specific concepts in the literature include current and future satisfaction, emotional closeness, commitment, readiness to commit, expected future satisfaction, motivation, and plans to improve relationships. Many of these concepts are measured in clinical settings, especially in relation to romantic relationships or behaviour change in general (i.e., Micic et al., 2021). It is possible that these measures may also help predict outcomes in close adult friendships.

2.3.1 Satisfaction

An important factor to consider in relation to close adult friendships is satisfaction. Current satisfaction refers to a participant's level of satisfaction at the time of assessment (Baker et al., 2017), whereas future satisfaction is the participant's level of satisfaction measured at a future time point (e.g., at follow-up; Taggart et al., 2019). People assess their satisfaction or dissatisfaction in relationships by comparing the outcomes or "attractiveness" of partners to the set of standards they have for partners (i.e., their comparison level) and

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determining if the partner meets their current expectations. Comparison levels increase or decrease based on personal experiences in other close relationships, observations of other people's close relationships, and how well people feel they are meeting the other person's expectations (Rusbult & Buunk, 1993; Thibaut & Kelley, 1959; Titus, 1980). A large online survey of men in Australia found that 37% of men aged 30-65 years of age were dissatisfied by the quality of their friendships, most of whom felt they were not emotionally close to, or supported by, their current friends. In addition, 43% of men were dissatisfied with their current number of friends (Arbes et al., 2014). In women, higher satisfaction with number of friends and more current friends have been associated with higher life satisfaction in middle- and older-adulthood (Degged-White & Kopic, 2020).

Current and future satisfaction have typically been studied in adult romantic relationships, and the generalisability of these results to adult friendships is largely unknown. However, given that both adult relationships and friendships exist within the same population, that adult romantic relationships normally evolve from friendships (Stinson et al., 2021), and that romantic relationships have a friendship component (VanderDrift et al., 2012), it is likely that similar factors impact satisfaction in both types of relationships.

2.3.1.1 General factors impacting satisfaction

Friendship studies have found that satisfaction in best friendships provides an environment where people are more likely to feel safe to express their authentic, or true, selves to their friend, although it is still possible to feel satisfied with best friends but remain inauthentic (Peets & Hodges, 2017). In addition, reciprocity and equity within friendships have been found to directly predict satisfaction (Buunk & Prins, 1998; Mendelson & Kay, 2003; Wrzus, 2008). This is similar to findings in the adult romantic literature that relationship equity predicts satisfaction. For example, one study found that increases or decreases in dominance displayed by one dyad member has a direct effect on the autonomy and satisfaction of the other member, with increased dominance being related to lower partner autonomy and satisfaction and vice versa (Sadikaj et al., 2017). Power imbalances in interpersonal relationships are significant because the subordinate dyad member is less likely to have their needs and goals met, or for their needs to be met as readily, because they have to first realise their own need

for fulfillment, convince their dyad member of this need (Rusbult & Van Lange, 2003), and rely on the responsiveness of the dyad member (Kelley et al., 2003) to fulfil this need.

A wide range of other factors also impact current satisfaction in romantic relationships. For example, current satisfaction has been associated with both emotional closeness (Guschlbauer et al., 2017) and emotional intimacy (van Niekerk et al., 2020) in romantic relationships. Higher satisfaction in adult romantic relationships is also associated with having positive illusory/biased/“ideal” beliefs about a partner’s skills/being/attributes (e.g., rating one’s partner as more intelligent than they are rated by an objective observer) (Ogolsky et al., 2017). Current satisfaction has been found to be uniquely predicted by relationship self-efficacy (i.e., confidence in one’s ability to manage future conflict within the relationship) and current relationship rewards, but not by current relationship costs, anticipated positive life events, plans to improve the relationships, avoidant or anxious attachment, self-esteem or emotional instability (i.e., neuroticism; Baker et al., 2017). However, Taggart et al. (2019) suggested that individual differences in personality traits may indirectly impact current and future satisfaction via the interaction skills used during times of conflict within interpersonal relationships. For example, higher self-reported skills at resolving relationship conflict at baseline have been found to predict higher future relationship satisfaction at 4-month follow-up (Taggart et al., 2019). Also, married couples who use more positive interaction skills when reflecting with each other about their relationship (past, current, and expected future aspects) have been found to have higher current satisfaction and higher satisfaction 12-months later (McCoy et al., 2017).

A large meta-analysis examined the effect of romantic relationship duration on mean relationship satisfaction per year (as assessed by a range of satisfaction and quality measures) and found that relationship satisfaction decreased within the first 10 years of a relationship, then increased between 10-20 years duration, and decreased again after 20 years duration. Moderator analysis found that having children and low life satisfaction were related to lower mean scores on relationship satisfaction regardless of relationship duration (Buhler et al., 2021). Mental health has been found to be predictive of future satisfaction (at follow-up) in romantic relationships; for example, general feelings of loneliness (i.e., not specific to the romantic relationship) predict future dissatisfaction within

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romantic relationships, especially when there is a lack of similarity in baseline loneliness ratings between dyad members (Mund & Johnson, 2021). Both baseline depressive symptoms and baseline relationship satisfaction in romantic relationships have been predictive of one another four years later, but baseline depressive symptoms were stronger and more consistent predictors of future satisfaction within and between dyad members than the other way around (Morgan et al., 2018).

2.3.1.2 Personality, attachment, and stress

There is a strong focus on personality, attachment, and stress on relationship satisfaction in the literature. Facets of personality that have been found to be positively associated with current romantic relationship satisfaction include agreeableness, conscientiousness, and emotional stability (low neuroticism) for both males and females in a meta-analysis by Malouff et al. (2010). Moderate levels of trait openness in both members of romantic relationship dyads have been found to be linked to higher relationship satisfaction in females (Weidmann et al., 2017). Lower neuroticism has been found to be predictive of higher satisfaction at 4-month follow-up in dating couples, as has the interaction between lower conscientiousness and lower neuroticism (Taggart et al., 2019). While similarity in personality type between dyad members isn't typically associated with satisfaction (Leikas et al., 2018; Weidmann et al., 2017), similarities in trait neuroticism between members of romantic dyads has been found to increase relationship satisfaction in males (Weidmann et al., 2017). Similarly, the Cognitive Affective Processing System model proposed by Mischel and Shoda (1995) suggests that personality traits impact satisfaction in a complicated way. They suggested that personality traits are not inherently positive or negative, but when cognitively activated and acted upon in situations where the behaviours are considered inappropriate (e.g., excessive) by other people involved, they typically have a negative impact on partner satisfaction, indicating that the context can affect the effect of personality on satisfaction (McNulty, 2016).

Attachment in adults may be measured either as a global attachment style to romantic partners or close others overall, or an attachment to a specific partner or close other (Baker et al., 2017; Fraley, 2002; Hudson et al., 2020). This differs from childhood attachment which refers to attachment to a parent or caregiver (Bowlby, 1969). Attachment differs from personality in a range of ways

(McAdams & Pals, 2006), such as its specific focus on emotional connections in interpersonal relationships (Hudson et al., 2020). Adult attachment style is associated with current satisfaction but has not been found to uniquely predict current satisfaction in romantic relationships (Baker et al., 2017), indicating that contextual factors should be considered when interpreting these associations.

Trait attachment refers to the way people approach and respond to caregivers in childhood (Bowlby, 1969) and close interpersonal relationships in adulthood (Fraley, 2002), such as how secure or insecure an individual feels about forming close relationships with others, expressing their emotions to others, and depending on others to meet their needs. A common way of measuring attachment is by using two dimensions: anxiety and avoidance (Fraley et al., 2015; Fraley et al., 2000; Hudson et al., 2020). These scores result in people being categorised as having one of four attachment styles or orientations: secure (low anxiety, low avoidance), preoccupied (high anxiety, low avoidance), dismissing (low anxiety, high avoidance) or fearful-avoidant (high anxiety, high avoidance). Securely attached individuals are comfortable expressing their emotions and depending on others. Preoccupied attached individuals tend to be comfortable expressing their emotions but experience many negative emotions that may impact their relationships and cause conflict. Dismissing individuals are less concerned about rejection but are uncomfortable depending on and expressing their emotions to others. Fearful-avoidant individuals fear rejection from others, feel uncomfortable depending on others, and also feel uncomfortable expressing their emotions to others (Fraley et al., 2015; Fraley et al., 2000; Hudson et al., 2020).

Both attachment style and personality tend to remain reasonably stable across the lifespan (Damian et al., 2019; Fraley, 2002), but there is a small amount of malleability in both personality and attachment, and a small level of maturation in personality, as people age (Chopik et al., 2013; Damian et al., 2019). Regarding personality, agreeableness is considered a desirable and positive personality trait for interpersonal interactions in Western societies (Watson & Humrichouse, 2006) and is associated with higher likability (Rudert et al., 2020). It is possible that fluctuations in this trait across adulthood may impact social connections and result in changes within previously stable close friendships. Regarding attachment style, changes have been found to occur across adulthood. For example, compared to middle and older age adults, young adults tend to have

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the highest levels of anxious attachment, and middle-aged adults have the highest level of avoidant attachment (Chopik et al., 2013).

Individuals with an insecure attachment style (anxious or avoidant) have been found to have less satisfaction in relationships than securely attached individuals (Catel, 2020; Cooper, 2017; Esmeirat, 2019; Lee, 2017; Senn, 2016; Waring, 2016), and to be less satisfied than their current romantic partner (Candel & Turlic, 2019). Similar to higher anxious attachment, higher avoidant attachment is linked to lower relationship satisfaction than secure attachment. For example, research into romantic relationships has found that higher avoidant attachment is related to lower levels of satisfaction, support, and perceptions of connectedness (Tianyuan & Chan, 2012; Keil, 2016). Higher avoidant attachment is also negatively associated with current relationship quality in romantic relationships (Cooper, 2017), and gratitude toward partners, which is in turn also related to lower satisfaction in romantic relationships (Vollmann et al., 2019). A study comparing anxious attachment and avoidant attachment on long-term romantic relationships found that avoidant attachment was more detrimental to the satisfaction of both members of the dyad than anxious attachment (Morelro et al., 2017). The authors also found that an individual's attachment style more strongly affected their own satisfaction within the relationship than their partner's satisfaction.

A meta-analysis of longitudinal studies (McNulty et al., 2021) found that stress differentially impacts both current and future marital satisfaction depending on a range of factors including the individual qualities of both dyad members (such as attachment style and personality), problem solving communication skills, and individual stress management skills. The researchers suggest that effects of stress on future satisfaction may differ depending on whether the stress is acute or chronic.

Similarly, the effect of trust on satisfaction has been found to be influenced by contextual factors and be neither inherently positive nor negative. An influencing contextual factor is the trustworthiness of the dyad partner (McNulty, 2016). People who trust a trustworthy, or safe, marital partner (low risk) have been found to have higher satisfaction with their relationship 3 years later, whereas people who trust an untrustworthy partner (high risk) have been found to have lower satisfaction 3 years later. People who had trusted an untrustworthy partner also reported engaging in fewer relationship maintenance

behaviours 3 years later (Murray et al., 2015). Thus, both trust and trustworthiness are important to the long-term satisfaction of dyad members. These findings highlight some of the complexities when studying interpersonal relationships because of interplay of factors and contextual differences on interpersonal outcomes.

2.3.2 Emotional closeness

Another important factor to consider in relation to close adult friendships is emotional closeness. Research has found individual differences in the extent to which people desire emotional closeness with other people, and that people who desire more emotional closeness benefit more from received emotional intimacy in times of psychological distress than those who desire less emotional closeness (Flores & Howard, 2012). While Pollet et al. (2011) found that extroverted adults (aged 18-63 years, $M = 28$ years) have more friends in each friendship classification level (i.e., best, close, acquaintance) than introverted adults, extroverts experience equal levels of emotional closeness as introverts with the members of each status level. People tend to project their current emotional closeness onto others, believing that other people experience a similar level of emotional closeness to them. However, only 50% of friends were found to reciprocate the same level of emotional closeness and friendship classification level (Almaatouq et al., 2016; Murphy, 2016). This reciprocation is highest when both dyad members have a secure attachment style (Grabill & Kerns, 2000). Classification uncertainty and discrepancies can result in increased distress, reassurance-seeking behaviours, and poor mental and physical health outcomes in interpersonal relationships (Akbulut & Weger, 2016; Baker et al., 2013; Baxter & Wilmot, 1984; Bell & Buerkel-Rothfuss, 1990; Eyal et al., 2018; Guerrero & Chavez, 2005; Knobloch & Solomon, 2002; Rose et al., 2016; Weger & Emmett, 2009).

Emotional closeness has been found to be related to a range of factors in friendships. For example, “problem talk”, or discussions about challenging aspects of the friendship, has been found to increase emotional closeness equally in male and female adolescent friendships, but females tend to employ this strategy more often than males (Rose et al., 2016). Age has also been found to influence emotional closeness, with older adults experiencing higher emotional closeness within their social network than younger adults (Fung et al., 2001; Lang and Carstensen, 1994). Older adults have also been found to experience increases

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in emotional closeness following both positive and negative social exchanges with friends. In contrast, younger people have been found to only experience increase in emotional closeness from positive social exchanges with friends over a 2-year period (Fung et al., 2009). When genetic relatedness is controlled for, higher subjective and actual skill/talent similarity have been found to be associated with higher emotional closeness (Wrzus, 2008).

Higher emotional closeness is related to higher empathy and shared emotions within friendships. For example, when individuals witness a friend being rejected, people with higher emotional closeness experience an increased activation of the inferior frontal gyrus in the brain, which is “critical [in] representing others’ mental and emotional states” (Beeney et al., 2011, p. 369). Likewise, higher emotional closeness is associated with higher levels of mimicking and accuracy in emotion identification amongst friends (Parmley & Zhang, 2015; Wrobel, 2018). Research has also found that both friends and strangers mimic and experience negative emotions of each other (Wrobel, 2018). Increased emotional closeness has been linked to accurately identifying and detecting changes in emotional expressions in response to ambiguous stimuli (especially for negative emotions such as anger or sadness), and this happens more quickly in close friends than acquaintances.

Romantic dyads have been found to be able to predict a range of emotions in each other with high accuracy, including happiness, sadness, guilt, and anxiety, but are less able to identify disgust. Dyad members also project their own emotions onto their partners, thus influencing each other’s emotional closeness (Clark, 2017). For example, one study found that higher shared spontaneous laughter in romantic relationships was related to higher emotional closeness and relationship quality (Krutz & Algoe, 2016). Research has found that while friends experience the positive emotions of their friends “second-hand”, strangers recognise positive emotions (i.e., happiness) in each other but do not mimic this emotion (Parmley & Zhang, 2015). The researchers suggested that it is possible that this is because humans are “wired” to detect and respond to sources of threat more broadly, i.e. even when the threat is identified by strangers, and to simultaneously seek social connection and support from more narrow selections of people, investing emotionally in people who will protect and support you daily and in times of need, whereby the sharing of positive emotions may help people to continue to bond with the people in their inner social network circles.

Roberts and Dunbar (2015) found that the formation of new social contacts in young adults reduces emotional closeness with both existing friends and family members. These findings mimic the negative impact of available attractive alternatives on relationship quality in romantic relationships (Rusbult & Buunk, 1993). Decreases in proximity (i.e., moving away from the family hometown) also reduces emotional closeness with friends, but has been found to increase emotional closeness with family members (Roberts & Dunbar, 2015). The researchers suggested that this may demonstrate a kin premium, which protects kin relationships from the same level of decay as non-kin relationships.

2.3.3 Commitment and readiness to change

Commitment and readiness to change are also important to consider in relation to close adult friendships. Commitment has been defined as “a long-term orientation toward a relationship, including the intent to persist in the relationship and feelings of psychological attachment to the partner – it is the subjective experience of dependence on the relationship” (Rusbult, 1980a, 1983; in Wieselquist, 2007, p. 209). In romantic relationships, commitment is predicted by the level of value placed on the friendship aspect of the relationship, as opposed to sexual or other aspects (VanderDrift et al., 2012).

Commitment is associated with a person’s expectations that their future needs will be met by a current partner/friend, and to a higher level than by available alternative people (i.e., attractive alternatives; Rusbult & Buunk, 1993). Trust has been found to be determined by the degree to which people believe that friends (Wieselquist, 2007) or peers (Levine, 2018; Salamon & Robinson, 2008) are committed to them, indicating that they believe that the other person will respond to their needs in the present and future, and will prioritise their best interests (as opposed to the friend’s best interests) and/or the best interests of the friendship in the event of adversity. Similarly, Lemay et al. (2015) found that adults express higher commitment and care when they believe that they will feel more positively and less negatively (measured on separate scales) about their romantic partner the following day, and lower commitment if they believe they will feel more negatively and less positively. This effect was strongest for the latter group, indicating that people who expect to have more negative and less positive emotions about their relationship in the near future do not express as much commitment to the relationship, such as tending to their partner’s needs. Trustworthiness has been found to be related to an individual’s anticipated

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propensity to feel guilt for their wrong-doing actions because those individuals who feel guilt are more likely to feel a sense of responsibility for their actions and are less likely to exploit other people in the future (Levine, 2018). Interestingly, research has found that romantic relationship dyad members project their own level of responsiveness (i.e., feelings of care and motivation to support their partner's needs) onto their partner (Lemay et al., 2008).

While dependence on need fulfilment is related to increased commitment, this is not inherently positive (Papa & Arias, 2000; Tan & Arriaga, 2018). For example, Tan and Arriaga (2018) found that while dependence increases commitment, dependence may be voluntary or involuntary (such as in an aggressive interpersonal relationships). The researchers found that while non-voluntary dependence is associated with commitment, alternatives, and investments, it was not associated with current relationship satisfaction. Friendships with frenemies may also involve involuntary dependence on the friend for the continuation of fulfilling certain emotional or practical needs (e.g., continued assistance attending medical appointments, continued mentorship, or continued contact with a mutual peer group), and continued commitment despite dissatisfaction with aspects of the friendship because of simultaneous bullying behaviours (e.g., ostracism and/or victimisation, either as pro-aggressor or neutral towards the victim) within the mutual social group (e.g., Horton, 2011; Lyng, 2018; Montal-Rosenberg & Moran, 2022; Teräsahjo & Salmivalli, 2003; Thornberg, 2011, 2015, 2017; Thornberg & Delby, 2019; Wojcik & Flak, 2021; Wójcik & Mondry, 2020). Having few or no attractive alternatives (i.e., lack of non-aggressive friends/peers/partners; Rusbult & Buunk, 1993), or an overly optimistic belief that frenemies or abusive partners will change their behaviour in the future (Pape & Arias, 2000), can also result in people remaining committed to aggressive relationships.

Commitment is a strong predictor of future dissolution in romantic relationships (Drigotas & Rusbult, 1992; Rusbult, 1983; Rusbult & Buunk, 1993; Rusbult & Martz, 1995; Van Lange et al., 1997). Branje et al. (2007) found that commitment mediated the association between best friend longevity and each the three factors in the investment model (current satisfaction, investments, and alternatives) in adolescents. Commitment prior to a romantic relationship dissolution also predicts the level of emotional closeness and level of friendship post dissolution (Tan et al., 2015). Research has found that factors such as

disliking a romantic partner's body odour are related to lower commitment and higher intentions to break up with that person (Keaveny & Mahmut, 2021).

2.3.4 Expected future satisfaction

Another important factor to consider in relation to close adult friendships is expected future satisfaction. Baker et al. (2017) posited that expected future satisfaction is partially shaped by current satisfaction and previous experiences with the person, but that it is unique from current satisfaction in at least three ways: it is influenced by anticipated life events, relationship and individual differences in personality or attachment style, and plans to improve romantic relationship in the future. Expected future satisfaction has been found to mediate the association between current satisfaction and commitment in romantic relationships, and to be a better predictor of both maintenance behaviours (e.g., constructive conflict resolutions skills and degradation of attractive alternatives) and relationship longevity than current satisfaction (Baker et al., 2017; Lemay, 2016). Similarly, expected future satisfaction has been found to predict increased commitment in romantic relationships across a 12-month period independently of current satisfaction, level of relationship investment to date, and the quality of alternatives (Lemay et al., 2015). Expected future satisfaction has also been found to predict future dissolution of romantic relationships and likelihood of future divorce over the course of the first 5 years of marriage, and to mediate the effect of current satisfaction on dissolution (Baker et al., 2017).

In general, people tend to be overly optimistic about the future of their relationship, with relationships dissolving over a shorter period than predicted (Helgeson, 1994; MacDonald & Ross, 1999). Optimism about the future of romantic relationships, such as the stability of positive aspects and changeability of negative aspects, has been found to predict future trust, love, and satisfaction in adults over the course of a year (Murray & Holmes, 1997). Also, positively-biased responsibility attributions for romantic partners' behaviours early in marriage (e.g., interpreting a partner's criticism as unintentional) has been found to predict higher marriage quality 4 years later (Durtshi et al., 2011). This suggests that positive illusions and partner interpretations serve to protect the satisfaction and quality of relationships in the future. However, an overly optimistic belief that aggressive people (e.g., frenemies or abusive partners) will change their behaviour in the future can also result in people remaining committed to aggressive relationships (Pape & Arias, 2000).

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Baker et al. (2017) found that expected future satisfaction is uniquely predicted by self-esteem and relationship self-efficacy (confidence in the ability to maintain the relationship and resolve conflict), lower attachment anxiety and lower avoidant attachment, higher trait neuroticism, plans to improve the relationship, and anticipated future life events, even when controlling for current satisfaction. The researchers found that current rewards uniquely predicted current satisfaction but not expected future satisfaction, and that relationship costs are not predictive of either current satisfaction or expected future satisfaction. Perceived social network approval and scepticism have also been found to impact expected future satisfaction, beliefs that their needs and expectations will be met in the future, and having plans to maintain connections (Berger et al., 1986; Berger et al., 2011; Parks et al., 1983; Plamondon & Lachance-Grzela, 2018). Positive expectations about one's partner's future maintenance behaviours result in higher numbers of self-initiated positive maintenance behaviours (Plamondon & Lachance-Grzela, 2018).

2.3.5 Motivation and plans to improve

Motivation and plans to improve are also important concepts to consider in relation to close adult friendships. Motivation refers to the “activating orientation of current life pursuits toward a positively evaluated goal state” (Rheinberg & Vollmeyer, 2018, p. 15), and is distinguished from effort, which is the “degree of engagement with demanding tasks” (Westbrook & Braver, 2015, p. 396). Motivation has been found in the psychology literature to predict the level of engagement in, and maintenance of, helpful behaviours (e.g., engagement and continuation of targeted therapeutic strategies; Micic et al., 2019), as well as the discontinuation of unhelpful behaviours (e.g., drug or alcohol misuse; Amrhein et al., 2003). The four main components of motivation are the person's current desire for a specific outcome (want), ability (self-efficacy), reason (significance), and need (importance) (i.e., DARN; Micic et al., 2019). Desire and ability have been found to “predict future behaviour directly and indirectly through commitment” (Micic et al., 2019). In addition, an interactive effect exists between higher conscientiousness and higher self-compassion on higher levels of motivation to improve interpersonal interactions within relationships (Baker & McNulty, 2011).

When discrepancies in motivation to maintain closeness occur between dyad members, individuals may handle this in a variety of ways, including using

self-serving behaviours that assist them to achieve individual satisfaction based on their own self-interest, using friendship maintenance behaviours that assist in achieving satisfaction within the dyad (i.e., transformation of motivation), or using a combination of both (Oswald & Clark, 2006).

Uncertainty about motivations within relationships has been found to increase friend/relationship “talk”, which involves attempting to understand the other person’s intentions and reach a mutual agreement about appropriate behaviours for the relationship (Eyal et al., 2018; Guerrero & Chavez, 2007; Rose et al., 2016). This may be a preferable option to imagining the perspectives of the other person, which tends to simultaneously decrease accuracy, increase confidence in assumptions, and increase feelings of closeness with the other person (Eyal et al., 2018). This is unsurprising given that friend “talk” is related to a higher level of commitment, and people project their own mindsets onto others, thus imaging the other’s perspective may result in the projection of one’s own emotional closeness, which may be higher than that of their friend (e.g., Almaatouq et al., 2016; Clark, 2017; Grabill & Kerns, 2000; Murphy, 2016).

Eyal et al. (2018) suggested that the only way to increase understanding of another person’s perspective or motivation is by directly asking them. However, while most people are predominantly honest, it is important to note that there may be situations where people may believe that deception regarding friendship intentions is necessary (Serota et al., 2021), such as if they feel threatened, to protect oneself from bullying, to maintain harmony in social or workplace settings, or to use friendships as a platform to advance personal status in social groups or organisations. Thus, there may be times when asking for the other person’s perspective or intentions does not elicit a truthful response at the time. However, given time the person may adjust their response to be honest once their sense of threat decreases. It is likely that Eyal et al.’s (2018) suggestion is most effective when the other person’s intentions are neutral or intended to benefit the relationship, such as plans to improve closeness within the relationship, rather than when their intentions are self-motivated or threat-oriented, such as fitting in with an aggressive peer group.

People are likely to have a combination of friendship- and self-motivated intentions across the course of a friendship. Thus, it is important to assess context as well, rather than solely relying on the other person’s reply (e.g., a friend stating that they are feeling happy with the friendship whilst simultaneously withdrawing,

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displaying aggressive behaviours such as ostracism or yelling, or telling mutual friends that they are not happy). Potential social ramifications for telling the truth about perspectives or motivations may result in otherwise truthful people concealing some or all of their true intentions and plans, especially in friendships characterised by aggression or a power imbalance (e.g., Burt, 2000). For example, a person may want to end a close friendship with a socially powerful or aggressive member of a mutual peer group but may wish to do so slowly so as to not experience fall out with the social group or become the target of ostracism or victimisation; or a person may feel unsafe within the relationship, and may avoid discussing certain topics or avoid friendship/relationship “talk” all together in order to protect themselves from further harm (Palomares & Derman, 2016). Palomares and Derman (2016) also found that topic avoidance for the sake of protecting oneself was related to lower current satisfaction. It has also been found that close friends and romantic partners tend to handle altercations by choosing strategies that will maximise rewards and minimise costs and likelihood of future dissolution of the relationship, whereas family members and non-close peers tend to use strategies that enforce authority and are aimed at increasing personal gain with less focus on maintaining the quality of the relationship (Laursen, 1993).

Given that motivation impacts satisfaction and maintenance behaviours in friendships (Oswald & Clark, 2006), and individual motivation may be complicated by friendship- and self-interests, it is possible that motivation may also be predictive of future friendship states (e.g., continued, dissolved, restored), and that certain relationship goals may be more achievable than others.

2.3.6 Summary

There is a wide variety of concepts and factors that impact quality and associated outcomes in interpersonal relationships. Measures of relationship quality include current satisfaction, emotional closeness, commitment, readiness to change, expected future satisfaction, motivation, and plans to improve, and have been found to be impacted by a wide variety of factors. Most research has focused on romantic relationships or child/adolescent friendship populations. It may also be helpful to determine the role that these concepts and other predictive factors play in the close adult friendship population, especially in relation to close friend reciprocation, dissolution, restoration, and distress which may be associated with status discrepancies and uncertainty as discussed above.

2.4 Classification change: dissolution of close friendship

Interpersonal relationships do not always last, and members may be moved to an outer layer of the network or removed from the social network entirely (Roberts & Dunbar, 2011). Determining which factors best predict friendship status decreases from close to not close status is important when determining how to maintain close friendships and detect warning signs of future status decline. Again, it is helpful to consider research from the adult romantic relationship and child/adolescent population when determining likely predictors of dissolution in close adult friendships.

The average duration of a marital relationship is 7 years, which is typically 10 years after the romantic relationship commenced (Buhler et al., 2021). Given that two thirds of romantic relationships develop from friendships, and that this transformation occurs after an average of 22 months of friendships (Stinson et al., 2021), the average duration the entire relationship is likely to be 12 years since first becoming friends. Friendships are also subject to decay and termination (Dunbar & Machin, 2014; Murase et al., 2015; Roberts & Dunbar, 2011).

However, the average duration and level of friendship are unclear. Dunbar and Machin (2014) found that significant conflicts are common within adult social networks (on average one major conflict per 7.2 months with members of the entire network, including friendships, romantic relationships, and kin), but that the majority of these are resolved quickly. Of these conflicts, 73% occurred with non-kin, and it was rare for people to have conflict with their five closest friends. Males and females were found to have similar numbers of conflicts, but females were more likely to have conflicts with people in their inner social network than males, especially with other females. However, females were also more likely to make efforts to reconcile these conflicts once they occurred than males. Of the conflicts that were resolved within a 12-month period, almost all were resolved within the first month, with dramatic decline in reconciliation after that time. After 12 months, approximately 40% of significant conflicts were not reconciled and the friends were considered to have experienced an unreconciled dissolution. The researchers estimated that individuals are likely to experience one unreconciled interpersonal dissolution per 2.33 years.

While one or both members of a dyad may be currently satisfied, they may not both be motivated to engage in commitment, or maintenance behaviours, to maintain or improve the connection (Lemay, 2016). Research has found that the

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five major themes causing resentment in adolescent friendships are “jealousy,” “gossiping and sharing secrets,” “disagreement on common events,” “falling in love with my friend's boyfriend/girlfriend” and “pranks” (Öztürk & Atli, 2021, p. 667). Thus, it is important that, alongside current satisfaction, additional factors are also considered when attempting to predict the longevity of relationships and friendships (Carswell & Finkel, 2018a).

When a friendship is terminated, link deletion (where there is an abrupt termination of the friendship and the person is removed from the social network) is more common than link aging (where the friendship experiences a slow fade into lower status levels; Murase et al., 2015). Link deletion is also apparent in romantic relationships when people cut contact and communication with previous romantic partners.

There is a wide range of factors that are associated with dissolution in adult romantic relationships and child/adolescent friendships, including controlling behaviours, ostracism, verbal victimisation, and attachment.

2.4.1 Controlling behaviours, ostracism, and verbal victimisation

Controlling behaviours within interpersonal relationships have been found to involve efforts made by one dyad member to control the other member's interactions with other people, the activities they engage in, their actions, or their ability to make decisions by establishing strict rules for the dyad member to adhere to and then punishing them for transgressions of the rules (e.g., Kelly & Johnson, 2008; Krantz & Dang Vung, 2009). These behaviours may be direct or discreet, and take many forms such as bossiness, guilt-tripping, intimidation, threats, ultimatums, surveillance, or stalking, which aim to force and check adherence to the rules (e.g., Tanha et al., 2010). Of importance is that the conformity is forced, rather than freely chosen by the other dyad member, whether they were likely to make the same choice themselves or not. Controlling behaviours are considered a form of psychological aggression in interpersonal relationships (Henning & Klesges, 2003). Controlling behaviours within romantic relationships have been found to be associated with higher internalising symptoms, such as depression, suicidality, lower self-esteem, post-traumatic stress, and fear (e.g., Kelly & Johnson, 2008; Ali et al., 2014). Psychological aggression within romantic dyads has been found to increase steps to leave the relationship by both members of the dyad (Curtis et al., 2016). Controlling behaviours within close adult friendships has received little attention in the

literature but it is possible that they may also make friendships less voluntary and may increase steps taken by one or both members to dissolve the friendship.

A widely studied concept within the friendship literature is exclusion (ostracism and reputational victimisation), which is worth exploring in detail because of its pervasive damage to friendship quality and longevity, and its use as a method of friendship termination. Exclusion of friends or group members can take two forms: rejection, which involves direct negative attention, such as having mean words said to them directly or being laughed at in an unkind way (i.e., relational victimisation), or ostracism, which involves ignoring and excluding (while in the presence of that person physically or online), being made to feel invisible (e.g. not being made eye contact with), being forgotten, or being given the “cold shoulder” (Rudert, 2020; Wesselmann & Williams, 2017; Williams, 2009).

Ostracism has been theorised by Williams (2007; 2009) as having 3 primary stages. The first stage is being excluded or ignored and may last for as little as a few seconds, but which may trigger an immediate neural pain response which serves as an alarm-detecting threat to one’s fundamental needs being met now or in the future (i.e., sense of control, self-esteem, belonging, and meaningful existence). Individual events in this stage may seem trivial on the surface or in isolation and may be minimised by peers. The second stage is coping. Coping may consist of prosocial behaviours such as increasing conformity to group norms, changing their behaviours and engaging in kind and helpful acts. Coping may also involve more other behaviours such as increasing positions of power in social groups, strengthening alliances, enforcing control over others, and acts of physical or verbal aggression. Aggressive responses are most common when people are anxious that the ostracism may continue to occur in the future (Ayduk et al., 2008; Chen et al, 2012; Mallott et al., 2009), when they are taken by surprise by an ostracism event (Wesselmann et al., 2010), or when the individual has higher narcissistic personality traits (Twenge & Campbell, 2003), which is associated with them valuing being admired by others more than being liked (Morf & Rhodewalt, 2001). Negative coping responses, such as aggression, have been found to be higher when rejection from peers is increasing than when rejection is constant, and to be equally impacted by milder or stronger levels of rejection (Buckley et al., 2004).

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The third stage is resignation, which may occur if the ostracism is continued and not resolved. This chronic rejection and exposure to ostracism events can result in lifelong struggles with depression, the development of core beliefs such as not being worthy of inclusion, helplessness, and lack of confidence to develop new friendships, and/or suicide if intervention is not sought and fundamental needs continue to be unfulfilled (Williams, 2009).

Ostracism has received attention in the literature as being a method of terminating, or reducing the status level, of interpersonal connection with other people, and often occurs within the context of social groups (Closson et al., 2017; Rudert, 2020; Williams, 2007). Ostracism has been found to occur across the lifespan, with a decrease in being ostracised after 65 years of age, which may partially be the result of people reducing workplace activities (Rudert, 2020). Gender differences in ostracism and reputational victimisation have been found in the literature, with popular females experiencing higher levels of ostracism and reputational victimisation if they have either high levels of peer conformity goals (i.e., desire to conform to the peer group) or low levels of peer conformity goals, and males experiencing higher levels of ostracism if they have low conformity goals (Closson et al., 2017). This suggests that conformity to peer groups protects males against ostracism, and to some extent females, but too much conformity is also risky for females, indicating that for females, it is more socially advantageous to conform to group norms to a similar level as the majority of the group rather than conforming too little (i.e., “not trying hard enough”) or too much (i.e., “trying too hard”).

Some people seem to be more prone to being ostracised by friends and social groups than others, and some people are more likely to be ostracisers than others (Rudert, 2020). For example, people with high neuroticism, high introversion, low agreeableness, or low conscientiousness report being the targets of more ostracism. In addition, people tend to report a social aversion to others who are high in either agreeableness or conscientiousness but low on the other trait, and ostracise people with those trait combinations (Rudert et al., 2020). This interactive effect is interesting because independently, both high agreeableness and high conscientiousness are associated with higher likeability (Rudert et al., 2018; 2020). However, Rudert et al. (2020) found that personality significantly impacted ostracism, even when controlling for likeability. This suggests that unlikability is a risk factor for ostracism, but that people may also ostracise people

who they currently like, in part, as a response to certain personality traits of the target. In addition, introverts are more likely to seek solitude when they ostracised than extroverts (Ren et al., 2016), which may reduce opportunities for further ostracism, but may also reduce opportunities for restoration depending on the situation.

Severity of previous adult mental health issues is predictive of the ability to maintain best friendships in adulthood (King et al., 2016). Research has found that ostracisers who have higher fear (threat perception) of people with certain mental health disorders are more likely to target people with those conditions and ostracise them (Maciel et al., 2019). Studies into child friendships have found that females are more likely to be ostracised and reputationally victimised than males, and that being considered mean or unlikeable exacerbates the chance of being excluded. In contrast, the research found that being considered popular is more likely to result in relational victimisation than exclusion (Closson et al., 2017).

Mate defending and using regulatory behaviours to prevent romantic interactions have also been found to increase chances of verbal victimisation and distancing behaviours towards perceived attractive alternatives and friends (e.g., Akbulut & Weger, 2016; Bleske-Recheck et al., 2012; Guerrero & Chavez, 2005; Weger & Emmett, 2009). These behaviours may last until intentions are made clear, and boundaries are set and agreed upon to reduce potential threat and relational uncertainty (i.e., Weger & Emmett, 2009). For example, derogation, a form of verbal victimisation focused on devaluing another person, has been found to be used as a form of devaluing perceived attractive alternative partners in romantic relationships and can be successful in protecting the relationship from decay in the short-term (Meyer et al., 2011). People also attempt to divert their romantic partner's attention away from perceived attractive alternatives (Baker et al., 2017), which may include close friends.

It is possible that verbal victimisation and ostracism may serve a similar function in peer friendships by fending off attractive alternative people, including other close friends, who threaten the social positions or close connections with other people or groups. Given the limited cognitive brain capacity for maintaining close friendships (Dunbar, 1993), and the amount of investment people may have made into selected groups and friendships (Rusbult, 1983), people may guard their social positions and close friendships closely if they sense a threat. It is also possible that distancing behaviours found to regulate friendship and reduce

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romantic relationship escalation (Weger & Emmett, 2009) may include instances of ostracism of close friends.

Close dyads who share a social group are likely to experience pressures on their personal friendship if one member becomes the target, observer, or perpetrator of ostracism toward the other person, especially if either of the dyad members is of a low social ranking (Lemay & Clark, 2009). In older children, reciprocated best friendships provide protection from victimisation and ostracism from other classroom members, except when the best friendship itself is characterised by victimisation and ostracism (Boulton et al., 1999).

Network disapproval is the disapproval of a friend from members of one's own social network (e.g., because of their characteristics, popularity discrepancies etc.) or the level of closeness between the friends (e.g., perceiving the individual to be a threat) and has also been found to reduce the number of maintenance behaviours used by individuals in friendships (Plamondon & Lachance-Grzela, 2018). People with low self-esteem tend to ostracise or create distance from romantic partners who are considered socially disadvantaged if they believe that the partner's social position will reflect poorly on them and potentially affect their own social position (Lemay & Clark, 2009). Furthermore, research into adult female aggression has found that higher aggression is independently predicted by low self-esteem, higher narcissistic personality traits, low education, and younger age, even when controlling for a history of convicted violent or non-violent criminal offenses (Kalemi et al., 2019). People also tend to demonstrate hypocrisy by morally judging others more harshly following transgressions, while giving themselves more leniency, when they believe that one's needs in close friendships and romantic relationships can only be met via the use of competitive behaviours (Weiss et al., 2021).

Researchers have found that individuals who are known to have previously deviated from a group norm or rule (e.g., had a differing opinion that they are unwilling to change) receive less support from group members in the event of ostracism, and receive harsher moral judgments from peers (Nezlek et al., 2015; Williams, 2009). This is exacerbated when the targeted individual appears to be socially similar to the rejector, resulting in a biased assumption that the rejector's motives are punitive (i.e., a deserved punishment) rather than malicious or coercive in nature, and the attribution of blame toward the target rather than the rejector (Rudert et al., 2018). In the workplace, even constructive deviance from

organisational rules by targets, such as deviating from rules with the positive intention to improve processes and innovation, has been found to be punished with ostracism by actors (Wang, 2022).

While demonstrated aggression is higher in younger adults (e.g., in the female population; Kalemi et al., 2019), the desire to punish others for “immoral” rule violations in daily life has been found to be higher in older adults, adults with more conservative political beliefs, people who identify themselves as more morally superior, and the degree to which the person feels socially closer to the perpetrator than the victim (Hofmann et al., 2018). Decreasing external pressures on social groups, such as high competition environments or time- or resource-poor situations, has been suggested to help foster group inclusiveness, empathy, and tolerance of the weaknesses of group members (Robinson et al., 2013; Rudert et al., 2019; Rudert, 2020).

Adult and child bystanders of ostracism have been found to base their own emotional response to ostracism of friends on the overall emotion of the friendship group via social appraisals of whether the ostracism has angered group members or pleased group members. Higher individual anger about the ostracism has been found to mediate higher group-anger about the ostracism and higher assertive intentions to reduce the ostracism (e.g., “I would tell Perpetrator and her/his friends that leaving Target out is wrong”). In turn, this anger has been found to reduce or eliminate ostracism of target individuals (Jones & Rutland, 2020).

Several limitations exist in the ostracism literature. First, ostracism predominantly focuses on ostracism from social groups rather than within close friendships. Second, it regularly focuses on the target’s perspective only. Third, while real world ostracism is examined in children via observation and cluster analysis, ostracism in adulthood is often studied retrospectively, once a friendship is terminated, or via simulated ostracism experiences using game situations. Thus, the reasons for personally ostracising close friends in adulthood, and effects of this on the friendship prior to termination, are not well understood. It is also uncertain whether the reasons people give for ostracising close friends retrospectively (i.e., reported post friendship termination) are similar to the reasons people give when excluding current close friends. It is possible that time and space may result in a broader perspective about their ostracising behaviour, taking into consideration the role of both them and the target, or that people may

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narrow their view and minimise or maximise certain underlying reasons for the ostracism.

2.4.2 Attachment

Relationship termination has also been found to be related to attachment style. For example, secure trait attachment in childhood is associated with sustained close friendships in young adulthood (Wise & King, 2008) and is related to lower rates of dissolution in romantic relationships than other attachment styles (Senn, 2016); for example, higher trait anxious attachment has been found to be related to higher rates of dissolution than secure attachment in both dating (Cooper et al., 2018) and married couples (Lemay, 2016; McNeilis & Segrin, 2019). Furthermore, avoidant attachment has been found to be more predictive of relationship dissolution than either secure attachment or anxious attachment (Grau & Doll, 2003; Grignon, 2019; McNeilis & Segrin, 2019; Molero et al., 2017; Terwogt & Mol, 2005). Avoidant attachment has also been found to be related to higher disengagement within romantic relationship for both men and women, whereas anxious attachment has not (Callaci et al., 2020). Men with higher attachment avoidance have been found to have the highest levels of disengagement at follow-up after receiving a course of 15 weeks of couples relationship therapy compared to people with other attachment styles (Callaci et al., 2021). People with avoidant attachment are more likely to instigate a relationship termination than people with anxious attachment, despite people with both attachment styles reporting similar levels of dissatisfaction prior to the dissolution (Barbara & Dion, 2000).

Implicit theories of interpersonal relationships focus on the level of control individuals believe they have over their ability to influence the formation, continuation, decay, and restoration of relationships. Destiny beliefs are the beliefs that individuals are either compatible or not and that this is unchangeable. Growth beliefs are the beliefs that compatibility can be developed with effort or over time (i.e., is changeable; Carswell & Finkel, 2018a; Knee, 1998). Decay beliefs are beliefs about whether decay can be reversed once it occurs in a relationship (Carswell & Finkel, 2018a).

Knee (1998) found that destiny beliefs were linked to a higher satisfaction and emotional closeness in the initial stages of a relationship, quicker initiated termination of relationships if emotional closeness was lower in the initial relationship stages, less willingness to engage in relationship maintenance

behaviours following negative events within their relationship, and a higher tendency to state that the relationship was not compatible from the beginning, than people with growth beliefs. People with growth beliefs tend to view partner hostility or distress as reflecting changeable issues in the relationship, and respond to this by using problem solving strategies, whereas people with destiny beliefs tend to believe the partner's hostility or distress reflects an unchangeable poor-quality relationship and respond by avoiding working on the issues (Kammrath & Dwerk, 2006).

Regarding decay beliefs and beliefs about the changeability of positive and negative aspects of relationships, findings suggest that married individuals who believe that negative aspects of their relationship are unchangeable (stable), and positive aspects are uncontrollable (unstable), experienced higher relationship dissatisfaction and distress because they have lower expectations about their future relationship satisfaction (Bradbury & Fincham, 1990; Lemay, 2016). Belief in the irreversibility of passion decay in romantic relationships has also been found to increase the likelihood of the pursuit of other partners and decrease commitment to one's current partner (Carswell & Finkel, 2018a).

While individuals with a destiny mindset are more likely to end interpersonal relationships (Knee, 1998; Le et al., 2010), individuals primed with destiny beliefs are also more likely to experience greater distress and are more likely to respond with aggression if they are ostracised by peers in social settings, because they are convinced that they are compatible with those people and are more distressed by the dissolution. In contrast, people primed with growth beliefs are more likely to respond to ostracism with pro-social behaviours such as conforming more strongly with the group norms or to withdraw from the group completely and seek solitude to repair and restore from the social pain (Chen et al., 2012).

Le et al.'s (2010) meta-analysis found that relationship factors (relationship quality, communication, emotions, and cognitions about the relationship itself) are more predictive of dissolution than internal factors (personality, adult attachment style and self-esteem) or external factors. Of the included factors, the researchers found that reduced commitment, love, dependence, including the other person as a part of oneself, and positive illusions (i.e., considering the relationship or other person as "ideal" or focusing predominantly on the positive aspects only) were most strongly predictive of

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dissolution longitudinally. Other relationship factors (e.g., closeness, satisfaction, trust) and internal factors that were relational in nature (e.g., attachment style) were also predictive but had small-moderate effects. While the researchers found that presence of conflict is a poor predictor of dissolution longitudinally, other research has found that the way conflicts are handled (e.g., stonewalling or accommodating) is highly predictive of future dissolution in romantic relationships (Agnew & VanderDrift, 2015).

Similarly, Dunbar and Machin (2014) found that 53% of significant conflict incidents were caused by beliefs that they had not been cared for, communication issues, and jealousy/envy. Both females and males cited lack of caring as the most common cause.; however, females reported more jealousy, tiredness and poor communication causes, and males reported more alcohol/drugs, drifting apart, being “stirred” by the other person, and competition reasons. In addition, research has found that low commitment readiness (i.e., “feeling ready to be in a longer term committed relationships” (Agnew et al., 2019, p. 1046) has been found to be related to higher engagement in “leave” actions that are intended to terminate the relationship, and to the reduction of specific relationship maintenance behaviours (self-disclosure, sacrifice and accommodation).

The dissolution of best or close friendships results in a re-classification of the friendship to casual friends, acquaintances, or no contact, indicating that while no longer considered a close friendship, there may be varied levels of interdependence and friendship following a deterioration in status. Similarly, in romantic relationship, dissolution does not mean that no relationship exists but that the interdependence between the individuals has decreased (Agnew & VanderDrift, 2015), and a range of friendship quality exists in these dyads post dissolution (Tan et al., 2015). Dissolution factors, such as dissolution mutuality (Hill et al., 1976), peer approval of a continued friendship post dissolution (Busboom et al., 2002), relationship satisfaction (Bullock et al., 2011), and relationship commitment prior to dissolution (Tan et al., 2015) are predictive of the level of friendship status post-dissolution; for example, low within-relationship commitment predicts a no-contact friendship status post-dissolution (Tan et al., 2015). Thus, it is important to establish not only whether close friendships are dissolved, but the level of decay that has occurred (i.e., the level of status change).

2.5 Distress

Distress is a common response to rejection, inequality, conflict, or antagonism in adult friendships (Bagwell, 2015). Other common responses to interpersonal relationship dissolution include decreased life satisfaction, self-esteem, physical health and self-confidence, and increased substance abuse, anger, anxiety, depression, post-traumatic stress, suicidal ideation, self-harm and suicide attempts (Chung et al., 2002; Fine & Harvey, 2006; Fleming et al., 2010; Kansky & Allen, 2018; Lewandowski et al., 2006; Mirsu-Paun & Oliver, 2017; Monroe et al., 1999; Rhoades et al., 2011; Sbarra & Emery, 2005; Thomas et al., 2019).

One form of distress is social pain or hurt (Ferris et al., 2019). Hwang et al. (2020) described social pain as the acute physical reactivity to social rejection, activated by an arousal response that is “quick and crude”, and acts as a highly sensitive detector of ostracism that may be triggered by minor events and even produce false alarms because of the high mental and physical health risks associated with not being alerted to actual instances of rejection.

Research has found that similar physiological responses and areas of the brain (i.e., the anterior cingulate cortex) are activated during ostracism as are activated when experiencing physical pain (Eisenberger & Lieberman, 2004). Physiological responses to ostracism include increased facial temperature (which is also experienced by observing peers; Paolini et al., 2016), increased skin conductance (Iffland et al. 2014; Kelly et al., 2012), and an immediate increase in pupil reactivity (dilation) (for both targets and observers; Hwang et al., 2020; Silk et al., 2012; Vanderhasselt et al., 2015). Silk et al. (2012) also found that youth who had increased pupil reactivity while being rejected in a virtual peer interaction task were more likely to avoid negative feedback within the task and to also experience lower daily social connectedness with other people, indicating that higher social pain responses to rejection in general tend to lead to an avoidance of situations that may lead to them experiencing further negative feedback. Higher heart rate variability has also been observed in adults when they receive negative social feedback (Vanderhasselt et al., 2015) and unexpected rejections from strangers (Gunther et al., 2010).

Interestingly, people with higher rates of habitual rumination in daily life tend to have lower heart rate variability following unexpected instances of social rejection (Vanderhasselt et al., 2015). Low heart rate variability in the response to rejecting stimuli has been associated with higher cognitive reactivity and

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development of maladaptive cognitions, and an increase in depressive symptomatology resulting from less flexibility to adapt to rejecting stimuli (Beevers et al., 2011). Similarly, ruminating about episodes of relational victimisation specifically has been found to be associated with increased symptoms of depression (Mathieson et al., 2014).

Clients typically attend therapy after the initial physiological effects of social pain have dissipated and must therefore rely on their recall of their initial social pain response. However, time since a social pain event has been found to have little impact on recalled social pain (Meyer et al., 2015). For example, the researchers compared level of pain experienced by adults when recalling a highly painful social event that occurred within the past five years (e.g., betrayal, exclusion, or a dissolution) to the level experienced when recalling a highly painful physical event that occurred in the same period (e.g., hospitalisation, broken bones; Meyer et al., 2015) using functional magnetic resonance imaging. They demonstrated that people have higher neural activity in affective pain-related areas of the brain when recalling social pain events than physical pain events, and that the level of social pain experienced is not impacted by the length of time since the event. The researchers suggested that recalling previous social pain events may trigger thoughts about anticipated future social pain events. This differs from physical events because most of these events do not have subsequent associated painful events (i.e., the injury typically heals without continued pain). Thus, pain appears to be enhanced when recalling social pain events more than physical events. It is possible that people who habitually ruminate may “re-experience” their social pain on a regular basis if ruminating about past painful social events. Bourassa et al. (2019) also found in a longitudinal study that rumination was associated with higher current distress and daily sadness, and negatively associated with daily happiness, in dissolved marital relationships. In addition, rumination predicted distress and daily sadness, but not happiness, five months later.

People generally overestimate the level of distress they will feel following a romantic dissolution, especially if they report higher love for their partner prior to dissolution, believe that they may not enter a new relationship if they break up, or do not initiate a dissolution (Eastwick et al., 2008). However, certain factors have been found to predict higher distress, including relationship length, time until an alternative partner is found, commitment, satisfaction, fearful attachment

style, and level of investment into the relationship (Davis et al., 2003; Kansky & Allen, 2018; Locker et al., 2010; Sprecher et al., 1998; Sweeney, 2002). Similar to romantic relationships, some friendships, especially close and best friendships, can last for decades (Ng et al., 2021). In addition, similar to friendships, some romantic relationships only last weeks or months (e.g., Field et al., 2009; 2011; Marshall et al., 2013). Thus, it is possible that distress may vary in intensity following the dissolution of friendships, as it does following the dissolution of a romantic relationship (Field et al., 2009).

People with higher decay beliefs assume that decay (i.e., a decrease in passion) is irreversible, and following decay report lower expected future satisfaction and experience greater distress (Bradbury & Fincham, 1990; Lemay, 2016). Distress is also higher if a break-up is sudden, initiated by the partner (Tan et al., 2015), or there is a lack of mutuality about the dissolution (Hill et al., 1976). Initial grief responses to break-ups in young adults are similar to those in bereft people (i.e., people whose loved one has recently died). However, symptoms appear to dissipate quicker following a dissolution than a bereavement (Allumbaugh, 2001).

The relationships between distress, commitment and restoration are unclear. Developing an understanding about the reasons for a dissolution, and having plans for self-improvement, have been found to predict higher levels of closure and lower distress and anxiety symptoms four years later, and may improve relationship skills in the future (Kansky & Allen, 2018). Interestingly, a subset of people have been found to experience higher functioning following relationship breakdowns (Tedeschi & Calhoun, 1996), including lower levels of depression, higher wellbeing (Helgeson et al., 2006), higher self-confidence, higher independence, higher emotional stability, increased strength of character (Tedeschi & Calhoun, 1996), increased positive emotions, and increased personal growth (Lewandowski and Bizzoco, 2007). This experience is called post-traumatic growth (Tedeschi & Calhoun, 1996) and included evaluations of one's role in the dissolution of the previous relationship, and problem solving and personal goals to change specific behaviours in future relationships to reduce future dissolution (Hebert & Popadiuk, 2008). Thus, it is important to assess the benefits of restoration on a case-by-case basis (Kansky & Allen, 2018).

2.6 Classification change: restoration of close friendship

Once dissolved, some interpersonal relationships undergo a process of reconciliation and restoration and others do not. Determining which factors best predict close friendship status restoration (i.e., a return to former closeness or a similar level following a close friendship dissolution) is important when determining how to restore close friendships and determine which friendships are most likely to be restorable. This is especially helpful in situations where restoration is more likely to be successful in the near future so that people may be more confident in engaging in restorative strategies with that friend with less chance of rejection and further distress. Again, it is helpful to consider research from the adult romantic relationship and child/adolescent population when determining likely predictors of restoration in close adult friendships.

As discussed earlier, research has found that restoration of interpersonal relationships is most likely within the first month following a conflict, decreases significantly with each subsequent month, and is rare after the first 12 months (Dunbar & Machin, 2014). Following conflict, punishment is used to obtain justice for the transgressor. Punishments may be purely punitive with the aim of alienating the transgressor or may be used in constructive ways, with the intention of restoring, reintegrating, and healing in a combined effort between victim and transgressor to restore shared values impacted by the transgression (“e.g., the offender taking responsibility and apologizing; victims communicate that offenders remain worthy of redemption”; Strelan, 2018, p. 21). Dunbar and Machin (2014) found that for close friends who do restore, many reported that the level of emotional closeness does not restore to the previous level within the first 12 months, especially for females; it is unclear whether further improvements in emotional closeness occur after that time. In addition, while best friendships experienced less frequent conflicts than other social network members, the decrease in emotional closeness was higher for unrestored best friendships than for unrestored relationships with other social network members. The researchers found that apologies were the most common and effective facilitator of reconciliation (as opposed to physical (e.g., hugging) or non-physical (e.g., gifts) methods), and that while apologies were typically accepted and successful (66.5%) in restoring closeness, a subset of people, primarily females, refused to accept offered apologies. Apologising has been found to facilitate forgiveness and restoration, even in younger and older children (Kemp et al., 2021).

Forgiveness is an action that may be used to facilitate restoration of connection in close interpersonal relationships (Strelan, 2018). Decisional forgiveness in friendships involves deliberately choosing personal behaviours that are less negative towards the other person and/or choosing to increase positive behaviours towards the other person to facilitate the restoration of connection and resisting the unforgiving stance one may simultaneously feel (Kemp et al., 2021; Worthington et al., 2007). Thus, while decisional forgiveness tends to be deliberate, sincere, and permanent (Worthington et al., 2007), it is possible for negative emotions to continue internally (Karremans & Van Lange, 2008). In contrast, emotional forgiveness is the internal experience of forgiving the other person and includes positive shifts from negative to positive emotions, cognitions, motivation, and behaviours (Kemp et al., 2021; Worthington et al., 2007). This may explain why restored close adult friendships may consist of more positive and less negative interactions (Worthington et al., 2007) yet dyad members may, at least initially, continue to feel less emotionally close than prior to the dissolution (Dunbar & Machin, 2014; Karremans & Van Lange, 2008).

Adult willingness to forgive transgressions by friends has been found to be predicted by factors such as attachment style, with rumination mediating the negative relationship between anxious attachment and forgiveness and low empathy mediating the negative relationship between avoidant attachment and forgiveness (Burnette et al., 2009). Childhood trauma has been found to disrupt the ability to forgive other people for offenses (Mucci, 2018). Forgiveness has also been found to mediate the relationship between higher anxious attachment and depression in adults following perceived offenses, with higher forgiveness resulting in lower depression for anxiously attached individuals (Burnette et al., 2009). Forgiveness is sometimes perceived to be a weak action from which transgressors primarily benefit (Strelan, 2018). However, transgressors have typically been constructively punished in the process (as opposed to punitively or revengefully punished; Strelan, 2018), forgiveness is often conditional rather than unconditional (e.g., dependent on an apology), and forgiveness can benefit both the transgressor and the victim by preserving valued friendships and increasing the wellbeing of both individuals (McCullough, 2008; Strelan, 2018; Worthington, 2001).

Using communication as an attempt to restore connection is not inherently positive or negative, given that most successful reconciliations occur within the

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first month following a significant conflict and communication is necessary to facilitate this (Dunbar & Machin, 2014). However, persistent unwanted communication, or aggressive behaviours such as stalking, surveying (i.e., watching activity on social media), defamation, threatening, vandalising property, and physical abuse following a break-up can have negative consequences for former partners, such as increased discomfort and increased fear (Civiloti et al., 2021). The researchers found that people with anxious-preoccupied attachment engage in more unwanted communication attempts and more defamation of former partners in the months following the dissolution than people with other attachment styles, especially females with this attachment style, who reported higher fears of abandonment as the prime reason for their behaviours. It is possible that engagement in these behaviours temporarily reduces fears of social threat (abandonment) and may temporarily distract from feeling social pain, but when not reciprocated, may lead to continued engagement in these behaviours, thus acting in a similar way to safety behaviours (Evans et al., 2021; Read et al., 2018). Research has found that although people with an anxious attachment want to restore romantic relationships more than other attachment styles, they have more negative emotions and less positive emotions about their former partner (Barbara & Dion, 2000). The researchers also found that anxious attachment was related to more rumination and less chance of developing a new relationship within 6 months of the dissolution; in contrast, an inverse relationship was found between avoidant attachment and these factors.

Higher growth beliefs have also been found to be related to higher willingness to engage in problem solving behaviours in attempts to restore closeness in romantic relationships following the occurrence of negative events within the relationship (Kammrath & Dwerk, 2006). Higher growth beliefs have also been found to be related to higher willingness to conform more strongly to group norms if they are ostracised. However, people with higher growth beliefs are more likely than people with lower growth beliefs to withdraw from interpersonal relationships and seek solitude if their reconciliation attempts are unsuccessful (Chen et al., 2012).

Reductions in conflict and betrayal (i.e., ostracism and victimisation) within best friendships have been found to restore connections within the social network and offer protection to targets. Best friendships in children that are characterised by conflict and social betrayal offer little social protection for

targets, and targets experience higher levels of being excluded, called names, or physically hurt by other people in the social environment; however, decreases in betrayal and conflict within the friendship have been found to reduce the chance of the target experiencing each of these bullying behaviours 6 months later (Boulton et al., 1999). This indicates that poor quality best friendships in childhood can be detrimental socially, whereas high quality best friendships offer social protection, and that it is possible for both quality to be restored within best friendships once it has decayed, and social connections to be improved with other members of the shared social network.

It is difficult to predict which relationships, and especially friendships, are more likely to be restorable and which are not, which renders restoration attempts risky to psychological health. For example, people who are struggling with significant distress, life, or mental health issues may find that successful restoration attempts increase their wellbeing. However, they may find unsuccessful attempts significantly reduce their wellbeing, putting them at risk of poorer mental and physical health (e.g., suicidal ideation and attempts). In addition, while some interpersonal relationships benefit from being restored, restoration of others is not appropriate and may prove detrimental to the mental and/or physical health of one or both members. For example, unresolved power imbalances, aggression, bullying, or a history of abuse may result in restorations putting the target in a position of repeated harm (Pape & Arias, 2000). Thus, restoration attempts should be carefully considered alongside other individual, dyad, and contextual factors, especially when people are currently experiencing poor mental or physical health.

2.7 Intervention

A range of friendship-based interventions, predominantly cognitive behaviour based, have been found to be effective in assisting the development of friendships, and reducing symptoms, such as loneliness, anxiety, and depression, in child populations (e.g., Barrett et al., 2003; Doyle et al., 2020; Echols & Ivanich, 2021; Fisak et al., 2018; Maalouf et al. 2020), adolescent populations (e.g., Barrett et al., 2003; Echols & Ivanich, 2021; Maalouf et al. 2020), younger adult populations (Mueller & Cougle, 2023), and older adult populations (Martina et al., 2018). Such interventions have also been found to be effective in adult populations with mental health diagnoses, including social anxiety disorder (Mueller & Cougle, 2023). Fewer interventions have been developed to assist in

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the maintenance and restoration of friendships, especially close or best friendships. One study examined the benefits of a 12-week dyadic intervention program (i.e., involving both friends) on reducing physical aggression within best friend dyads in children, and found that, compared to a no-treatment control condition, the intervention indirectly reduced levels of physical aggression via the improvement of conflict resolution skills (Salvas et al., 2016). It is also unclear whether people in the general or clinical adult populations would be willing to engage in maintenance or restoration interventions for established friendships if they existed. Once this willingness is determined, future research may focus on developing interventions that specifically target the needs of close friend dyads.

2.8 Thesis aims

In this thesis, the aim is to increase the predictability of future friendship states and related distress so that people may be able to better maintain quality in their current close friendships, reduce chances of dissolution of meaningful friendships, identify friendships that are likely to be restorable, and identify individuals at risk of prolonged distress. Another aim is to better understand the predictors of actor-ostracism of close friends. It is hoped that the information gained from this thesis will help increase clinician and research understanding of these areas, inform future intervention programs and research, assist in the development of appropriate individually tailored therapy goals, and identify individuals who are at risk of further psychological harm.

This thesis will aim to add to the field through a quantitative analysis of the frequency, and the best predictors, of key outcomes and themes in close adult friendships: future dissolution of close friendship (Chapter 4), future restoration of close friendship (Chapter 5), current and future distress (Chapter 6), and actor ostracism of close friends (Chapter 7).

Chapter 3: Method

3.1 Playlist: Reciprocation

Playlist link

https://open.spotify.com/playlist/4fWYQvEfsfxTmc8HkmQSN0?si=11naB8gQTez_s9qMpLH9Q

Songs

“My same” (Adele, 2008, track 10)

“Best friend” (Laufey, 2021, track 1)

“How can I tell him” (Lekman, 2017, track 8)

“Thank you for being a friend” (Gold, 1997, track 1)

3.2 Procedure

Ethics approval (H-20/76) was granted for the administration of all three waves of the survey by the School of Psychology subcommittee of the University of Adelaide Human Research Ethics Committee.

Participants were recruited from the University of Adelaide intranet, the University of Adelaide research participation system (Sona Systems, n. d.), community notice boards, an online psychology survey website (Social Psychology network), and social media sites (Facebook, Twitter, and Reddit). First year Psychology students at the University of Adelaide were offered course credit for completion of survey sections completed within their first year. A prize draw consisting of two \$50 online gift cards were offered for the completion of each survey (baseline and follow up surveys) for Australian residents not claiming course credits. A random number generator was used to select prize winners after each wave of data collection (TPAL, 2022).

A pilot study was initially run with 6 participants and feedback sought via email regarding any perceived gaps in the items, as well as feedback about any errors in grammar or spelling. Based on the feedback, a few additional face valid items were added (i.e., common interests) and a small scale was added (the Ingratiation subscale). No other significant changes were made. With consent from this pilot group, the participants were then added to the study Network group

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(see below for explanation) and their data combined with the other datasets. They were followed up 6 and 12 months following their completion of the pilot survey. These pilot cases were excluded from any study sections where the factors missing in the pilot study would impact the variables included in those studies. Thus, completer numbers vary slightly in studies depending on inclusion of the pilot group data.

Three identical surveys were created via Qualtrics: one for university students whose course credit was applied automatically at the completion of the survey, one for the general population, and one for any participants who personally knew the researchers (Network group). The Network group was included in the study given numerous requests from friends, family, and colleagues to the researchers to be able to participate in the study given their interest in the topic. In addition, The Network group allowed individuals to participate in the study without their identity being revealed to the researchers. Results for the student and general population groups were accessible to the researchers in Qualtrics. Results for the network group were accessible to a research assistant employed by the School of Psychology at the University of Adelaide, who de-identified the data by removing names, email address and IP address information before providing the data to the researchers to collate. Once begun, participants had one month to complete the first survey. Follow-up survey links to Wave 2 and Wave 3 were sent via email to participants at 5 months and 11 months post-completion of Wave 1 survey and participants were given a 3-month window to begin the follow-up, resulting in an average of 6-months for Wave 2 completion and 12-months for Wave 3 completion. Reminder emails were sent on average every 1.5 weeks during the completion window. Follow-up links, reminder emails and prize communications for the network group were sent via the research assistant to maintain anonymity from the researchers.

Participants were provided with information about the study (see Appendix C) and required to fill in an online informed consent sheet. Informed consent sheets varied between the student and general population/network groups to clarify that students would not be penalised should they chose to withdraw from the study at any point (see Appendix C). Both the information sheet and informed consent sheet were situated before the beginning of the survey in Qualtrics and forced choice selection boxes were provided to confirm that participants had read the information and agreed to participate in the study prior to

being administered the survey. Wave 1 survey took approximately 1.25 hours to complete. Follow-up surveys took approximately 40 minutes to complete each. Using G*Power (version 3.1, 2020) to estimate the sample size required for multiple regression analyses and considering sample sizes and attrition rates from previous longitudinal studies (e.g., Field, 2017), a minimum sample size of 377-408 participants was estimated as required to obtain statistically significant results at waves 1, 2 and 3 of the current study.

3.3 Participants

Participant numbers differed in each study depending on which variables were pertinent to that study and the completion level of participants. Details about survey starters and completers of current close friends (CCF) and previous/former close friends (PCF) survey sections are discussed in this section, whereas details of participants included specific studies are included in the chapters below.

3.3.1 Survey 1 (T1)

The sample of participants (827) who began Survey 1 was aged 18-24 years (73.4%), 25-34 years (13.7%), 35-44 years (12.7%), 45-54 years (4.8%), 55-64 years (3.6%), 65-74 years (1.2%), and 75-84 years (0.4%). The sample was 73.4% female, 25.3% male, 1.1% non-binary, and 2.4% other/decline to state. Sexual orientation of the sample was 78.2% heterosexual, 11.4% bisexual, 3.6% homosexual, 3.0% “other”, and 3.7% “prefer not to say”. The sample was 53.6% in a romantic relationship at T1 and 46.4% not.

All participants identified as being fluent English speakers. Participants primarily resided in Australia (75%) or the USA (14.3%), with the remaining 10.7% of participants resided across 28 other countries. Multiple ethnicities/racial groups could be selected by participants and 562 participants identified as “White”, 7 as “Aboriginal/Pacific Islander”, 27 as “Hispanic/Latino”, 175 as “Asian”, 31 as “Black/African American”, and 54 as “Other”. See Appendix G for full table of sociodemographic characteristics.

Of the 827 participants who began the survey, 639 participants completed all the questions regarding their current close friend (77.3%), and 568 participants completed all of the questions regarding their previous close friend (68.7%).

3.3.1.1 Current close friend group

In response to the question asking participants to report on a current close friend (CCF: i.e., best or close friend), 47.5% of participants reported on a best friend and 50.3% reported on a close friend. Of the CCF friendships discussed,

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89.6% of females reported on a same-sex friendship and 10.4% reported on a friendship with a person of a different gender group (male (8.5%), non-binary (1.3%), or “other” (0.5%). In the sample, 77.8% of males reported on a same-sex friendship and 10.4% reported on a friendship with a person of a different gender group (female (20.8%), non-binary (1%), or “other” (0.5%). In the sample, 11.1% of non-binary participants reported on a friendship with another non-binary friend and 88.9% reported on a different gendered group (66.7% female, 22.2% male).

CCF friendship length ranged from 2 months to 744 months/62 years ($M = 109.69$, $SD = 118.94$), indicating an average close friendship length of 8.89 years. In the sample, 57.7% of CCF friendships had never had a gap in their close friendship (where they would no longer have considered themselves close/best friends), and 42.3% reported having had a gap in being close/best friends that had been since repaired. Of these, 41.6% of best friendships had restored a previous gap and 43.0% of close friendships had restored a previous gap in closeness. In the sample, 41.5% of females and 42.4% of males had restored a previous gap with their CCF. See Appendix H for full tables of sociodemographic characteristics of subgroup.

3.3.2.1 Previous close friend group

In response to the question asking participants to report on a previous close friend (PCF: i.e., previous best or close friend who is now a casual friend, acquaintance, or no friendship at all), 41.1% reported on a casual friendship, 22.3% reported on an acquaintance, and 36.2% reported on a person with whom they no longer had any friendship at all. Of the PCF friendships discussed, 89.4% of females reported on a same-sex friendship and 10.7% reported on a friendship with a person of a different gender group (male (9.3%), or non-binary (1.4%)). In the sample, 80% of males reported on a same-sex friendship and 20% reported on a friendship with a person of a different gender group (female (19.4%), non-binary (0.6%)). In the sample, 16.7% of non-binary participants reported on a friendship with another non-binary friend and 83.3% reported on a different gendered group (50% female, 33.3% male).

Length of close/best friendship prior to dissolution ranged from 2 months to 624 months/52 years ($M = 76.08$, $SD = 76.50$), indicating an average close friendship length of 6.34 years prior to dissolution. In the sample, 56.7% of PCF friendships had never had previously restored a gap in their close friendship, and 43.3% reported having had a gap in being close/best friends that was repaired to

being close/best status level again but had subsequently declined again to a lower status. Of these, 42.9% of “casual friendship”, 50% of “acquaintance”, and 39.7% of “no friendship at all” groups had previously restored a gap in closeness which had subsequently deteriorated again. In the sample, 43.7% of females and 43.9% of males had restored a previous gap with their CCF.

In the sample, 60.3% of male participants and 51.5% of female participants reported being the dissolution initiator with their PCF (i.e., initiator of the decrease from best/close friendship status to a non-close status level). See Appendices I for full tables of sociodemographic characteristics of subgroups.

3.1.2 Survey 2 (T2)

There were 318 participants who began survey 2 (243 female, 68 male, 5 non-binary, 2 other/decline to state), resulting in attrition rates of 50%-56% for T1 subsection completers. There were 269 participants who completed the CCF section of the survey (208 female, 57 male, 4 non-binary, 2 other/decline to state), and 203 participants completed the PCF section of the survey (154 female, 44 male, 3 non-binary, 2 other/decline to state). Of the 314 participants who re-rated their CCF status at T2, 11% reported no longer being close/best friends at T2. Of the 241 people who reported their PCF status at T2, 14.5% re-rated their friendship status as close/best. See Appendices G to I for full tables of sociodemographic characteristics of sample and subgroups.

3.1.3 Survey 3 (T3)

There were 159 participants who began survey 3 (125 female, 29 male, 4 non-binary, 1 other/decline to state), resulting in attrition rates of 25%-28% for T1 completers. See Appendices H to I for full tables of sociodemographic characteristics of subgroups.

3.1.4 Analysis of attrition

An analysis of attrition was run to compare wave 1 baseline data (T1) for non-participants and participants at study wave 2 (T2) and wave 3 (T3) on actor personal characteristics including age, gender, mental health, personality, implicit beliefs, attachment, and social factors (see Appendix P). The analysis demonstrated that there were no significant differences between participants involved in any of the study waves in implicit beliefs (growth beliefs, destiny beliefs, locus of control), personality traits (agreeableness, optimism, neuroticism, conscientiousness, openness), trait attachment style, stress, or social factors (makes friends easily, keeps friends easily, likeability, popularity). Significant

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differences between wave 1 scores were found on the following factors, but the effect sizes were small for each: age (people in age groups 55 and over were more likely to participate at wave 2 and wave 3 than people under 55), gender (females were more likely to participate at wave 3 than males), wave 1 anxiety (people with higher anxiety at baseline were less likely to participate at wave 3), life satisfaction (people with higher life satisfaction at baseline were more likely to participate at wave 3), people who had lower antagonism (PDI5) at wave 1 were more likely to participate at waves 2 and 3, people with a higher decay belief at wave 1 were more likely to participate at wave 3, and people with lower avoidant attachment to their CCF were more likely to participate at waves 2 and 3. The course credit given to students for participating in wave 1 of the study (and to eligible students at wave 2) likely resulted in higher attrition rates for younger age groups in the study. Together, the results indicate that the groups at each study wave were reasonably comparable regarding personal characteristics, as measured at baseline, with only a few small differences.

3.2 Survey overview

The researcher developed a large online survey with 6- and 12-month follow-ups to detect changes in current and previous close friendships across time and take a holistic look at friendships within a large sample. Participants were asked to provide their own name, email address, and the name or initials of both their current and previous close friend so that they could be contacted for follow up studies and reminded of the people they had previously reported on if required. The analyses in the following chapters focus on a subsection of the larger surveys which have been compiled to gain a broad data set within the same sample of people that can be analysed over time. However, the larger survey will be discussed briefly before focusing on the survey sections relevant to the current thesis.

Each participant was asked to a) select a current close friend (CCF) to report on, and b) select a previous close friend (PCF) who they used to consider to be a close friend but would now class as a casual friend, acquaintance or not a friend at all. Participants were required to select CCFs and PCFs who they had considered to be close friends, at least in part, after the participant turned 16 years old. This age was chosen to help reduce confounding factors that may be specific to child and early adolescent friendships. Participants were asked to select people who are living, are not immediate family members, and are also aged 16 years or

older. In addition, participants were asked to report on friendships that had never had a sexual component. While it is acknowledged that there are categories within friendships and relationships that have different ratios of sexual activity, romance, and friendship (e.g., friends with benefit relationships which are predominately friendship oriented but also have a sexual activity component; Bleske-Recheck et al., 2012; Weger et al., 2019), the thesis required participants to report on non-sexual friendships to reduce the risk of confounding factors that may be specific to romantic/sexual relationships rather than platonic friendships.

At baseline (T1), participants were asked to rate themselves, their CCF and their PCF on a series of short measures, single-item measures, and an exploratory list of face-valid items. People rated themselves twice on the face-valid items: once in relation to their behaviour in their CCF friendship, and once in relation to their behaviour in their PCF friendship.

The face-valid items formed a series of three columns, of which only the first column is used in the studies for the current thesis. Briefly, the three columns in the survey consisted of column 1: a 5-point Likert scale rating of the item, column 2: the perceived impact of each item on friendship closeness (e.g., 1 = “This was a deal breaker”, 2 = “Strong negative impact” to 5 = “Strong positive impact”), and column 3: how much this factor has increased or decreased across a specified time-period (1 = “This has decreased a lot” to 5 = “This has increased a lot”).

Different time frames were captured for T1 CCFs (i.e., recent change) and PCFs (i.e., change immediately prior to dissolution); T2 CCFs (i.e., comparing current relationship and behaviours to 6 months ago at survey 1) and T2 PCFs (i.e., comparing current relationship and behaviours with the time immediately prior to dissolution); and T3 CCFs (i.e., comparing current relationship and behaviours to 6 months ago at survey 2) and PCFs. (i.e., compare their connection with their Previous Close Friend over the past 6 months to when they stopped being close friends). While this makes certain comparisons between CCF and PCF groups difficult, the approach was used in the hope to capture the entire timeframe for each friendship without leaving unaccounted-for gaps, especially for previous close friendships.

A dummy code was created for the deal breaker item (1 = “This was a deal breaker”) and was included in this thesis to determine what participants perceived were the reason/s for close friendship dissolution, and to determine whether

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participant perception aligned with the rating scale system used in the thesis. If at T2 or T3 there had been absolutely no deliberate or situational contact with their PCF since they were no longer close, skip logic was used and participants were not asked any questions about changes in their own or their PCFs behaviours since breaking up.

At 6-month follow-up (T2) and 12-month follow-up (T3), participants were asked to re-rate all short and single item measures, but to only re-rate the list of face-valid items if a change had occurred over the specified time-period or if they were unsure whether a change had occurred. If no change had occurred, participants were asked to select “no change” and skip logic within the survey took them to the next question.

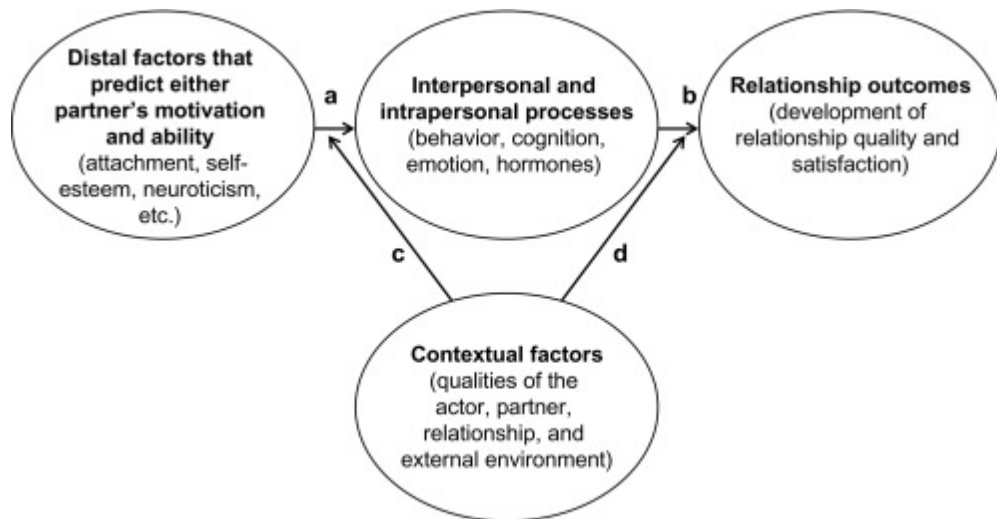
A small number of qualitative questions was also included in the survey at each timepoint to allow people to briefly clarify specific life events or other factors, and express reasons for changes and intentions as outlined below. While not a focus in the current thesis, it may be beneficial to explore these responses in future research.

3.2.2 Theoretical grouping of factors

Factors from the survey were grouped into 13 subgroups across 3 theoretical groups for the analysis of both CCF and PCFs based on McNulty’s (2016) contextual model of relationship maintenance discussed in the Introduction (see Figure 3). The groups were: 1) distal factors (actor, friend), 2) intrapersonal processes (actor, friend) and interpersonal factors (a) actor (demonstrated positive behaviours, demonstrated oppositional behaviours, other demonstrated negative behaviours), (b) friend (demonstrated positive behaviours, demonstrated oppositional behaviours, other demonstrated negative behaviours), 3) contextual factors (actor-oriented, friend-oriented, friendship-oriented). Relationship outcome variables were selected based on the specific question being asked in the analysis (e.g., how the factors in the groups predicted restoration/satisfaction). See Appendix E for factors included in each subgroup.

Figure 2

A contextual model of relationship maintenance



Note. Reprinted from *Advances in Experimental Social Psychology* (p 249) by J.

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3.2.3 Study design justification

The current survey aimed to extend the literature in a range of ways. First, the survey aims to obtain both a holistic analysis of friendships by exploring a wide range of factors within the same friendship. Second, the focus was on friendships in the adult population, which is relatively understudied compared to related populations such as child and adolescent friendships and adult romantic relationships. Third, friendships in the current study are differentiated by level of meaningfulness/closeness into close (best and close friends) and not-close (casual, acquaintance, no contact) friendships, which reflects the differentiation between meaningful and non-meaningful interpersonal relationships. In addition, friendships are categorised according to the five status levels of friendship from the friendship literature (e.g., Tan et al., 2015; Hall, 2019), as discussed below. This is important because the survey consists of items that have been found to have significant relationships with interpersonal outcomes across the romantic relationship and the friendship literature. Fourth, all friendships in the study have at some stage been considered close or best friends, either currently or in the past, to allow for analyses to be conducted on both close friendship dissolutions and restoration within the same sample.

The fifth way the current survey extends the literature is that the sample was from an international population, but restricted to fluent English speakers,

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thus reducing issues with homogeneity within the sample. Sixth, the sample includes adults across the lifespan, all genders, and allows for both same- and cross/opposite-sex friendships, also reduces issues with homogeneity within the sample. However, it is noted that there was an overrepresentation of younger adults, females, participants who identified as “White”, and participants residing in Australia in the sample. Seventh, the study excludes friendships that have a romantic or sexual component if this develops across the course of the study to reduce possible impacts of confounding factors that may impact romantic relationships specifically. Eighth, the study design is both cross-sectional and longitudinal (T1: baseline, T2: 6-month follow-up, T3: 12-month follow-up), allowing for analyses to be conducted within subjects, between subjects and predictors of future friendship outcomes (i.e., dissolution, restoration, and distress) to be assessed. Ninth, the current survey accounts for bidirectionality of status change (from close to not close and back again) allowing for analysis of status movement within close friendships. Tenth, several short and single item measures of T1 relationship quality/outcome are administered to determine which of these are most useful in predicting future friendship states and outcomes (i.e., dissolution, restoration, and future distress) which may help in the selection of the most informative measures in the clinical setting.

In addition, the current survey was available to both university students and the wider community, also increasing heterogeneity of the sample. Lastly, the survey was designed to include a comprehensive set of variables identified in the literature review (see Appendix D) as predicting friendship and relationship outcomes from the literature within the same sample to explore whether certain groups of concepts or specific predictors are especially predictive of future friendship states and outcomes (i.e., dissolution, restoration and future distress). However, given the enormous number of concepts that are related to interpersonal outcomes the survey was restricted to using short, single-, and face-valid-measures to allow for a representative range of concepts to be included. It is unlikely that all these concepts equally predict future friendship states and outcomes (i.e., dissolution, restoration, and future distress), and deciding which factors are the most beneficial to focus on in the clinical setting may be challenging. Additionally, clinicians may have very few sessions to work on target goals, so selection of the most appropriate and helpful factors is beneficial,

and it is hoped that this research may contribute to understanding which factors are more beneficial to focus on and under what circumstances.

3.3 Measures

3.3.1 Intrapersonal demographics

Age (years) of actor, CCF and PCF at T1 was categorically measured using eight age brackets: 1 = “18-24”, 2 = “25-34”, 3 = “45-54”, 5 = “55-64”, 6 = “65-74”, 7 = “75-84”, 8 = “85 or older”. Gender of actor, CCF and PCF at T1 was measured using the following categories: 1 = “Male”, 2 = “Female”, 3 = “Non-binary”, 4 = “Other”. Sexual orientation of actor, CCF and PCF at T1 was measured using the following categories: “1 = “Heterosexual”, 2 = “Homosexual”, 3 = “Bisexual”, 4 = “Other”, 5 = “Prefer not to say”. Current romantic/sexual relationship status (1 = “No, 2 = “Yes”) was sought for actor, CCF and PCF at each timepoint. This item was similar to an item included in Carswell and Finkle (2018)’s analysis which collapsed committed (married, engaged, committed) and non-committed relationships (divorced/widowed, casual dating relationship, single status) into a two-item variable for the purpose of their analysis, and as with the current study, the researchers also asked adult participants to report on both their own relationship status and that of their friend’s. Given that this survey was open to fluent English speakers on an international level, participants were asked to report both their current country of residence and their ethnicity. People were able to select as many racial/ethnic groups as they identified with from selection provided (1 = “White”; 2 = “Aboriginal or Pacific Islander”; 3 = “Hispanic or Latino”; 4 = “Asian”; 5 = “Black or African”; 6 = “Other”).

3.3.2 Friendship demographics

Participants were asked to write their age when they “first became close friends with” their CCF/PCF in a text box. Close friendship length was measured in months, as in previous research on interpersonal relationships (i.e., Mallory et al., 2018). Participants were also asked to indicate which dyad member in their CCF and PCF dyads was the person who originally initiated the development of a close friendship and examples were given as to activities that have been found in the literature to increase status from lower friendship levels to close friendship levels: “Who first initiated being close friends rather than acquaintances? (i.e., first shared personal information, suggested seeking time together outside of a

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group setting, increased personal communication)” (1 = “This person”, 2 = “Unsure”, 3 = “Me”).

3.3.3 Quality and outcome measures

3.3.3.1 Context and considerations (skewness and test-retest reliability)

For the present survey, outcome and intention measures were sourced from the adult and friendship literature where possible, or the clinical literature more broadly where necessary. While longer and more in-depth measures exist for most of these concepts, the current research sought to compare the full range of significant factors from the field to help narrow in on groups of concepts that appear to be the most influential. Thus, short- or single-item measures of relationship quality and intentions were sought for the purpose of this survey.

Distributions of many variables were found to be skewed in the current samples. Thus, Spearman’s rho is reported for test-retest reliability analyses and bivariate correlations. It is important to note that the test-retest correlations were expected in this thesis to be significant but small in strength because of the 6-12-month gap in survey completions, and small levels of expected fluctuations in human emotions and behaviours over time. In addition, often test-retest reliability of measures in social psychology are conducted over a 1–8-week period (e.g., Byant & Harrison, 2015; Greenaway et al., 2015), thus, the longer test-retest interval in the current studies (6-12 months) will yield lower test-retest effects than shorter intervals (Bühler et al., 2021; Buelow, 2020; Scharfen et al., 2018).

3.3.3.2 Status and global friendship quality

Participants were asked to report on two friendships, both of which have been classed as a best or close friend in the past: one who is still classed as a best or close friend, and the other who at the time of Survey 1 had been re-classified as a casual friend, acquaintance, or no friendship status. The present survey differentiated between close (best and close status) and not close (casual friends, acquaintances, and no friendship) status because higher quality friendships and relationships have been found to have positive benefits to wellbeing, whereas strained or poorer quality friendships have been found to be detrimental to mental health, long term physical health and mortality (e.g., Chopik, 2017; Nezlek et al., 1994; Holt-Lunstad et al., 2015; Lehmann et al., 2015; Till et al., 2017; Wetherall et al., 2019). In addition, this change reflects the movement of a friend from an inner circle position in the social network to an outer layer which has significant

differences in impact on mental health, wellbeing and support (e.g., Bukowski et al., 1994; Hill & Dunbar, 2003; King et al., 2016; Turner & Brown 2010). For the purposes of the present thesis, the change in in status level from CCF to PCF was considered a “dissolution”, which reflects a break in the perception of a friendship being close or meaningful and the associated benefits of inner layer friendships. In contrast, the reversal of this change (e.g., changing from PCF to CCF status) was classed as “restoration”.

Global friendship quality, both emotional and behavioural, was measured using Tan et al.’s (2015) post-romantic relationship closeness 4-items measure at each timepoint for both CCF and PCFs. These items were chosen because they were validated in an adult sample, the sample was comprised of people who had changed category from a committed to a non-committed relationship/no-relationship, which is similar to the PCF subgroup within the current sample, and the items were used to assess current friendship level, as in the current study. In addition, the status item is also used in the friendship literature as a stand-alone measure of status (e.g., Hall, 2019) so had the versatility of being able to be included in analyses as either a stand-alone or within-scale item. The first item addressed friendship status: “Currently, how would you describe the status of your friendship with this person?” (T1 CCF: 1 = “Close”, 2 = “Best”; T1 PCF: 1 = “No friendship at all”, 2 = “Acquaintances”, 3 = “Friends (i.e., casual friends)”; T2/3 CCF and PCF: 1 = “No friendship at all”, 2 = “Acquaintances”, 3 = “Friends (i.e., casual friends)”; 4 = “Close”, 5 = “Best”). At T2 and T3, an additional item was added to identify participants who no longer met study criteria with either their CCF or PCF because the friendship had become sexual or romantic (6 = “Romantic/sexual partner”). Current contact with CCF and PCF was measured at each timepoint using the categories: 0 = “No contact at all”, 1 = “Yes, but less than once a month”, 2 = “Yes, about once a month”, 3 = “Yes, about once a week”, 4 = “Yes, about once a day”, 5 = “Yes, more than once a day”. Finally, the positive and negative emotion items were: “To what extent do you experience positive emotions when you think of this person now?” and “...experience negative emotions when you think of this person now?” (0 = “Not at all” to 8 = “Completely”). Tan et al. (2015) found acceptable reliability of the 4-item scale (Cronbach’s $\alpha = .70$). This study also found reasonable reliability for the PCF group ($\alpha = .67$), but low reliability for the CCF group ($\alpha = .42$). Given the low

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reliability for the CCF group, as well as because this study already distinguished between CCFs and PCFs in its grouping, it was decided to consider the items individually rather than together in the analyses.

To examine status history for CCFs and PCFs, participants were asked at T1: “At your closest with this person, how did you describe the status of your friendship with this person?” (1 = “Close”, 2 = “Best”) and “In this friendship, was there ever a gap in being close friends before that was then followed by a restoration of closeness (e.g., a dissolution/no longer being close friends, and then later becoming close friends again)? (1 = “Yes”, 2 = “No”: reverse scored). At T2 and T3, participants were also asked “Do you currently class this person as a close or best friend” (0 = “No”, 1 = “Yes”) for CCF and PCFs. For CCFs who answered “No”, they were asked questions about the nature of the dissolution and their level of distress, whereas skip logic was used to bypass these questions for participants who answered “Yes”.

An additional measure of global friendship quality was added at T3 to ensure that the related measures used in T1 and T2 continued to have construct validity. For this purpose, the 3-item Perceived Relationship Quality scale (Fletcher et al., 2000) was used. This scale has been found to have close to acceptable reliability when used in the adult population ($\alpha = .63$; Blake et al., 2018). The wording of scale items was changed from “partner” to “friend” and from “relationship” to “friendship”: 1) “I feel satisfied within my friendship with my friend”, 2) “I trust my friend”, and 3) “I am committed to maintaining a close friendship with my friend” (1 = Strongly disagree” to 5 = Strongly agree”). In the current study, this scale had high scale reliability for CCFs ($\alpha = .90$) and PCFs ($\alpha = .73$).

3.3.3.3 Emotional closeness

The feeling of emotional closeness to CCFs and PCFs was measured by a single item measure of emotional closeness previously used to assess emotional closeness to social network members in the adult population (Roberts & Dunbar, 2015). This item was worded “Over the course of your close friendship, how emotionally close have you felt to this person?” and “How emotionally close to you feel to this person currently?” (1 = “I never see or hear from” to 10 = “We

have a deeply emotional friendship; and are likely to go to each other for advice or comfort in times of major emotional trauma or crisis”). Roberts and Dunbar (2015) found that this item correlated strongly with a larger well-established measure of emotional closeness, the Subjective Closeness Index (Berscheid et al. 1989; $r = 0.90, p < 0.001$), and that the strength of this relationship meant that the item was able to be used alone. Roberts and Dunbar (2015) used this item to distinguish between people within the support group of people’s social networks (people they are likely to be in contact on a weekly basis). In the current study, low test-retest reliability was obtained for CCFs ($r = 0.49, p = <.001$) and PCFs ($r = 0.56, p = <.001$), indicating some fluctuation in emotional closeness (support) in CCFs and PCFs across a 6-month period. To distinguish people within the sympathy group within people’s social networks (people whose death is likely to devastate them), the item “If this person died would you feel personally devastated?” (1 = “Strongly disagree” to 10 = “Strongly agree”) was also used from Roberts and Dunbar’s (2015) study. Together, the support and sympathy items have been found to comprise the inner circle of the social networks in adults (Roberts & Dunbar, 2015).

3.3.3.4 Previous and current satisfaction

The Relationship Assessment Scale – single-item measure (RAS-1; Fülöp et al., 2020) was used to measure current satisfaction with CCFs and PCFs at each timepoint. The RAS-1 has been found to be both valid and reliable in assessing relationship satisfaction in adults, and to be related to theoretically relevant concepts in the literature (Fülöp et al., 2020). For CCFs, the original word “relationship” was replaced with “friendship currently” so that participants were asked: “In general, how satisfied are you with this friendship currently?” (1 = “Not satisfied” to 5 = “Very satisfied”) at each timepoint. Participants were also asked to predict their CCF’s current satisfaction at each timepoint using the same rating scale: “In general, how satisfied do you believe this person is with this friendship?” (1 = “Not satisfied” to 5 = “Very satisfied”).

Regarding their PCFs, participants were again asked the RAS-1. At timepoint 1 participants were asked to retrospectively report their satisfaction over the course of their friendship in case they no longer had contact with the person. Participants were then asked to report their current satisfaction with their PCF at

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timepoint 2 and 3. Participants were also asked at each timepoint to rate their satisfaction with the current status level of their friendship: “how satisfied are you with your current level of friendship with this person? (e.g., some people are still friends but are no longer close friends, some may be content with no longer being close friends, others may be unhappy about no longer being close friends)” (1 = “Not satisfied” to 5 = “Very satisfied”). This was asked to differentiate the level to which people wanted to change their status level because satisfaction with status has been found to be predictive of wellbeing and life satisfaction (Adamczyk, 2019).

3.3.3.5 Expected future satisfaction

The Expected Future Satisfaction Scale (Baker et al., 2017), an adapted version of the Quality of Marriage Index (Norton, 1983) was used to assess expected future satisfaction in CCF and PCF friendships at each timepoint. This scale has been found to have high internal consistency when assessing relationships in the adult population ($\alpha = .97$; Baker et al., 2017). In this study, the word “relationship” was replaced with “friendship” to be appropriate for the current population. Participants responded to six questions regarding their expected future satisfaction: “Thinking about my [CCF/PCF], in 6-months-time...1) we will have a good friendship; 2) my friendship with this person will be very stable; 3) our friendship will be strong; 4) my friendship with this person will make me happy; 5) I will really feel like part of a team with this person” (1 = “Strongly disagree” to 7 = “Strongly agree”), and 6) “In 6-months-time the degree of happiness, everything considered, in your friendship will be...” (1 = “Not at all” to 10 “A lot/extremely”). Items were summed for a total score (range from 6 to 45). This scale had good internal consistency for CCFs at T1 ($\alpha = .95$) and T2 ($\alpha = .96$), and for PCFs at T1 ($\alpha = .96$) and T2 ($\alpha = .97$). T1-T2 test-retest reliability was very low for CCFs, $r = 0.50$, $p = <.001$, and moderate for PCFs, $r = 0.66$, $p = <.001$, indicating more fluctuation in expected future satisfaction in CCFs than PCFs over a 6-month period.

3.3.3.6 Motivation, commitment, desire, and likelihood of restoration

The 5-item Motivation Scale (Micic et al., 2019) was modified to assess motivation in participants regarding their friendships. This scale was not

developed for friendships specifically but was developed to assess motivation to maintain and change behaviours in a therapeutic context. This scale is based on the DARN model and is comprised of theoretically relevant concepts to relationship and friendship outcomes (desire, ability (self-efficacy), reasons and need). At this point in the literature there is no scale measuring motivation in friendships. The same wording as the original scale was used except for the substitution of “maintaining” and “close friends” where appropriate. The items were 1) Desire: “How much do you want to be close friends with this person at present?”, 2) Ability: “How confident are you that you are able to maintain a close friendship with this specific person in the future if you want?”, 3) Reasons: “How significant are your reasons to be close friends with this person at present?”, 4) Need: “How important is it to you to be close friends with this person at present?”, 5) Commitment: “How much will you work on maintaining closeness in this friendship? (1 = “Not at all” to 10 = “A lot/extremely”). The word “maintaining” was used for CCFs and replaced with “restoring” for PCFs. Items were summed for a total score. At T1 (only), items 1 and 2 were included for PCFs because these two items together were found by Micic et al. (2019) to be the best at predicting changes in behaviour, and it was thought that items 2 and 3 may be confusing for participants who may not have had contact with their PCF for a significant period, whereas the full scale was administered for CCFs. However, it was decided to include the full scale for both CCFs and PCFs at T2 and T3 to allow for scale comparisons with CCFs. In the current study, the Motivation Scale demonstrated high internal consistency for CCFs at T1 ($\alpha = .90$) and T2 ($\alpha = .95$), and PCFs at T2 ($\alpha = .87$).

The Motivation Scale in the current study was also strongly correlated with theoretically relevant constructs from the interpersonal relationships literature for T1 CCFs (current satisfaction, $r = .45, p < .001$, expected future satisfaction, $r = .70, p < .001$, emotional closeness, $r = .58, p < .001$), and T2 CCFs (current satisfaction, $r = .57, p < .001, p < .001$, expected future satisfaction, $r = .79, p < .001$, emotional closeness, $r = .71, p < .001$) and T2 PCFs (expected future satisfaction, $r = .76, p < .001$, emotional closeness, $r = .65, p < .001$, readiness to change, $r = .79, p < .001$). In the current study, low T1-T2 test-retest reliability was obtained for CCFs, $r = 0.56, p < .001$, indicating some fluctuation in motivation in CCFs across a 6-month period.

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Reunification desire and likelihood were explored in PCFs. Micic et al. (2019) found desire predicted both commitment and behaviour change. Post-close friendship dissolution reunification desire was tested using a single-item post-romantic dissolution desire measure (Tan et al., 2015). This measure was chosen because it had been previously used by Tan et al. (2015) in a population of adults who had broken up with a romantic partner, and was aimed at evaluating likelihood and desire to restore to their former status level. Participants were asked: “On a scale from 0 to 10, how much would you like to reunite with this person in a close friendship at any point in the future?” (0 = “Absolutely not” to 10 = “Definitely”). T1-T2 test-re-test reliability for PCFs was moderate, $r = .68$, $p < .001$, indicating some stability in reunification desire in dissolved friendships across a 6-month period. For reunification likelihood, participants were asked: “What is the likelihood that you will reunite with this person in a close friendship at any point in the future?” (0-100 sliding scale). T1-T2 test-re-test reliability was moderate in the current population, $r = .66$, $p < .001$, indicating some stability in predicted reunification likelihood in broken down friendships across a 6-month period.

In addition, to gain an understanding about whether participants were modifying their own behaviours in response to the perceived desire of their reported person, participants were also asked: “Currently, how much do you believe this person wants to restore closeness with you?” regarding PCFs and CCFs who had broken up at T2 or T3. In the current study, T1-T2 test-retest reliability for PCFs was low, $r = .51$, $p < .001$, indicating fluctuations in people’s perceptions about the desire of others to restore friendships with them across a 6-month period. To determine whether participants’ desire to restore was influenced by their perception of their PCFs level of desire, participants were also asked at each timepoint: “If I knew that this person wanted to be close friends with me, I would want to be close with them” (1 = “Not at all” to 5 “Extremely/completely”). T1-T2 test-re-test reliability was moderate, $r = .63$, $p < .001$, indicating that people’s own desire to restore is influenced by their perception of their previous friend’s desire to a similar degree across time.

General commitment to close friendships was measured using a single item measure asking participants to indicate how committed they are to the interpersonal goal to “Start/maintain close friendships” (1 = “Not at all” to 7 =

“Extremely”). This wording was modified from the original item “Make/maintain good friendships” (Carswell & Finkel, 2018b) to emphasise the classification distinction between close and not close friendships.

It was decided to also include two single face valid items to explore commitment in the current sample. For CCFs (T1-T3) the wording of the commitment item was: “How committed are you to maintaining closeness in this friendship?” (1 = “Not at all” to 10 “Extremely”). For T1-T3 PCF and T2/T3 broken up CCFs the wording of the commitment item was: “How committed are you to restoring closeness in this friendship?”. The single measure item was moderately to strongly correlated with other theoretical constructs from the literature at T1 in CCFs (commitment item of the Motivation Scale, $r = .70, p < .001$; motivation, $r = .82, p < .001$; emotional closeness, $r = .57, p < .001$; expected future satisfaction, $r = .59, p < .001$; current satisfaction, $r = .43, p < .001$) and PCFs (emotional closeness, $r = .66, p < .001$; expected future satisfaction, $r = .76, p < .001$; readiness to change, $r = .82, p < .001$; reunification desire, $r = .82, p < .001$), and also at T2 in CCFs (commitment item of the Motivation Scale, $r = .86, p < .001$; motivation, $r = .87, p < .001$; emotional closeness, $r = .66, p < .001$; expected future satisfaction, $r = .71, p < .001$; current satisfaction, $r = .55, p < .001$) and PCFs (commitment item of the Motivation Scale, $r = .89, p < .001$; motivation, $r = .82, p < .001$; emotional closeness, $r = .67, p < .001$; expected future satisfaction, $r = .76, p < .001$; readiness to change, $r = .89, p < .001$; reunification desire, $r = .80, p < .001$). Participants were also asked at T1: “How committed are you to maintaining close friendships in general?” to gauge whether their commitment level to their CCF and PCFs is typical of their commitment to close friendships in general or different.

3.3.3.7 Readiness, willingness, and ability to change

Readiness to change was measured for PCFs at each timepoint and for broken up CCFs at T2 and T3 with a Readiness Ruler, which is a commonly used clinical measure of readiness to change (Hesse, 2006). Readiness to change using the readiness ruler has been found to be related to actual behaviour change over and above measures of general motivation (i.e., Hesse, 2016). The wording of the readiness ruler was modified to be appropriate for the current population: “Currently, how ready are you to work on restoring closeness with your Previous

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Close Friend?” (Range 1-100). Score ranges represent different levels of readiness to change: not ready (scores 1-30), uncertainty (scores 31-60), readiness (61-80), ongoing attempts to change (scores 81-100) that align with other readiness rulers Hesse (2006). Test-retest reliability between T1 and T2 was moderate, $r = .63$, $p < .001$, indicating some fluctuation in readiness to restore over a 6-month period.

Questions about reasons to restore, previous restoration attempts, and general willingness and ability to restore other close friendships were also asked in the original survey so are also described here, but are not included in analyses for the current thesis. At T1, participants were given three optional questions to answer regarding their reasons to restore or to not restore with their PCF and a descriptive text box to type their answers: 1) “If you ARE willing to restore closeness with your Previous Close Friend, please briefly list your reasons for this in the space below (e.g. 1) I miss this person, 2) this person was kind, 3) I still care about this person)”; 2) If you may be willing to restore the closeness with your Previous Close Friend but have not done so, please briefly list any obstacles in the space below (e.g. 1) this person has rejected my offers to restore in the past, 2) I am scared they won't reciprocate, 3) we live in different countries); 3) If you are not willing to restore closeness with your Previous Close Friend, please briefly list your reasons for this in the space below (e.g. 1) There is pressure from friends not to and I don't want to lose my other friends, 2) I am jealous of this person, 3) this person was regularly unkind)”.

At T2 and T3, the above questions were repeated for PCFs and included for broken up CCFs. In addition, these participants were asked “Have either you or your PCF ever made any attempts to restore closeness with the other person” (1 = “No”, 2 = “Yes”). If participants answered “No”, skip logic was applied to skip the next few questions; if participants answered “Yes”, they were asked a series of qualitative questions about the restoration attempts with these friends to date (e.g., “What attempts [have you/has this person] made to restore closeness in the past?”, “Which of [your/this person's] attempts have occurred in the past 6 months (please list)?”, “What made you decide to attempt to restore closeness with this person?”, “If you have stopped attempting to restore closeness with this person, why did you choose to stop?”, “How successful have these attempts been overall at restoring closeness: 1) My attempts overall, 2) This person's attempts overall?” (1 = “Not at all/Not applicable” to 5 “Very successful”).

At T3, participants were asked two additional questions about their PCF: “If you are currently close to this person, are there any actions or changes that you believe you and/or this person could make to become even closer (even if you don’t believe these changes will happen, and even if you are currently satisfied with your closeness)?” and “If you are not currently close to this person, are there any actions or changes that you believe you and/or this person could make to increase the chance of being close again in the future (even if you don’t believe that these changes will happen or that you will ever want to be close again)?”. A text box was provided for each answer.

At T1 participants were asked to rate their general willingness to restore dissolved friendships as a comparison to their willingness to restore with their selected previous close friend and their ability to restore friendships, and their previous ability to restore dissolved friendships. An 11-point scale was used to assess general willingness: “How much to you generally want to restore closeness in your other previous close friendships?” (0 = “I don’t have any other previous close friends”, 1 = “Not at all” to 10 “Extremely”), and a 4-point scale was used to assess restoration ability: “Have you ever become close friends with any previous close friends before (i.e. restored closeness after a break up or period of time not being close friends with the person)?” (1 = “N/A, I don’t have any other previous close friends”, 2 = “No”, 3 = “Yes, returned to being close friends, but to a lower level of closeness than before”, 4 = “Yes, to the same or a higher level of closeness than before”).

To assess whether participants are willing to engage in friend-based intervention programs targeting the development of maintenance or restoration skills, participants were asked: “Regarding your friendships, how willing are you to participate in an intervention (either online or face-to-face) 1) to learn about how to maintain closeness with your CCF, 2) if your CCF let it be known that they want to be involved also?, 3) to learn about how to maintain closeness in any of your other close friendships?”. For PCFs, the word “maintain” was replaced with “restore”. Items were measured on a 3-point Likert scale (1 = “Would never consider” to 3 = “Would absolutely consider”).

3.3.3.8 Dissolution and dissolution distress

To assess breakup distress, participants were asked to fill in the Breakup Distress Scale (BDS; Field et al., 2009). The BDS is a modified version of the Inventory of Complicated Grief (ICG; Prigerson et al., 1995), used to assess distress following the death of a loved one, and was developed to assess distress following dissolutions in romantic relationships. The BDS was created for use with young adults who had experienced a romantic relationship dissolution to evaluate their level of distress about the dissolution. The scale has been used in studies with younger adults (e.g., Field et al., 2009; Field et al., 2011) and adults in the general population (e.g., Marshall et al., 2013), and across a range of relationship types, such as non-exclusive and exclusive dating couples, cohabitating couples and married couples (e.g., Field et al., 2009; 2011; Marshall et al., 2013), and international samples consisting of male and female participants (Marshall et al., 2013). It has also been used to assess distress in adult friendships and demonstrated good scale reliability (Cronbach's $\alpha = 0.93$; Clark et al., 2020). The BDS scale is comprised of 16 items that assess distress related cognitions, feelings and behaviours (e.g., "I think about this person so much it's hard for me to do the things I normally do"). Items are rated 1 = "Not at all" to 4 = "Very much so" as in the original BDS scale (Field, 2009) and are summed for a total score (range 16-64). Participants completed the BDS in relation to their PCFs at T1, T2 and T3, and in relation to their CCF at T2 and T3. If they had experienced a dissolution with the CCF since T1, the wording was modified in the study to read "no longer close friends" rather than "the breakup" in the original scale in an attempt to best capture the language adults may use to describe a close friend dissolution (e.g., "I feel lonely a great deal of the time since the breakup" was modified to "I feel lonely a great deal of the time since no longer being close friends with this person").

The BDS in the current study had good scale reliability for PCFs at T1 ($\alpha = .94$) and T2 ($\alpha = .92$), as well as broken up CCFs at T2 ($\alpha = .90$). T1-T2 test-retest reliability for PCF Distress in the current study was moderate, $r = .59$, $p < .001$, indicating some fluctuation in the level of distress reported by participants over a 6-month period.

To further explore the nature of dissolutions, participants were asked a few additional questions. Dissolution initiation was measured using a forced choice question: “Who do you believe initiated changing your close/best friend status to a lower status (i.e., casual friends, acquaintance, not friends)?” (0 = “Myself”, 1 = “This person”). This reflected the forced choice dissolution initiation questions used in previous research (e.g., Field et al., 2009; Tan et al., 2015).

As in Field et al. (2009), suddenness and unexpectedness of dissolutions was assessed but these factors were separated into questions in the following study because it was believed by the researchers that it is possible to have either a sudden and expected or sudden and unexpected dissolution. The suddenness of the dissolution was measured using a forced-choice question “Did this friendship fade gradually away from being close or was there a clear point that the friendship stopped being close?” (1 = “Gradual”, 2 = “Neither gradual nor sudden”, 3 = “Sudden”– reverse coded). To measure unexpectedness, participants were asked: “Did this break up/deterioration in closeness come as a surprise to you (i.e., did you feel “blindsided”)?” (1 = “No”, 2 = “Somewhat”, 3 = “Yes”).

Dissolution-related conflict was measured using the following face-valid items: T1 CCF: “Have there been any major altercations (i.e. disagreement, confrontation) that you believe have decreased the quality of your friendship since becoming close friends?” and T1 PCF and T2/T3 broken up CCFs: “Were there any major altercations (i.e. disagreement, confrontation) that you believe contributed to you no longer being close with this person?” (1 = “Yes” to 3 = “No”: reverse coded). Participants were provided an option to describe the nature of the conflict in a text box if desired: “If yes, what was nature the altercation/s (e.g., stole from me, competed for same job, excluded me from group event)?”

3.3.4 Concept measures and factors

3.3.4.1 Context and overview

A series of measures and face valid items were used by the researchers to explore a wide variety of concepts found to be significantly related to romantic relationship and friendship outcomes in the literature to determine whether certain factors are likely to be more predictive than others of friendship outcomes in adults. Where possible, short or single-item measures were sourced from the friendship and romantic relationship literature. To the best knowledge of the researcher, single item measures have not yet been created for the face-valid

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concepts in these populations. Although larger and more in depth scales exist for the concepts included, the aim of the thesis was to determine whether certain groups of factors have a particularly strong impact on dissolution, restoration, distress, and quality so that these groups can be identified and focused on in more detail in future research. Given that an enormous number of factors appear to impact friendships and relationships (see Introduction and Appendix D for examples of literature sources), steps to identify pivotal factors may help clinicians target highly influential factors in the early stages of therapy and provide clients with the most opportunity for meaningful change. It was hoped that examining the full set of significant factors from the field within a single large sample would help provide a holistic analysis of the friendships discussed within the sample.

As stated previously, participants reported on their CCF, PCF, and themselves twice (in relation to themselves in each friendship). The wording introducing this section changed between “CCF”, “PCF”, “do you”, and “this person” as necessary. Participants were given the following introduction: “Changes in behaviour may impact a friendship positively, negatively, or not at all. Similarly, behaviours that do not change may impact a friendship positively, negatively, or not at all, depending on how desirable, undesirable, or neutral the behaviour is. Thinking about your friendship with your [CCF], currently, how [does this person] come across to [you] in this friendship?”.

3.3.4.2 *Small scales and single-item measures*

Participants were given a series of short scale and single item measures from the literature.

3.3.4.2.1 Personality

To assess personality traits, participants filled in the Single-Item Measures of Personality (SIMP; Woods & Hampson, 2005) which measures the Big Five personality traits (extroversion, emotional stability, agreeableness, conscientiousness, and openness; John et al., 1991) using five single-item measures. Participants filled in the SIMP in relation to themselves, and their perceptions of both their CCF and PCF: “In general [this person/I] comes across as...”: 1) 1 = extroverted (“Someone who is talkative, outgoing, is comfortable around people, but could be noisy and attention seeking”) to 9 = introverted (“Someone who is a reserved, private person, doesn't like to draw attention to themselves and can be shy around strangers”), 2) 1 = antagonistic (“Someone who

is forthright, tends to be critical and find fault with others and doesn't suffer fools gladly") to 9 = agreeable ("Someone who is generally trusting and forgiving, is interested in people, but can be taken for granted and finds it difficult to say no"), 3) 1 = neurotic ("Someone who is sensitive and excitable, and can be tense") to 9 = emotionally stable ("Someone who is relaxed, unemotional, rarely gets irritated and seldom feels blue"), 4) 1 = conscientious ("Someone who likes to plan things, likes to tidy up, pays attention to details, but can be rigid and inflexible") to 9 = unconscientious ("Someone who doesn't necessarily work to a schedule, tends to be flexible, but disorganised and often forgets to put things back in their proper place"), 5) 1 = practical ("Someone who is a practical person who is not interested in abstract ideas, prefers work that is routine and has few artistic interests") to 9 = open/intellectual ("Someone who spends time reflecting on things, has an active imagination and likes to think up new ways of doing things, but may lack pragmatism"). The extroversion, neuroticism and conscientiousness subscales were reverse scored so that high scores reflected high levels in these traits. The SIMP has been found to have reasonable actor-other (i.e., actor as informant) accuracy, reliability, criterion validity and mean convergence with larger Big Five personality scales ($r = 0.61$), test-retest reliability, and divergent validity with similar but distinct concepts (i.e., is not too highly related to other theoretical concepts) across the adult population (Spörrle & Bekk, 2014; Woods & Hampson, 2005).

The actor- (American Psychiatric Association, 2013) and informant-report (Markon et al., 2013) versions of the Antagonism subscale from The Personality Inventory for DSM-5 Short Form (PID-5-SF) was used to further explore dysfunctional personality traits that may directly impact friendship outcomes: "This is a list of things different people might say about themselves. We are interested in how you would describe yourself. There are no "right" or "wrong" answers. So you can describe yourself as honestly as possible, we will keep your responses confidential. We'd like you to take your time and read each statement carefully, selecting the response that best describes you: 1) It's no big deal if I hurt other people's feelings, 2) I crave attention, 3) I often have to deal with people who are less important than me, 4) I use people to get what I want, 5) It is easy for me to take advantage of others" (1 = "Very false/often false to 4 = "Very often/often true). Item scores were summed for a total score and then averaged by dividing by the number of subscale items. The PDI-5-SF has been found to be

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highly reliable and valid when compared to the longer versions of the PDI-5 in the adult population (Maples et al., 2015), and able to discriminate between adult psychiatric patients and community residing adults (Bach et al., 2016). The Antagonism subscale of the PID-5-SF has been found to have good internal validity (Cronbach's $\alpha = .85$) in a university-based sample of adults (Thimm et al., 2016). Following the Antagonism items, participants were also asked to rate whether the item was believed to impact closeness within the friendship (CCF: 1 = "Strong negative impact", 2 = "Somewhat negative impact", 3 = "No impact"; PCF: 1 = "This was a deal breaker for [me/this person]", 2 = "Strong negative impact", 3 = "Somewhat negative impact", 4 = "No impact").

3.3.4.2.2 Locus of control

The four-item scale for the assessment of locus of control (IE-4; Kovaleva, 2012) was used to assess locus of control to determine whether participants tend to attribute the cause of positive and negative situations to internal (i.e., actor) or external (i.e., other people or the environment) causes. The IE4 consists of two 2-item subscales: internal LOC ("If I work hard, I will succeed" and "I'm my own boss") and external LOC ("Whether at work or in my private life: what I do is mainly determined by others" and "Fate often gets in the way of my plans"). Items were measured on a 5-point Likert scale (1 = "Doesn't apply to me at all" to 5 = "Applies completely") and subscales were calculated by summing the 2 subscale items and then averaging scores.

An analysis by Kovaleva (2012) found that the IE4 subscales have reasonable internal consistency in the adult population across two assessments: internal LOC (.73, .69) and external LOC (.67, .70). Both subscales, and the scale Mean, have also been found to have good test-retest reliability coefficients: internal LOC (.56), external LOC (.64), total mean (.60). The researchers also found that the IE-4 had high convergent validity with a longer measure of locus of control, the KMKB (Kurzskaalen zur Messung von Kontrollüberzeugungen in Bevölkerungsumfragen, i.e., the Short Scales for the Assessment of Locus of Control Orientations in Population Surveys), indicating that they are measuring the same construct. Scale reliability for both the internal and external LOC subscales were identical in current study ($\alpha = .37$).

3.3.4.2.3 Current mental health

Single item health screen measures used in Turon et al. (2019) were used at each timepoint to assess current anxiety (“Over the past week, have you felt anxious?”) and depressed mood (“Over the past week, have you felt depressed?”) (Scored: 1 = “No”, 2 = “Yes”). Turon et al. (2019) found reasonable levels of validity for both the anxiety (sensitivity: 0.78; specificity: 0.75) and depression (sensitivity: 0.63; specificity: 0.84) measure, and found moderate sensitivity (0.78 for anxiety; 0.63 for depression) and specificity (0.75 for anxiety; 0.84 for depression) when compared to a longer measure of anxiety and depression (the Hospital Anxiety and Depression Scale; Zigmond & Snaith, 1983). In addition, participants were asked to rate their current level of stress (“Over the past week, have you felt stressed?”) at each time point using the same scale, given that depression, stress and anxiety are differentiated between in some prominent clinical measures of mental health (e.g., The Depression Anxiety Stress Scale – 21-Item; Lovibond & Lovibond, 1995).

Participants were then asked to rate their current life satisfaction using a single-item measure of life satisfaction (“In general, how satisfied are you with your life?”; 1 = “Very satisfied” to 4 = “Very dissatisfied” (reverse scored)) that has been found to have strong criterion validity when compared with a longer measure of life satisfaction. This item was found to be correlated with the same theoretically expected factors as the longer version, thereby demonstrating good construct validity, both of which were examined in the adult population (Mean ages 59.23 and 56.70; Cheung & Lucas, 2014).

3.3.4.2.4 Behaviour maintenance: current contact, shared activities, friendship behaviours

Friendship maintenance behaviours were measured using three measures from the literature. Two single-item measures were used at each wave of the study (sourced from Roberts & Dunbar., 2015), and one larger measure was used at wave 3 only (sourced from Tan et al., 2015). The first single-item measure examined current contact level: current contact with CCF and PCF was measured at each timepoint using the categories: 0 = “No contact at all”, 1 = “Yes, but less than once a month”, 2 = “Yes, about once a month”, 3 = “Yes, about once a

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week”, 4 = “Yes, about once a day”, 5 = “Yes, more than once a day”. To further examine contact, especially for PCFs who may not have had contact for years, participants were asked to write the time since last contact (in months) in a text box “How long (in months) since you last had contact with this person (e.g., face to face, phone, email; e.g., 0.25 months, 3 months)”. In addition, to ascertain contact reciprocity, participants were asked to indicate at T1 “Who initiates interactions the most in this friendship?” for both CCFs and PCFs (1 = “Always this person”, 2 = “More often this person”, 3 = “Completely equal”, 4 = “More often myself”, 5 = “Always myself”). At T2 and T3 an additional option was added: 6 = “Neither of us (no contact at all)”.

The second single-item measure of friendship maintenance was related to the number of different types of activities shared together (Roberts & Dunbar, 2015) and consisted of a summed score of 5 items: “Have you and your [CCF/PCF] done any: 1) sport or physical activities together in the past 12 months (e.g., football, keep fit, mountain biking); 2) leisure activities done together in past 12 months (e.g., shopping, going to cinema, going to see a gig), 3) social activities together in past 12 months (e.g., going to the pub, going round to their flat/house, meeting at a social event), 4) work/study activities together in past 12 months: work activity (e.g., going to classes or lectures, studying together, working together), 5) gone on a holiday with this person in past 12 months (going away for more than one night)?” (Scored 0 = “No” and 1 = “Yes”; total score range 5 to 10). This scale was used by Roberts and Dunbar (2015) to assess behavioural closeness in adult social networks.

At T3, an additional behaviour maintenance scale was added for CCFs and PCFs because this scale measures a range of maintenance behaviours and can provide more information about long term behaviour in friendships. For this purpose, the 37-item Friendship Maintenance Scale (FMS) was used (Oswald et al., 2004). Questions in the FMS are grouped into four types of maintenance behaviours: interaction (i.e., engaging in behaviours together), supportiveness of one another, positivity (i.e., engaging in more rewarding and less antisocial behaviours), and openness within one another (i.e., engaging in self-disclosure) (Scored: 1 = “Never” to 11 = “Frequently”). The FMS has been found to have high internal consistency between scale items (Cronbach’s $\alpha = 0.97$) in the adult population (Clark et al., 2020). The current study also found high internal

consistency between scale items for the CCF ($\alpha = .95$) and PCF subgroups ($\alpha = .98$), indicating high scale reliability in these samples.

3.3.4.2.5 Victimization, ostracism, and general aggression

To assess verbal victimisation (indirect and direct), two actor report items were used from the Multi-Informant Peer Victimization Inventory (MPVI); Ladd & Kochenderfer-Ladd, 2002). The first item measured direct verbal victimisation (“How often does this person call you names or say other hurtful things to you?”) and the second item measured indirect verbal victimisation (“Thinking about mutual friends and members of social networks that you share with your [CCF/PCF], how often do mutual friends/members of social networks say mean things or lies about you to other people?”). Participants were also asked to rate these items in terms of how often they and their [CCF/PCF] victimise one another directly and indirectly (“...how often do you say mean things and lies to other people about your [CCF/PCF]”). The MPVI was designed to detect peer victimisation in the child population and for an individual’s victimisation level to be rated and compared by one or more persons within their social network, and has been used in the child population (Ladd & Kochenderfer-Ladd, 2002; Troop-Gordon et al., 2019), and found to have reasonable scale stability ($r = .31$; Ladd & Kochenderfer-Ladd, 2002).

In this survey, participants rated their own level of victimisation and that of the people they reported on within mutual friend groups. Dyad pairs had both actor and informant responses for both dyad members. This research used a 5-point Likert scale rather than the original 4-point scale so that participants were able to continue to use a scale that was consistent with surrounding survey items and so reduce confusion. The two victimisation items were summed and averaged to gain an overall verbal victimisation score. The wording of the two PPSSC items not included in this survey were deemed by the researchers to be too child-directed (specific to be applicable to the adult population (“Does anyone in your class ever (1) pick on you (general), or (2) hit you (direct-physical) at school”). In the current study, the verbal victimisation scale had good internal consistency regardless of whether the question focused on actor- or friend-focused victimisation, or if antagonist was the actor, friend or peer group: CCF (CCF as antagonist, $\alpha = .92$; actor as antagonist, $\alpha = .88$; Peers victimise CCF, $\alpha = .86$; Peers victimise actor, $\alpha = .85$); PCF (PCF as antagonist, $\alpha = .83$; actor as antagonist, $\alpha = .82$; Peers victimise PCF, $\alpha = .87$; Peers victimise actor, $\alpha = .90$).

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Exclusion was assessed by asking participants to rate how often they and their peers “leave out, ignore, or stop talking to” their CCF/PCF (adapted from Bjorkqvist et al., 1992; Little et al., 2003) and vice versa. This question has been used to assess exclusion in social networks in the adolescent population (Closson et al., 2015). To assess general aggression in CCFs, participants were asked to rate “How often is this person mean to you?”, “How often are mutual friends mean to you?”, “How often are you mean to this person?”, “How often are mutual friends mean to this person?” (Scored: 1 = “Never” to 5 = “Always”), which is an adaptation from Closson et al.’s (2015) “How often is each person mean to you?” used to assess general aggression in the adolescent population.

3.3.4.2.6 Ingratiation

Actor, CCF and PCF ingratiation was measured using the 4-item Ingratiation subscale of the Impression Management scale (Bolino & Turnley, 1999). Items were 1) “compliments other people so they will see them as likeable”; 2) “takes an interest in other people’s personal lives to show them that they are friendly”; 3) “praises other people for their accomplishments so they will consider them a nice person”; 4) “does personal favours for other people to show them that they are friendly”. Item wording was modified slightly for the actor focused items (i.e., “do personal favours for other people to show them that I am friendly”) and the original 5-point Likert scale was modified from 1 = “Never” to 5 = “Often”, to 1 = “Strongly disagree” to 5 = “Strongly agree” to fit with the wording of surrounding items and reduce confusion for participants. Items were summed for a total score (Scale range 4 to 20). The Ingratiation subscale has been evaluated for use in adult samples, and has been found to have good internal consistency ($\alpha = 0.85$ to 0.91), convergent validity with the theoretically related concept of self-monitoring ($r = 0.28$), and discriminant validity from several theoretically unrelated concepts (i.e., it was not correlated with the unrelated concepts; Leary, 2015). Kacmar (2007) also found that the Ingratiation subscale had good internal consistency in three adult populations ($\alpha = .91, .85$, and $.91$). In the current study, internal consistency for the Ingratiation subscale was good for CCF ($\alpha = .87$), actor in CCF relationship ($\alpha = .90$), PCF ($\alpha = .90$) and actor in PCF relationship ($\alpha = .91$).

3.3.4.2.7 Concern for Welfare

The Concern for Partner’s Welfare subscale of The Revised Commitment Inventory (Owen et al., 2011) was used to assess whether the level of concern for

the welfare of current close friends (only) was influencing dissolution and distress amongst close friends. This scale is comprised of only two items: “If I really felt I had to leave this friendship, I would not be slowed down by concerns for how well my friend would do without me” (reverse scored) and “I could not bear the pain it would cause this person to stop being close friends with him/her even if I really wanted to” (scored: 1 = “Strongly disagree” to 7 = “Strongly agree” and summed for a total score). Owen et al., (2011) found that this subscale has low but reasonable internal consistency for women ($\alpha = .63$) and low consistency for men ($\alpha = .46$), which has been suggested to result from the subscale having only two items. The subscale was included in the current research because it addressed an additional aspect of commitment not already addressed in the study, for exploratory purposes only. In addition, it was thought that based on the over-representation of females in psychological studies in general (Plowman & Smith, 2011), there may be a higher percentage of female participants than male in the current study, so internal consistency of this subscale may be low but reasonable in the current population. However, it was found that this scale did not achieve acceptable internal consistency in the current study ($\alpha = .30$). Thus, the items were considered individually for exploratory purposes rather than as a subscale total.

3.3.4.2.8 Liking

Current like of CCF and PCF was assessed at each time point using Closson et al.’s (2017) single like item: “How much do you personally like this person”. Modifications of the wording were used to also determine how much participants previously liked their PCF, and their predictions about how much participants are liked by their CCFs and PCF were assessed at each time point. As in Closson et al., (2017), the survey used a 5-point Likert scale, but the wording was changed from 1 = “Dislike very much” to 5 = “Like very much” to 1 = “Not at all” to 5 = “A lot” to match surrounding items in the survey and reduce scale range confusion for participants.

3.3.4.2.9 Popularity

Participants were requested to rate the current popularity of themselves, their CCF and their PCF at each timepoint “How popular [are you/this person]?” (1 = “Very unpopular” to 5 = “Very popular”) which was similar to an item used in the adolescent literature (“How popular is each person in your grade?”: 1 = “Very unpopular” to 5 = “Very popular”; Closson et al., 2017; Hopmeyer Gorman, Kim, & Schimmelbusch, 2002; Schwartz, Gorman, Nakamoto, &

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McKay, 2006). This question was repeated at T1, T2 and T3. However, at T3, an additional question was added to the survey: “How popular [are you/this person] in your mutual peer group” because upon reflection the researcher decided that this more closely resembled the original question used in Closson et al. (2015) in the adolescent population in that it indicated a specific setting for the popularity to be measured in rather than being a global measure of popularity, which may vary between social settings.

3.3.4.2.10 Partial scales: Implicit beliefs and attachment style

Due to human error, only the second half of three small scales were included in the survey, with a subsection of the table accidentally being deleted during the formation of the survey. Thus, the following items are included individually for exploratory purposes rather than as a scale.

To assess growth, destiny and decay beliefs, participants were asked 5 questions using a 7-point Likert scale: 1 = “Strongly disagree” to 7 = “Strongly agree”. Growth beliefs were assessed using 2 individual items: “Regarding close friends in general...1) a successful close friendship evolves through hard work and resolution of incompatibilities” and 2) “It takes a lot of time and effort to cultivate a close friendship”. Destiny beliefs were also assessed using 2 individual items: “Regarding close friends in general...1) potential close friends are either compatible or they are not, and 2) potential close friends are either destined to get along or they are not”. Whereas Decay belief was assessed using one item: “Regarding close friends in general...if you lose closeness in your friendship, you will never recover it”. Item wording was changed from “relationships” to “close friends” to be relevant to the current population. The two growth and two destiny items are normally administered as part of two independent five-item subscales which have both been found to have good internal scale reliability ($\alpha = .73$; $\alpha = .70$) and to be negatively correlated with one another, obtaining a small effect size ($r = -.15$, $p = .07$; Finkle, 2007). Given that the current study included only partial scales, items were included separately rather than combined so that they could be better compared to other research.

Trait avoidant attachment was assessed using the items: “I find it difficult to allow myself to depend on close friends” and “I turn to close friends for many things, including comfort and support” (reverse coded), and trait anxious attachment was assessed using the items: “I need a lot of reassurance that I am cared about in close friendships” and “I worry that close friends won’t care about

me as much as I care about them” (Scored: 1 = “Strongly disagree” to 7 “strongly agree”). Item wording was changed from “partners to “close friends” to be relevant to the current population. The two-trait avoidant attachment and two trait anxious attachment items are normally administered as part of two independent four-item subscales which have both been found to have reasonable internal scale reliability ($\alpha = .68$; $\alpha = .85$) and to not be significantly correlated with one another ($r = -.07$; $p = .44$; Finkle, 2007). Given that the current study only included partial scales, items were included separately rather than combined so that they could be better compared to other research.

Attachment toward and from CCFs and PCFs specifically was further explored using four items: actor-reported avoidant attachment “I feel comfortable opening up to this person” (reverse scored); informant-reported avoidant attachment of friend: “This person feels comfortable opening up to me” (reverse scored); actor-reported anxious attachment “I need a lot of reassurance this person cares about me”; and informant-reported anxious attachment of friend “This person needs a lot of reassurance that I care for them” (1 = “Strongly disagree” to 7 “strongly agree”).

3.3.4.3 Face valid items

Face valid items based on factors found to impact interpersonal outcomes in the existing friendship literature and adult romantic literature were developed. A thesaurus was used to clarify the meaning of concepts to keep the meaning consistent with concepts from the literature search and reduce the chance of items being interpreted differently by participants. Participants were given a list of face valid items using the following wording to rate based on concepts that have been found to have a significant relationship with friendship or relationship factors in the literature (1 = “Strongly agree” to 5 = “Strongly disagree): having high self-esteem; grateful; negative affect; stress; anxiety; jealous of my characteristics (e.g., how I look, my status, my lifestyle); jealous of my interactions with other people (e.g., other friends, romantic partner); self-righteous; boring; intelligent; busy or unavailable; kind to others, even when others are not kind back; helps other people in order to gain something for themselves (e.g., status, power); helps other people in order to benefit the other person; behaving or thinking in odd or strange ways (e.g., are “weird”); perfectionistic about oneself (e.g., not happy unless they do things perfectly); perfectionistic about other people (e.g., not happy unless other people to things perfectly); having good hygiene; bragging/showing

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off; competitive; stubborn or persistent; silly; high peer conformity goals: tries too hard socially (e.g., is a try hard, over does it); low peer conformity goals: doesn't try enough to fit in socially; understanding (empathic); communicates thoughts and feelings well; selfish; considerate (thoughtful/caring/fair); pessimistic or complaining; controlling; loyal (e.g., defending, being on my side no matter whether I am in the right or wrong); trusting; trustworthy or honest; hypocritical; seeks reassurance; confident; ambitious; passive-aggressive (e.g., sarcastic, rolling eyes, indirect confrontation); entitled; defensive; arrogant or conceited (e.g., proud, vain, a "know it all"); judgemental, critical or intolerant of others; optimistic; compromises well (e.g., is flexible); stonewalls during an argument (e.g., closed off body language, silent treatment, refusing to discuss); forgiving; takes responsibility for actions and mistakes.

The following items were rated 1 = "Never/Not at all" to 5 = "A lot/Always": how authentic are you around this person (being truly oneself); share common interests; works hard at maintaining this friendship; reciprocates efforts; rely on this person to help me meet my emotional needs; rely on this person to help me meet my practical needs; religious/spiritual beliefs bother; political beliefs bother; values bother; morals bother; feel hurt; there has been a change in the amount of time around each other (e.g. studying, working, leisure time together); have other friends who fulfil the same needs as this person does in my life; have [you/this person] ever been sexually or romantically interested in [this person/you]; does your partner find this person sexually attractive; does this person find your partner sexually attractive; do you feel sexually attracted to this person's partner; does this person's partner find you sexually attractive; ability to make and keep close friends in general; likeability and network approval amongst peers.

Plans to improve relationships has been found to uniquely predict expected future satisfaction in current committed romantic relationships using a 9-item measure (Storaasli & Markman, 1990) to assess a range of areas specific to romantic relationships (Baker et al., 2017). There are no such measures designed for friendships, or single item measures available to the best knowledge of the researcher. Thus, participants were asked a single face valid item: "I have plans to improve this friendship in the future" also using a 7-point Likert scale but with the

scale ranging from 1 = “Strongly disagree” to 7 = “Strongly agree” to align with surrounding items in the survey.

In addition, to measure perceptions of actor and friend being “ideal” (e.g., having positive illusory beliefs about one another; Buyukcan-Tetik et al., 2017; Ogolsky et al., 2017) a face valid item was created for each person “How close does this friend/do you come to being the ideal friend at present?” (1 = “Not the ideal friend” to 5 = “The ideal friend”).

Additional questions were included to assess current and expected future life events and other contributing factors that have negatively impacted friendship closeness in CCFs and PCFs. Regarding CCFs, participants were asked: “Have either you or this person had any major life events that you believe have decreased the quality of your friendship since becoming close friends?”. Regarding PCFs, participants were asked: “Were there any major life events that contributed to you no longer being close with this person?” (1 = “Yes”, 2 = “Somewhat”, 3 = “No”; reverse scored). Participants were also asked “Do you anticipate any life events that may occur in the next 6 months that may decrease the closeness in this friendship?” (1 = “No”, 2 = “Yes”). Participants were provided optional text boxes to describe any contributing life events and other contributing factors, but response were not mandatory.

Finally, a face valid item measuring love was added at T3. To explore this in the current research without making the survey significantly longer participants were asked at T3 “How much do you personally love this person (non-romantic or romantic)?” (1 = “Not at all” to 10 = “Completely/deeply”). A 10-point Likert scale was chosen to reflect the surrounding 10-point Likert scales used to measure emotional closeness, commitment, and motivation. To the best knowledge of the researchers there are no single item measures available for measuring love in adult friendships.

3.6 Friendship status and quality within the current sample: Measure sensitivity and dyad reciprocation

This section is reported to demonstrate the validity of the quality measures used to differentiate between friendship status in the current sample, and to determine the level of reciprocity in status and friendship quality in the current close friend dyads. The results are briefly described here to support their use in

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the current thesis. Further details about the analyses and tables are included in Appendix J.

In this section, the first aim was to establish whether there were differences in friendship quality measures reported by respondents when thinking about a CCF compared with PCF. The section also aimed to determine whether responses differ by the relationship being described. Key findings were that the data were not normally distributed in either the CCF (left-skewed; see Table 1, Appendix J) or PCF (right-skewed; see Table 2, Appendix J) groups, indicating the importance of using non-parametric testing in the analyses. For all quality measures based on the CCF there was a statistically significant difference between responses based on the close friend status group compared with the best friend status group (see Table 3.a, Appendix J). The scores on the quality measures, except for breakup distress, were also significantly different between PCF status groups (casual, acquaintance, or no friendship; see Table 3.b, Appendix J). Comparing the scores on each of the quality measures between the CCF and PCF groups overall, significant differences were found between the groups on every measure in the expected direction (see Table 3.c, Appendix J), indicating that the quality measures could distinguish between CCF and PCF classifications. Together these results indicated that the quality measures chosen for use in the current thesis were appropriate for use in the current thesis studies.

The second aim of this section was to compare the level of status and quality agreement between close friend dyads in the current sample. This is important because clinicians typically have access to only one dyad member in the therapy setting, and it is useful to be aware of the impact of status reciprocity on levels of friendship quality reported (e.g., if a person claims that they are having challenges with a “best” friend but then indicates that the level of friendship quality is lower than would be expected for reciprocated best friendships, it may indicate that there is a lack of reciprocity in “best” friendship classification, with their friend possibly classing the friendship as “close” or a lower status level).

The ability of the quality measures used to differentiate between reciprocity of status classification within CCF dyads was assessed. The results found a significant difference in inter-rater ratings of quality measures for dyads consisting of Close (both rate each other as a close friend), Mixed (one member rates the other as Close, and the other rates them as Best), and Best (both rate each

other as Best) friend status (see Tables 8, 9 and 10, Appendix J). This indicates that the measures chosen for the current thesis were sensitive to status reciprocity between CCF dyads. Inter-rater agreement on quality measures was highest for mutual Best friend dyads, followed by Mixed friend dyads, and then Close friend dyads, indicating that the higher the friendship status, the more likely the reported friendship quality would be agreed upon by the friend (i.e., both friends scoring their quality the same on the measures provided). CCFs were also able to predict one another's ratings on quality measures with high accuracy (see Table 6, Appendix J). Together these results suggest that the measures chosen were appropriate for the purposes of the current study, and that the information provided by participants about overall friendship quality in their current close friendships is reliable.

Chapter 4: Dissolution of close friendships in adulthood

4.1 Playlist: Dissolution

Playlist link

<https://open.spotify.com/playlist/61TLNwZj22ayhKzYTj8kms?si=295f82b544bb4531>

Songs

“How to lose a friend” (Wafia, 2020, track 6)

“End of a friendship” (Jacklin, 2022, track 10)

“Broke up with my best friend” (Tisdall, 2021, track 1)

“You want everyone to love you” (Bestfriend, 2021, track 1)

“Smoke” (Folds, 1997, track 7)

4.2 Rationale

The introductory chapter to this thesis identified the question of which factors best predict dissolution of close adult friendships. High quality friendships have been found to positively impact short-and long-term wellbeing, whereas poor quality friendships (such as those that are characterised by verbal victimisation or ostracism) have been found to negatively impact mental health and wellbeing (Jaubert et al., 2022; Lutz, 2022). Literature also shows that changes may occur in the status and quality within friendships over time, resulting in increases or decreases in wellbeing and mental health (Boulton et al., 1999; Helgeson et al., 2006; Lewandowski & Bizzoco, 2007; Tedeschi & Calhoun, 1996). Baker (2017) suggested that people should choose whether to continue interpersonal relationships based on their continued ability to meet their personal fundamental needs, such as “survival, wellbeing, and the fulfilment of personal goals”, and optimise their wellbeing (p. 700).

Ongoing commitment and maintenance behaviours are required to regulate status and quality within close friendships (Branje et al., 2007; Mac Carron et al., 2016; Roberts & Dunbar, 2011). Regulatory behaviours, including increasing or decreasing of maintenance behaviours, have been found to impact adult friendships when either dyad member desires, or is perceived to desire, a higher or lower level of connection (either platonic or romantic) than currently exists in the

friendship (e.g., Akbulut & Weger, 2016; Guerrero & Chavez, 2005; Weger & Emmett, 2009). These regulatory behaviours are used to achieve a desired level of status or quality, and send out signs of interest (e.g., secret tests, maintenance behaviours, problem talk) or warning signs (e.g., of unwanted sexual interest; lack of reciprocation) to make one's own intentions clear and to achieve the desired status and closeness of both members (Akbulut & Weger, 2016; Baxter & Wilmot, 1984; Bell & Buerkel-Rothfuss, 1990; Guerrero & Chavez, 2005; Knobloch & Solomon, 2002; Rose et al., 2016; Weger & Emmett, 2009). Such discrepancies in desire, intentions, or expectations may result in relational uncertainty, poorly managed conflict, and lowering of friendship status until boundaries are agreed upon within the friendship. If agreement about the level of status and emotional closeness cannot be achieved, then the friendship may remain at a lower status level long term or be terminated (Weger & Emmett, 2009).

Dissolution and decay are typically studied in romantic relationships or child/adolescent friendships and there are many known predictors, including attachment (McNeilis & Segrin, 2019; Grignon, 2019; Grau & Doll, 2003; Terwogt & Mol, 2005; Molero et al., 2017), commitment (Drigotas & Rusbult, 1992; Branje et al., 2007; Rusbult, 1983; Rusbult & Buunk, 1993; Rusbult & Martz, 1995; Van Lange et al., 1997), maintenance behaviours (Canary et al., 1993; McEwan & Guerrero, 2012; Roberts & Dunbar, 2011), ostracism (Closson et al., 2017; Rudert, 2020; Williams, 2007), and conflict management strategies (Agnew & VanderDrift, 2015). In romantic relationships, relationship factors, such as reduced commitment, love, dependence, including the other person as a part of oneself, and positive illusions (i.e., considering the relationship or other person as "ideal" or focusing predominantly on the positive aspects of the other person), have been found to be more predictive of romantic relationship dissolution longitudinally than internal factors (personality, adult attachment style and self-esteem) or external factors (Le et al., 2010).

While friendships on average are less emotionally connected than romantic relationships, best and close friendships are highly emotionally connected, with best friendships sharing the inner circle of one's social network alongside romantic relationships and close kin relationships (Hill & Dunbar, 2003; Zhou et al., 2005). Thus, the title of best friend is reserved for one's closest friend/s and holds significant meaning within one's social network. Unlike kin

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relationships, the status of both romantic relationships and best friendships can dissolve, resulting in major shifts to one's inner emotional connections and support. Romantic relationships and best friendships are also similar in that while ruptures may occur, interrelatedness and repositioning within the social network may occur, with post-romantic partners becoming friends, and best friends being reclassified to a less emotionally close friendship level (e.g., Agnew & VanderDrift, 2015; Tan et al., 2015). Alternatively, both romantic relationships and best friendships may dissolve completely once a rupture in emotional closeness occurs.

The first study aim is to quantitatively analyse the frequency of close friendship dissolution longitudinally to determine the level of movement from close to no longer close friendship status across a 12-month period. The second study aim is to quantitatively assess the best predictors of future dissolution of close adult friendships based on the wide variety of factors that significantly impact outcomes in child/adolescent friendships, adult interpersonal relationships, and adult romantic relationships. Third, this study aims to quantitatively assess the frequency that a wide range of possible reasons for dissolution ("deal-breakers") are identified, both relating to breakups that have occurred during the current study, and retrospectively when reflecting on close friendships that have dissolved in the past.

It is hypothesised that a small subset of close friendships will change to a non-close status across a 6- and 12- month period. It is also hypothesised that lower commitment, maintenance behaviours, reciprocation, and higher avoidant attachment, sexual interest, verbal victimisation, and ostracism will be among the best predictors of future dissolution of close friendships to a non-close friendship status. In addition, it is hypothesised that peer-related factors (i.e., ostracism and verbal victimisation), hurt, conflict resolution difficulties, maintenance and reciprocation, and sexual interest will be among the most reported deal-breakers of previous close adult friendships, and that identified deal-breakers will be predominantly focused on the shortcomings of the friend rather than oneself.

4.3 Study 1a. Descriptive statistics and frequencies for participants in dissolution groups at 6- and 12-month follow-up

4.3.1 Aim

The aim of the current study was to determine the sociodemographic characteristics of participants, dyad characteristics, and dyad status at baseline, 6-month and 12-month follow up.

4.3.2 Data analysis

In the current study, descriptive and frequency analyses were conducted using IBM SPSS Statistics (Version 27).

4.3.3 Participants: 6-months follow-up

There were 317 participants involved in the 6-month follow-up, indicating an attrition rate of 44% from wave 1. The sample consisted of 35 people (11%) in the dissolution group (25 females, 9 males, and 1 non-binary) and 282 people (89%) in the maintained current close friend (CCF) group (217 females, 59 males, and 4 non-binary). The T2 dissolution group was comprised of 45.7% former best friends and 54.3% former close friends, whereas the maintained CCF group comprised 47% T1 best friends and 53% T1 close friends. The frequency of dissolution initiation in the current sample was 51.4% initiated by the participant and 48.6% by the CCF, indicating that slightly more survey responders had ended the friendship themselves than been broken up with. Baseline sociodemographic characteristics of participants, dyad characteristics, and dyad status can be found in Appendix H.

4.3.4 Participants: 12-month follow-up

There were 159 participants involved in the 12-month follow-up, indicating an attrition rate of 73% from T1 to T3. The sample consisted of 17 people (10.7%) in the dissolution group (13 females, 3 males, and 1 non-binary) and 142 people (89.3%) in the maintained CCF group (112 females, 26 males, and 3 non-binary). The dissolution group comprised of 35.3% former best friends and 64.7% former close friends, whereas the maintained CCF group comprised 41.5% wave 1 best friends and 57% wave 1 close friends. Dissolution initiation was 58.8% initiated by the participant and 41.2% by a wave 1 CCF, indicating that slightly more survey responders had ended the friendship themselves than been broken up with. Baseline sociodemographic characteristics of participants, dyad characteristics (e.g., dyad gender representation), and dyad status can be found in Appendix H.

4.3.5 Participants: 6-month and 12-month follow up

There were 133 participants who participated in all 3 waves of the survey. Of the 12 close friendships (9%) that had dissolved (i.e., dissolved to a non-close friendship status level) at the 6-month follow-up, 10 (83.3%) remained dissolved at the 12-month follow-up, and 2 (16.7%) had restored to a close or best friendship status. Of the 121 maintained close friendships (91%) at the 6-month follow-up, 119 (98.3%) maintained a close or best friend status at the 12-month follow-up, and 2 (1.7%) had dissolved at the 12-month follow-up.

4.4 Study 1b. Predicting future dissolution with interpersonal relationship outcome measures

4.4.1 Aim

The next aim of the study was to establish the ability of four outcome measures of interpersonal relationship quality (now referred to as “quality measures”) to predict future dissolution of current close friends and the best model for distinguishing between close friendships that are broken up (i.e., no longer close/best friends) or maintained (i.e., close or best friends) six months later. Four independent variables were explored: emotional closeness, expected future satisfaction, commitment, and current satisfaction.

4.4.2 Participants

Participants were 290 survey responders who answered the question “Do you currently class this person as a close or best friend?” at wave 2 (6-month follow-up) and had previously completed the relevant quality measure items at wave 1. Participants were aged: 18-24 years (61.4%), 25-34 (11.4%), 35-44 (13.8%), 45-54 (4.5%), 55-64 (5.5%), 65-74 (2.4%), 75-84 (1.0%), and 85+ (0%). The final number of participants for this analysis consisted of 32 people (11%) in the dissolution group (23 females and 9 males) and 258 people (89%) in the maintained CCF group (198 females, 54 males, 4 non-binary, 1 “other”, and 1 “decline to state”). Participants in the dissolution group were aged: 18-24 years (75%), 25-34 (12.5%), 35-44 (9.4%), and 55-64 (3.1%). Participants in the maintained group were aged: 18-24 years (59.7%), 25-34 (11.2%), 35-44 (14.3%), 45-54 (5%), 55-64 (5.8%), 65-74 (2.7%), and 75-84 (1.2%). The dissolution group comprised 46.9% former best friends and 53.1% former close friends, whereas the maintained CCF group comprised 47.7% current best friends and 51.9% current close friends. Dissolution initiation was 53.1% initiated by the participant and 46.9% by a wave 1 CCF. Baseline sociodemographic

characteristics of participants, dyad characteristics, and dyad status can be found in Appendix H.

4.4.3 Data analysis

In the current study, descriptive analyses, frequency analyses, and a series of univariate and multivariate linear regression analyses were conducted using IBM SPSS Statistics (Version 27).

Univariate logistic regression was undertaken for each predictor and a cut-off point of $p < .20$ was subsequently used for inclusion in the multivariate regression analysis (Hosmer et al., 2013). Logistic regression assumptions including independence of errors, linearity in the logit for continuous variables, absence of multicollinearity, and lack of strongly influential outliers. Multicollinearity was assessed using both a correlation matrix between continuous non-normally distributed predictors and assessment of VIF and tolerance values. Linearity of the logit was ascertained both visually (using scatterplots between the logit and predictors) and using the Box-Tidwell Transformation test.

4.4.4 Results

Quality measures that met the selection criteria for inclusion in the multivariate model variable selection process were expected future satisfaction, emotional closeness, commitment, and current satisfaction. The univariate models for each factor are presented in Appendix K (table 1). At the univariate level, negative predictors of future dissolution were commitment, emotional closeness, and expected future satisfaction. While current satisfaction met criteria for inclusion based on the cut-off point of $p < .20$, it was not a significant predictor at the univariate level. No multicollinearity was evident when the factors were entered together in a linear model, so all of the variables were considered as potential multivariate predictors on the odds that people would have decreased their current close friendship to a no longer close status level 6 months later. Models including emotional closeness and current satisfaction were not significant, so these two variables were removed one at a time in order of least significant contribution. The final model was reduced to a model with two predictors and included expected future satisfaction and commitment (see table 4.1). The model predicted 11.3% of variance in dissolution, $\chi^2 (1, N = 290) = 16.85, p < .001$. Expected future satisfaction uniquely predicted dissolution, recording an odds ratio of .91. This indicates that for each unit decrease in

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expected future satisfaction there was a .91 times higher chance of the close friendship dissolving 6 months later.

Table 4.1

Logistic regression predicting likelihood of close friendship dissolution in 6-months-time

Measure	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke R ²
							Lower	Upper	
Expected future satisfaction	-.09	.03	7.62	1	.006	.91	.85	.97	.113
Commitment	-.13	.12	1.15	1	.284	.88	.70	1.11	

4.5 Study 1c. Predicting dissolution with exploratory items

4.5.1 Aim

The second aim of the study was to understand a wide range of possible predictors for dissolution and establish the best model for distinguishing between close friendships that are broken up (i.e., no longer close/best friends) or maintained (i.e., close, or best friends) six months later. Thirteen groups of variables were explored, and the best models for each group was determined.

4.5.2 Data analysis

The thirteen groups of variables were explored in the analysis (see Appendix E for all group items explored) and the final model factors for each group were included in a final analysis). For each group, univariate logistic regressions were undertaken for each predictor and a cut-off point of $p < .20$ was used for inclusion in each multivariate regression analysis. Logistic regressions were run for each of the 12 models. Logistic regression assumptions included independence of errors, linearity in the logit for continuous variables, absence of multicollinearity, and lack of strongly influential outliers. Multicollinearity was assessed using both a Spearman correlation matrix between continuous non-normally distributed predictors and assessment of VIF and tolerance values. Linearity of the logit was ascertained both visually (using scatterplots between the logit and predictors) and using the Box-Tidwell Transformation test, and all final models passed the Box-Tidwell Transformation test.

4.5.3 Results

4.5.3.1 Distal factor models

4.5.3.1.1 Model of actor-distal factors predicting future dissolution with current close friend

Actor-distal variables that met the selection criteria for inclusion in the multivariate model variable selection process using the cut-off point of $p < .20$ were trait avoidant attachment (item 1), trait anxious attachment (item 1), and trait anxious attachment (item 2). Avoidant attachment to CCF, antagonism, and decay belief. The univariate models for each factor are presented in Appendix K (table 2). At the univariate level, positive predictors of future dissolution were trait avoidant attachment (item 1) and trait anxious attachment (item 1).

Trait avoidant attachment (item 2) was removed from selection to eliminate multicollinearity. Variables trait avoidant attachment (items 1), decay belief, trait anxious attachment (item 2), antagonism, and avoidant attachment to CCF were considered as potential multivariate predictors of the odds that people would have decreased their current close friendship to a no longer close status level 6 months later. Thus, the model predicted future dissolution, $\chi^2 (5, N = 317) = 16.10, p = .007$, and explained 10.8% of the variance in future dissolution (see Table 4.2). Higher avoidant attachment (item 1) was significantly predictive of future dissolution, recording odds ratio of 1.35. This indicates that for each unit increase in avoidant attachment (item 1) there was a 1.35 times greater chance of the close friendship being dissolved 6 months later. Given the low amount of variance in breakup explained by the model, the model was not reduced any further.

Table 4.2

Actor-distal factors – logistic regression predicting likelihood of close friendship dissolution in 6-months-time

	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke R ²
							Lower	Upper	
									.108
Trait avoidant attachment (item 1)	.30	.13	5.84	1	.016	1.35	1.06	1.73	
Decay belief Avoidant	.20	.12	2.56	1	.109	1.22	.96	1.54	
attachment to friend	.21	.16	1.66	1	.197	1.24	.90	1.70	
Antagonism	.10	.08	1.70	1	.192	1.11	.95	1.29	
Trait anxious attachment (item 1)	.04	.12	.14	1	.711	1.05	.83	1.32	

4.5.3.1.2 Model of current close friend distal factors predicting future dissolution

Current close friend distal variables that met the selection criteria for inclusion in the multivariate model variable selection process were conscientious, extroversion, antagonism, and anxious attachment to actor. The univariate model for each factor is presented in Appendix K (table 3). At the univariate level, there were no significant predictors of future dissolution.

Variables considered as potential multivariate predictors of future dissolution were conscientiousness, extroversion, antagonism, and anxious attachment to actor. No multicollinearity was evident, so all the variables were considered as potential predictors. The model did not predict future dissolution, $\chi^2(4, N = 313) = 5.69, p = .224$ (see table 4.3).

Table 4.3

Current close friend distal factors – logistic regression predicting likelihood of close friendship dissolution in 6-months-time

Current close friend distal factor	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.039
Conscientious	-.11	.09	1.56	1	.212	.90	.75	1.07	
Extroverted	.11	.10	1.25	1	.263	1.11	.92	1.34	
Antagonism	.03	.07	.15	1	.699	1.03	.90	1.17	
Anxious attachment to actor	.13	.12	1.26	1	.262	1.14	.91	1.43	

4.5.3.2 Intrapersonal process models

4.5.3.2.1 Model of actor-intrapersonal processes predicting future dissolution with current close friend

Actor-intrapersonal process variables that met the selection criteria for inclusion in the multivariate model variable selection process are expected future satisfaction, emotional closeness, death devastation, commitment, positive emotions, expected future motivation (desire), current satisfaction, likes CCF, positive illusory belief, care for welfare, and current hurt. Univariate models for each factor are presented in Appendix K (table 4). At the univariate level, negative predictors of future dissolution were expected future satisfaction, emotional closeness, death devastation, commitment, positive emotions, and expected future motivation (desire).

Variables considered as potential multivariate predictors of future dissolution were expected future satisfaction, emotional closeness, commitment, current satisfaction, death devastation, care for welfare, positive emotions, expected future motivation (desire), likes CCF, and positive illusory belief. Current satisfaction, positive emotions, expected future motivation (desire), likes CCF, and positive illusory beliefs were reduced to eliminate multicollinearity.

Expected future satisfaction, emotional closeness, commitment, death devastation, care for welfare, and current hurt were included in the final model selection. A model comprising each of these variables predicted 11.3% of variance in dissolution, $\chi^2(1, N = 317) = 5.15, p = .010$. Emotional closeness,

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death devastation, care for welfare and current hurt did not contribute to the model and so were removed one at a time in order of least contribution. This reduced the model back to a model with two predictors and included expected future satisfaction and commitment. The model predicted 11.3% of variance in dissolution, $\chi^2 (1, N = 290) = 16.85, p < .001$ (see table 4.4). T1 expected future satisfaction uniquely predicted dissolution at T2, recording an odds ratio of .91. This indicates that for every unit decrease of expected future satisfaction reported at T1, there was a .91 times higher chance that the friendship status would no longer be close 6-months later (i.e., reclassified to casual friend, acquaintance, or no friendship at all).

Table 4.4

Actor-interpersonal factors: Logistic regression predicting likelihood of close friendship dissolution in 6-months-time

Measure	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke R ²
							Lower	Upper	
									.113
Expected future satisfaction	-.09	.03	7.62	1	.006	.91	.85	.97	
Commitment	-.13	.12	1.15	1	.284	.88	.70	1.11	

4.5.3.2.2 Model of current close friend intrapersonal processes predicting future dissolution

Current close friend-intrapersonal process variables that met the selection criteria for inclusion in the multivariate model variable selection process were motivation (desire), current satisfaction, and expected future motivation (desire). At the univariate level, negative predictors of future dissolution were motivation (desire), current satisfaction, and expected future motivation (desire). Univariate models for each factor are presented in Appendix K (table 5).

Factors CCF-motivation (desire) and current satisfaction were removed to eliminate multicollinearity. This resulted in only one variable meeting selection criteria: CCF-expected future motivation (desire). A logistic regression was calculated to predict future dissolution. CCF-expected future motivation (desire) predicted future dissolution, $\chi^2 (1, N = 291) = 19.743, p < .001$ (see Table 4.5). The model explained 13.1% of the variance in future dissolution. Lower perceived

CCF-expected future motivation (desire) was predictive of future dissolution, recording odds ratio of .56. This indicates that the odds that a person's close friendship would no longer be close in 6 months-time (T2) were .56 times higher for every unit decrease in perceived CCF-expected future motivation (desire) at T1.

Table 4.5

Current close friend intrapersonal processes – logistic regression predicting likelihood of close friendship dissolution in 6-months-time

Current close friend interpersonal factor	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.131
Expected future motivation (desire)	-.58	.13	20.06	1	<.001	.56	.44	.72	

4.5.3.3 Interpersonal behaviour models: demonstrated positive behaviours

4.5.3.3.1 Model of actor-positive interpersonal behaviours predicting future dissolution with current close friend

Actor-positive behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process were maintenance behaviours, reciprocation, forgiving, considerate, and grateful. The univariate regressions for these factors are presented in Appendix K (table 6). At the univariate level, only maintenance behaviours negatively predicted future dissolution.

No multicollinearity was evident so all the variables were considered as potential multivariate predictors on the odds that people would have decreased their current close friendship to a no longer close status level 6 months later. A logistic regression was run containing all the selected factors, but it violated assumptions. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion to determine whether assumptions were still violated. This resulted in a final univariate model containing the variable maintenance behaviour, which predicted future dissolution, $\chi^2 (1, N = 293) = 3.97, p = .046$ (seen in table 4.6). The model

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explained 2.7% of the variance in future dissolution. Actor-maintenance behaviours recorded an odds ratio of .71. This indicates that the odds that a person's close friendship would no longer be close in 6 months-time (T2) was .71 times higher for every unit decrease in actor-maintenance behaviours at T1.

Table 4.6

Actor-positive behaviours – logistic regression predicting likelihood of close friendship dissolution in 6-months-time

Actor-positive behaviour	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Maintenance behaviours	-.34	.17	4.10	1	.043	.71	.51	.99	.027

4.5.3.3.2 Model of current close friend positive interpersonal behaviours predicting future dissolution

Current close friend positive behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix K (table 7). At the univariate level, negative predictors of future dissolution were good communication ability, forgiving, takes responsibility, and reciprocates.

No multicollinearity was evident so all the variables were considered as potential multivariate predictors of the odds that people would have decreased their current close friendship to a no longer close status level 6 months later. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A logistic regression was calculated to predict future dissolution. CCF- takes responsibility for actions, reciprocation, and reliance on actor to meet emotional needs predicted future dissolution, $\chi^2 (3, N = 292) = 13.40, p = .004$ (see Table 4.7). The model explained 9% of the variance in future dissolution. CCF- taking responsibility for actions and reciprocation were significant negative predictors of future dissolution, recording odds ratio of .68 and .62 respectively. This indicates that for each unit decrease in takes responsibility for actions at T1, there was a .68 times greater chance of the friendship no longer being close 6-months later (i.e., T2). In addition, for each unit decrease in reciprocation at T1 there was a .62 greater chance of the friendship no longer being close 6-months later.

Table 4.7

Current close friend positive behaviours – multivariate logistic regression models predicting likelihood of close friendship deterioration in 6-months-time

Current close friend positive behaviour	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.090
Takes responsibility for actions	-.38	.19	4.05	1	.044	.68	.47	.99	
Reciprocation	-.48	.22	4.62	1	.032	.62	.40	.96	
Relies on actor for emotional needs	.25	.18	1.92	1	.165	1.28	.90	1.83	

4.5.3.4 Interpersonal behaviour models: demonstrated oppositional behaviours

4.5.3.4.1 Model of actor-oppositional interpersonal behaviours predicting future dissolution with current close friend (CCF)

Actor-oppositional behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process were actor personally ostracises CCF, entitled, arrogant, passive aggressive, defensive, and judgemental. Univariate models for each factor are presented in Appendix K (table 8). At the univariate level, positive predictors of future dissolution were actor-personally ostracises CCF and entitled.

No multicollinearity was evident so all the variables were considered as potential multivariate predictors of the odds that people would have decreased their current close friendship to a no longer close status level 6 months later. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A logistic regression was calculated to predict future dissolution. The final model consisted of actor-personally ostracises CCF, passive aggressive, arrogant, and entitled and predicted future dissolution, $\chi^2 (4, N = 288) = 10.48, p = .033$ (seen in table 4.8). The model explained 7.2% of the variance in future dissolution. Actor-personally ostracised CCF at T1 was significantly predictive of future dissolution at T2, recording odds ratio of 1.68. This indicates that the odds that a person's close friendship would dissolve in 6 months-time (T2) was 1.68 times higher for every unit increase in personal ostracism of CCF at T1.

Table 4.8

Actor-oppositional behaviours – logistic regression predicting likelihood of close friendship dissolution in 6-months-time

Actor-oppositional behaviour	B	SE	Wald	df	p	Odds Ratio	95% CI for odds Ratio		Nagelkerke R ²
							Lower	Upper	
									.072
Ostracises friend	.52	.21	5.83	1	.016	1.68	1.10	2.56	
Arrogant	.13	.19	.51	1	.476	1.14	.79	1.65	
Entitled	.18	.22	.71	1	.400	1.20	.79	1.83	
Passive aggressive	.10	.16	.37	1	.544	1.10	.81	1.51	

4.5.3.4.2 Model of current close friend oppositional interpersonal behaviours predicting future dissolution

Current close friend-oppositional behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process were CCF ostracises actor, controlling, arrogant, selfish, stonewalls, self-righteous, and stubborn/persistent. The univariate models for each factor are presented in Appendix K (table 9). At the univariate level, positive predictors of future dissolution were: CCF ostracises actor, controlling, arrogant, and selfish.

No multicollinearity was evident so all the variables were considered as potential multivariate predictors on the odds that people would have decreased their current close friendship to a no longer close status level 6 months later. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A model with CCF ostracises actor and CCF controlling was found to distinguish between dissolution and maintained friendships at T2 better than chance but violated the Box Tidwell Test of Transfiguration. CCF ostracises actor was subsequently removed and the full analysis procedure re-run. In the final model CCF-controlling predicted future dissolution, $\chi^2 (1, N = 290) = 9.21, p = .010$, (see table 4.9). The model explained 6.2% of the variance in future dissolution. CCF-controlling at T1 significantly predicted future dissolution at T2, recording odds ratio of 1.45. This indicates that the odds that a person's close friendship would no longer be close in 6 months-time (T2) was 1.45 times higher for every unit increase in CCF controlling at T1.

Table 4.9

Current close friend oppositional behaviours – logistic regression predicting likelihood of close friendship dissolution in 6-months-time

Current close friend oppositional behaviour	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.062
Controlling	.37	.16	5.75	1	.017	1.45	1.07	1.97	
Ostracises actor	.40	.25	2.57	1	.109	1.49	.92	2.41	

4.5.3.5 Interpersonal behaviour models: demonstrated negative behaviours

4.5.3.5.1 Model of actor-negative interpersonal behaviours predicting future dissolution with current close friend

Actor-negative behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process were ambitious, sexual interest in CCF, ingratiation, low peer conformity goals, boring, pessimistic, self-perfectionism, reassurance seeking, and hypocritical. The univariate models for each factor are presented in Appendix K (table 10). At the univariate level, positive predictors of future dissolution were ambitious and sexual interest in CCF.

No multicollinearity was evident so all the variables were considered as potential multivariate predictors on the odds that people would have decreased their current close friendship to a no longer close status level 6 months later. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A logistic regression was calculated to predict future dissolution. Actor-low conformity goals, less boring, and higher ingratiation, sexual interest in CCF, ambition, and pessimism predicted future dissolution, $\chi^2 (6, N = 286) = 25.07, p < .001$ (see Table 4.10). The model explained 16.7% of the variance in future dissolution. Low peer conformity goals, ingratiation, sexual interest in CCF, and ambition were significantly predictive of future dissolution, recording odds ratio of 1.52, 1.14, 1.74, and 1.67 respectively. This indicates that the odds that a person's close friendship would no longer be close in 6 months-time (T2) was 1.52, 1.14, 1.74, and 1.67 times higher for every unit increase in T1 low peer conformity goals, ingratiation, sexual interest in CCF, and ambition respectively.

Table 4.10

Summary of actor-negative behaviours multivariate logistic regression predicting likelihood of close friendship deterioration in 6-months-time

Actor-negative behaviour	B	SE	Wald	df	p	Odds Ratio	95% CI for odds Ratio		Nagelkerke R ²
							Lower	Upper	
									16.7
Sexual interest in friend	.51	.22	5.59	1	.005	1.74	1.18	2.56	
Ambition	.51	.22	5.59	1	.018	1.67	1.09	2.54	
Low peer conformity goals	.42	.18	5.21	1	.022	1.52	1.06	2.16	
Ingratiation	.13	.06	4.36	1	.037	1.14	1.01	1.29	
Boring	-.37	.22	2.84	1	.092	.69	.45	1.06	
Pessimistic	.21	1.7	1.65	1	.199	1.24	.89	1.71	

4.5.3.5.2 Model of current close friend negative interpersonal behaviours predicting future dissolution with current close friend

Current close friend negative-variables that met the selection criteria for inclusion in the multivariate model variable selection process were sexual interest in actor, shows off, coercive, low peer conformity goals, high conformity goals, eccentric, jealous of actor's characteristics, competitive, and ingratiation. The univariate models for each factor are presented in Appendix K (table 11). At the univariate level, positive predictors of future dissolution were T1 sexual interest in actor, shows off, coercive, low peer conformity goals, jealous of actor's characteristics, and eccentric.

No multicollinearity was evident so all the variables were considered as potential multivariate predictors on the odds that people would have decreased their current close friendship to a no longer close status level 6 months later. Items that did not contributed to the model were removed one at a time and the model rerun after each item deletion. The final logistic regression consisted of the T1 factors CCF-eccentric, low peer conformity goals, high peer conformity goals, coercive, and sexual interest in actor and was predictive of future dissolution, $\chi^2(5, N = 291) = 21.45, p = .001$ (see table 4.11). The model explained 14.2% of the variance in future dissolution. Low peer conformity goals significantly predicted future dissolution, recording an odds ratio of 1.55. This indicates that the odds

that a person's close friendship would no longer be close in 6 months-time was 1.55 times higher for every unit increase in T1 CCF-low peer conformity goals.

Table 4.11

Current close friend negative behaviours – logistic regressions predicting likelihood of close friendship dissolution in 6-months-time

Current close friend negative behaviour	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.142
Low peer conformity goals	.44	.17	6.83	1	.009	1.55	1.12	2.22	
Eccentric	.27	.17	2.40	1	.121	1.30	.93	1.82	
Sexual interest in actor	.30	.19	2.33	1	.127	1.35	.92	1.97	
Coercive	.23	.18	1.67	1	.196	1.25	.92	1.97	
High conformity goals	.23	.18	1.62	1	.203	1.25	.89	1.77	

4.5.3.6 Contextual factor models

4.5.3.6.1 Model of actor-contextual factors predicting future dissolution with current close friend

Actor-contextual variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix K (table 12). At the univariate level, ability to keep friends negatively predicted future dissolution.

No multicollinearity was evident so all the variables were considered as potential multivariate predictors on the odds that people would have decreased their current close friendship to a no longer close status level 6 months later. Items that did not contributed to the model were removed one at a time. A logistic regression was calculated to predict future dissolution and consisted of ability to keep friends and life satisfaction, $\chi^2 (2, N = 315) = 6.33, p = .042$. (see table 4.12). The model explained 4% of the variance in future dissolution and was not reduced further because of the low amount of variance explained by the model. Actor-ability to keep friends at T1 was a significant negative predictor of T2 dissolution, recording odds ratio of .70. This indicates that the odds that a person's close

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friendship would no longer be close in 6 months-time (T2) was .70 times higher for every unit decrease in actor-ability to keep friends.

Table 4.12

Actor-contextual factors – logistic regressions predicting likelihood of close friendship dissolution in 6-months-time

Actor-contextual factor	B	SE	Wald	df	p	Odds Ratio	95% CI for odds Ratio		Nagelkerke R ²
							Lower	Upper	
									.040
Ability to keep friends	-.36	.18	4.04	1	.044	.70	.50	.99	
Life satisfaction	-.18	.13	1.87	1	.172	.84	.64	1.08	

4.5.3.6.2 Model of current close friend contextual factors predicting future dissolution

The only variable that met the selection criteria for inclusion in the univariate model variable selection process was peers ostracise CCF (seen in Appendix K, table 13), which positively predicted future dissolution. The model explained 3% of the variance in future dissolution, but was not statistically significant, $\chi^2(1, N = 300) = 3.61, p = .057$ (see table 4.13).

Table 4.13

Current close friend contextual factors – logistic regression predicting likelihood of close friendship dissolution in 6-months-time

Current close friend contextual factor	B	SE	Wald	df	p	Odds Ratio	95% CI for odds Ratio		Nagelkerke R ²
							Lower	Upper	
Peers ostracise friend	.40	.20	4.06	1	.044	1.40	1.01	2.22	.030

4.5.3.6.3 Model of friendship dynamic contextual factors predicting future dissolution with current close friend

Friendship dynamic variables that met the selection criteria for inclusion in the multivariate model variable selection process were friend's political beliefs bother actor, actor's political beliefs bother friend, friend's religious/spiritual

beliefs bother actor, actor's morals bother friend. Univariate models for each factor are presented in Appendix K (table 14). At the univariate level, positive predictors of future dissolution were CCF-political beliefs bother actor, actor-political beliefs bother CCF, and actor-morals bother CCF.

Actor-political beliefs bother CCF was removed to eliminate multicollinearity. Actor-morals bother CCF, CCF- religious/spiritual beliefs bother actor, and CCF-political beliefs bother actor were considered as potential multivariate predictors on the odds that people would have decreased their current close friendship to a no longer close status level 6 months later. A logistic regression comprising these factors was calculated to predict future dissolution. However, the model was not significant. Factors contributing the least to the model were deleted one at a time to improve the model which resulted in a univariate model. The model predicted future dissolution, $\chi^2 (1, N = 292) = 4.18, p = .041$ (see table 4.14) and explained 2.9% of the variance in future dissolution. CCF-political beliefs bothered actor at T1 was significantly predictive of future dissolution (T2), recording odds ratio of 1.53. This indicates that the odds that a person's close friendship would no longer be close in 6 months-time (T2) was 1.53 times higher for every unit increase in CCF-political beliefs bothered actor at T1.

Table 4.14

Friendship dynamic factors – logistic regression predicting likelihood of close friendship dissolution in 6-months-time

Friendship dynamic factor	B	SE	Wald	df	p	Odds Ratio	95% CI for odds Ratio		Nagelkerke R ²
							Lower	Upper	
Friend's political beliefs bother actor	.42	.20	4.73	1	.030	1.53	1.04	2.24	.029

4.5.3.7 Model summaries

A summary of the univariate models predicting likelihood of close-friendship dissolution in 6-months type with an Odds ratio of +/- >.1 is provided in Appendix K (table 15). Multivariate models likelihood of close-friendship dissolution in 6-months type with current close friend is provided in table 4.15.

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Table 4.15

Summary of Multivariate Logistic regression models predicting likelihood of close friendship dissolution in 6-months-time

Model	B	SE	Wald	df	p	Odds Ratio	95% CI for odds Ratio		Nagelkerke R ²
							Lower	Upper	
Actor-distal factors									.108
Avoidant attachment to close friends in general (item 1)	.30	.13	5.84	1	.016	1.35	1.06	1.73	
Decay belief	.20	.12	2.56	1	.109	1.22	.96	1.54	
Avoidant attachment to friend	.21	.16	1.66	1	.197	1.24	.90	1.70	
Antagonism	.10	.08	1.70	1	.192	1.11	.95	1.29	
Anxious attachment to close friends in general (item 1)	.04	.12	.14	1	.711	1.05	.83	1.32	
Friend-distal factors									NA
Actor-intrapersonal processes									.113
Expected future satisfaction	-.09	.03	7.62	1	.006	.91	.85	.97	
Commitment	-.13	.12	1.15	1	.284	.88	.70	1.11	
Friend-intrapersonal processes									.131
Expected future motivation (desire)	-.58	.13	20.06	1	<.001	.56	.44	.72	
Actor-positive factors									.027
Maintenance behaviours	-.34	.17	4.10	1	.043	.71	.51	.99	
Friend-positive behaviours									.090
Takes responsibility for actions	-.38	.19	4.05	1	.044	.68	.47	.99	
Reciprocation	-.48	.22	4.62	1	.032	.62	.40	.96	
Relies on actor for emotional needs	.25	.18	1.92	1	.165	1.28	.90	1.83	
Actor-negative behaviours									.167
Sexual interest in friend	.51	.22	5.59	1	.005	1.74	1.18	2.56	
Ambition	.51	.22	5.59	1	.018	1.67	1.09	2.54	
Low peer conformity goals	.42	.18	5.21	1	.022	1.52	1.06	2.16	
Ingratiation	.13	.06	4.36	1	.037	1.14	1.01	1.29	
Boring	-.37	.22	2.84	1	.092	.69	.45	1.06	
Pessimistic	.21	.17	1.65	1	.199	1.24	.89	1.71	
Friend-negative behaviours									.142
Low peer conformity goals	.44	.17	6.83	1	.009	1.55	1.12	2.22	
Eccentric	.27	.17	2.40	1	.121	1.30	.93	1.82	

Sexual interest in actor	.30	.19	2.33	1	.127	1.35	.92	1.97	
Coercive	.23	.18	1.67	1	.196	1.25	.92	1.97	
High conformity goals	.23	.18	1.62	1	.203	1.25	.89	1.77	
Actor-oppositional behaviours									.072
Ostracises friend	.52	.21	5.83	1	.016	1.68	1.10	2.56	
Arrogant	.13	.19	.51	1	.476	1.14	.79	1.65	
Entitled	.18	.22	.71	1	.400	1.20	.79	1.83	
Passive aggressive	.10	.16	.37	1	.544	1.10	.81	1.51	
Friend-oppositional behaviours									.062
Controlling	.37	.16	5.75	1	.017	1.45	1.07	1.97	
Ostracises actor	.40	.25	2.57	1	.109	1.49	.92	2.41	
Actor-contextual factors									.040
Ability to keep friends	-.36	.18	4.04	1	.044	.70	.50	.99	
Life satisfaction	-.18	.13	1.87	1	.172	.84	.64	1.08	
Friend-contextual factors									NA
Friendship dynamic factors									
Friend's political beliefs bother actor	.42	.20	4.73	1	.030	1.53	1.04	2.24	.029
Overall model									.362
Actor-ambition	.80	.27	8.75	1	.003	2.23	1.31	3.80	
Actor-sexual interest in friend	.49	.23	4.63	1	.031	1.63	1.04	2.54	
Actor-avoidant attachment to close friends in general (item 1)	.34	.15	5.18	1	.023	1.40	1.05	1.87	
Actor-ingratiation	.23	.09	7.64	1	.006	1.26	1.07	1.49	
Friend-expected future motivation (desire)	-.66	.21	9.79	1	.002	.52	.34	.78	
Actor-maintenance behaviours	-.28	.22	1.73	1	.188	.75	.49	1.15	
Friend-takes responsibility for actions	-.30	.24	1.53	1	.217	.74	.46	1.19	
Actor-ostracises friend	-.30	.43	.50	1	.479	.74	.32	1.70	
Friend's political beliefs bother actor	.19	.30	.39	1	.540	1.14	.76	1.71	
Friend-low conformity goals	.13	.21	.38	1	.536	1.14	.76	1.71	
Friend-controlling	.11	.20	.32	1	.573	1.12	.75	1.67	
Actor-low conformity goals	.10	.21	.21	1	.644	1.10	.73	1.68	
Actor-keeps friends easily	-.07	.26	.07	1	.785	.93	.56	1.54	
Friend-reciprocation	-.04	.30	.02	1	.893	.96	.54	1.72	

4.5.3.8 Overall model of unique predictors of future dissolution with current close friend

The unique contributors from each of the multivariate models were selected for the final overall model to determine whether the factors uniquely predicted dissolution when considered together. Factors that met criteria for selection (from strongest model factors to weakest) were: actor-sexual interest in friend, actor-ambition, actor-low peer conformity goals, actor-ingratiation, friend-low peer conformity goals, friend-expected future motivation (desire), actor-expected future satisfaction, actor-avoidant attachment to close friends in general (item 1), friend-takes responsibility for actions, friend-reciprocation, actor-ostracises friend, friend-controlling, actor-ability to keep friends, friend's political beliefs bother actor, and actor-maintenance behaviours.

Actor-expected future satisfaction was removed to eliminate multicollinearity. All other variables were considered as potential multivariate predictors on the odds that people would have decreased their current close friendship to a no longer close status level 6 months later. The final logistic regression was predictive of future dissolution, $\chi^2 (14, N = 285) = 57.54, p = .001$ (see table 4.16). The model explained 36.2% of the variance in future dissolution. Five factors significantly predicted future dissolution. Actor-ambitious was the strongest contributor, recording an odds ratio of 2.23. Sexual interest in one's close friend was the second strongest contributor, recording an odds ratio of 1.63. Actor-avoidant attachment to close friends in general (item 1) was the third strongest contributor, recording an odds ratio of 1.40. Actor-ingratiating behaviours was the fourth strongest contributor, recording an odds ratio of 1.26. Friend-expected future motivation (desire) was the fifth strongest predictor, recording an odds ratio of .52. This indicates that the odds that a close-friendship would be dissolved in 6-months was 2.23, 1.63, 1.40, and 1.26 times higher per unit increase in actor-ambition, actor-sexual interest in one's close friend, actor-avoidant attachment to close friends in general (item 1), and actor-ingratiation respectively. Also, the odds of close friendship dissolution was .52 times lower per unit increase in friend-expected future motivation (desire).

Table 4.16

*Overall model – logistic regression predicting likelihood of close friendship
dissolution in 6-months-time*

Factor	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.362
Actor-ambition	.80	.27	8.75	1	.003	2.23	1.31	3.80	
Actor-sexual interest in friend	.49	.23	4.63	1	.031	1.63	1.04	2.54	
Actor-avoidant attachment to close friends in general (item 1)	.34	.15	5.18	1	.023	1.40	1.05	1.87	
Actor- ingratiation	.23	.09	7.64	1	.006	1.26	1.07	1.49	
Friend-expected future motivation (desire)	-.66	.21	9.79	1	.002	.52	.34	.78	
Actor- maintenance behaviours	-.28	.22	1.73	1	.188	.75	.49	1.15	
Friend-takes responsibility for actions	-.30	.24	1.53	1	.217	.74	.46	1.19	
Actor-ostracises friend	-.30	.43	.50	1	.479	.74	.32	1.70	
Friend's political beliefs bother actor	.19	.30	.39	1	.54	1.14	.76	1.71	
Friend-low conformity goals	.13	.21	.38	1	.536	1.14	.76	1.71	
Friend- controlling	.11	.20	.32	1	.573	1.12	.75	1.67	
Actor-low conformity goals	.10	.21	.21	1	.644	1.10	.73	1.68	
Actor-keeps friends easily	-.07	.26	.07	1	.785	.93	.56	1.54	
Friend- reciprocation	-.04	.30	.02	1	.893	.96	.54	1.72	

4.6 Study 2. Dealbreakers

4.6.1 Aim

The first of this study was to identify factors that people considered to be pivotal dealbreakers that resulted in their previous close/best friendship being re-classed as no longer close. Dealbreaker items included 151 factors found to impact interpersonal relationship outcomes in the literature (see Appendix D & E)

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to determine whether commonality of dealbreakers for adult friendships could be ascertained when all factors are considered together.

4.6.2 Participants

Dealbreakers in two samples were considered. Sample 1 was comprised of all participants ($N = 827$) reporting on their previous close friendship at T1, regardless of the duration since the dissolution occurred (i.e., reduction in friendship status from a close classification (best/close) to a no longer close classification (casual, acquaintance, no longer friends). Sample 2 ($N = 317$) was included to reduce the chances of biases associated with retrospection that may have occurred within the previous close friend (PCF) sample and comprised of all participants who reported on a dissolution that had occurred with their current close friend between T1 and T2. Given the large scale of the survey, incomplete T1 data were also considered, and numbers and percentages were based on individual item completion. Baseline sociodemographic characteristics of participants, dyad characteristics, and dyad status can be found in Appendix I.

4.6.3 Data analysis

All statistics for the current chapter were run using IBM SPSS Statistics (Version 27). Frequencies of dealbreakers were obtained and grouped according to the 12 groups of variables based on the contextual model described in McNulty (2016; see Appendix E for grouping and Appendix L for frequency table).

4.6.4 Results

Each of the 151 dealbreaker variables were selected at least once within the PCF group, indicating that all of the dealbreaker variables had been considered to be pivotal causes of friendship dissolution for at least one participant (see Appendix L). The frequency with which dealbreaker variables were chosen ranged between 1 (0.2%) and 115 (20.4%) for the PCF group and 0 and 6 (17.1%) for the CCF (dissolution) group. Overall, participants in both the PCF and CCF (dissolution) groups selected friend-oriented behaviours more frequently than actor-oriented factors. For example, no actor-oriented oppositional behaviours were identified as dealbreakers for the CCF (dissolution) group, whereas friend-oriented oppositional behaviours were frequently identified as dealbreakers. Similarly, only 1 participant identified an actor-oriented “other” negative behaviour as a dealbreaker in the CCF (dissolution) group, whereas multiple friend-oriented “other” negative behaviours were identified as dealbreakers.

The five dealbreakers selected the most frequently in the T1 PCF group were 1) feeling personally hurt (20.4%), 2) being ostracised by one's friend (13%), 3) believing one's friend did not take responsibility for their actions (11.8%), 4) perceiving one's friend to be selfish (10.6%), and 5) perceiving one's friend to be untrustworthy (10.4%).

The five dealbreakers selected the most frequently in the T2 CCF (dissolution) group were 1) lack of reciprocation from one's friend (17.6%), 2) feeling personally hurt (17.1%), 3) perceiving one's friend to be arrogant (11.4%), 4) perceiving one's friend to be selfish (11.4%), and 5) perceiving one's friend to be being disloyal (11.4%).

4.7 Intervention willingness: Dissolution prevention

An analysis was conducted to determine whether individuals in the current sample were willing to engage in intervention programs to maintain closeness with their current close/best friend to reduce dissolution likelihood. This was considered important to test the assumption in the current thesis that there would be a reasonable number of people who would be interested in engaging in these types of interventions. Descriptive statistics were run to determine frequencies of people willing to engage in intervention at wave 1 and found that there was a strong interest in engaging in maintenance/preventative interventions.

In response to the question "How willing are you to participate in an intervention (either online or face-to-face) to learn about how to maintain closeness with your CCF", 458 (71.7%) participants were willing to consider intervention (332 (52%) "maybe would consider", and 126 (19.7%) "would absolutely consider").

In response to the question "How willing are you to participate in an intervention (either online or face-to-face) to learn about how to maintain closeness with your CCF if your CCF let it be known that they want to be involved also?", 525 (82.2%) participants were willing to consider intervention (295 (46.2%) "maybe would consider", and 230 (36%) "would absolutely consider").

In response to the question "How willing are you to participate in an intervention (either online or face-to-face) to learn about how to maintain closeness in any of your other close friendships?", 482 (75.4%) participants were

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willing to consider intervention (342 (53.5%) “maybe would consider”, and 140 (21.9%) “would absolutely consider”).

4.8 Discussion

The aim of this chapter was to identify the frequency of close friendship dissolution over a 6- and 12- month period, to determine which factors best predict dissolution, and to identify common best and close friend “dealbreakers” resulting in reclassification to a lower friendship status. The findings of this study are discussed in relation to the literature review in the introduction chapter.

In the current study, dissolution of close friendships occurred for 11% over the course of 6-months, and best friendships were found to be less likely to dissolve than close friendships. This supported research that has found that best friendships are less likely to dissolve than close friendships (Dunbar & Machin, 2014). They also found that dissolution of kin relationships and dissolution of the 5 closest friendships within people’s social network was uncommon, with most major conflicts occurring with less close people within the social network.

The current study found that, of the close and best friendships that dissolved between baseline and the 6-month follow-up, only 16.7% had restored to a close or best friendship status by the 12-month follow-up and 83.3% remained unresolved, which was much lower than the 60% of restorations that Dunbar and Machin (2014) found across 12-months following conflict. However, Dunbar and Machin found that most of these dissolutions are restored within the first month, with a steep decline in restoration after this time, and the likelihood of restoration was very low after 12 months, which may be why the rate of restoration in the current study was lower at 6-month follow up. Although dissolution was again measured at 12-month follow-up in the current study there were too few people in the dissolution subgroup to conduct a meaningful analysis. It is important to note that all three of the waves of the current study occurred between September 2020 and July 2022 amid the global coronavirus (COVID-19) pandemic, with many countries experiencing multiple and lengthy lockdowns that increased isolation, decreased mental health and quality of life in the general population during this period (Al Dhaheri et al., 2021) as well as specific populations such as undergraduate students (Catling et al, 2022), and may have made restoration of conflicts and other causes of friendship decay more difficult to address than in non-pandemic times.

Regarding gender differences, the current study found that proportionally more men had experienced a dissolved close friendship between baseline and 6-month follow-up, and that men and women experienced the same percentage of dissolved friendships between baseline and 12-month follow-up. This differed from Dunbar and Machin's (2014) finding that regarding sex-differences, females had more frequent conflicts in close interpersonal relationships than males but a similar amount of conflict in their social networks overall. This may be explained by Dunbar and Machin's finding that females were more likely to restore altercations with close friends and family, and that restoration was most likely within a month of the conflict occurring, so it is possible that the 6-month follow-ups did not capture additional fluctuations in status or that restorations occurred before status had been reclassified. However, it is interesting that men had either equal or more dissolutions than women within the timeframes in this sample and it may be that women did not experience as much conflict with their close friendships in the current sample. It is important to note that gender differences were assessed in the current study, whereas sex-differences were measured in Dunbar and Machin's (2014) study, which makes comparisons between the samples difficult.

Clinicians, concerned with the mental health of their clients, may assess their support networks using established measures of relationship quality. These tools may be used during the initial assessment phase of therapy or in subsequent sessions as additional information arises over the course of therapy. These tools assist in a range of areas such as goal development and evaluating the quality of people's support networks. The current study examined the ability of four established measures of relationship quality (commitment, emotional closeness, and current satisfaction, expected future satisfaction), as well as the best combination of these measures, to predict future dissolution of close friendships. This may allow clinicians to identify when alternate supports for clients should be sought and assist in the prevention of decay in existing friendships that are at risk of future dissolution.

Compared with commitment, emotional closeness, and current satisfaction, expected future satisfaction was the strongest predictor of future dissolution. Current satisfaction was the only factor that did not predict future dissolution, with all other measures negatively predicting future dissolution. When combined into a model, the combination of low expected future satisfaction

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and low commitment was best at predicting future dissolution, although only expected future satisfaction uniquely contributed to the model.

The current results are similar to those found in the romantic relationship literatures. For example, expected future satisfaction was found to be a better predictor of divorce over the course of the first 5 years of marriage than current satisfaction (Baker et al., 2017). Commitment has also been found to be predictive of future dissolution of romantic relationships in the literature (Drigotas & Rusbult, 1992; Rusbult, 1983; Rusbult & Buunk, 1993; Rusbult & Martz, 1995; Van Lange et al., 1997). Branje et al. (2007) also found that commitment mediated the association between best friend longevity and each the three factors in the investment model (current satisfaction, investments, and alternatives) in adolescents. Thus, it is unsurprising that commitment is also predictive of future dissolution at the univariate level in the current sample. In addition, expected future satisfaction was found in the literature to predict commitment in adult romantic relationships (Baker et al., 2017), which is consistent with expected future satisfaction being the only unique contributor of close friendship dissolution when put in the same model as commitment.

The social network circles are by definition measured by emotional closeness (Almaatouq et al., 2016; Hill & Dunbar, 2003), so it is unsurprising that a decrease in emotional closeness is related to a simultaneous decrease in status, but interestingly it appears that a decrease in emotional closeness also precipitates the cognitive change in status classification, as do changes in commitment and expected future satisfaction, because each factor was predictive of future dissolution at the univariate model. However, the Nagelkerke R^2 for the model in the current study was only 11.3% (.113) which suggests that the model is reasonably weak at predicting future dissolution, but when considered alongside other predictors of dissolution this may assist in identifying at-risk friendships.

To determine whether it is possible to better predict future dissolution, many factors that are known in the literature to impact outcomes in interpersonal relationships were explored by grouping factors into themes that reflect the contextual model of relationship outcomes and comparing the relative strength of each model. Thirteen groups were compared: distal factors (actor; friend), interpersonal processes (actor; friend), positive behaviours (actor; friend), negative behaviours (actor; friend), oppositional behaviours (actor; friend), contextual factors (actor; friend), and friendship dynamic factors. While almost all

the factors considered for the multivariate analyses were significant predictors of future dissolution at the univariate level, none of the thirteen models were strong predictors, although the multivariate models were better predictors than the univariate models overall.

4.8.1 Negative behaviour models

The strongest multivariate model at predicting future dissolution were the negative behaviour models, which consisted of items that have been found in the literature to have a negative impact on the quality of interpersonal relationships, but that are not typically considered oppositional in nature. Of particular interest was the presence of low peer conformity goals (i.e., lower goals to align one's own behaviours and attitudes to conform to peer group norms and expectations), within-dyad sexual interest in both models, and that both positively predicted future dissolution.

In the actor-negative behaviours model, higher ingratiation (i.e., engaging in certain behaviours to attempt to gain favour with other people) and ambition also uniquely positively predicted future dissolution. It is possible that people who have higher ambition may only select to invest in and continue friendships that best meet their fundamental needs given possible limitations in time and energy (e.g., Harrison et al., 2022). Ingratiation behaviours are aimed at increasing relationship strength with certain individuals and have been found to increase when individuals are in relationships with higher power imbalances, where individuals feel they have less control over their environment (Tedeschi & Melburg, 1984; Higgins & Judge, 2004), and in romantic relationships where they perceive they are more valued and where they desire to be valued by the partner (Lemay & Sponberg, 2014). There are a range of possible benefits and costs to the ingratiation. On the one hand, when timed well, these behaviours can increase a person's likeability and success in certain life areas, such as career success (Higgins et al., 2003), but when poorly timed they can increase distrust in others because the ingratiation appears insincere, manipulative, and unreliable (Grant, 1996). These behaviours can also increase emotional exhaustion and resource depletion in the ingratiation (Yan et al., 2020), which may lead to less energy to effectively maintain interpersonal connections. The current study studied general ingratiation toward other people rather than ingratiation within the dyad specifically. Thus, it is possible that higher ingratiation behaviours in this case may indicate that an individual is feeling they have little control in their

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environment, and they may focus their energy and effort on gaining a sense of control at the expense of maintaining closeness in their friendship. Within-dyad ingratiation behaviours could be studied further in future research.

4.8.2 Intrapersonal processes models

The next strongest models were the intrapersonal processes models, which contained factors about each dyad member's intrapersonal processes (e.g., current hurt, liking, motivation). The friend-intrapersonal processes model was a slightly stronger predictor than the actor-model. Perceived friend-expected future motivation (desire) to be close friends and actor-expected future satisfaction were the two unique contributors in these groups. This indicates that perception of a friend's desire to remain close friends is indicative of the future stability of the friendship, as is one's own expectations to feel satisfied in the future.

Given the strong ability of dyads to predict one another's desire to remain close friends found in the reciprocation section of Chapter 3 it is likely that people modify their friendship behaviours to match or meet their less motivated/desiring friend, which may lead to either or both members of the dyad facilitating the dissolution. Also, it is possible that the initiator of closeness dissolution is not always the initiator of status decline. Individuals with unrequited desire may initially be uncertain of the status intentions of the friend, as in whether dissolution is wanted by the friend, and may adjust their own maintenance behaviours more than necessary in the process. For example, a best friend may decide they wish to be close friends rather than best friends with their friend (i.e., unrequired or unreciprocated best friendship) so may reduce their own maintenance and reciprocation behaviours to be appropriate to that friendship level (i.e., "close friendship), but their friend may see the change and not be certain what the new desired level is and may adjust their own behaviours even further, such as would be expected for casual friends or acquaintances, thus inadvertently initiating decrease in close friendship status.

It has been reported that people use secret tests to determine levels of romantic interest and reduce distress associated with relational uncertainty. For example, people may directly or indirectly question the other person or the social network about their perceptions of the relationship and using the desired status label in their presence to gauge the other person's response (Baxter & Wilmot; 1984; Bell & Buerkel-Rothfuss, 1990). It is likely that friends also use this technique when uncertainty is present so that they can receive important feedback

and modify their behaviour appropriately and determining the level of reciprocity, or agreement, about friendship status classification.

Research into the level of observed or mutual agreement in the friend status between individuals has found rates of friendship reciprocity range between 34% and 53% in young adults (Aharony et al., 2011; Almaatouq et al., 2016; de Montjoye, 2014; Eagle & Pentland, 2006; Madan et al., 2012). Regarding “best friend” reciprocity, a study found that 64% of adolescent best friendships were reciprocated within a school setting (Vaquera & Kao, 2008). Classification uncertainty and reciprocation discrepancies can result in increased distress, reassurance seeking behaviours, and poor mental and physical health outcomes in interpersonal relationships (Akbulut & Weger, 2016; Baker et al., 2013; Baxter & Wilmot, 1984; Bell & Buerkel-Rothfuss, 1990; Eyal et al., 2018; Guerrero & Chavez, 2005; Knobloch & Solomon, 2002; Rose et al., 2016; Weger & Emmett, 2009). For example, lack of status reciprocation or intimacy within best or close friends can result in increased mental health issues, such as higher depressive symptoms (e.g., Nezlek et al., 1994).

Over time a new level of status in a friendship may be agreed upon and established, but if the process of resolving the relationship uncertainty is lengthy and the desired status is poorly communicated the overall status may be lower than was originally intended by the best friend, resulting in unintentional long-term dissolution of the close friendship. Grief may be experienced following status decline, as a response to the loss of closeness and resulting gap in certain aspects of need fulfilment, even if the status decline is relatively small (e.g., close friend to casual friend) or when friendship status is not reciprocated (e.g., Nezlek et al., 1994). However, it is important to note that neither of the interpersonal models in the current study were strong predictors of future dissolution. Thus, both having low expected future satisfaction and believing one’s friend has low desire to continue being close friends are potential warning signs of dissolution, especially when they occur with other predictors of dissolution.

4.8.3 Distal factor models

The actor-distal model (e.g., personality and attachment style) was the next strongest model in predicting future dissolution. Higher scores on the adult avoidant attachment to close friends in general item “I find it difficult to allow myself to depend on close friends” uniquely predicted higher future dissolution in the model. The adult attachment to current close friend item “I feel comfortable

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opening up to this person” was also in the final model but did not uniquely predict future dissolution. Interestingly, the second item measuring adult avoidant attachment to close friends in general, “I turn to close friends for many things, including comfort and support”, did not meet the selection criteria for the multivariate regression analysis. This item includes both the concept of sympathy (i.e., comfort) and of support, which reflect the sympathy and support circles of the social network. Very high scores on this item would be more suggestive of best friendship that may exist in the innermost circle of the network (i.e., the “support circle”) whereas close friendships are more likely situated in the next closest circle (i.e., the “sympathy circle”) or the next closest circle after that that is not as characterised by either sympathy or support (Dunbar, 2021; Hill & Dunbar, 2003). Thus, it is possible that the specificity of support and sympathy in the question did not reflect some close friendships, making it difficult to predict classification change from close to not close.

The current study showed a small but not significant relationship between anxious attachment to close friends in general and future dissolution. The literature has found that higher avoidant and anxious attachment are predictive of dissolution in other types of close interpersonal relationships, such as romantic relationships (Cooper et al., 2018; Lemay, 2016; McNeilis & Segrin, 2019; Senn, 2016), but that avoidant attachment is a stronger predictor of dissolution than anxious attachment (McNeilis & Segrin, 2019; Grignon, 2019; Grau & Doll, 2003; Terwogt & Mol, 2005; Molero et al., 2017). In addition, the literature that has found that fearful-avoidant attachment, which is comprised of both high avoidant and high anxious features (Fraley et al., 2015; Fraley et al., 2000; Hudson et al., 2020), is especially problematic for dissolution in close interpersonal relationships because of high fear rejection from others, discomfort depending on others, and discomfort expressing their emotions to others (Fraley et al., 2015; Fraley et al., 2000; Hudson et al., 2020).

In the literature, attachment style has been found to impact adult willingness to forgive transgressions by friends, with rumination mediating the negative relationship between anxious attachment and forgiveness and low empathy mediating the negative relationship between avoidant attachment and forgiveness (Burnette et al., 2009). Childhood trauma was also found to disrupt the ability to forgive other people for offenses (Mucci, 2018). The literature has also found that people with avoidant attachment are more likely to instigate a

relationship termination than people with anxious attachment, despite people with both attachment styles reporting similar levels of dissatisfaction prior to the dissolution (Barbara & Dion, 2000).

It is possible that avoidant and anxious attachment styles, but especially avoidant attachment styles, are activated when challenging situations occur in close friendships and may disrupt willingness to forgive and active restoration of conflicts within close friendships, resulting in higher chances of dissolution and reclassification to lower friendship status levels than for people with secure attachment styles. This would reflect the complicated impact of related concepts such as personality on impersonal outcomes posited by the Cognitive Affective Processing System model (Mischel & Shoda, 1995). This model suggests that personality traits are not inherently positive or negative, but when cognitively activated and acted upon in situations where the behaviours are considered inappropriate (e.g., excessive) by other people involved, they typically have a negative impact on partner satisfaction, indicating that the context can impact the effect of personality on satisfaction (McNulty, 2016). This activation may also occur with insecure attachment styles which also lay dormant but become activated in certain contexts, which would explain why some people find making close friends easy to do but maintaining close friends if conflict occurs difficult to do. However, the actor-distal model in the present study was a weak predictor of future dissolution overall, suggesting that attachment may only play a small role in dissolution of close friendships. Future research could explore this further with the use of more comprehensive measures of trait and adult attachment rather than individual items which occurred in the current study due to human error.

Several other models were also predictive of future dissolution but to a lesser degree. These are discussed in order of strongest to weakest of the remaining models.

4.8.4 Positive behaviour model – friend-factors

In the friend-positive behaviours model, which consisted of factors relating to one's own positive behaviours within the friendship, lower scores on taking responsibility for actions and reciprocation of efforts uniquely predicted future dissolution. Taking responsibility for actions is typically expressed in the form of apologies, which are used to communicate personal insight, guilt and remorse, and the expression of intentions to change behaviours in positive toward-relationship ways (McCullough, 2008; Strelan, 2018; Worthington, 2001). Where

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transgressions have occurred, victims often use punishment in constructive ways with the intention to restore, reintegrate, and heal the relationship in a combined effort between victim and transgressor to restore shared values impacted by the transgression (“e.g., the offender taking responsibility and apologizing; victims communicate that offenders remain worthy of redemption”; Strelan, 2018, p. 21).

Forgiveness is typically conditional on a reflective apology from the transgressor (McCullough, 2008; Strelan, 2018; Worthington, 2001). Apologies are typically effective in facilitating restoration and forgiveness, even in children (Kemp et al., 2021; McCullough, 2008; Strelan, 2018; Worthington, 2001). Thus, lack of taking responsibility and apologising for transgressions may result in lack of forgiveness, more punitive actions, and dissolution. However, there are some situations where victims use punishments which are purely punitive, even when the other person takes responsibility for their actions, and are aimed at alienating the transgressor (Strelan, 2018), and occasionally apologies within interpersonal relationships are refused (Dunbar & Machin, 2014). It is possible that in a close friendship this refusal and punitive response may signify an extreme transgression (e.g., physical violence), the build-up of a range of issues or transgressions within the dyad over time following which a small transgression received an excessive response, lack of status reciprocation, the victim having an avoidant attachment style or a history of childhood trauma, or the presence of negative contextual influences such as peer influence and/or pressure. Where punishment has been used by a victim, the victim may become a co-transgressor and subsequently also be required to gain insight into their own transgressions, take responsibility, and apologise to the original transgressor to receive forgiveness and for restoration of within-dyad closeness to be successful. Although the overall friend-positive behaviours model in the current study was relatively weak, lower perception of a close friend taking responsibility for their actions should be considered a risk for future dissolution, especially when it co-occurs with other predictors.

The friend-positive behaviours model in the current study also identified friend reciprocation of efforts made by oneself to maintain closeness as a unique predictor of future dissolution, with lower friend reciprocation predicting higher dissolution. The literature has found that reciprocation of emotional intimacy in young adulthood friendships, as measured by levels of “self-disclosure; responsiveness to a partner's disclosure; and feeling understood, validated, and cared for by a partner during conversations”, is highest when both members of the

dyad have secure attachment styles (Grabill & Kerns, 2000, p. 363). Research has also found that both lack of best friend status reciprocation (Nezlek et al., 1994) and lack of maintenance behaviour reciprocation in romantic relationships (Baker et al., 2013) are related to higher depressive symptoms. It worth noting that although only 50% of friends in general and 64% of best friends have been found to reciprocate the same level of emotional closeness or classification level (Almaatouq et al., 2016; Murphy, 2016; Vaquera & Kao, 2008), people tend to project their current emotional closeness onto others, believing that other people experience a similar level of emotional closeness to them (Almaatouq et al., 2016; Murphy, 2016). Thus, if lack of reciprocity of efforts to maintain emotional closeness are detected by one dyad member, it is possible that the close friendship has been at risk of future dissolution for a while. This may explain why noticing lack of friend reciprocity to efforts was found to be predictive of future dissolution in the current sample. Although the overall friend-positive behaviours model was relatively weak, lower reciprocation of efforts should be still considered a risk for future dissolution, especially when it co-occurs with other predictors.

4.8.5 Oppositional behaviour models

In the actor-oppositional behaviours model, which consisted of a variety of different oppositional behaviours engaged in by the individual, personal ostracism of friend uniquely predicted higher future dissolution. Ostracism is typically associated with social groups (Closson et al., 2017; Rudert, 2020; Williams, 2007) and supported by frenemies in childhood or adolescence who themselves act as a pro-aggressor (i.e., condoning the bullying), or as neutral toward the victim friend when around the peer group, and as being pro-victim, or on the side of the victim friend, when alone with the victim (Wojcik & Flak, 2021), and also supported by bystanders who are personally pleased by the ostracism (e.g., they agree that the individual should be ostracised for not adhering to a group rule; Jones & Rutland, 2020). It is also known that ostracism occurs in social settings across the lifespan (Rudert, 2020).

Ostracism is not typically studied in the context of close interpersonal relationships in adulthood. However, one study found that personal ostracism has also been found to occur in romantic relationships when one dyad member has low self-esteem and they perceive their romantic partner to be socially disadvantaged relative to themselves and that their partner's social position may

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reflect poorly on them and affect their own social position (Lemay & Clark, 2009), resulting in frenemy-like behaviours within the romantic couple. It is possible that personal ostracism within close friend dyads also reflects an imbalance in social standing within the friends. It is also possible that within-dyad ostracism is uncommon and that when it does occur it may indicate a frenemy relationship, lack of close friendship reciprocation (i.e., disagreement about the status of the friendship), or a close friendship that is dissolving for other reasons. Given that personal ostracism in the present study predicted future dissolution, it is important to consider personal ostracism to be a possible red flag for future dissolution, especially when it co-occurs with other predictors.

In the friend-oppositional behaviours model, higher controlling behaviours uniquely predicted future dissolution. It has been found that controlling behaviours within interpersonal relationships involve efforts made by one dyad member to control the other member's interactions with other people, the activities they engage in, their actions, or their ability to make decisions by establishing strict rules for the dyad member to adhere to and then punishing them for transgressions of the rules (e.g., Kelly & Johnson, 2008; Krantz & Dang Vung, 2009). These behaviours may be direct or discreet, and take many forms such as bossiness, guilt-tripping, intimidation, threats, ultimatums, surveillance, or stalking, which aim to force and check adherence to the rules (e.g., Tanha, Beck, Figueredo, & Raghavan, 2010). Of importance is that the conformity is forced, rather than freely chosen by the dyad member, whether they were likely to make the same choice themselves or not. Controlling behaviours are considered a form of psychological aggression in interpersonal relationships (Henning & Klesges, 2003). Controlling behaviours (i.e., coercing, monitoring, and/or threatening) within romantic relationships have been found to be associated with higher internalising symptoms, such as depression, suicidality, lower self-esteem, post-traumatic stress, and fear (Ali et al., 2014). Psychological aggression within romantic dyads has increase steps to leave the relationship by both members of the dyad (Curtis et al., 2016).

In the current study, friend-controlling behaviours were also found to predict future dissolution of close friendships. Thus, friend controlling behaviours (e.g., monitoring/stalking (online or physical), degradation (e.g., public humiliation, verbal abuse), coercing/manipulating, threatening) should also be considered a red flag for future dissolution in close friendships in adulthood,

especially if it co-occurs with other predictors of dissolution. It is also worth noting that in the current study friend ostracism of oneself was included in the friend-oppositional behaviours model, as it had been in the actor-oppositional behaviours model, and although in the current model it was not a unique predictor, together this suggests that personal ostracism within close friendship dyads may be worth exploring further in relation to outcomes for close friendships in adulthood.

4.8.6 Contextual factor models

In the actor-contextual factors model, which was comprised of contextual factors affecting the actor that have been found to have a secondary impact on interpersonal outcomes, low ability to keep close friends in general uniquely predicted future dissolution. The literature suggests that a range of factors may impact ability to keep close friendships. The pattern of short-term close friendships may or may not be deliberate. People have been found in the literature to have limited time, resources, and information processing capacity available to spend maintaining close friendships (e.g., Burton-Chellow & Dunbar, 2011; Roberts & Dunbar, 2011; Stiller & Dunbar, 2007; Wise & King, 2008). People select best fit people to include in their inner circle and prioritise emotionally close genetic-relationships or in-law relationships over friendships (i.e., via a kin premium; Burton-Chellow & Dunbar, 2011). Thus, they may choose to filter out best and close friends as seemingly better suited alternate people become available in their environment so that they may have enough time and resources to build the new close friendship (Branje et al., 2007; Hall, 2019). If people or their close friends are regularly exposed to attractive alternative friends, it is possible that this filtering process may prevent the development of longer-term close friendships for both dyad members.

It is also possible that people may tend to develop close friendships that face additional challenges to long-term success. For example, they may select friends (or vice versa) who they envy or people whose social position is not known (e.g., they may not meet their friends' peer groups early on) and over time they may view some friends as being socially disadvantaged, both of which can increase ostracism, victimisation, and/or passive bystander behaviours (e.g., witnessing an individual being targeted but not taking any action to intervene; Lemay & Clark, 2009; Montal-Rosenberg & Moran, 2022; Wojcik & Flak, 2021), especially when the antagonist has low-self-esteem (Lemay & Clark, 2009) or the

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target has a self-blame response (Wojcik & Flak, 2021). These situations may result in increased likelihoods of the friendship being terminated by one party of the other.

As noted earlier, avoidant and anxious attachment styles have also been found to be predictive of dissolution of romantic relationships (Cooper et al., 2018; Lemay, 2016; McNeilis & Segrin, 2019; Senn, 2016) and friendships (Wise & King, 2008). People with anxious attachment have also been found in the literature to be more likely to choose romantic partners who have avoidant attachment, who are more likely than people with other attachment styles to end relationships when conflict occurs and make fewer attempts to restore connections with others (Barbara & Dion, 2000; McNeilis & Segrin, 2019; Grignon, 2019; Grau & Doll, 2003; Terwogt & Mol, 2005; Molero et al., 2017). Thus, recurrent selection of friendships that are likely to have additional future difficulties with sustainability may decrease a person's ability to keep close friendships.

Other possible reasons that some people struggle to maintain close friendships include ways of handling conflicts (e.g., stonewalling, accommodating, apologising; Agnew & VanderDrift, 2015; Dunbar & Machin, 2014; Strelan, 2018), and ability to forgive and accept apologies (Burnette et al., 2009; Kemp et al., 2021; Mucci, 2018). In addition, this may be affected by underlying personality traits, which are activated during times of stress and may not have been triggered during the development of the close friendship (Mischel & Shoda, 1995). People may also have lower readiness to commit to longer term close friendships in general based on their ongoing commitments, satisfaction in sustained friendships (Agnew et al., 2019; Chow & Tan, 2013) or situational factors (such as decreases in proximity, consuming work or social lives, events that highlight differences in beliefs, morals or values, e.g., Agnew et al., 2019; Leikas et al., 2018; Roberts & Dunbar, 2015). People may also struggle to maintain close friendships if they experience significant mental health issues (such as a history of depression or childhood trauma), which may result in difficulties sustaining close friendships or in being ostracised by close friends (King et al., 2016; Maciel et al., 2019; Morgan et al., 2018; Mucci, 2018). However, it is important to note that compared to the other models discussed, the actor-contextual model was a relatively weak predictor of dissolution. Thus, low ability to keep close friends in general should be considered a possible warning

sign for dissolution but it is most likely to be an issue when other predictors of dissolution are also present.

4.8.7 Friendship dynamic factors model

In the friendship dynamic factors model, which consisted of interactive factors that involved both dyad members, such as being bothered by the other person's morals, values, and changes in time spent together, feeling bothered by the friend's political beliefs uniquely predicted dissolution.

Again, this model was a weak predictor of dissolution, but it is worth noting that differences in political beliefs between dyad members may be a warning sign for dissolution. This supports literature finding that differing political ideologies have a negative impact on outcomes and patterns in friendships (Poteat et al., 2012). Differences in political ideologies has also been found to impact responses to rule violations in social contexts, with people with more conservative political beliefs tending to prefer to punish friends for violating their rules (such as via ostracism; Hofmann et al., 2018), which may result in the initiation of a status reduction as punishment or as a response to being punished, and/or to different expectations about the way conflicts should be managed in general. This also reflects findings that conservative-conservative pairings in political ideology are the most common pairing in marital relationships (Leikas et al., 2018). It may be that less obvious differences in political ideologies may become apparent over time when the dyad or the wider world are faced with new challenges or that some level of difference in ideologies is tolerated by close friends but when combined with other predictors of dissolution the close friendship dissolves.

4.8.8 Positive behaviour model – actor-factors

In the actor-positive behaviours model, which consisted of factors relating to one's own positive behaviours within the friendship, lower levels of maintenance behaviours uniquely predicted future dissolution. The findings that lower maintenance behaviour predict dissolution in close adult friendships supports previous findings (Canary et al., 1993; Roberts & Dunbar, 2011). For example, researchers have found that adolescent and young adult friendships decay rapidly when there is a reduction in contact and time spent interacting in shared activities, such as following a life transition (i.e., transitioning out of secondary school; Roberts & Dunbar, 2011). Lower levels of maintenance behaviours may occur because of limited time and resources to maintain the

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friendship at the same level (e.g., Burton-Chellow & Dunbar, 2011; Roberts & Dunbar, 2011; Stiller & Dunbar, 2007; Wise & King, 2008), lack of commitment or expected future satisfaction (Baker et al., 2017). For example, selection and filtering processes are applied if the number of people in any of the circles becomes too high, or if better matched alternative people present (Sutcliffe et al., 2012, Saramäki et al., 2014). New romantic relationships may also result in a decrease in maintenance behaviours and a reduction in friendship status because romantic relationships are time consuming and have been found to take up approximately 1.5 spaces in the inner circle of the social network which may result in reclassification of best or close friends to a non-close friendship status to have enough time and resources to maintain the relationship (Dunbar, 2020).

Lowering maintenance behaviours, such as time spent engaging in positive shared activities, self-disclosures, and support, may be used as a method of lowering friendship intensity to a desired level (Blieszner, 2004; McEwan & Guerrero, 2012; Fehr, 2000; Wrzus, 2008). It is also possible that some people may underestimate the amount of time and resources required to maintain a close friendship and under-invest in its maintenance.

Research has also found that when outcomes match or exceed expectations in romantic relationships and members feel supported by one another, satisfaction is increased and both dyad members respond by increasing their own maintenance behaviours, demonstrating a dyadic impact on maintenance behaviours (Dainton, 2000; Demir et al., 2011; Mattingly et al., 2015; Oswald & Clark, 2006). Thus, it is possible that maintenance behaviours may also decrease in both members of friendship dyads if either person feels that their friendship expectations are not being met or feels unsupported (Demir et al., 2011). Friendship maintenance behaviours have also been found to increase towards certain friends when individuals perceive that new friend, that new social circle, or that existing close friend as being more able to provide them with more network resources and decrease when people perceive those friends as being less able to provide these resources (McEwan & Guerrero, 2012), indicating that personal agenda and strategic behaviours typically impact the development and deliberate continuation or filtering out of friendships across time. For example, when a person's network disapproves of a friend, the person is likely to reduce their own maintenance behaviours in that friendship (Plamondon & Lachance-Grzela, 2018). However, as with the other models discussed, the actor-positive behaviours model was a

weak predictor of future dissolution. Thus, while lower maintenance behaviours appear to be a warning sign for future dissolution, it is likely to be most problematic when combined with other predictors of dissolution.

4.9 Conclusion

In conclusion, several factors should be considered as potential warning signs for near future dissolution of close friendships. Low levels in the following actor-factors are predictive of dissolution: conformity goals, expected future satisfaction, and maintenance behaviours. High levels in the following actor-factors are predictive of dissolution: personal ostracism of friend, sexual interest in friend, ingratiation, ambition, adult avoidant attachment to close friends, general ability to keep close friends, feeling bothered by the friend's political beliefs. Low levels in the following friend-factors are predictive of dissolution: conformity goals, expected future motivation (desire), reciprocation, and taking responsibility for actions. In addition, high levels in the friend-factor controlling behaviours are predictive of dissolution. While in isolation these factors appear to only predict a small amount of close friendship dissolution, and may rarely be the sole reason for dissolution, the build-up of multiple factors over a long or short period of time may result in dissolution. However, future research is needed to explore this further. The sample demonstrated substantial interest in learning more about strategies to maintain their current close friendships and prevent dissolution via intervention programs, suggesting that interventions based on future research may be of interest to both the clinical population and members of the general public.

The overall model combining the significant predictors found that when combined, the unique factors predicting future dissolution of close friendship in descending order of strength were higher actor-ambition, actor-sexual interest in ones' close friend, avoidant attachment to close friends in general, actor-ingratiation, and lower friend-expected future motivation (desire). The model was much stronger than the other models discussed above, obtaining a Nagelkerke R Square of .362.

It is interesting that almost all the unique contributors in this model were actor-factors. In terms of clinical importance, this suggests that although the current study is highly exploratory in nature, clinicians may be able to identify at-risk friendships and individuals who may struggle to maintain their current support network of close friends even though clinicians are likely to only have

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access to one of the dyad members in the clinical setting. This may help clinicians identify people at risk for future mental health issues (i.e., resulting from future dissolution), and assist in the development of targeted therapy goals for individuals.

Analysis of the ability of these predictors to predict breakup initiation found that none of these factors predicted breakup initiation or could differentiate between breakup initiator or non-initiator status. This suggests that the presence of these factors is problematic for the dyad, rather than either member specifically, and that this may result in either dyad member initiating a reduction in friendship status. Thus, whether an individual identifies the presence of these factors as problematic or not appears irrelevant to the future damage to their close friendships.

It is possible that addressing these factors and how to best manage them in therapy sessions may assist people to develop awareness of themselves within their friendships and to develop skills to better protect the quality and longevity of their close and meaningful friendships. However, it is also important to note that together these factors still only moderately predict dissolution, indicating that they are most likely to be problematic when they co-occur with an accumulation of several other predictive factors. This may be why the cause of friendship dissolution may be highly varied between friendships and the exact cause difficult to pinpoint. This reflects the classic children's story "Who sank the boat" by Australasian author Pamela Allen (1982), where the combined weight of the animals sank the boat, but the final trigger was the mouse, who in and of itself was not a large contributor, but the mouse happened to be the last animal on board, and this was too much for the boat to stay afloat. This is a good illustration of the accumulative effect of factors that appear to be critical based on the results of this chapter, where the boat is the status classification, and the mouse is the last predictive factor to be added to the friendship before the status is reduced. "Toxic" friendships (e.g., Korrel, 2022) are most likely to be caused by the accumulation and interplay of a wide range of factors that the friends are unable or unwilling to manage at a dyadic level. However, it may be beneficial to identify whether any of the actor-factors identified in the overall model are present in "toxic" friendships and therefore are likely to be increasing the likelihood of future dissolution, and address these as a priority in therapy sessions.

The final aim of the study was to identify factors that people considered to be pivotal dealbreakers that resulted in their previous close/best friendship being re-classed as no longer close. People predominantly selected friend-factors as “dealbreakers”, to the point that only one friend identified an actor-factor as being a “dealbreaker” with their close friend from wave 1. The most common “dealbreakers” identified were feeling personally hurt, friend-selfish behaviours, friend-ostracism of actor, friend-lack of reciprocation, friend-lack of taking responsibility for actions, friend-arrogant behaviours, friend-disloyalty, and friend-untrustworthiness. This tendency to lay primary blame for close friendship dissolution on the other person may indicate a lack of ability for people to determine their own role in friendship dissolution, or the possibility that “dealbreakers” are the result of an accumulation of issues with the final factor being largely irrelevant in many cases. This may be because one’s own transgressions or weaknesses may seem small because of having perspective about why decisions have been made and behaviours have occurred, and individuals naturally select behaviours because they work for them at the time. It is more difficult to get perspective and understand the actions of another person, increasing the chances of assumptions and biases. Also, the behaviours that work for the other person may not work for oneself which may make the behaviours of the other person appear to be more significant contributors to dissolution than one’s own behaviours.

A strength of the current study was that it evaluated and compared the ability of a wide range of factors to predict future dissolution of close friendships that had been found in the literature to predict interpersonal outcomes in the child/adolescent friendship literature and the adult romantic literature and was able to demonstrate that close adult friendships are impacted by the same factors as these related populations. Another strength of the study is that at timepoint 1 participants provided responses to their current experience of their friendship, therefore reducing issues associated with responding in hindsight, such as the impact of time, possible changes in memories or interpretations of events etc. This is apart from the dealbreaker analyses for the previous close friends which was retrospective, but this allowed for a comparison to be made between current and retrospective reporting of friendship dealbreakers. In addition, the study was longitudinal, which allowed for the analysis of the change in close friendship to have occurred within the timeframe of the current study. Another strength was

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that the study incorporated different genders, ages, breakup-initiation status, and included a wide range of nationalities, thereby somewhat decreasing the chance of a homogenous sample and allowing for comparisons of these factors where needed. However, it is noted that there was an overrepresentation of younger adults, females, participants who identified as “White”, and participants residing in Australia in the sample.

The current study has several limitations that should be addressed in future research. First, many items in the study were face-valid items, which poses an increased risk that items may have been interpreted differently by different participants. An attempt was made to reduce this risk by providing thesaurus examples of the intended meaning of the concept based on the concept retrieved from the literature. However, future research should examine these concepts using established measures. Another limitation is that while a reasonable number of participants were involved in wave 2 of the study, there was only a comparatively small number in the dissolution group. It would be ideal for future research to have more even numbers in comparison groups. It was also hoped to identify time 1 predictors of 12-month dissolution, but there were fewer participants at wave 3 and the number in the dissolution group at 12-months was deemed too small to run the present analyses on. Future studies could address these limitations by having more participants involved at wave 1 to increase the likelihood of obtaining a larger dissolution group in subsequent timepoints.

In conclusion, this chapter sought to determine predictors of future dissolution of close friendships in adulthood and identify common “dealbreakers”. Of the groups of factors studied, the strongest multivariate models (and unique contributors to each model) in descending order were the actor-negative behaviour model (sexual interest in friend, ambition, low peer conformity goals, ingratiation), friend-negative behaviours model (low peer conformity goals), friend-interpersonal processes model (low expected-future motivation (desire)), actor-interpersonal processes model (low expected future satisfaction), actor-distal factors model (avoidant attachment to close friends in general (item 1)), actor-oppositional behaviours model (personally ostracises friend), friend-positive behaviours model (low taking responsibility for actions and reciprocation), actor-contextual factors model (poor ability to keep close friends in general), friendship dynamics model (feeling bothered by friend’s political beliefs), and actor-positive behaviours (fewer maintenance behaviours).

Each of these models weakly predicted future dissolution. When combined into a single overall model, the unique predictors in descending order of strength were actor-ambition, actor-sexual interest in ones' close friend, avoidant attachment to close friends in general, and actor-ingratiation, and lower actor-expected future satisfaction. The overall model was stronger than the group models, but there was still a substantial amount of variance in dissolution unexplained by the model. In addition, people demonstrated a strong tendency to lay blame for the dissolution of close friendships on the friend rather than themselves.

Together, these results indicate that a wide range of factors impact future dissolution of close friendships, with a small number of factors that are particularly problematic when they co-occur with other predictors. The accumulation of several predictors, whether slowly across time or in rapid succession, typically result in an overload that results in either or both members of the dyad initiating a classification decrease. Nevertheless, this decrease in classification is typically considered the fault of the other person rather than oneself, indicating a negative bias toward the other person rather than a positive bias toward oneself. It is possible that people view one's own character and behaviours as contributing to dissolution but not significant enough to have caused dissolution in isolation. The results of this chapter suggest that the reality is somewhere in the middle, with dealbreakers being factors that vary in significance and are unlikely to result in dissolution in isolation, but which trigger close friendship dissolution (initiated by either member) when they occur in an already unstable friendships that currently, or has previously, experienced a series of other challenges. It is likely that in the absence of the identified dealbreaker, another actor- or friend- factor may have triggered this dissolution. Thus, the factors identified in the models discussed should be considered as warning signs that a friendship may be at risk of dissolution in the near future, especially if there is an accumulation of predictive factors, and could be addressed in intervention sessions to increase the chance of preserving the individual's current close friendships in their support network.

Chapter 5: Distress following the dissolution of close friendships in adulthood

5.1 Playlist: Distress

Playlist link

<https://open.spotify.com/playlist/0AIGjHstisqH47kOTJF5h3?si=cd08076819de40>

[27](#)

Songs

“I lost a friend” (Finneas, 2019, track 1)

“Fine on the outside” (Ahn, 2014, track 1)

“Secret for the mad” (Dodie, 2017, track 5)

5.2 Chapter rationale

The introductory chapter to this thesis identified the question of which factors best predict distress following a close friend dissolution in adulthood. As noted in that chapter, distress appears to act as a neural alarm alerting individuals to the possibility that their fundamental needs are not being met or may not be met in the future (Eisenberger & Liebermann, 2004; Hwang et al., 2020; Williams, 2007; 2009). Distress can signal that an individual is underbenefited in a relationship, and that the other person is overbenefited (i.e., that they receive fewer rewards and/or produce fewer costs in the relationship than the other person; McNulty & Dugas, 2019).

The literature has identified a range of triggers for distress following dissolution including relationship length, commitment, satisfaction, attachment style, and level of investment into the relationship (Davis et al., 2003; Locker et al., 2010; Kansky & Allen, 2018; Sprecher et al., 1998; Sweeney, 2002), being ostracised (Williams, 2007; 2009), higher destiny beliefs (Chen et al., 2012) or decay beliefs (Bradbury & Fincham, 1990; Lemay, 2016), and daily rumination (Bourassa et al., 2019). Distress is also higher if ostracism events or dissolution are sudden (Tan et al., 2015; Wesselmann et al., 2010), initiated by the partner (Tan et al., 2015), or there is a lack of mutuality about the dissolution (Hill et al., 1976). Studies typically examine distress in romantic relationship populations (Field et al., 2009).

Little is known about which factors best predict distress following close adult friendship dissolution. Understanding this better may assist in identifying

individuals who are at higher risk of current or prolonged distress and identify why some individuals may experience higher distress following the dissolution of some close friendships.

This study aims to quantitatively analyse the frequency and the best predictors of current and future distress following the dissolution of close adult friendships based on the wide variety of factors that significantly impact outcomes in both child/adolescent friendships and adult interpersonal relationships.

Based on the literature, it is hypothesised that best predictors of current distress will include higher verbal victimisation, ostracism, antagonism, hurt, sexual interest, and fewer alternative friends. In addition, it is hypothesised that current distress and commitment level will be the best predictors of future distress.

5.3 Study 1. Current distress

5.3.1 Aim

The aim of the study was to understand a wide range of possible factors underlying dissolution distress in previous close friends (PCFs) based on the thirteen groups of variables identified in previous chapters (actor-distal factors, actor-intrapersonal factors, actor-demonstrated positive behaviours, actor-demonstrated oppositional behaviours, actor-other demonstrated negative behaviours, actor-contextual factors, PCF-distal factors, PCF-demonstrated positive behaviours, PCF-demonstrated oppositional behaviours, PCF-other demonstrated negative behaviours, PCF-contextual factors, and friendship dynamic factors; McNulty, 2016).

5.3.2 Participants

Participants included 610 participants who started the PCF section of the wave 1 survey. Given the extensive survey length, incomplete survey results were also considered, and numbers included in models differ based on the number of participants who had completed the survey questions relevant to that model. The sample contained 442 females, 160 males, 6 non-binary, 1 “other”, and 1 person “decline to state” their gender. Participants reported on an unresolved (dissolved) close same-gender friendship 86% of the time, and an other-gender friendship the 13.8% of the time. Dissolved “best” friendships accounted for 50.7% of friendships discussed, and dissolved “close” friendships accounted for 49.3%. Current status of friendships was 41.3 % “casual friends”, 22.3% “acquaintances”, and 36.4% “no friendship at all”. The age of participants was skewed toward

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younger adults, with 71.3% of participants aged 18-24 years, and the remaining participants aged between 25 and 85 years of age. The sample consisted of participants who resided across 20 countries, with the majority residing in Australia (79.8%) or the United States (10.2%). A full set of sociodemographic and dyad information is contained in Appendix I. The overall dissolution distress level of the sample was low ($M = 23.29$; range = 16 to 64).

5.3.3 Data analysis

In the current study, descriptive analyses, frequency analyses, and a series of univariate and multivariate linear regression analyses were conducted using IBM SPSS Statistics (Version 27). Thirteen groups of variables were explored in the analysis (see Appendix E for items) and the final model factors for each group were included in a final analysis. For each group, univariate linear regressions were undertaken for each predictor and a cut-off point of $p < .20$ was used for inclusion in each multivariate regression analysis (Hosmer et al., 2013). Linear regressions were run for each of the 12 models. Linear regression assumptions included independence of errors, linearity in the logit for continuous variables, absence of multicollinearity, and lack of strongly influential outliers were assessed. Data were assessed for multivariate outliers using a Mahalanobis distance test and Cook's distance test (Tabachnick, & Fidell, 2013), and multivariate outliers removed. Multicollinearity was assessed using both a Spearman correlation matrix between continuous non-normally distributed predictors and assessment of VIF and tolerance values.

5.3.4 Results

5.3.4.1 Distal factors

5.3.4.1.1 *Model of actor-distal factors predicting current dissolution distress*

Actor-distal variables that met the univariate selection criteria for inclusion in the multivariate model variable selection process using the cut-off point of $p < .20$ are presented in Appendix M (Table 1). At the univariate level, positive predictors of current dissolution distress were decay belief, locus of control (external), antagonism, trait anxious attachment (items 1 and 2), and neuroticism positively predicted current dissolution distress. Negative predictors of current dissolution distress were avoidant attachment to PCF (pre-dissolution), locus of control (internal), conscientiousness, and self-esteem (pre-dissolution).

Data were assessed for multivariate outliers, outliers were identified and removed. Trait anxious attachment (item 2) was removed to eliminate

multicollinearity. All other variables were considered as potential multivariate predictors of current dissolution distress. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A linear regression was calculated to predict current dissolution distress. Decay belief, internal LOC, and external LOC predicted current dissolution distress, $F(3, 554) = 22.89, p < .000$, with an R^2 of .11 (see table 5.1). Decay belief and external LOC positively predicted dissolution distress to previous close friend, and internal LOC negatively predicted dissolution distress. The amount of variance each factor uniquely explained in the model was: 4.8% decay belief, 2.9% external LOC, and 1% internal LOC.

Table 5.1

Actor-distal factor model – multivariate linear regression predicting current dissolution distress

Actor-distal factor model	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
								.11
Decay belief	1.39	.26	.22	.22	<.001	.88	1.89	
Locus of control (external)	1.14	.27	.18	.17	<.001	.61	1.67	
Locus of control (internal)	-.66	.25	-.11	-.10	.010	-1.15	-.16	

5.3.4.1.2 Model of previous close friend distal factors predicting current dissolution distress

Previous close friend distal variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix M (table 2). At the univariate level, there were no significant predictors of actor-current dissolution distress.

Data were assessed for multivariate outliers and multicollinearity but neither were present, so all variables were considered as potential multivariate predictors of dissolution distress. Items that contributed the least to the model were removed one at a time and the model re-run after each item deletion. A final linear regression was calculated to predict dissolution distress with previous close friends based on PCF- neuroticism, and PCF-anxious attachment to actor (pre-

dissolution) but the model was not significant, $F(2, 560) = 3.00$, $p = .050$, with an R^2 of .01, and neither factor uniquely contributed to the model.

5.3.4.2 Intrapersonal process models

5.3.4.2.1 *Model of actor-intrapersonal processes predicting current dissolution distress*

Actor-intrapersonal process variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix M (table 3). At the univariate level, significant positive predictors of current dissolution distress were expected future satisfaction, emotional closeness, restoration likelihood, commitment, readiness to change, plans to improve, expected future motivation (desire), hurt (pre-dissolution), negative emotions, motivation (desire), and liked PCF (pre-dissolution).

Data were assessed for multivariate outliers and outliers removed. Commitment, restoration likelihood, plans to improve, expected future motivation (desire), expected future satisfaction, positive emotions, likes actor (current), and readiness to change were removed to reduce multicollinearity. All other variables were considered as potential multivariate predictors of dissolution distress. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A linear regression was calculated to predict current distress. Actor-factors motivation (desire), negative emotions, and hurt (pre-dissolution) positively predicted current dissolution distress. A significant regression was found, $F(3, 534) = 66.89$, $p < .001$, with an R^2 of .27 (see table 5.2). All three variables were positive predictors of current dissolution distress. The amount of variance each factor uniquely explained in the model was: 21.2% motivation (desire), 5.8% negative emotions, and 3.6% hurt (pre-dissolution).

Table 5.2

Actor-intrapersonal processes - multivariate model predicting current dissolution distress

Actor-intrapersonal process	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.27
Motivation (desire)	1.86	.15	.49	.47	<.001	1.56	2.16	
Negative emotions	1.03	.16	.28	.24	<.001	.72	1.33	
Hurt (pre-dissolution)	1.65	.32	.23	.19	<.001	1.03	2.27	

5.3.4.2.2 Model of previous close friend intrapersonal processes predicting current dissolution distress

Previous close friend intrapersonal process factors that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix M (table 4). At the univariate level, PCF-hurt pre-dissolution positively predicted actor-current dissolution distress.

Data were assessed for multivariate outliers and outliers were identified and removed. No multicollinearity was evident so both factors were considered as potential multivariate predictors of dissolution distress. Items that contributed least to the model were removed one at a time and the model re-run after each item deletion. A final linear regression was calculated to predict current dissolution distress. PCF hurt (pre-dissolution) positively predicted current dissolution distress, $F(1, 561) = 18.02, p < .001$, with an R^2 of .03 (see table 5.3).

Table 5.3

Previous close friend-intrapersonal processes - multivariate linear regressions predicting current dissolution distress

Previous close friend intrapersonal process (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		R^2
						Lower	Upper	
Hurt	1.50	.35	.18	.18	<.001	.81	2.20	.03

5.3.4.3 Interpersonal behaviour models: demonstrated positive behaviours

5.3.4.3.1 Model of actor-positive interpersonal behaviours predicting current dissolution distress

Actor-positive behaviour (pre-dissolution) variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix M (table 5). At the univariate level, positive predictors of current dissolution distress were relied on PCF for emotional needs, relied on PCF for practical needs, maintenance behaviours, and reciprocation. Negative predictors of current dissolution distress were optimistic, confident, and took responsibility for actions.

Data were assessed for multivariate outliers and outliers were identified and removed. The variable relied on actor for emotional needs was removed to

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reduce multicollinearity. All other variables were considered as potential multivariate predictors of dissolution distress to previous close friend. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict dissolution distress. Actor-factors maintenance behaviours, optimistic, relied on PCF for practical needs, and having good hygiene predicted current dissolution distress, $F(4, 551) = 14.07, p < .001$, with an R^2 of .09 (see table 5.4). Pre-dissolution actor behaviours maintenance and relied on PCF for practical needs positively predicted dissolution distress to previous close friend, whereas having good hygiene and optimistic negatively predicted dissolution distress. The amount of variance each factor uniquely explained in the model was: 3.2% maintenance, 2.6% optimistic, 1% relied on PCF for practical needs, and 0.8% hygienic.

Table 5.4

Actor-positive behaviours (pre-dissolution) – multivariate linear regression predicting current dissolution distress

Actor-positive behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		R^2
						Lower	Upper	
								.09
Maintenance behaviours	1.72	.39	.20	.18	<.001	.97	2.48	
Optimistic	-1.48	.37	-.16	.16	<.001	-2.21	-.74	
Relied on friend (practical needs)	.82	.34	.11	.10	.016	.16	1.49	
Hygienic	-.96	.44	-.09	-.09	.030	-1.82	-.09	

5.3.4.3.2 Model of previous close friend positive interpersonal behaviours predicting current dissolution distress

Previous close friend positive pre-dissolution behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix M (table 6). At the univariate level, positive predictors of actor-current dissolution distress were considerate and compromised.

Data were assessed for multivariate outliers and multicollinearity, but none was identified. Thus, all variables were considered as potential multivariate predictors of dissolution distress. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict dissolution distress. Pre-dissolution

PCF behaviours considerate positively predicted current dissolution distress, and having good hygiene (as perceived by the actor) negatively predicted current dissolution distress. A significant regression was found, $F(2, 560) = 4.01, p = .019$, with an R^2 of .01 (see table 5.5). Only PCF-considerate contributed significantly to the model, explaining 0.8% of the variance in the model. PCF-considerate positively predicted current dissolution distress.

Table 5.5

Previous close friend positive behaviours (pre-dissolution) - multivariate model predicting current dissolution distress

Previous close friend positive behaviours (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		R^2
						Lower	Upper	
								.01
Considerate	.79	.35	.10	.09	.025	.10	1.49	
Hygienic	-.74	.38	-.08	-.08	.051	-1.48	.00	

5.3.4.4 Interpersonal behaviour models: demonstrated oppositional behaviours

5.3.4.4.1 Model of actor-oppositional interpersonal behaviours predicting current dissolution distress

Actor-oppositional behaviour (pre-dissolution) variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix M (table 7). At the univariate level, positive predictors of current dissolution distress were verbally victimised PCF, controlling, selfish, passive aggressive, defensive, stonewalled, verbally victimised PCF, perfectionistic (other-oriented), ostracised PCF, entitled, judgemental, persistent, and arrogant.

Data were assessed for multivariate outliers and multivariate outliers were identified and removed. Pre-dissolution arrogant was removed to eliminate multicollinearity. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict current dissolution distress. Pre-dissolution actor-behaviours verbal victimisation of PCF and controlling positively predicted current dissolution distress. A significant regression was found, $F(2, 552) =$

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31.58, $p < .001$, with an R^2 of .10 (see table 5.6). Higher actor- verbal victimisation of PCF and controlling behaviours pre-dissolution predicted higher dissolution distress. The amount of variance each factor explained in the model was: 5.3% verbal victimisation of PCF and 2.6% controlling.

Table 5.6

Actor-oppositional behaviours (pre-dissolution) - multivariate model predicting current dissolution distress

Actor-oppositional behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		R^2
						Lower	Upper	
								.10
Verbally victimised friend	2.49	.44	.24	.23	<.001	1.64	3.35	
Controlling	1.34	.35	.16	.16	<.001	.66	2.02	

5.3.4.4.2 Model of previous close friend oppositional interpersonal behaviours predicting current dissolution distress

Previous close friend pre-dissolution oppositional behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix M (table 8). At the univariate level, only PCF-verbally victimised actor positively predicted current dissolution distress (see table 5.7).

Table 5.7

Previous close friend oppositional behaviours (pre-dissolution) - multivariate linear regression predicting current dissolution distress

Previous close friend positive behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		R^2
						Lower	Upper	
Verbally victimised actor	1.51	.32	.20	.20	<.001	.89	2.13	.04

5.3.4.5 Interpersonal behaviour models: demonstrated negative behaviours

5.3.4.5.1 Model of actor-negative interpersonal behaviours predicting current dissolution distress

Actor-negative behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix M (table 9). At the univariate level, positive predictors of current dissolution distress were ingratiation, boring, jealous of PCF interactions, jealous of PCF characteristics, hypocritical, reassurance seeking, sexual interest in PCF, sexual interest in PCF's partner, unavailable, shows off, low conformity goals, and high conformity goals. Ambitious negatively predicted current dissolution distress.

Data were assessed for multivariate outliers and outliers were identified and removed. Jealous of PCF's characteristics was removed to eliminate multicollinearity. All other variables were considered as potential multivariate predictors of dissolution distress. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict current dissolution distress. Pre-dissolution actor-factors sexual interest in PCF, sexual interest in PCF's partner, reassurance seeking, and jealous of PCF's interactions positively predicted current dissolution distress, $F(4, 545) = 41.78, p < .001$, with an R^2 of .24 (see table 5.8). All four factors were positive predictors of dissolution distress to previous close friend. The amount of variance each pre-dissolution factor uniquely explained in the model was: 4.8% actor- sexual interest in PCF, 1.7% reassurance seeking, 1% sexual interest in PCF's partner, and .8% jealous of PCF's interactions.

Table 5.8

Actor-negative behaviours (pre-dissolution) - multivariate model predicting current dissolution distress

Actor-negative behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		<i>R</i> ²
						Lower	Upper	
								.24
Sexual interest in friend	3.00	.50	.30	.22	<.001	.44	.25	
Sexual interest in friend's partner	1.53	.58	.13	.10	.009	.38	2.67	
Seeks reassurance	.71	.30	.10	.09	.018	.12	1.30	
Jealous of actor's interactions	.71	.30	.10	.09	.018	.12	1.30	

5.3.4.5.2 Model of previous close friend negative interpersonal behaviours predicting current dissolution distress

Previous close friend negative behaviour (pre-dissolution) factors that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix M (table 10). Positive predictors of actor-current dissolution distress were unavailable, sexual interest in actor, eccentric, and low peer conformity goals.

Data were assessed for multivariate outliers and outliers were identified and removed. No multicollinearity was evident, so all variables were considered as potential multivariate predictors of dissolution distress. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict dissolution distress. Pre-dissolution PCF-factors sexual interest in actor, sexual interest in actor's partner, and unavailable positively predicted current dissolution distress, $F(3, 549) = 44.50, p < .001$, with an R^2 of .20 (see table 5.9). The amount of variance each pre-dissolution PCF-factor explained in the model was: 10.2% sexual interest in actor, 1.2% unavailable, and 0.6% sexual interest in actor's partner.

Table 5.9

Previous close friend negative behaviours (pre-dissolution)- multivariate model predicting current dissolution distress

Previous close friend negative behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		<i>R</i> ²
						Lower	Upper	
								.20
Sexual interest in actor	4.31	.55	.37	.32	<.001	3.23	5.39	
Unavailable	.83	.30	.11	.11	.005	.26	1.41	
Sexual interest in actor's partner	1.09	.50	.10	.08	.030	.11	2.07	

5.3.4.6 Contextual factor models

5.3.4.6.1 Model of actor-contextual factors predicting current dissolution distress

Actor-contextual factors that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix M (table 11). Significant positive predictors of current dissolution distress were actor's partner sexually interested in PCF pre-dissolution, peers verbally victimised actor (pre-dissolution), peers ostracised actor (pre-dissolution), depressed mood (pre-dissolution and current), stress (pre-dissolution), anxious (pre-dissolution and current). Significant negative predictors of current dissolution distress were likeability (current), alternative friends (pre-dissolution), popularity (pre-dissolution), and keeps friends easily (current).

Data were assessed for multivariate outliers and multivariate outliers were identified and removed. Pre-dissolution anxiety and depressed mood were removed to eliminate multicollinearity. The factors that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict dissolution distress with previous close friend. Actor-partner sexually interested in PCF (pre-dissolution), peers verbally victimised actor (pre-dissolution), actor-stress (pre-dissolution), actor-alternative friends (pre-dissolution), actor-likeability (current), and actor-depressed mood (current) predicted current dissolution distress, $F(6, 549) = 30.96, p < .001$, with an R^2 of .25 (see table 5.10). Actor's partner sexually interested in PCF, peers verbally victimised actor, stress (pre-dissolution), and depressed mood (current) positively predicted current dissolution distress.

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Alternative friends (pre-dissolution) and likeability (current) negatively predicted current dissolution distress. The amount of variance each factor uniquely explained in the model was: 5.8% Actor's partner sexually interested in PCF (pre-dissolution), 4% peers verbally victimised actor (pre-dissolution), 1% actor-stress (pre-dissolution), 0.6% actor-alternative friends (pre-dissolution), 1.4% actor-likeability (current), and 2% actor-depressed mood (current).

Table 5.10

Actor-contextual factors - multivariate model predicting current dissolution distress

Actor-contextual factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		<i>R</i> ²
						Lower	Upper	
								.25
Actor's partner sexually interested in friend (pre-dissolution)	3.05	.47	.26	.24	<.001	2.13	3.97	
Peers verbally victimised actor (pre-dissolution)	1.80	.34	.21	.20	<.001	1.14	2.64	
Depressed mood (current)	2.68	.72	.14	.14	<.001	1.27	4.09	
Likeability (current)	-1.61	.48	-.13	-.12	.001	-2.55	-.67	
Stress (pre-dissolution)	.79	.30	.10	.10	.008	.20	1.38	
Alternative friends (pre-dissolution)	-.65	.29	-.09	-.08	.026	-1.23	-.08	

5.3.4.6.2 Model of previous close friend contextual factors predicting current dissolution distress

Previous close friend intrapersonal process factors that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix M (table 12). At the univariate level, significant positive predictors of PCF's partner sexually interested in actor, peers ostracised PCF, and peers verbally victimised PCF.

Data were assessed for multivariate outliers and outliers were identified and removed. Pre-dissolution PCF-anxiety, likeability, and peers verbally victimised PCF were removed to eliminate multicollinearity. All other variables were considered as potential multivariate predictors of current dissolution distress. Items that contributed the least to the model were removed one at a time and the

model rerun after each item deletion. A final linear regression was calculated to predict current dissolution distress. Pre-dissolution factors: PCF-partner sexually interested in actor, peers ostracised PCF, and PCF popularity positively predicted current dissolution distress, $F(3, 559) = 21.25, p < .001$, with an R^2 of .10 (see table 5.11). The amount of unique variance each PCF-factor explained in the model was: 6.8% PCF-partner sexually interested in actor, 0.8% PCF popularity, and 0.8% peers ostracised PCF.

Table 5.11

Previous close friend contextual factors - multivariate model predicting current dissolution distress

Previous close friend contextual factors	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		R^2
						Lower	Upper	
								.10
Friend's partner sexually interested in actor (pre-dissolution)	2.78	.44	.27	.26	<.001	1.93	3.64	
Popularity (pre- dissolution)	.79	.34	.10	.09	.020	.12	1.45	
Peers ostracised friend (pre-dissolution)	.73	.34	.09	.09	.029	.08	1.39	

5.3.4.6.3 Model of friendship dynamic contextual factors predicting current dissolution distress

Friendship dynamic variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix M (table 13). At the univariate level, positive predictors of current dissolution distress were current activities, and pre-dissolution altercations, common interests, actor-religious/spiritual beliefs bothered PCF, actor-morals bothered PCF, actor-values bothered PCF, actor-political beliefs bothered PCF (pre-dissolution), and PCF-religious/spiritual beliefs bothered actor.

Data were assessed for multivariate outliers and outliers were identified and removed. Actor-religious/spiritual beliefs bothered PCF, actor-political beliefs bothered PCF, actor-morals bothered PCF, and PCF-political beliefs bothered actor. All other variables were considered as potential multivariate predictors of dissolution distress. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict current dissolution distress. Pre-

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dissolution altercations, common interests, PCF-religious/spiritual beliefs bothered actor, and current activities positively predicted current dissolution distress, $F(4, 533) = 16.95, p < .001$, with an R^2 of .11 (see table 5.12). The amount of unique variance each factor explained in the model was: 4.4% current activities, 4% PCF-religious/spiritual beliefs bothered actor (pre-dissolution), 2% altercations (pre-dissolution), and 0.8% common interests (pre-dissolution).

Table 5.12

Friendship dynamic factors - multivariate model predicting current dissolution distress

Friendship dynamics factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
								.11
Activities (current)	1.32	.26	.22	.21	<.001	.82	1.82	
Friend's religious/spiritual beliefs bothered actor (pre-dissolution)	1.81	.39	.19	.19	<.001	1.04	2.58	
Altercations (pre-dissolution)	1.43	.43	.14	.14	.001	.59	2.28	
Common interests (pre-dissolution)	.89	.40	.10	.09	.025	.11	1.66	

5.3.4.7 Model summaries

A summary of the univariate models predicting current dissolution distress that have small (0.1 to < 0.2), moderate (0.2 to < 0.3) or large (> 0.3) effect sizes (Gignac & Szodorai, 2016) is provided in Appendix M (table 14). Multivariate models predicting current dissolution distress is provided in table 5.13.

Table 5.13

Summary of multivariate linear regression models predicting current dissolution distress

Model	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Distal factors: actor								.11
Decay belief	1.39	.26	.22	.22	<.001	.88	1.89	
Locus of control (external)	1.14	.27	.18	.17	<.001	.61	1.67	
Locus of control (internal)	-.66	.25	-.11	-.10	.010	-1.15	-.16	
Distal factors: friend								NA
NA								
Intrapersonal processes: actor								.27
Motivation (desire)	1.86	.15	.49	.47	<.001	1.56	2.16	
Negative emotions	1.03	.16	.28	.24	<.001	.72	1.33	
Hurt (pre-dissolution)	1.65	.32	.23	.19	<.001	1.03	2.27	
Intrapersonal processes: Friend								.03
Hurt (pre-dissolution)	1.50	.35	.18	.18	<.001	.81	2.20	
Positive behaviours (pre-dissolution): actor								.09
Maintenance behaviours	1.72	.39	.20	.18	<.001	.97	2.48	
Optimistic	-1.48	.37	-.16	.16	<.001	-2.21	-.74	
Relied on friend (practical needs)	.82	.34	.11	.10	.016	.16	1.49	
Hygienic	-.96	.44	-.09	-.09	.030	-1.82	-.09	
Positive behaviours (pre-dissolution): friend								.01
Considerate	.79	.35	.10	.09	.025	.10	1.49	
Hygienic	-.74	.38	-.08	-.08	.051	-1.48	.00	
Oppositional behaviours (pre-dissolution): actor								.10
Verbally victimised friend	2.49	.44	.24	.23	<.001	1.64	3.35	
Controlling	1.34	.35	.16	.16	<.001	.66	2.02	
Oppositional behaviours (pre-dissolution): friend								.04
Verbally victimised actor	1.51	.32	.20	.20	<.001	.89	2.13	
Negative behaviours (pre-dissolution): actor								.24
Sexual interest in friend	3.00	.50	.30	.22	<.001	.44	.25	
Sexual interest in friend's partner	1.53	.58	.13	.10	.009	.38	2.67	
Seeks reassurance	.71	.30	.10	.09	.018	.12	1.30	
Jealous of friend's interactions	.71	.30	.10	.09	.018	.12	1.30	

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Negative behaviours (pre-dissolution): friend							.20
Sexual interest in actor	4.31	.55	.37	.32	<.001	3.23	5.39
Unavailable	.83	.30	.11	.11	.005	.26	1.41
Sexual interest in actor's partner	1.09	.50	.10	.08	.030	.11	2.07
Contextual factors: actor							.25
Actor's partner sexually interested in friend (pre- dissolution)	3.05	.47	.26	.24	<.001	2.13	3.97
Peers verbally victimized actor (pre- dissolution)	1.80	.34	.21	.20	<.001	1.14	2.64
Depressed mood (current)	2.68	.72	.14	.14	<.001	1.27	4.09
Likeability (current)	-1.61	.48	-.13	-.12	.001	-2.55	-.67
Stress (pre- dissolution)	.79	.30	.10	.10	.008	.20	1.38
Alternative friends (pre-dissolution)	-.65	.29	-.09	-.08	.026	-1.23	-.08
Contextual factors: friend							.10
Friend's partner sexually interested in actor (pre- dissolution)	2.78	.44	.27	.26	<.001	1.93	3.64
Popularity (pre- dissolution)	.79	.34	.10	.09	.020	.12	1.45
Peers ostracised friend (pre- dissolution)	.73	.34	.09	.09	.029	.08	1.39
Contextual factors: Friendship dynamics							.11
Activities (current)	1.32	.26	.22	.21	<.001	.82	1.82
Friend's religious/spiritual beliefs bothered actor (pre-dissolution)	1.81	.39	.19	.19	<.001	1.04	2.58
Altercations (pre- dissolution)	1.43	.43	.14	.14	.001	.59	2.28
Common interests (pre-dissolution)	.89	.40	.10	.09	.025	.11	1.66

5.4 Study 2. Future distress: prospective analysis

5.4.1 Aim

The aim of this section of the study was to establish the ability of five outcome measures of interpersonal relationship quality (now referred to as “quality measures”) to predict future dissolution distress in six months’ time. Five independent variables were explored: emotional closeness, expected future satisfaction, commitment, dissolution distress, and readiness to change.

5.4.2 Participants

Participants were 207 (85.5%) survey responders who answered “no” to the question “Do you currently class this person as a close or best friend?” at wave 2 regarding the person they reported on as their previous close friend at wave 1 (i.e., the friendship was still not restored at wave 2). The overall dissolution distress level of the sample at wave 2 was low ($M = 20.18$, $SD = 6.53$; range = 16 to 49).

5.4.3 Data analyses

Descriptive analyses, frequency analyses, and a series of univariate and multivariate linear regression analyses were conducted using IBM SPSS Statistics (Version 27). Univariate linear regressions were undertaken for each predictor and a cut-off point of $p < .20$ was used for inclusion in each multivariate regression analysis. Linear regression assumptions including independence of errors, linearity in the logit for continuous variables, absence of multicollinearity, and lack of strongly influential outliers were assessed. Data were assessed for multivariate outliers using a Mahalanobis distance test and Cook’s distance test (Tabachnick & Fidell, 2013), and multivariate outliers removed. Multicollinearity was assessed using both a Spearman correlation matrix between continuous non-normally distributed predictors and assessment of VIF and tolerance values.

5.4.4 Results

All predictors except expected future satisfaction were associated with friendship distress in the univariate analysis using the cut-off point of $p < .20$ outlined above (see Appendix M, table 15). At the univariate level, dissolution distress at wave 1 was the best predictor of dissolution distress 6-months later, $F(1, 199) = 70.61$, $p < .001$, with an $R^2 = .26$.

Data were assessed for multivariate outliers and outliers were identified and removed. Expected future satisfaction failed to meet the selection criteria for inclusion in the multivariate model variable selection process, while readiness to change was omitted to eliminate multicollinearity. All other variables were considered as potential multivariate predictors of dissolution distress. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict future dissolution distress. Current distress and commitment positively predicted future dissolution distress, $F(2, 191) = 35.70$, $p < .001$, with an R^2 of .27 (see table 5.14). Higher scores on each variable predicted higher dissolution distress 6

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months later. The amount of unique variance each factor explained in the model was: 22.1% dissolution distress and 2.3% commitment.

Table 5.14

Multivariate linear regression predicting future dissolution distress

Quality measure	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.27
Dissolution distress	.42	.06	.48	.47	<.001	.31	.52	
Commitment	.40	.17	.15	.15	.018	.07	.73	

5.5 Discussion

5.5.1 Overview

Distress, such as social pain, is a common response to interpersonal challenges that alerts people to potential threats to social safety, allowing people to evaluate the level of threat and reduce or eliminate negative outcomes (Bagwell, 2015; Eisenberger & Lieberman, 2004; Ferris et al., 2019; Hwang et al., 2020). Distress has been found to have profound implications for mental health, physical health, and overall wellbeing (e.g., Bourassa et al., 2019; McLachlan & Gale, 2018). This study aimed to extend the field by quantitatively analysing the frequency and the best predictors of current and future distress following the dissolution of close adult friendships based on the wide variety of factors that significantly impact outcomes in both child/adolescent friendships and adult interpersonal relationships. The findings of this study are discussed in relation to the literature review in the introduction chapter.

5.5.2 Study 1: current distress

The general distress level people felt about the dissolution of their previous close friendship in this study indicated a low level of distress overall ($M = 20.18$, $SD = 6.53$, as assessed by the Breakup Distress Scale (scale range = 16 to 49); Field et al., 2009). The time since dissolution was not directly assessed in the current survey so it is possible that this level differs based on time since dissolution. However, research on social pain has found that people experience similar levels of pain when reflecting on painful social events as when they first experienced them (Meyer et al., 2015). This suggests that time since dissolution may not have significantly impacted levels of distress reported. However, future

research should include a measure of time since dissolution to control for any effects of this on results.

Although the general distress level of the current sample was low, discrepancies in the level of distress experienced by participants were identified, ranging from low to high levels of distress. To determine whether it is possible to explain these differences, many factors that are known in the literature to impact outcomes in interpersonal relationships were explored by grouping factors into themes that reflect the contextual model of relationship outcomes and comparing the relative strength of each model. This approach was chosen to identify the relative strength of groups of factors, as well as factors within their group, and better understand which factors are pertinent to distress so that future research can focus more on these factors. Thirteen groups were compared: distal factors (actor; friend), interpersonal processes (actor; friend), positive factors (actor; friend), negative factors (actor; friend), oppositional factors (actor; friend), contextual factors (actor; friend), and friendship dynamic factors.

5.5.2.1 Intrapersonal processes model – actor-factors

The strongest multivariate model at explaining current dissolution distress was the intrapersonal processes model consisting of factors about the actor's cognitive processes and emotions (e.g., current hurt, liking, motivation). The model explained 27% of variance in current dissolution distress. Unique contributors to the multivariate model were stronger current desire to restore and more negative emotions about the friend, and a higher level of hurt in the months prior to dissolution.

The strongest contributor to the model was current desire to restore. Literature has found that lack of reciprocation in friendship status is common, with 36% of “best” friendship status not being reciprocated in adolescents (Vaquera & Kao, 2008), and “friend” status not being reciprocated in 47% to 66% of young adults (Aharony et al., 2011; Almaatouq et al., 2016; de Montjoye, 2014; Eagle & Pentland, 2006; Madan et al., 2012). People who desire a higher level of quality in their relationships and make attempts to increase this quality but find these attempts are not reciprocated have been found to experience increased depressive symptoms (Baker et al., 2013). Increased desire and attempts to restore interpersonal relationships have been found to be higher with people who have ostracised them in order to cope with rejection and to fulfil the basic fundamental needs that were damaged by the ostracism (e.g., Jaubert et

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al., 2022; Lutz, 2022). Desire to change behaviours in general has also been found to “predict future behaviour directly and indirectly through commitment” (Micic et al., 2019, p. 52).

People tend to project their current emotional closeness onto others, believing that other people experience a similar level of emotional closeness to them. However, only 50% of friends were found to reciprocate the same level of emotional closeness and friendship classification level (Almaatouq et al., 2016; Murphy, 2016). As people become aware of discrepancies over time, it is possible that higher desire to restore close or perceived close friendships may lead to higher distress when desire for close friendship is not reciprocated by the friend. The literature has found that classification uncertainty and discrepancies can result in increased distress, reassurance seeking behaviours, and poor mental and physical health outcomes in interpersonal relationships (Akbulut & Weger, 2016; Baker et al., 2013; Baxter & Wilmot, 1984; Bell & Buerkel-Rothfuss, 1990; Eyal et al., 2018; Guerrero & Chavez, 2005; Knobloch & Solomon, 2002; Rose et al., 2016; Weger & Emmett, 2009).

It is unsurprising that having more negative emotions about the friend contributed to the model, given that distress is likely considered to be a negative rather than positive emotional experience. Impressions of people tend to be relatively stable across time but positive impressions can become negative if new counter-information presents that is believed to be highly informative about the character of the individual, which can then lead to a rapid reversal of the first impression from a positive impression to a negative impression or vice versa (Cone & Ferguson, 2015; Mann & Ferguson, 2015, 2017). There are a range of situations that may result in increases in negative emotions about friends, such as becoming aware of discrepancies in morals, values, beliefs, ways of managing conflict, moral hypocrisy or feelings of superiority, ability and willingness to apologise for unwanted behaviours, capacity and efforts to change problem behaviours, capacity to forgive transgressions, self-oriented motivations (i.e., self-serving motivations rather than friendship oriented motivations), and levels of within-dyad bullying (e.g., verbal victimisation and ostracism) and support of bullying (e.g., demonstrating support for peer-aggressors or acting neutrally when witnessing their friend being socially targeted). Distress may reflect both an instant and ongoing response to emotional damage, threat, and/or lack of having

one's fundamental needs met that occurs as a result of new information about the friend being revealed and impacting one's own life (e.g., being rejected).

It is interesting that higher levels of hurt pre-dissolution uniquely explained current distress. As discussed earlier, Hwang et al. (2020) described social pain as the acute physical reactivity to social rejection, activated by an arousal response that is "quick and crude", and acts as a highly sensitive detector of ostracism that may be triggered by minor events and even produce false alarms because of the high mental and physical health risks associated with not being alerted to actual instances of rejection (p. 1225).

Given that hurt, or social pain, is a form of distress (Ferris et al., 2019), the current results indicate that previous distress likely predicts future distress, and that time alone may not be sufficient for feelings of hurt or social pain to dissipate. This supports literature that has found that time since a social pain event has little impact on recalled social pain when recalling the event five years later (Meyer et al., 2015). The researchers suggested that recalling previous social pain events may trigger thoughts about anticipated future social pain events. This differs from physical events because most of these events do not have subsequent associated painful events (i.e., the injury typically heals without continued pain). Research has also found that higher rumination was associated with higher current and future distress (i.e., 5-months later) in dissolved marriages (Bourassa et al., 2019). Thus, it is likely that distress that occurs during the dissolution of close friendships is difficult to shift without active resolution, especially if a person regularly ruminates about the distress. However, further research is needed to determine the impact of rumination on distress in close friendships. The present thesis explores the impact of current distress on future distress in more depth in study 2 of Chapter 5.

5.5.2.2 Contextual factors model – actor-factors

The next strongest model at explaining dissolution distress was the actor-contextual factors model, which was comprised of contextual factors affecting the actor that have been found in the literature to have a secondary impact on interpersonal outcomes. The model explained 25% of variance in current dissolution distress. Unique contributors to the model were the actor's romantic partner being more sexually interested in the friend prior to dissolution, peers verbally victimising the actor more prior to dissolution, higher levels of current

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depressed mood, lower likeability, higher stress prior to dissolution, and fewer alternative friends prior to dissolution.

Having fewer alternative friends, being more regularly verbally victimised by peers prior to dissolution, and considering oneself as being less likeable resulted in higher current distress. This supports literature that finds that social connections and support are necessary for human wellbeing and survival, with friendlessness and verbal victimisation increasing the likelihood of negative peer beliefs, increased loneliness (Ladd & Troop-Gordon, 2003), increased internalising, and increased externalising symptoms in children (Troop-Gordon & Ladd, 2005).

Loneliness has been found to predict increased development of chronic illness, and social isolation has been found to predict increased chances of mortality in adulthood (Steptoe et al., 2013; Sutin et al., 2020). Higher levels of social support in adulthood are associated with lower loneliness (Binder et al., 2012), better long-term therapeutic outcomes for a range of mental health conditions, and better mental health when controlling for the presence of additional stressors such as work stress (Gayer-Anderson & Morgan, 2013; Kotler et al., 2001; Norman et al., 2005). Having fewer alternative friends provides fewer opportunities for other sources of support.

Regarding individual victimisation or ostracism events, these may seem may initially seem trivial on the surface or in isolation to onlookers, but are likely to trigger a distress response in the target (Williams, 2007; 2009). Over time, chronic verbal victimisation and/or ostracism can result in lifelong difficulties with depression, the development of core beliefs such as not being worthy of inclusion, helplessness, and lack of confidence to develop new friendships, and/or suicide if intervention is not sought and fundamental needs continue to be unfulfilled (Williams, 2009). When coupled with a belief that oneself is unlikable, which may (e.g., Closson et al., 2017) or may not actually be the case (e.g., Rudert et al., 2020), this may result in the continuation of distress because of a fear that one's social isolation and loneliness is unlikely to change in the future.

Sexual interest from the actor's romantic partner toward the friend during the dissolution phase also contributed to the model. The literature has found that people are highly attuned to when their partner is sexually interested in attractive alternatives, and that their daily level of jealousy match their partner's daily level of extra-relational sexual interest (Neal & Lemay, 2014). In addition, people tend

to use mate defending strategies (such as verbally victimising and ostracising the attractive alternative) when they sense that their partner is sexually interested in other people or other people are interested in their romantic partner. The exact reason for distress following this experience is unclear. One possibility is that actor fear of losing their partner may result in a strong distress response that is re-experienced when reflecting on their friendship (especially if the sexual interest is reciprocated by the friend). It is also possible that the actor experiences cognitive dissonance if they are deliberately using mate defending tactics (e.g., verbal victimisation and ostracism) against their friend who they may like and feel emotionally close to. Alternatively, it may be that the actor may lose emotional closeness and quality with both their romantic partner and their friend, increasing the level of distress felt. Future research could explore these possibilities in more depth.

Mental health symptoms were also found to explain current distress, with higher stress at the time of dissolution and higher current depression contributing to the model. Given that the survey specifically evaluated distress in relation to the dissolution with the friend discussed, it is interesting that people with higher distress also had higher general depression levels. It is unclear whether distress about the friendship caused people to feel more depressed overall, or whether feeling depressed overall lead people to ruminate more on past social pain. Further research could explore the bidirectionality of this relationship further.

5.5.2.3 Negative behaviour models

The next strongest models at explaining variance in dissolution distress were the negative behaviour models, which consisted of items that have been found in the literature to have a negative impact on the quality of interpersonal relationships, but that are not typically considered oppositional in nature. The actor-factor model explained 24% of variance in current dissolution distress. Unique contributors to the model were higher pre-dissolution actor sexual interest in the friend, actor sexual interest in the friend's romantic partner, seeking reassurance, and jealousy of the friend's interactions with other people. Regarding the friend-factor model, the model explained 20% of variance in current dissolution distress. Unique contributors to the model were higher pre-dissolution friend sexual interest in actor or actor's partner, and unavailability.

The finding that sexual interest in one another's romantic partners prior to dissolution increased distress post-dissolution is similar to research in adolescents that has found that resentment, which combines distress and blame, is often

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caused by friends “falling in love with [the actor’s] boyfriend/girlfriend” (Öztürk & Atli, 2021, p. 667). Within-dyad sexual interest has been found in the literature to increase relationship uncertainty and distress, and termination if intentions and boundaries can’t be established (e.g., Weger & Emmett, 2009). Distress may also occur when sexual or romantic escalation is denied, regardless of if the desire is reciprocated. A sexually interested friend may also decide to terminate the friendship because of escalation denial from their friend, which may lead to either person feeling distressed by the loss of close friendship. However, research has found that most adults consider romantic intentions to be a burden in close friendships (Bleske-Recheck et al., 2012) because they value and do not wish to damage the friendship (Bisson & Levine, 2009). In addition, any levels of attraction tend to both be low (Reeder, 2000), and decrease further for both genders in their friendships across the adult lifespan (Bleske-Recheck et al., 2012). When sexual interest does occur, these behaviours are typically regulated within the dyad, with one member employing behaviours to indicate escalation disinterest (i.e., talking about other romantic partners, creating physical distance) until boundaries are understood by both members and the friendship can continue (Akbulut & Weger, 2016; Guerrero & Chavez, 2005; Weger & Emmett, 2009).

The current study also found that higher reassurance seeking prior to dissolution explained dissolution distress. Reassurance seeking has been found in the literature to be used as a method of reducing relationship uncertainty, with anxiety predicting higher reassurance seeking, and low-level depressive symptoms moderating this relationship (Lord et al., 2020). This suggests that reassurance seeking may be employed when people feel uncertain that their close friendship is reciprocated, and when it is no longer reciprocated, this may be a precursor to distress.

Friend jealousy of the actor’s interactions with other people prior to dissolution also contributed to a higher level of actor dissolution distress in the self-negative behaviours model, and friend unavailability predicted higher actor dissolution distress in the friend-model. This supports literature that found that jealousy and not feeling cared for were leading causes of conflict in romantic relationships (Agnew et al., 2019) and jealousy was a leading cause of resentment in adolescent friendships (Öztürk & Atli, 2021). Relationship uncertainty has also been found to be associated with increased jealousy and relationship termination in romantic relationships (Knobloch & Solomon, 2002).

Regarding the results of the current study, it is possible that the actor's investments in other friends or relationships reduced their ability or willingness to continue meeting the needs of their friend, eliciting a jealous response from the friend which has been found in the literature to increase the target's commitment to them (Neal & Lemay, 2014). Alternatively, the level of investment into the friendship may not have changed yet, but the actor's increased investment in other connections may have triggered a warning alert (i.e., jealousy) in the friend to indicate that their needs may not be met in the future. Similarly, friend unavailability may also have resulted in the actor's needs not being met in the friendship and increased uncertainty in the actor about the level of friendship reciprocation from their friend. It is possible that actors are not always aware when their investment in other relationships has led to a reduction in their level of investment in existing close friendships, perhaps underestimating the level of maintenance and reciprocation required to maintain close friendship status, and may feel distressed if the dissolution was initiated by the friend. Further research could further explore why close friend-jealousy increases post-dissolution distress and whether friends use unavailability as a deliberate method of signalling close friendship disinterest or if unavailability is an unintentional by-product of life circumstances and change.

5.5.2.4 Distal factors model – actor-factors

The next strongest model at explaining distress included factors about the actor that indirectly impact their behaviour and are reasonably stable across time (e.g., personality and intelligence). The model explained 11% of variance in current dissolution distress.

Unique contributors to the model were higher decay belief, higher external locus of control (LOC), and lower internal LOC. Decay beliefs are beliefs about whether decay can be reversed once it occurs in a relationship (Carswell & Finkel, 2018a). Internal LOC is the belief that oneself has high control over life outcomes, whereas external LOC is the belief that oneself has little control over life outcomes and that life outcomes are the result of chance or external influence (e.g., powerful people; Reknes et al., 2019).

The current results indicate that people who believe that decay is irreversible and those who believed they had little control over their life outcomes were more distressed about their dissolved friendships, whereas people who believe they have more control over their life outcomes were less distressed. It is

likely that people who feel like they are able restore their close friendships if they would like to in the future feel less distressed because the loss is believed to be less permanent. Literature has also found that higher external LOC, decay beliefs, and beliefs that negative aspects of relationships are unchangeable are related to poorer mental health outcomes in general whereas higher internal LOC and beliefs that negative aspects of relationships are changeable are related to better mental health outcomes (e.g., Carswell & Finkel, 2018a; Lemay, 2016; Reknes et al., 2019). However, research has also found that in cases where adults experience chronic bullying (e.g., verbal victimisation and ostracism), having a higher external LOC was protective against psychological strain because people attributed the bullying to factors about the bully or the environment rather than to factors about oneself (Reknes et al., 2019). In addition, research has found that higher victim self-blame for being victimised (i.e., internal locus of control) is related to higher levels of victimisation from peers (Wojcik et al., 2021).

Thus, it is possible that when dissolution of close friendships is accompanied by within-dyad or peer bullying behaviours, post-dissolution distress may be higher for those with a higher internal LOC than those with a higher external LOC who may take the bullying less personally and blame themselves less for the bullying. However, people with internal LOC and lower decay beliefs may make more attempts to change unwanted behaviours and believe that restoration is more achievable, which may lead to that subgroup to also be less distressed.

5.5.2.5 Friendship dynamics model

The next strongest model consisted of interactive factors that involved both dyad members, such as being bothered by the other person's morals, values, and changes in time spent together. The model explained 11% of variance in current dissolution distress.

Unique contributors to the model were more current activities, the actor feeling more bothered by the friend's religious/spiritual beliefs pre-dissolution, more altercations pre-dissolution, and more common interests pre-dissolution. The results of the current study suggest that conflict and dissolution that occur in continued shared environments are related to higher levels of distress than those that occur because of changes in life situations and reductions in shared environments. In contrast, literature has found that adolescent and young adult friendships decay rapidly when there is a reduction in contact and time spent

interacting in shared activities, such as following a life transition (i.e., transitioning out of secondary school; Roberts & Dunbar, 2011). Continued contact in social environments, such as hobby groups, may also result in more opportunities for conflicts to be resolved in a timelier manner, which increases the chances of restoration occurring (e.g., Dunbar & Machin, 2014). However, if close friendships cannot be restored effectively within shared activity environments (e.g., being accommodating; Agnew & VanderDrift, 2015) there may be continued discomfort, poorly handled altercations (e.g., stonewalling, Agnew & VanderDrift, 2015), bullying behaviours (e.g., verbal victimisation and ostracism), and distress.

Discomfort about discrepancies in religious/spiritual beliefs also contributed to the model. Literature has found that ostracism from religious groups, which likely occur for a range of reasons including discrepancies in religious beliefs, increase existential concerns and decrease feelings of belonging, meaning and self-esteem, whereas inclusion and acceptance from religious groups has been found to decrease the negative effects of ostracism (Hales et al., 2020). Together with the results above, it is possible that distress occurs when people continue to be involved in communities where they are ostracised or verbally victimised regularly for having differences in their beliefs from much of the group. Distress may also occur if differences in beliefs result in social isolation or disconnect from religious or social groups.

5.5.2.6 Contextual factors model – friend-factors

The next strongest model at predicting distress was the friend-contextual factors models, which was comprised of contextual factors affecting the friend that have been found in the literature to have a secondary impact on interpersonal outcomes. The model explained 10% of variance in current dissolution distress.

Unique contributors to the model were higher sexual interest from the friend's partner in the actor pre-dissolution, the friend being more popular pre-dissolution, and peers ostracising the friend more often pre-dissolution. Higher sexual interest from the friend's partner is a difficult issue for close friends because this interest is not directly controllable by either of the friends, with the actor becoming an attractive alternative for the friend's partner, and the consequences of managing this within-dyad may result in distress for either friend. For example, the friend may have employed mate defending behaviours, such as the friend derogating (i.e., verbally victimising) and ostracising the actor,

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during the dissolution process to make the actor appear less appealing, redirect the partner's attention back to themselves, and de-escalate their partner's sexual interest in the actor (Baker et al., 2017; Lemay, 2016; Meyer et al., 2011), creating relational uncertainty in the actor about the status of the friendship and elevating distress (e.g., Knobloch & Solomon, 2002). Alternatively, the actor may create distance between themselves and their friend to signal escalation disinterest in the friend's partner, causing the actor distress if they otherwise wanted to continue being close friends. It is possible that once boundaries are established, or romantic partnerships discontinue, close friendships may restore over time and relational uncertainty and distress may decrease for the actor.

Interestingly, both higher friend popularity and higher peer ostracism of the friend prior to dissolution contributed to higher distress for the actor in the model. These two findings appear to be contradictory at first. Closson et al. (2017) found that popularity is typically protective against ostracism, with popular individuals being more likely to be verbally victimised. However, Closson et al. also found that popular females experience higher levels of ostracism and reputational victimisation if they have either high levels of peer conformity goals (i.e., desire to conform to the peer group) or low levels of peer conformity goals (i.e., lack of desire to follow group rules), and males experiencing higher levels of ostracism if they have low conformity goals. Thus, it is possible for higher popularity friends to be ostracised under certain circumstances.

Actors who approve of the ostracism of popular close friends and engage in these behaviours themselves may feel more distressed about the dissolution process and the loss of connection overall with their former close friend. Actors are more likely to have engaged in and supported these behaviours when they believe that the behaviour is justified and are pleased by, rather than angered by, the behaviours (Jones & Rutland, 2020), are part of a competitive or time/resource-poor peer group (e.g., Robinson et al., 2013; Rudert et al., 2019; Rudert, 2020), believe that one's needs in close friendships and romantic relationships can only be met via the use of competitive behaviours (Weiss et al., 2021), have higher narcissistic traits, have lower self-esteem (e.g., Kalemi et al., 2019), are more morally hypocritical (i.e., morally judge other more harshly following transgressions, while giving themselves more leniency; Weiss et al., 2021), or believe themselves to be morally superior (Hofmann et al., 2018). Research has found that long-term costs of ostracism for ostracisers and

approving in-group members (i.e., group members who believe that ostracising the target is warranted) include decreased psychological health resulting from decreased relatedness and thwarted autonomy, even when the ostracism is believed to be justified (Legate et al., 2021).

It is possible that higher distress may signal a desire to restore closeness once boundaries and rules are re-established and agreed upon within dyads and peer groups. Reductions in conflict and betrayal (i.e., ostracism and victimisation) within best friendships have been found to subsequently restore connections within the social network and offer protection to targets (Boulton et al., 1999).

5.5.2.7 Oppositional behaviours model – actor-factors

The next strongest model at explaining dissolution distress was the oppositional behaviour model, which consisted of a variety of different oppositional behaviours engaged in by the actor. The model explained 10% of variance in current dissolution distress. Higher actor verbal victimisation of the friend and controlling behaviours pre-dissolution uniquely contributed to the model. It is interesting that verbally victimising one's close friend was predictive of distress. It is possible higher verbal victimisation is correlated between close friends, with each member taking on the role of both bully and target. It is also likely that verbal victimisation likely has a bi-directional relationship with distress, with verbal victimisation causing distress and being caused by distress. Future research could explore these possibilities further.

The actor being more controlling prior to dissolution also increased their distress post-dissolution. Controlling behaviours within interpersonal relationships have been found to involve efforts made by one dyad member to control the other member's interactions with other people, the activities they engage in, their actions, or their ability to make decisions by establishing strict rules for the dyad member to adhere to and then punishing them for transgressions of the rules (e.g., Kelly & Johnson, 2008; Krantz & Dang Vung, 2009). These behaviours may be direct or discreet, and take many forms such as bossiness, guilt-tripping, intimidation, threats, ultimatums, surveillance, or stalking, which aim to force and check adherence to the rules (e.g., Tanha, Beck, Figueredo, & Raghavan, 2010). Of importance is that the conformity is forced, rather than freely chosen by the dyad member, whether they were likely to make the same choice themselves or not. Controlling behaviours have been found to be detrimental to the mental health and wellbeing of targets (e.g., Kelly & Johnson, 2008; Ali et al., 2014). In

addition, psychological aggression within romantic dyads has been found to increase steps to leave the relationship by both members of the dyad (Curtis et al., 2016).

As discussed above, higher desire to restore closeness was predictive of higher dissolution distress. Thus, it is possible that controlling behaviours are increased when actors believe that they may be at risk of losing closeness in their friendship, thereby making it difficult for the friend to opt out of the close friendship if they want to, and higher distress when the friend opts out anyway. It is also possible that the controlling behaviours may have been present longer term and the friend may have taken steps to leave the friendship, resulting in distress. Alternatively, the actor may be distressed by the lack of conformity of the friend to the actor's rules or expectations despite the use of controlling behaviours to try to force conformity and may choose to end the close friendship. Future research could examine the relationship between actor controlling behaviours and dissolution distress in close friendships further.

5.5.2.8 Positive behaviours model – actor-factors

The next strongest model at explaining current distress consisted of positive behaviours engaged in by the actor in the lead up to dissolution. The model explained 9% of variance in current distress. Unique contributors to the model were higher pre-dissolution maintenance behaviours and reliance on the friend to meet the actor's practical needs, lower optimism pre-dissolution, and poorer hygiene pre-dissolution. Higher maintenance behaviours prior to dissolution may have indicated a higher desire to continue being close friends, and higher distress about the dissolution. The literature has found that individuals who perceive themselves as engaging in more friendship maintenance behaviours within a friendship are more committed to the friendship (Mattingly et al., 2015). Researchers have also found that people who perceive that their maintenance behaviours are not reciprocated or are unsuccessful in eliciting a desired levels of relationship quality tend to experience increased depressive symptoms (Baker et al., 2013).

Thus, the current findings are consistent with previous literature and suggest that unreciprocated maintenance behaviours have long term effects, such as increased distress, also. Being less optimistic prior to dissolution was also predictive of dissolution distress in the model. It is unclear what caused the lack of optimism, whether it be depressed mood, general negativity, feeling less

satisfied with the friendship or with other aspects of life etc. Future research could explore the relationship between lower optimism and dissolution distress in more depth.

Higher actor reliance on one's close friend to help them meet their practical needs prior to dissolution contributed to higher post dissolution distress. Reliance on close friends to meet practical needs may be exacerbated during challenging times in life, when other challenging aspects of oneself are also likely to emerge. For example, research has found that when personality traits are cognitively activated and acted upon in situations where the behaviours are considered inappropriate (e.g., excessive) by romantic partners, it has a negative impact on the partner's satisfaction (McNulty, 2016). Thus, when people are experiencing certain challenging life events they seek or accept more practical support and may also display other challenging behaviours at the same time. When close friendships dissolve during these situations, distress about the friendship loss may persist once the challenging times pass and facets of one's personality become dormant or appropriately acted upon. Distress may also reflect the actor's awareness and fear of dissonance between their typical ways of interacting and ways of interacting when under significant stress and the implications of this dissonance on their close friendships. In addition, where longer term practical support was required (e.g., assistance with child minding, taking to appointments), actors may be distressed about the lack of continued practical support from the friend.

Poorer personal hygiene (of the actor) prior to dissolution also contributed to the model, predicting higher post dissolution distress. It is possible that people use hygiene as a method to select and deselect friends, and that as in the romantic literature, an increase in dislike of another person's body odour may be related to lower commitment and higher intentions to reduce status with that person (Keaveny & Mahmut, 2021). People with poorer hygiene may experience higher distress if their friend dissolves the close friendship. Alternatively, a reduction in hygiene may signal other mental health issues such as depression, and the actor may dissolve the close friendship while depressed and then regret this later, causing them increased distress about the dissolution. Further research could examine the directionality of poor hygiene and dissolution distress in close friendships by measuring hygiene levels at the onset of close friendship development and tracking changes in this over time.

5.5.2.9 Oppositional behaviours model – friend-factors

The next best model for explaining dissolution distress consisted of a variety of different oppositional behaviours engaged in by friend in the few months prior to dissolution. The model explained 4% of variance in distress, indicating that the model explained a very small amount of dissolution distress. Higher verbal victimisation of the actor by the friend pre-dissolution uniquely contributed to the model. It is likely that the detection of verbal victimisation sends a distress signal to the brain to alert the target to potential threat of danger to social status and future inclusion, as has been found in the ostracism literature (e.g., Eisenberger & Lieberman, 2004; Ferris et al., 2019; Hwang et al, 2020; Meyer et al., 2015), allowing an individual to try to address issues such as non-conformity and conflict prior to being permanently ostracised. The result of the current study is also consistent with a review of studies by Wolke and Lereya (2015) that demonstrated that being victimised by peers can continue to have long-term negative effects on mental health and distress related symptoms (e.g., suicidality, self-harm, difficulties sleeping and nightmares, anxiety, depression, social withdrawal and isolation), even 40 years following the onset of victimisation. This effect was found to be worse when the victimisation has been chronic (i.e., occurred over a longer period of time). Thus, it is unsurprising that verbal victimisation from a person within one's inner social network predicts higher dissolution distress. As discussed above in the oppositional behaviour model consisting of actor-factors, it is likely that there is a bi-directional relationship between actor- and friend- verbal victimisation, with each member taking on the role of both bully and victim, and that distress may either mediate this relationship or may be the outcome of the behaviours for dyad members. In addition, as discussed above, verbal victimisation is likely reinforced by peers, adding to psychological impact and long-term distress of dyad members.

5.5.2.10 Intrapersonal processes model – friend-factors

The next strongest multivariate model at explaining current dissolution distress was the intrapersonal processes model consisting of factors about the friend's cognitive processes and emotions as perceived by the actor (e.g., current hurt, liking, motivation). The model explained 3% of variance in current dissolution distress, indicating that the model only explained a very small amount of variance in dissolution distress. The friend feeling more hurt pre-dissolution uniquely contributed to the model. The literature has found that people are better

at detecting and mimicking hurt and other related emotions in people they are more emotionally close to, such as when witnessing the person be socially rejected or responding to ambiguous stimuli (e.g., Beeney et al., 2011; Parmley & Zhang, 2015; Wrobel, 2018). Thus, it is possible that actors are less attuned to the hurt of their friend during the process of, or post, dissolution, or are less impacted by it than they may have been earlier in their friendship.

5.5.2.11 Positive behaviours model – friend-factors

The least strong model at explaining distress consisted of positive behaviours engaged in by the actor in the lead up to dissolution. The model explained 1% of variance in current dissolution distress. Factors that uniquely contributed to the model were the friend being more considerate pre-dissolution, and poorer friend hygiene pre-dissolution. It is unclear why friend-considerate behaviours increase actor distress. It may be that the actors are more distressed when friends who are more considerate terminate friendships because the friend may appear more satisfied and committed to the friendship than they actually are, inadvertently blindsiding the actor. Or it may be that it is more difficult to dissolve friendships with those who have been kind and considerate because the actor may feel more guilt for causing the person pain by dissolving the friendship.

5.5.3 Study 2. Predicting future distress

The next aim of the study was to establish the ability of five outcome measures of interpersonal relationship quality (now referred to as “quality measures”) and determine the best model to explain future distress of unrestored close friendships six months later. Five independent variables were explored: emotional closeness, expected future satisfaction, commitment, dissolution distress, and readiness to change. Both dissolution distress and commitment at wave 1 uniquely contributed to the model. The model explained 27% of variance in dissolution distress 6-months later. Current distress contributed more strongly to the model than commitment. These findings support research that has found that people experience similar levels of social pain when reflecting on painful social events as when they first experienced them (Meyer et al., 2015), indicating that higher distress is likely to be re-experienced when reflecting on painful dissolutions with close friends. Rumination about episodes of verbal victimisation have been found to be associated with increased symptoms of depression (Mathieson et al., 2014). Bourassa et al. (2019) also found in a longitudinal study that rumination was associated with higher current distress and daily sadness, and

negatively associated with daily happiness, in dissolved marital relationships. In addition, rumination predicted distress and daily sadness, but not happiness, five months later. Rumination was not explored in the current study so future research could examine the relationship between rumination and ongoing distress following the dissolution of close friendships.

High commitment was also found to explain higher future distress. This suggests that people who are more committed to restoring their close friendship are more distressed when this restoration does not occur in the future. This is consistent with research findings higher that commitment was predictive of higher distress following the dissolution of romantic relationships (Sprecher et al., 1998).

5.6 Conclusion

In conclusion, this chapter sought to determine how well different models explained variance in distress and future distress relative to one another. Of the groups of factors studied, the strongest multivariate models (and unique contributors to each model) in descending order were: the actor-intrapersonal processes model (higher desire, higher negative emotions, and higher pre-dissolution hurt), actor-contextual factors model (actor's romantic partner more sexually interested in one's friend, higher peer victimisation of the actor pre-dissolution, higher depressed mood pre-dissolution, lower likeability, higher pre-dissolution stress, and fewer alternative friends pre-dissolution), actor-negative behaviours model (higher sexual interest in the friend or friend's romantic partner pre-dissolution, more reassurance seeking pre-dissolution, and more jealousy of the friend's interactions prior to dissolution), friend-negative behaviours model (higher sexual interest in actor or actor's romantic partner pre-dissolution, and higher unavailability pre-dissolution), actor-distal factors model (higher decay belief, higher external locus of control, and lower internal locus of control), friendship dynamic factors model (higher current activities, friend's religious/spiritual beliefs bothered actor more pre-dissolution, more altercations pre-dissolution, and more common interests pre-dissolution), actor-oppositional behaviours model (more verbal victimisation of friend pre-dissolution, and more controlling pre-dissolution), friend-contextual factors model (friend's romantic partner more sexually interested in actor pre-dissolution, higher friend popularity pre-dissolution, and peers ostracised friend more pre-dissolution), actor-positive behaviours model (higher maintenance behaviours pre-dissolution, higher pre-dissolution reliance on the friend to meet their practical needs, lower optimism

pre-dissolution and poorer hygiene pre-dissolution), friend-oppositional behaviours model (higher verbal victimisation of actor pre-dissolution), friend-intrapersonal processes model (higher hurt pre-dissolution), and the friend-positive behaviours model (more considerate pre-dissolution). In addition, the quality measures model explaining future dissolution distress included two unique predictors: distress and commitment to restore at wave 1).

Together, the results highlight several important points regarding dissolution distress. First, dissolution distress appears to reflect an untimely and unwanted lowering of friendship classification in individuals who want, and are committed to, restoring closeness if possible but have not yet been able to do so. Second, distress seems to be stronger for people who may find it more difficult to fill the emotional and/or practical gap left from the loss of the close friendship, such as lower likeability, more difficulties with mental health, fewer alternative friends. Third, within-dyad sexual interest or sexual interest in or from one another's romantic partners increases the chances of distress in close friends. Fourth, the results demonstrate that within dyad and peer verbal victimisation, and witnessing the close friend be ostracised by the peer group pre-dissolution, increase the likelihood of dissolution distress post-dissolution. In addition, previous altercations, and continued engagement in different types of activities together, especially if the friends initially shared more common interests, increase the chance of dissolution distress.

The literature indicates that timely reparations following significant conflicts and overall reductions in conflict, verbal victimisation and ostracising behaviours are effective in restoring closeness within dyads and increasing social protection by reducing mobbing behaviours from peers (e.g., Boulton et al., 1999; Dunbar & Machin, 2014). These behaviours should be considered warning signs that a person may both experience higher distress following the dissolution of a close friendship and have a higher chance of long-term dissolution distress. Attempting to manage conflicts within-dyads without including peers during the dissolution phase may help decrease distress for both dyad members longer term. In addition, recognising and putting boundaries in place early on when sexual interest is detected from or toward either dyad member or their romantic partner may also reduce levels of distress in friends.

The current study has several limitations that should be addressed in future research. First, many items in the study were face-valid items which poses an

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increased risk that items may have been interpreted differently by different participants. An attempt was made to reduce this risk by providing thesaurus examples of the intended meaning of the concept based on the concept retrieved from the literature. In addition, it is possible that the included items only consider specific aspects of the concepts they are attempting to measure. Thus, future research could examine these concepts using established measures.

Chapter 6: Restoration of close friendships in adulthood

6.1 Playlist: Restoration

Playlist link

<https://open.spotify.com/playlist/0MtTIwi8OHiZ0rBojwPzGD?si=6ed40b27848b4149>

Songs

“Forgive me friend – acoustic version” (Smith & Thell, 2019, track 1)

“That wasn’t me” (Carlile, 2012, track 4)

“Evening prayer” (Lekman & LaMotte, 2017, track 2)

“Old friends” (Coldplay, 2019, disk 2, track 5)

“Old friends” (Rector, 2018, track 4)

“I’ll stand by you” (Pretenders, 1994, track 7)

6.2 Chapter rationale

The introductory chapter to this thesis identified the question of what factors best predict restoration, or reconciliation, of close adult friendships. Attachment style and implicit beliefs have been found to influence restoration attempts in romantic relationships, with anxiously attached people and people with growth beliefs making more attempts to restore, and avoidantly attached people and people with destiny beliefs making fewer attempts to reconcile following negative events in the relationship (Barbara & Dion, 2000; Kammrath & Dwerk, 2006; Knee, 1998). These attempts may or may not result in actual restoration.

Little is known about the restoration of close adult friendships in the literature. It has been found that restoration of close adult friendships is typically facilitated by verbal apologies for individual contributions toward the dissolution (i.e., genuine taking responsibility for one’s own role in the dissolution), except in occasional instances where one party is unwilling or unable to accept the apology or accepts the apology but does not go on to restore the connection (Dunbar & Machin, 2014). The researchers also found that close adult friendships are most likely to repair within one month of conflict, and that the likelihood of repair decreases significantly with each subsequent month across a 12-month period.

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The current study is focused on friendships that were previously classified as best or close but at timepoint one of the current study had been re-classified as casual, acquaintance, or no friendship at all, and then by timepoint two or three of the current study they had restored to a close or best friendship level.

The first study aim was to quantitatively analyse the frequency of close friendship restoration longitudinally to determine the level of movement from previously close to currently close friendship status across a 12-month period. The second study aim was to quantitatively assess the best predictors of future restoration of close adult friendships based on the wide variety of factors that significantly impact outcomes in child/adolescent friendships, adult interpersonal relationships, and adult romantic relationships.

It is hypothesised that most previously close friendships will remain unreconciled 6 and 12 months later, but that there will still be a notable percentage of friends who do reconcile. It is also hypothesised that higher commitment, emotional closeness, expected future satisfaction, anxious attachment, taking responsibility for actions, and lower pre-dissolution ostracism, verbal victimisation and hurt will be among the best predictors of future restoration of close friendships in adulthood.

6.3 Study 1. Descriptive statistics for participants in restored and unresolved groups at 6- and 12-month follow-up

6.3.1 Data analyses

Descriptive and frequency analyses were conducted using IBM SPSS Statistics (Version 27).

6.3.2 Participants: 6-months follow-up

At the 6-month follow-up, 242 participants discussed their relationship with their wave 1 PCF. At the 6-month follow-up, 35 people (14.5%) had restored their friendship to best or close friendship status (hereafter called the “restored group”; 26 females and 9 males) and 207 people (85.5%) had not restored their friendship to a close or best friendship (hereafter called the “unresolved group”; 160 females, 42 males, 3 non-binary, 1 “other”, and 1 “decline to state”). The restored group comprised 35.3% former best friends and 64.7% former close friends (i.e., prior to wave 1), whereas the unresolved group comprised 50% former best friends and 50% former close friends. Within the restored by 6-months follow-up group, 3 (8.8%) had identified as “no friendship at all” at wave 1, 7 (20.6%) had identified as “acquaintances”, and 24 (70.6%) had identified as

“casual friends”, indicating that casual friends were more likely to restore to a close or best friendship status than other PCF status categories in 6-months-time.

Males and females had similar frequencies of restored friendships with their PCF 6-months later overall (15.8%; 14%). Fewer other-gender friendships (male-female) were restored 6-months later (9.3% restored; 90.7% unrestored) than were restored in same-gender friendships: female-female (13.8% restored; 86.2% unrestored) or male-male (15.8% restored; 84.2% unrestored). Baseline sociodemographic characteristics of participants, dyad characteristics, and dyad status can be found in Appendix I.

6.3.3 Participants: 12-month follow-up

There were 102 participants who participated in the PCF section of the survey at the 12-month follow-up. The sample consisted of 18 (17.6%) participants in the restored group (15 females and 3 males) and 84 (82.4%) in the unresolved group (63 females, 18 males, and 2 non-binary). The restored group comprised of 44.4% former best friends and 55.6% former close friends, whereas the unresolved group comprised 36.1% former best friends and 63.9% former close friends. Within the restored by 12-months follow-up group, 5 (27.8%) had identified as “no friendship at all” at wave 1, 2 (11.1%) had identified as “acquaintances”, and 24 (61.1%) had identified as “casual friends”, again indicating that casual friends were the most likely status group to restore close friendship 12-months-later.

Males were slightly less likely to have restored with their PCF 12-months later than females (14.29%; 19.23%). This is the opposite to the findings at 6-months that males had restored more than females and may represent some differences in wave 1 participants who completed the wave 2 survey and those who completed the wave 3 survey because wave 2 completion was not mandatory for inclusion in wave 3. Fewer other-gender friendships (male-female) were restored 12-months later (9.3% restored; 90.7% unresolved) than same-gender friendships: female-female (13.8% restored; 86.2% unresolved) or male-male (15.8% restored; 84.2% unresolved). Again, this finding is in contrast to the 6-month follow-up and may reflect different people completing each follow-up. Baseline sociodemographic characteristics of participants, dyad characteristics, and dyad status can be found in Appendix I.

6.3.4 Participants: 6-month and 12-month follow up

There were 88 participants who participated in the PCF section of the survey at all three waves of the study (wave 1, 2 and 3). Of the 14 previous close friendships (15.9%) that had restored to a close or best friendship level at the 6-month follow-up, 11 (78.6%) remained restored at the 12-month follow-up, and 3 (21.4%) had broken up again (decayed to a not-close friendship status) at the 12-month follow-up. Of the 74 previous close friendships that were unresolved at the 6-month follow-up (84.1%), 71 (95.9%) remained unresolved at the 12-month follow-up, and 3 (4.1%) had restored at the 12-month follow-up.

6.3.5 Participants in restoration studies

Participants were 241 survey responders who answered the question “Do you currently class this person as a close or best friend?” at wave 2 (6-month follow-up) and had previously completed the relevant quality measure items at wave 1. Participants were aged: 18-24 years (60.6%), 25-34 (11.2%), 35-44 (13.3%), 45-54 (5%), 55-64 (6.2%), 65-74 (2.5%), 75-84 (1.2%), and 85+ (0%). The sample contained 35 people in the restored group (26 females and 9 males) and 206 people in the unresolved group (160 females, 42 males, 3 non-binary, 1 “other”, and 1 “decline to state”). Participants in the restoration group were aged: 18-24 years (51.4%), 25-34 (11.4%), 35-44 (14.3%), 45-54 (5.7%), 55-64 (14.3%), 65-74 (2.9%). Participants in the unresolved group were aged: 18-24 years (62.1%), 25-34 (11.2%), 35-44 (13.1%), 45-54 (4.9%), 55-64 (4.9%), 65-74 (2.4%), and 75-84 (1.5%). A full set of sociodemographic and dyad information is contained in Appendix I.

6.4 Study 2a. Predicting wave 2 restoration with wave 1 relationship outcome measures

6.4.1 Aim

The first aim of the study was to establish the ability of six outcome measures of interpersonal relationship quality (now referred to as “quality measures”) to predict future restoration of previous close friends and the best model for distinguishing between friendships that are restored to a close/best friendship status and those that are not (now referred to as “unresolved”) six months later. Six independent variables were explored: emotional closeness, expected future satisfaction, current contact, commitment, dissolution distress, and readiness to change (restore).

6.4.2 Data analysis

Univariate logistic regressions were undertaken for each predictor and a cut-off point of $p < .20$ was used for inclusion in the multivariate regression analysis (Hosmer et al., 2013). Logistic regression assumptions including independence of errors, linearity in the logit for continuous variables, absence of multicollinearity, and lack of strongly influential outliers were assessed. Multicollinearity was assessed using both a Spearman correlation matrix between continuous non-normally distributed predictors and assessment of VIF and tolerance values. Linearity of the logit was ascertained both visually, (using scatterplots between the logit and predictors) and using the Box-Tidwell Transformation test using IBM SPSS Statistics (Version 27).

Current contact was recoded with the highest three frequency groups being combined into a single group (“at least once a week”) to avoid quasi separation in logistic regression.

6.4.3 Results

All predictors except distress were associated with friendship restoration in the univariate analysis using the cut-off point of $p < .20$ outlined above (see Appendix N, table 1). Emotional closeness showed the largest magnitude at univariate level (OR=1.671, 95%CI 1.395-2.001).

Distress failed to meet the selection criteria for inclusion in the multivariate model variable selection process, while Commitment was omitted to eliminate multicollinearity.

Emotional closeness, expected future satisfaction, readiness to change, and current contact were considered as potential multivariate predictors on the odds that people would have restored their previous close friendship to a close or best status level 6 months later.

As shown in Table 6.1, emotional closeness and expected future satisfaction predicted future restoration, $\chi^2 (2, N = 239) = 42.83, p < .001$. The model predicted 29.4% of variance in future restoration. Emotional closeness was the best predictor of future restoration, recording an odds ratio of 1.40, followed by expected future satisfaction, recording an odds ratio of 1.07. This indicates that the odds that a person would restore close or best friendship status with a previous close friend in 6-months-time was 1.39 times higher for every unit increase of emotional closeness, and 1.07 higher per unit increase of expected future satisfaction, when controlling for one another in the model.

Table 6.1

Multivariate logistic regressions predicting likelihood of friendship restoration in 6-months-time

Measure	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.294
Emotional closeness	.33	.11	8.75	1	.003	1.39	1.12	1.74	
Expected future satisfaction	.06	.03	5.72	1	.017	1.07	1.01	1.12	

6.5 Study 2b. Predicting wave 2 restoration with wave 1 exploratory variables

6.5.1 Aim

The aim of the study was to understand a wide range of possible predictors of restoration and to establish the best model for distinguishing between friendships that are restored to close or best friendship status six months later. Thirteen groups of variables were explored, and the best models for each group was determined.

6.5.2 Data analysis

Thirteen groups of variables were explored in the analysis and the final model factors for each group were included in a final analysis (see Appendix E for items). For each group, univariate logistic regressions were undertaken for each predictor and a cut-off point of $p < .20$ was used for inclusion in each multivariate regression analysis. Logistic regressions were run for each of the 12 models. Logistic regression assumptions including independence of errors, linearity in the logit for continuous variables, absence of multicollinearity, and lack of strongly influential outliers were assessed. Multicollinearity was assessed using both a Spearman correlation matrix between continuous non-normally distributed predictors and assessment of VIF and tolerance values. Linearity of the logit was ascertained both visually (using scatterplots between the logit and predictors) and using the Box-Tidwell Transformation test, and all final models passed the Box-Tidwell Transformation test.

6.5.3 Results

6.5.3.1 Distal factor models

6.5.3.1.1 Model of actor-distal factors predicting restoration with previous close friend

Actor-distal factors that met the selection criteria for inclusion in the multivariate model variable selection process using the cut-off point of $p < .20$ were anxious attachment to friend, extroversion, perceived intelligence (pre-dissolution), growth belief (item 2), self-esteem (pre-dissolution), and anxious attachment to close friends in general (as presented in Appendix N, table 2). At the univariate level, anxious attachment to PCF (pre-dissolution) positively predicted future restoration.

No multicollinearity was evident so all variables were considered as potential multivariate predictors on the odds that people would have restored their friendship to a close or best friendship status level 6 months later. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A logistic regression was calculated to predict future restoration based on the included variables. The model predicted future restoration, $\chi^2(6, N = 239) = 17.29, p = .008$ (see table 6.2), and explained 12.5% of the variance in future restoration. Anxious attachment to friend and extroversion uniquely predicted future restoration, recording odds ratios of 1.39 and .79 respectively. This indicates that the odds that a person would restore their friendship status to a close/best friend level from a not close status level (i.e., casual friend, acquaintance, or no friendship at all) in 6-months-time was 1.39 times higher per unit increase in anxious attachment to friend pre-breakup, and .79 times lower per unit decrease in extroversion.

Table 6.2

Actor-distal factors - multivariate logistic regression predicting likelihood of friendship restoration in 6-months-time

Actor-distal factor	B	SE	Wald	df	p	Odds Ratio	95% CI for odds Ratio		Nagelkerke R ²
							Lower	Upper	
									.125
Anxious attachment to friend	.33	.16	4.34	1	.037	1.39	1.02	1.89	
Extroversion	-.23	.11	4.67	1	.031	.79	.64	.98	
Perceived intelligence (pre-breakup)	-.40	.23	3.15	1	.076	.67	.43	1.04	
Growth belief (item 2)	-.23	.13	2.99	1	.084	.80	.61	1.03	
Self-esteem (pre-breakup)	.31	.21	2.33	1	.127	1.37	.92	2.04	
Anxious attachment to close friends in general	-.08	.10	.53	1	.466	.93	.76	1.14	

6.5.3.1.2 Model of previous close friend distal factors predicting restoration with previous close friend

Previous close friend distal factors that met the selection criteria for inclusion in the multivariate model variable selection process were pre-dissolution self-esteem, antagonism, and intelligence (as presented in Appendix N, table 3). At the univariate level, pre-dissolution self-esteem positively predicted future restoration.

No multicollinearity was evident so all the variables were considered as potential multivariate predictors on the odds that people would have restored their friendship to a close or best friendship status level 6 months later. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A logistic regression was calculated to predict future restoration. Friend self-esteem (pre-dissolution) positively predicted future restoration, $\chi^2(1, N = 238) = 4.39, p = .036$ (see table 6.3). The model explained 3.3% of the variance in future restoration.

Table 6.3

Previous close friend distal factors- multivariate logistic regression predicting likelihood of friendship restoration in 6-months-time

Friend-distal factor	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.061
Self-esteem (pre-dissolution)	.36	.17	4.27	1	.039	1.43	1.02	2.01	
Antagonism (pre-dissolution)	-.06	.05	1.75	1	.186	.94	.86	1.03	
Intelligent (pre-dissolution)	.19	.19	1.03	1	.311	1.21	.84	1.75	

6.5.3.2 Intrapersonal process models

6.5.3.2.1 Model of actor-intrapersonal processes predicting restoration with previous close friend

Actor-intrapersonal process variables that met the selection criteria for inclusion in the multivariate model variable selection process were pre-dissolution liked friend and hurt, and current likes friend, emotional closeness, positive emotions, commitment, expected future satisfaction, readiness to change, negative emotions, hurt, and positive illusory belief (as presented in Appendix N, table 4). At the univariate level, positive predictors of future restoration were liked PCF (pre-dissolution), emotional closeness, positive emotions, commitment, expected future satisfaction, readiness to change. Negative predictors of future restoration were likes PCF (currently), negative emotions (current), hurt (current), and previous hurt (pre-dissolution).

To eliminate multicollinearity, pre-dissolution-hurt, and current- likes friend, positive emotions, expected future satisfaction, readiness to change, and negative emotions were removed from selection. Emotional closeness, commitment, current hurt, liked friend (pre dissolution), and positive illusory belief (pre-dissolution) were considered as potential multivariate predictors on the odds that people would have restored their friendship status to close/best 6 months later. Items that did not contribute to the strength of the model were removed one at a time and the model rerun after each item deletion.

A logistic regression was calculated to predict future restoration. Emotional closeness, commitment, and current hurt predicted future restoration, $\chi^2 (3, N = 238) = 47.84, p < .001$ (see Table 6.4). The model explained 32.5% of

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the variance in future restoration and was able distinguish between friendships that had restored to close/best friend status and those that had not 6 months later. Higher emotional closeness and commitment at T1 was significantly predictive of future restoration, recording odds ratio of 1.34 and 1.30 respectively. This indicates that the odds that a person's close friendship being restored in 6 months was 1.34 and 1.30 times higher for every unit increase in emotional closeness and commitment respectively at T1.

Table 6.4

Actor-intrapersonal processes - multivariate model predicting likelihood of friendship restoration in 6-months-time

Actor-intrapersonal process	B	SE	Wald	df	p	Odds Ratio	95% CI for odds Ratio		Nagelkerke R ²
							Lower	Upper	
									.325
Emotional closeness	.29	.11	6.84	1	.009	1.34	1.08	1.67	
Commitment	.26	.09	7.88	1	.005	1.30	1.08	1.56	
Hurt (current)	-.24	.13	3.52	1	.061	.79	.62	1.01	

6.5.3.2.2 Model of previous close friend intrapersonal processes predicting restoration with previous close friend

Previous close friend intrapersonal process factors that met the selection criteria for inclusion in the multivariate model variable selection process were pre-dissolution liked actor and hurt, and current motivation (desire) (as presented in Appendix N, table 5). At the univariate level, motivation (desire) positively predicted future restoration.

No multicollinearity was evident so all variables were considered as potential multivariate predictors on the odds that people would have restored their friendship to a close or best friendship status level 6 months later. A logistic regression was calculated to predict future dissolution. Liked actor pre-dissolution did not contribute to the model so was removed from selection. The final model consisted of PCF motivation (current desire) and hurt (pre-dissolution) and predicted future restoration, $\chi^2 (3, N = 238) = 25.39, p < .001$ (see Table 6.5). The model explained 18.1% of the variance in future restoration. Current PCF motivation (desire) and pre-dissolution PCF hurt were unique predictors of future restoration, recording odds ratio of 2.23 and .67 respectively. This indicates that

the odds that a person's close friendship being restored in 6 months was 2.23 higher per unit increase in current PCF motivation (desire), and .67 times higher for every unit decrease in PCF hurt pre-dissolution.

Table 6.5

Previous close friend intrapersonal processes - multivariate models that predict likelihood of friendship restoration in 6-months-time

Friend- intrapersonal process	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.181
Motivation (desire; current)	.80	.18	19.47	1	<.001	2.23	1.56	3.19	
Hurt (pre- dissolution)	-.39	.19	4.35	1	.037	.67	.47	.98	

6.5.3.3 Interpersonal behaviour models: demonstrated positive behaviours

6.5.3.3.1 Model of actor-positive interpersonal behaviours (pre-dissolution) predicting restoration with previous close friend

Actor-positive behaviour (pre-dissolution) variables that met the selection criteria for inclusion in the multivariate model variable selection process were pre-dissolution- trusting, considerate, authentic, good communication ability, relied on friend for practical needs, trustworthy, empathic, and altruistic (as presented in Appendix N, table 6). At the univariate level, positive predictors of future restoration were trusting, considerate, authentic, good communication ability, and relied on PCF for practical needs.

Empathy and trustworthiness were removed to eliminate multicollinearity. Pre-dissolution good communication ability, being considerate, trusting, and authenticity were considered as potential multivariate predictors on the odds that people would have restored their friendship to a close or best friendship status level 6 months later. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A logistic regression was calculated, and the model predicted future restoration, $\chi^2 (4, N = 240) = 13.14, p = .011$ (see table 6.6). The model explained 9.6% of the variance in future restoration but none of the predictors uniquely contributed to the multivariate model.

Table 6.6

Actor-positive behaviours - univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time

Actor-positive behaviour (pre-dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.096
Authentic	.32	.21	2.43	1	.119	1.38	.92	2.06	
Trusting	.30	.22	1.92	1	.165	1.36	.88	2.08	
Good communication ability	.19	.22	.77	1	.379	1.21	.79	1.86	
Considerate	.19	.27	.50	1	.479	1.21	.71	2.08	

6.5.3.3.2 Model of previous close friend positive interpersonal behaviours (pre-dissolution) predicting restoration with previous close friend

Previous close friend positive behaviour (pre-dissolution) variables that met the selection criteria for inclusion in the multivariate model variable selection process were trusting, grateful, loyal, optimistic, reciprocates, maintenance behaviours, considerate, good communication ability, trustworthy, took responsibility for actions, kind, empathic, and compromised (as presented in Appendix N, table 7). At the univariate level, positive predictors of future restoration were trusting, grateful, optimistic, loyal, reciprocation, maintenance behaviours, considerate, forgiving, good communication ability, trustworthy, and took responsibility for actions.

Pre-dissolution PCF- trustworthy, considerate, reciprocation, and took responsibility for actions were removed to eliminate multicollinearity. Pre-dissolution PCF- compromised, empathy, gratitude, communication ability, loyalty, trust, optimism, forgiving, took responsibility, and maintenance behaviours were considered as potential multivariate predictors on the odds that people would have restored their friendship to close/best friendship status 6 months later. The factors took responsibility, empathy, and compromises were removed from selection because they violated assumptions.

A logistic regression was run with grateful, good communication ability, loyal, trusting, optimistic, and maintenance behaviours and predicted future restoration, $\chi^2 (7, N = 237) = 22.48, p = .002$. The model explained 16.1% of variance but none of the included factors contributed significantly to the model. To increase the chance of replicability, the model was reduced further by

individually removing items that contributed little to the model strength and the model rerun after each item deletion. A final logistic regression was calculated to predict future restoration and the model predicted future restoration, $\chi^2 (2, N = 240) = 16.74, p < .001$ (see table 6.7). The model explained 12.1% of the variance in future restoration. Pre-dissolution loyalty uniquely predicted future restoration, and pre-dissolution gratitude bordered on uniquely predicting future restoration, achieving odds ratios of 1.52 and 1.48 respectively. This indicates that the odds that a person would restore their friendship to a close or best friendship level in 6-months' time was 1.52 times higher for each unit increase in pre-dissolution loyalty and 1.48 times higher for each unit increase in pre-dissolution gratitude.

Table 6.7

Previous close friend positive behaviours (pre-dissolution) - multivariate logistic regression predicting likelihood of friendship restoration in 6-months-time

Friend-positive behaviour (pre- dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Loyal	.42	.17	5.99	1	.014	1.52	1.09	2.12	.121
Grateful	.39	.20	3.83	1	.050	1.48	1.00	2.20	

6.5.3.4 Interpersonal behaviour models: demonstrated oppositional behaviours

6.5.3.4.1 Model of actor-oppositional interpersonal behaviours (pre-dissolution) predicting restoration with previous close friend

Only one variable met the selection criteria for inclusion in the analysis: pre-dissolution persistence, which positively predicted future restoration (see Appendix N, table 8).

A logistic regression was calculated to predict future restoration and consisted of the factor actor-persistence (pre-dissolution). The model explained 2.2% of the variance in future dissolution but was not statistically significant, $\chi^2 (1, N = 240) = 2.93, p = .087$ (see table 6.8).

Table 6.8

Actor-oppositional behaviours - multivariate logistic regressions predicting likelihood of friendship restoration in 6-months-time

Actor-oppositional behaviour (pre-dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Persistent	.25	.15	2.92	1	.087	.78	.58	1.04	.022

6.5.3.4.2 Model of previous close friend oppositional interpersonal behaviours (pre-dissolution) predicting restoration with previous close friend

Previous close friend oppositional behaviour (pre-dissolution) variables that met the selection criteria for inclusion in the multivariate model variable selection process were pre-dissolution passive aggressive, personally ostracised actor, judgemental, arrogant, entitled, persistent, defensive, self-righteous, stonewalled, verbal victimisation of actor, and other-oriented perfectionism (as presented in Appendix N, table 9). At the univariate level negative predictors of future restoration were verbally victimises actor, personally ostracised actor passive aggressive, and stonewalled.

Factors arrogant, passive aggressive, judgmental, and entitled were removed to eliminate multicollinearity. Items considered as potential multivariate predictors on the odds that people would have restored their friendship to a close or best friendship status level 6 months later were pre-dissolution PCF defensive, self-righteous, stonewalling, verbal victimisation of actor, persistence, and other-oriented perfectionism. Pre-dissolution PCF defensive, persistent, stonewalling, and other-oriented perfectionism violated assumptions so were removed from selection.

A logistic regression was calculated to predict future restoration based on pre-dissolution PCF- ostracised actor, verbally victimised actor and stonewalled, and the model predicted future restoration, $\chi^2(3, N = 240) = 29.85, p < .001$. The model explained 21% of the variance in future restoration (table 6.9). Pre-dissolution PCF- ostracised actor and verbally victimised actor uniquely contributed to the model obtaining a odds ratio of .64 and .43. respectively. This indicates and that for every unit decrease in PCF-ostracised actor pre-dissolution there was .64 times higher chance of the friendship being restored to a close or best friend status level 6-months later. It also indicates that for every unit decrease

in PCF-verbally victimised actor pre-dissolution there was .32 times higher chance of the friendship being restored 6-months later.

Table 6.9

Previous close friend oppositional behaviours (pre-dissolution) - univariate logistic regressions predicting friendship restoration in 6-months-time

Friend- oppositional behaviour (pre- dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.210
Ostracised actor	-.45	.18	5.92	1	.015	.64	.45	.92	
Verbally victimised actor	-.84	.37	5.16	1	.023	.43	.21	.89	
Stonewalled	-.06	.16	.14	1	.71	.94	.69	1.29	

6.5.3.5 Interpersonal behaviour models: demonstrated negative behaviours

6.5.3.5.1 Model of actor-negative interpersonal behaviours (pre-dissolution) predicting restoration with previous close friend

Actor-negative behaviour (pre-dissolution) variables that met the selection criteria for inclusion in the multivariate model variable selection process were silly, eccentric, sexual interest in friend, sexual interest in friend's partner, and showed off (as presented in Appendix N, table 10). At the univariate level, future restoration was positively predicted by pre-dissolution sexual interest in friend's partner. Negative predictors of future restoration were pre-dissolution silly and eccentric behaviour.

No multicollinearity was evident so all the variables were considered as potential multivariate predictors on the odds that people would have restored their friendship to a close or best friendship status level 6 months later. A logistic regression was calculated to predict future restoration. Pre-dissolution actor-factors: silly, eccentric, sexual interest in friend, sexual interest in friend's partner, and showed off predicted future restoration, $\chi^2 (5, N = 240) = 19.18, p < .001$. The model explained 13.8% of the variance in future restoration. As seen in table 6.10, higher pre-dissolution sexual interest in friend's partner uniquely contributed to the model, recording odds ratio of 1.90, and lower pre-dissolution eccentricity uniquely contributed to the model, recording odds ratio of .60. This indicates that the odds that a person's close friendship being restored in 6 months was 1.90

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times higher for every unit increase in pre-dissolution sexual interest in friend's partner and .60 times higher for every unit decrease in pre-dissolution eccentricity.

Table 6.10

Actor-negative behaviours - multivariate models that predict likelihood of friendship restoration in 6-months-time

Actor-negative behaviour (pre- dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.138
Eccentric	-.44	.18	5.59	1	.017	.65	.45	.93	
Sexual interest in friend's partner	.64	.29	4.80	1	.029	1.90	1.07	3.36	
Showed off	-.21	.19	1.29	1	.256	.81	.56	1.17	
Sexual interest in friend	.19	.25	.59	1	.443	1.21	.75	1.96	
Silly	-.14	.19	.54	1	.461	.87	.61	1.25	

6.5.3.5.2 Model of previous close friend negative interpersonal behaviours (pre-dissolution) predicting restoration with previous close friend

Previous close friend negative behaviour (pre-dissolution) factors that met the selection criteria for inclusion in the multivariate model variable selection process were jealous of actor's interactions, jealous of actor's characteristics, silly, sexual interest in actor, sexual interest in actor's partner, high conformity goals, pessimistic, hypocritical, prosocial (coercive), competitive, showed off, and unavailable (as presented in Appendix N, table 11). Negative predictors of future restoration were pre-dissolution jealous of actor's interactions and silly behaviour.

Pre-dissolution PCF- jealousy of actor's characteristics and showed off were removed to eliminate multicollinearity. PCF- jealousy of actor's interactions, jealousy of actor's characteristics, pessimism, silliness, high conformity goals, prosocial behaviours (coercive), sexual interest in actor, sexual interest in PCF's partner, and hypocritical were considered as potential multivariate predictors on the odds that people would have restored their friendship to a close or best friendship status level 6 months later. Pre-dissolution prosocial (coercive), jealous of actor's characteristics, and hypocritical were removed because they violated assumptions. The final regression consisted of pre-dissolution PCF-factors: silly, sexual interest in actor, sexual interest in actor's partner, jealousy of actor's

interactions, pessimistic, and high conformity goals predicted future restoration, $\chi^2(6, N = 240) = 18.63, p = .005$ (see Table 6.11). The model explained 13.4% of the variance in future restoration. Pre-dissolution PCF- silly behaviour and sexual interest in actor's partner uniquely contributed to the model, recording odds ratio of .70 and 1.73 respectively. This indicates that the odds that a person's close friendship being restored in 6-months' time was .70 times higher for every unit increase in pre-dissolution sexual interest in actor's partner and 1.73 times higher for every unit decrease in pre-dissolution silly behaviour.

Table 6.11

Previous close friend negative behaviours multivariate models that predict likelihood of friendship restoration in 6-months-time

Friend-negative behaviour (pre- dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.134
Silly	-.36	.16	5.10	1	.024	.70	.51	.95	
Sexual interest in actor's partner	.55	.25	4.85	1	.028	1.73	1.06	2.80	
Jealous of actor interactions	-.25	.16	2.35	1	.125	.78	.57	1.07	
Pessimistic	-.18	.16	1.23	1	.27	.83	.60	1.15	
High conformity goals	-.08	.15	.27	1	.60	.93	.69	1.24	
Sexual interest in actor	.08	.27	.08	1	.78	1.08	.63	1.84	

6.5.3.6 Contextual factor models

6.5.3.6.1 Model of actor-contextual factors predicting restoration with previous close friend

Actor-contextual factors that met the selection criteria for inclusion in the multivariate model variable selection process were pre-dissolution- peers ostracised actor, peers verbally victimised actor, stress, and actor's partner sexually interested in friend, and current stress and likeability (as presented in Appendix N, table 12). Future restoration was positively predicted by actor's partner sexually interested in PCF (pre-dissolution). Negative predictors of future restoration were peers ostracised actor pre-dissolution, peers verbally victimised actor pre-dissolution, and current likeability.

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No multicollinearity was present so all variables were considered as potential multivariate predictors on the odds that people would have restored their friendship status to close/best level 6 months later. Current stress was removed because it did not add to the strength of the model. A logistic regression was calculated to predict future restoration based on pre-dissolution- peers ostracised actor, peers verbally victimised actor, stress, and actor's partner sexually interested in friend, and current likeability, and the model was found to predict future restoration, $\chi^2 (5, N = 237) = 32.50, p < .001$ (see table 6.12). The model explained 23.1% of the variance in future restoration.

Pre-dissolution actor's partner sexually interested in friend and current actor likeability predicted future restoration, recording odds ratios of 2.15 and .37 respectively. This indicates that the odds that a person's close friendship being restored in 6 months was 2.15 times higher for every unit increase in actor's partner's pre-dissolution sexual interest in friend, and .37 times lower per unit increase in current actor's likeability.

Table 6.12

Actor-contextual factors - multivariate models that predict likelihood of friendship restoration in 6-months-time

Actor-contextual behaviour	B	SE	Wald	df	p	Odds Ratio	95% CI for odds Ratio		Nagelkerke R ²
							Lower	Upper	
									.231
Actor's partner sexually interested in friend (pre- dissolution)	.76	.27	7.95	1	.005	2.15	1.26	3.65	
Likeability (current)	1.01	.30	11.58	1	.001	.37	.21	.65	
Peers verbally victimised actor (pre-dissolution)	-.95	.52	3.40	1	.065	.39	.14	1.06	
Stressed (pre- dissolution)	-.26	.17	2.37	1	.124	.77	.55	1.07	
Peers ostracised actor (pre- dissolution)	-.31	.26	1.41	1	.240	.74	.44	1.22	

6.5.3.6.2 Model of previous close friend contextual factors predicting restoration with previous close friend

Previous close friend intrapersonal process factors that met the selection criteria for inclusion in the multivariate model variable selection process were pre-dissolution- peers ostracised friend, peers verbally victimised friend, and peers approved of friend (as presented in Appendix N, table 13). At the univariate level, peers ostracised friend pre-dissolution negatively predicted restoration. No multicollinearity was evident, so all variables were considered as potential multivariate predictors on the odds that people would have restored their friendship to a close or best friendship status level 6 months later. Peers verbally victimised friend was removed because it did not add to the model strength. A final logistic regression based on pre-dissolution- peers ostracised friend and peers approved of friend predicted future restoration, $\chi^2 (2, N = 240) = 8.68, p = .013$ (see table 6.13). The model explained 6.4% of the variance in future dissolution. Peers ostracised friend pre-dissolution uniquely contributed to the model, with an odds ratio of .62. This indicates that the chance of restoring to a close/best friend status level was .62 times lower per unit increase in pre-dissolution peer ostracism of one's friend.

Table 6.13

Previous close friend contextual factors (pre-dissolution) - multivariate logistic regression predicting friendship restoration in 6-months-time

Friend-contextual factor (pre-dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.064
Peers ostracised friend	-.47	.23	4.29	1	.038	.62	.40	.98	
Peers approved of friend	.18	.12	2.13	1	.140	1.20	.94	1.52	

6.5.3.7 Friendship dynamics model

6.5.3.7.1 Model of friendship dynamic contextual factors predicting restoration with previous close friend

Friendship dynamic variables that met the selection criteria for inclusion in the multivariate model variable selection process were current activities, and

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pre-dissolution- actor's morals bothered PCF, actor-values bothered PCF, PCF-values bothered actor, change in time spent, and common interests (as presented in Appendix N, table 14). At the univariate level, negative predictors of future restoration were PCF-morals bother actor and actor-morals bothered PCF pre-dissolution.

Actor-morals bothered PCF and PCF-values bothered actor were removed to eliminate multicollinearity. Current activities, and pre-dissolution actor-values bothered PCF, PCF-morals bothered actor, common interests, and change in time spent together were considered as potential multivariate predictors on the odds that people would have restored their friendship to a close or best friendship status level 6 months later. Actor-values bothered PCF and common interests were removed because they did not contribute to the model strength. A final logistic regression was calculated based on PCF-morals bothered actor, change in time spent, and current activities and the model predicted future restoration, $\chi^2 (3, N = 240) = 9.66, p = .022$ (table 6.14). The model explained 7.1% of the variance in future dissolution. Pre-dissolution PCF-morals bothered actor uniquely contributed to the model, recording an odds ratio of .74. This indicates that the odds of future close friendship restoration was .74 times lower for every unit increase in pre-dissolution PCF-morals bothered actor.

Table 6.14

Friendship dynamic factors- univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time

Friendship dynamic factor	B	SE	Wald	df	p	Odds Ratio	95% CI for odds Ratio		Nagelkerke R ²
							Lower	Upper	
									.071
Friend's morals bothered actor (pre-dissolution)	-.30	.14	4.58	1	.032	.74	.56	.98	
Current activities	.20	.13	2.60	1	.107	1.22	.96	1.56	
Change in time spent (pre- dissolution)	-.21	.15	1.99	1	.158	.81	.61	1.08	

6.5.3.8 Model summaries

A summary of the univariate models predicting likelihood of close-friendship restoration in 6-months type with an Odds ratio of +/- >.1 is provided

in Appendix N (table 15). Multivariate models likelihood of close-friendship restoration in 6-months type with previous close friend is provided in table 6.15.

Table 6.15

Summary of Multivariate Logistic regression models predicting likelihood of close friendship restoration in 6-months-time

Model	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Actor-distal factors									.125
Anxious attachment to friend	.33	.16	4.34	1	.037	1.39	1.02	1.89	
Extroversion	-.23	.11	4.67	1	.031	.79	.64	.98	
Perceived intelligence (pre-dissolution)	-.40	.23	3.15	1	.076	.67	.43	1.04	
Growth belief (item 2)	-.23	.13	2.99	1	.084	.80	.61	1.03	
Self-esteem (pre-dissolution)	.31	.21	2.33	1	.127	1.37	.92	2.04	
Anxious attachment to close friends in general	-.08	.10	.53	1	.466	.93	.76	1.14	
Friend-distal factors (pre-dissolution)									.061
Self-esteem	.36	.17	4.27	1	.039	1.43	1.02	2.01	
Antagonism	-.06	.05	1.75	1	.186	.94	.86	1.03	
Intelligent	.19	.19	1.03	1	.311	1.21	.84	1.75	
Actor-intrapersonal processes (current)									.325
Emotional closeness	.29	.11	6.84	1	.009	1.34	1.08	1.67	
Commitment	.26	.09	7.88	1	.005	1.30	1.08	1.56	
Hurt	-.24	.13	3.52	1	.061	.79	.62	1.01	
Friend-intrapersonal processes									.181
Motivation (desire; current)	.80	.18	19.47	1	<.001	2.23	1.56	3.19	
Hurt (pre-dissolution)	-.39	.19	4.35	1	.037	.67	.47	.98	
Actor-positive behaviours (pre-dissolution)									.096
Authentic	.32	.21	2.43	1	.119	1.38	.92	2.06	
Trusting	.30	.22	1.92	1	.165	1.36	.88	2.08	
Good communication ability	.19	.22	.77	1	.379	1.21	.79	1.86	

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Considerate	.19	.27	.50	1	.479	1.21	.71	2.08	
Friend-positive behaviours (pre-dissolution)									.121
Loyal	.42	.17	5.99	1	.014	1.52	1.09	2.12	
Grateful	.39	.20	3.83	1	.050	1.48	1.00	2.20	
Actor-negative behaviours (pre-dissolution)									.138
Eccentric	-.44	.18	5.59	1	.017	.65	.45	.93	
Sexual interest in friend's partner	.64	.29	4.80	1	.029	1.90	1.07	3.36	
Showed off	-.21	.19	1.29	1	.256	.81	.56	1.17	
Sexual interest in friend	.19	.25	.59	1	.443	1.21	.75	1.96	
Silly	-.14	.19	.54	1	.461	.87	.61	1.25	
Friend-negative behaviours (pre-dissolution)									.134
Silly	-.36	.16	5.10	1	.024	.70	.51	.95	
Sexual interest in Actor's partner	.55	.25	4.85	1	.028	1.73	1.06	2.80	
Jealous of actor interactions	-.25	.16	2.35	1	.125	.78	.57	1.07	
Pessimistic	-.18	.16	1.23	1	.270	.83	.60	1.15	
High conformity goals	-.08	.15	.27	1	.600	.93	.69	1.24	
Sexual interest in actor	.08	.27	.08	1	.780	1.08	.63	1.84	
Actor-oppositional behaviours									NA
NA									
Friend-oppositional behaviours (pre-dissolution)									.210
Ostracised actor	-.45	.18	5.92	1	.015	.64	.45	.92	
Verbally victimised actor	-.84	.37	5.16	1	.023	.43	.21	.89	
Stonewalled	-.06	.16	.14	1	.710	.94	.69	1.29	
Actor-contextual factors									.231
Actor's partner sexually interested in friend (pre-dissolution)	.76	.27	7.95	1	.005	2.15	1.26	3.65	
Likeability (current)	-1.01	.30	11.58	1	.001	.37	.21	.65	
Peers verbally victimised actor (pre-dissolution)	-.95	.52	3.40	1	.065	.39	.14	1.06	
Stressed (pre-dissolution)	-.26	.17	2.37	1	.124	.77	.55	1.07	
Peers excluded actor (pre-dissolution)	-.31	.26	1.41	1	.240	.74	.44	1.22	
Friend-contextual factors (pre-dissolution)									.064

Peers ostracised friend	-.47	.23	4.29	1	.038	.62	.40	.98	
Peers approved of friend	.18	.12	2.13	1	.140	1.20	.94	1.52	
Friendship dynamic factors									.071
Friend's morals bothered actor (pre-dissolution)	-.30	.14	4.58	1	.032	.74	.56	.98	
Current activities	.20	.13	2.60	1	.107	1.22	.96	1.56	
Change in time spent (pre-dissolution)	-.21	.15	1.99	1	.158	.81	.61	1.08	
Overall model									.609
Friend-sexual interest in actor's partner (pre-dissolution)	1.10	.47	5.42	1	.020	2.99	1.19	7.53	
Friend-motivation (desire)	.76	.35	4.86	1	.028	2.15	1.09	4.23	
Actor-emotional closeness	.50	.16	9.37	1	.002	1.64	1.20	2.26	
Actor-likeability	-1.43	.47	9.27	1	.002	.24	.10	.60	
Friend-ostracised actor (pre-dissolution)	-.55	.28	3.81	1	.051	.58	.33	1.00	
Actor-eccentric (pre-dissolution)	-.42	.27	2.42	1	.120	.66	.39	1.12	
Peers ostracised friend (pre-dissolution)	-.69	.46	2.30	1	.130	.50	.21	1.22	
Friend-verbally victimised actor (pre-dissolution)	-1.10	.76	2.09	1	.148	.33	.08	1.48	
Friend-loyalty (pre-dissolution)	.40	.28	2.01	1	.156	1.49	.86	2.57	
Actor-extroversion	-.25	.19	1.67	1	.197	.78	.54	1.14	
Friend's morals bothered actor (pre-dissolution)	.33	.27	1.55	1	.213	1.40	.83	2.37	
Actor-silly (pre-dissolution)	-.32	.26	1.55	1	.213	.73	.44	1.20	
Actor-sexually interested in friend's partner (pre-dissolution)	.43	.46	.85	1	.357	1.53	.62	3.80	
Friend-hurt (pre-dissolution)	-.20	.29	.53	1	.468	.82	.47	1.42	
Actor-self-esteem (pre-dissolution)	.06	.28	.05	1	.830	1.06	.61	1.85	
Actor-anxious attachment to friend (pre-dissolution)	-.04	.30	.02	1	.887	.96	.53	1.72	

6.5.3.9 Overall model

Overall model of unique predictors of future dissolution with current close friend

The unique contributors from each of the multivariate models were selected for the final overall model in an attempt to determine whether the factors uniquely predicted restoration when considered together. Factors that met criteria for selection (from strongest model factors to weakest) were: actor-emotional closeness, actor-commitment, actor-likeability, actor's romantic partner sexually interested in friend pre-dissolution, friend ostracism and verbal victimisation of actor pre-dissolution, friend's motivation (desire) to restore, friend-hurt pre-dissolution, actor-eccentricity, actor-sexual interest in friend's romantic partner, friend-silliness, friend sexually interested in one's romantic partner, actor-anxious attachment to friend, actor-extroversion, friend-loyalty pre-dissolution, friend's morals bothered actor pre-dissolution, peers ostracised the friend, and friend-self-esteem pre-dissolution.

Actor's romantic partner being sexually interested in the friend pre-dissolution and actor-commitment were removed to eliminate multicollinearity. All other variables were considered as potential multivariate predictors on the odds that people would have restored their close friendship 6 months later. The final logistic regression was predictive of future restoration, $\chi^2 (16, N = 236) = 97.39, p < .001$ (see table 6.15). The model explained 60.9% of the variance in future restoration.

Five factors significantly predicted future restoration. Friend sexually interested in one's romantic partner was the strongest contributor, recording an odds ratio of 2.99. Friend's motivation (desire) to restore was the second strongest contributor, recording an odds ratio of 2.15. Actor-emotional closeness was the third strongest contributor, recording an odds ratio of 1.64. Actor-likeability was the fourth strongest contributor, recording an odds ratio of .24. This indicates that the odds that a close-friendship would be resolved in 6-months was 2.99, 2.15, 1.64, and .24 times higher per unit increase in friend sexually interested in one's romantic partner pre-dissolution, friend's motivation (desire) to restore, and actor-emotional closeness. Also, the odds of close friendship restoration was .24 times lower per unit increase in actor-likeability.

Table 6.16*Overall model – logistic regression predicting likelihood of close friendship**restoration in 6-months-time*

Factor	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.609
Friend-sexual interest in actor's partner (pre-dissolution)	1.10	.47	5.42	1	.020	2.99	1.19	7.53	
Friend-motivation (desire)	.76	.35	4.86	1	.028	2.15	1.09	4.23	
Actor-emotional closeness	.50	.16	9.37	1	.002	1.64	1.20	2.26	
Actor-likeability	-1.43	.47	9.27	1	.002	.24	.10	.60	
Friend-ostracised Actor (pre-dissolution)	-.55	.28	3.81	1	.051	.58	.33	1.00	
Actor-eccentric (pre-dissolution)	-.42	.27	2.42	1	.120	.66	.39	1.12	
Peers ostracised friend (pre-dissolution)	-.69	.46	2.30	1	.130	.50	.21	1.22	
Friend-verbally victimised actor (pre-dissolution)	-1.10	.76	2.09	1	.148	.33	.08	1.48	
Friend-loyalty (pre-dissolution)	.40	.28	2.01	1	.156	1.49	.86	2.57	
Actor-extroversion	-.25	.19	1.67	1	.197	.78	.54	1.14	
Friend's morals bothered actor (pre-dissolution)	.33	.27	1.55	1	.213	1.40	.83	2.37	
Actor-silly (pre-dissolution)	-.32	.26	1.55	1	.213	.73	.44	1.20	
Actor-sexually interested in friend's partner (pre-dissolution)	.43	.46	.85	1	.357	1.53	.62	3.80	
Friend-hurt (pre-dissolution)	-.20	.29	.53	1	.468	.82	.47	1.42	
Actor-self-esteem (pre-dissolution)	.06	.28	.05	1	.830	1.06	.61	1.85	
Actor-anxious attachment to friend (pre-dissolution)	-.04	.30	.02	1	.887	.96	.53	1.72	

6.6 Intervention willingness: Restoration

An analysis was conducted to determine whether individuals in the current sample were willing to engage in intervention programs to restore closeness with their previous close/best friend. This was considered important to test the assumption in the current thesis that there would be a reasonable number of people who would be interested in engaging in these types of interventions. Descriptive statistics were run to determine frequencies of people willing to engage in intervention at wave 1 and found that there was a strong interest in engaging in restoration interventions (see below).

In response to the question “How willing are you to participate in an intervention (either online or face-to-face) to learn about how to restore closeness with your PCF”, 260 (45.8%) participants were willing to consider intervention (215 (37.9%) “maybe would consider”, and 45 (7.9%) “would absolutely consider”).

In response to the question “How willing are you to participate in an intervention (either online or face-to-face) to learn about how to restore closeness with your PCF if your PCF let it be known that they want to be involved also?”, 308 (54.2%) participants were willing to consider intervention (214 (37.7%) “maybe would consider”, and 94 (16.5%) “would absolutely consider”).

In response to the question “How willing are you to participate in an intervention (either online or face-to-face) to learn about how to maintain closeness in any of your other previous close friendships?”, 294 (51.7%) participants were willing to consider intervention (224 (39.4%) “maybe would consider”, and 70 (8.5%) “would absolutely consider”).

6.7 Discussion

The aim of this chapter was to identify the frequency of restoration of close friendship following dissolution over a 6- and 12- month period, and to determine which factors best predict restoration. The findings of this study are discussed in relation to the literature review in the introduction chapter.

6.7.1 Study 1. Descriptive statistics for participants in restored and unresolved groups at 6- and 12-month follow-up

Within the current study, 14.5% of previously close friendships had restored to close/best friend status by the 6-month follow-up. Wave 1 casual friends were the most likely of the status groups to have restored 6- and 12-months later. Former close friends were more likely to restore to a close or best friendship level than former best friends. These findings are unsurprising given that casual and close friends sit on either side of the close-not close friendship line. Thus, movement between the two groups required the least amount of change in the current study. There was no clear difference between restoration reported by males or females, or by gender-dyad combination.

6.7.2 Study 2a. Predicting wave 2 restoration with wave 1 relationship outcome measures

As discussed in the dissolution chapter, clinicians aim to find measures that provide information to support the mental health of their clients. These tools may be used during the initial assessment phase of therapy or in subsequent sessions as additional information arises over the course of therapy. These tools assist in a range of areas such as goal development and evaluating the quality of people's support networks. The current study examined the ability of six established measures of relationship quality (emotional closeness, expected future satisfaction, current contact, commitment, breakup distress, and readiness to change (restore), as well as the best combination of these measures, to predict future restoration of close friendships. This was done to determine whether these measures can detect previous friendships that are likely to restore in the short-term (i.e., in the next 6 months) as opposed to those that are not. This may allow clinicians to better identify potential additional sources of support for their client that could be supported in the therapy setting (i.e., restoration is likely to be successful), and identify friendships where attempts to restore are likely to be unsuccessful and may pose additional risk to the wellbeing of the client. For example, chronic rejection has been found to result in lifelong struggles with depression, the development of core beliefs such as not being worthy of inclusion, helplessness, and lack of confidence to develop new friendships, and/or suicide if intervention is not sought and fundamental needs continue to be unfulfilled (Williams, 2009).

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Emotional closeness was the strongest predictor of future restoration. Commitment, expected future satisfaction, readiness to change, and current contact also predicted future restoration, whereas breakup distress did not. When put in a model together, the combination of emotional closeness and expected future satisfaction was best at predicting future restoration, with emotional closeness contributing the most to the model, followed by expected future satisfaction. The social network circles are by definition measured by emotional closeness (Almaatouq et al., 2016; Hill & Dunbar, 2003), so it is unsurprising that an increase in emotional closeness is related to a simultaneous increase in status, but interestingly it appears that an increase in emotional closeness also precipitates the cognitive change in status classification, as does an increase in expected future satisfaction. The ability of emotional closeness to predict restoration is discussed more below.

Commitment, emotional closeness and expected future satisfaction were also found in Chapter 5 to predict future dissolution at the univariate level. Expected future satisfaction was the only factor found to uniquely predict both dissolution and restoration when combined with other measures in multivariate analyses, although in the restoration model emotional closeness was a stronger contributor. As discussed in the dissolution chapter, this is consistent with Baker et al.'s (2017) finding that expected future satisfaction predicts future dissolution in romantic relationships. This suggests that expected future satisfaction may also be a useful tool in predicting change between close and not close friendship status, and that considering expected future satisfaction and emotional closeness together may increase accuracy in predicting future restoration of close/best friendship status. However, the Nagelkerke R^2 for the model in the current study was only .113 (11.3%) which suggests that the model is reasonably weak at predicting future restoration, but when considered alongside other predictors of restoration this may assist in identifying friendships where restoration is more likely to be successful in the near future.

6.7.3 Study 2b. Predicting wave 2 restoration with wave 1 exploratory measures

To determine whether it is possible to better predict future restoration, many factors that are known in the literature to impact outcomes in interpersonal relationships were explored by grouping factors into themes that reflect the contextual model of relationship outcomes and comparing the relative strength of

each model. This approach was chosen to identify the relative strength of groups of factors, as well as factors within their group, and better understand which factors are pertinent when predicting future restoration so that future research can focus more on these factors. Thirteen groups were compared: distal factors (actor; friend), interpersonal processes (actor; friend), positive factors (actor; friend), negative factors (actor; friend), oppositional factors (actor; friend), contextual factors (actor; friend), and friendship dynamic factors.

6.7.3.1 Intrapersonal factors model – actor-factors

The strongest multivariate model at predicting future dissolution was the actor-intrapersonal factors model. This model consisted of the intrapersonal measures from the model discussed above and other intrapersonal factors found in the literature to impact outcomes in interpersonal relationships. The final model was stronger than the previous model discussed and consisted of current emotional closeness, commitment and hurt. Emotional closeness was the strongest contributor to the model, and the strongest predictor of future restoration at the univariate level, indicating that it is worth considering when exploring restoration of friendships. Thus, as in Chapter 5, this suggests that changes in emotional closeness precipitate cognitive changes in status classification, and in this case an increase in emotional closeness, and in particular positive emotions, appears to precipitate future restoration.

Three measures of emotional closeness were included in the univariate analysis (emotional closeness, positive emotions, and negative emotions), and it is worth noting the strength of each to predict future restoration given that emotional closeness was found to be the strongest predictor in the multivariate regression analysis to further understanding how emotional closeness impacts restoration. The emotional closeness question was a general question of overall emotional closeness and was the strongest of the three predictors at the univariate level. Both higher positive emotions and lower negative emotions predicted future restoration. Interestingly, positive emotions were stronger than negative emotions at predicting future restoration in the current study, and both positive emotions and negative emotions were stronger predictors than current hurt at the univariate level.

The second strongest contributor to the actor-intrapersonal factors multivariate model and the strongest of the univariate models was commitment. Both expected future satisfaction and commitment were found to explain the same

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amount of variance at the univariate level and were highly correlated. Considering the impact of temporal projection bias and motivation associated with emotional closeness (both positive and negative) on commitment behaviours discussed above (Lemay et al., 2015), it is unsurprising that both expected future satisfaction and commitment were similarly predictive of restoration at the univariate level. However, compared to the previous model discussed, expected future satisfaction posed an issue for multicollinearity when combined with the other intrapersonal factors rather than commitment, suggesting that expected future satisfaction was more highly related to the interpersonal factors considered in the current study than commitment.

The literature has found that people believe that the feelings they have on a given day will be replicated the following day, regardless of whether their expectations are later met, so positive emotions motivate them to engage in committed behaviours that may foster restoration (e.g., Baron, 1992; Totterdell et al., 1997; Armor & Taylor, 1998; Assad et al., 2007; Murray & Holmes, 1997; Srivastava et al., 2006). For example, Lemay et al. (2015) found that adults express higher commitment and care when they believe that they will feel more positively and less negatively (measured on separate scales) about their romantic partner the following day, and lower commitment if they believe they will feel more negatively and less positively because they are motivated to continue experiencing positive emotions, and to experience fewer negative emotions.

When people have positive emotions and cognitions this tends to increase other positive memories, thoughts, and feelings, thus intensifying the positive emotions and cognitions, such as liking, and this assimilation effect is also found regarding negative emotions and cognitions, such as the feeling hurt (i.e., temporal projection bias; Lemay et al., 2015). This process may be less cognitively demanding than evaluating whether emotional closeness will actually be replicated in the near future, which allows people to continue engaging in other cognitively demanding day to day tasks (Lemay et al., 2015).

Older adults have been found to experience increases in emotional closeness following both positive and negative social exchanges with friends. In contrast, younger people have been found to only experience increase in emotional closeness from positive social exchanges with friends over a 2-year period (Fung et al., 2009). Given that the majority of the current sample were aged between 18-25, and relatively few people in the sample were in the older

adult group, it is unsurprising that the current sample found that positive emotions were more predictive of restoration than negative emotions and hurt. It is possible that in an older adult only sample this may not be replicated.

Research in child friendships has found that emotional forgiveness is a type of forgiveness that includes not only deliberate positive changes in behaviour towards a transgressor (i.e., decisional forgiveness), but also positive shifts from negative to positive emotions, cognitions, motivation, and committed behaviours (Kemp et al., 2021; Worthington et al., 2007). Forgiveness has been found to facilitate restoration of connection in close interpersonal relationships (Strelan, 2018). However, given that forgiveness requires changing thoughts, feelings, and behaviours, which requires cognitive effort, it is unsurprising that people tend to require an apology for transgressions before committing to the process of deliberate and/or emotional forgiveness (Kemp et al., 2021).

Higher reported daily rumination of negative events and anxious attachment styles have been found to have higher negative emotions (such as distress and sadness), fewer positive emotions (such as happiness) towards previous romantic partners, and rumination has been found to mediate the decrease in forgiveness in people with anxious attachment (Burnette et al., 2009). This is despite people with an anxious attachment being more likely to want to restore with their former partner than people with other attachment styles (Barbara & Dion, 2000). Forgiveness is also disrupted in people with avoidant attachment styles because they lack empathy toward their former partner (Burnette et al., 2009), and they are the least likely of the attachment styles to wish to restore (Barbara & Dion, 2000). Thus, the interpersonal process of rekindling emotional closeness and commitment toward previous close friends is likely impacted by distal factors such as attachment styles, even when apologies have been offered by either friend.

It is also likely that status classification change requires the agreement, or perceived agreement, of both dyad members. In addition, people may be emotionally ready to restore and engage in committed behaviours to signal interest but may seek feedback from the dyad member, such as by employing a range of “secret tests” and regulatory behaviours (e.g., asking peers for insight, indirect questioning making reference to the desired status level in the friend’s presence (i.e., “close”/“best friends”) to see if they can gauge their desired level; suggesting doing activities together) to increase clarity about the friend’s mindset,

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before cognitively resuming a close or best friend status level (e.g., Akbulut & Weger, 2016; Baxter & Wilmot, 1984; Bell & Buerkel-Rothfuss, 1990; Guerrero & Chavez, 2005; Knobloch & Solomon, 2002; Rose et al., 2016; Weger & Emmett, 2009).

6.7.3.2 Contextual factors model – actor-factors

The next strongest model at predicting future restoration was comprised of contextual factors affecting the actor that have been found to have a secondary impact on interpersonal outcomes. People were more likely to restore with friends that their partner had previously been sexually attracted to, whereas higher likeability reduced the likelihood of restoring in the future. A history of peer verbal victimisation and ostracism of the actor from mutual peers were also found to reduce the likelihood of restoring in the future at the univariate level but did not contribute significantly to the multivariate model.

The evolutionary psychology literature suggests that mate defending occurs when people believe that their romantic partner may be interested in attractive alternatives (Lemay, 2016), which may result in an emotional and behavioural distancing (e.g., ostracism) from a close friendship. In addition, people may derogate their friend (e.g., verbally victimise) with or without their friend present to make the friend appear less appealing to the romantic partner in an attempt protect the quality and longevity of the relationship (Lemay, 2016). It is interesting that partner sexual interest in one's friend was not predictive of dissolution at the univariate or multivariate level in Chapter 5, but that it was predictive of future restoration. Future research could explore reasons for this, such as whether it is a change in the level of partner sexual interest in one's friend, effective boundary setting, or partner-influence (e.g., encouraging restoration in order to increase access to the friend) that facilitate restoration.

Another finding in the contextual factor model was that people who perceived themselves to be more generally likeable were less likely to restore closeness with friends. It is possible that these people had more alternative friends or potential to develop other close friends so chose to pursue those friendships rather than attempting to restore previous close friendships. Future research could explore the relationship between unlikability and restoration further.

6.7.3.3 Oppositional behaviours model – friend-factors

The next strongest model for predicting future restoration consisted of a variety of different oppositional behaviours engaged in by the friend the in the

few months prior to dissolution. When considered all together, the two unique predictors of future restoration were being verbally victimised by the previous friend and being ostracised by the friend, both of which predicted a lower chance of future restoration. Stonewalling was also in the final model but did not contribute significantly.

Together with the findings that ostracism and verbal victimisation predict dissolution in Chapter 5, it appears that ostracism and verbal victimisation have long lasting effects that hamper restoration in the future. It is possible that restoration willingness and attempts are lessened for people who have been targeted by their friend because of residual hurt feelings and a fear of future rejection. It is also possible that since the effects of dissolution appear more permanent with the use of these techniques, people who target their friends may have detected a fundamental issue with the close/best friendship status that they do not believe will be rectifiable in the future, thus they are willing to sever the connection. In addition, the literature found that people are more likely to ostracise people they feel are less socially able than themselves, even in romantic relationships (e.g., Lemay & Clark, 2009).

Ostracism and verbal victimisation within best friendships has been found in the literature to reduce the likelihood that the best friendship will be protective against group bullying, whereas best friendships that are not characterised by ostracism and verbal victimisation have been found to be protective (Boulton et al., 1999). The friend may also assume the role of aggressor, pro-aggressor, or act neutrally toward their targeted friend when group bullying occurs, which exacerbates group bullying (Boulton et al., 1999; Wojcik & Flak, 2021) and has been found to indicate that the friend approves of the group bullying of their friend (Jones & Rutland, 2020). It is unclear in the current study whether higher ostracism and verbal victimisation from one dyad member is related to more of these behaviours in the other dyad member, with each member taking on both the role of perpetrator and victim, or whether there tended to be one perpetrator and one victim. Future research could explore this further.

6.7.3.4 Intrapersonal factors model – friend-factors

The next strongest model at predicting future restoration contained factors about the previous close friend's intrapersonal processes (e.g., hurt, liking, motivation), both in the months leading up to the dissolution of the close friendship (pre-dissolution) and at time of assessment (current). At the

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multivariate level, the amount the friend wanted to restore close/best friendship status (as perceived by the participant) uniquely predicted future restoration. It is possible that when people want to restore close friendships, they let the friend know or send cues to the person to determine if this desire is reciprocated (e.g., verbally telling them, telling mutual friends they want to restore, calling the person a close friend to see if the friend appears comfortable with this label). It is also possible that knowing that a friend wants to restore closeness reduces friendship uncertainty and the chance of being rejected or socially humiliated if one decides to make a restoration attempt, making restoration more likely.

Believing that their previous friend was less hurt during the dissolution also predicted a higher chance of future restoration, and uniquely contributed to the model but to a lesser degree. It is possible that higher amounts of hurt resulted from more challenging issues in the dissolution process, such as ostracism, victimisation, and peer influence, which may have reflected higher intention to permanently sever the close friendship. Thus, less hurt may have reflected less permanent and severe methods of reducing friendship status, and less likelihood of future rejection and hurt, and more willingness to restore closeness.

6.7.3.5 Negative behaviour models

The next two strongest models to predict future restoration consisted of negative behaviours of each dyad member. Both multivariate models included the unique contributor sexual interest in the friend's romantic partner leading up to dissolution, which predicted a higher chance of future restoration. Sexual interest was the strongest of the contributors in both models.

It is interesting that prior sexual interest increased the likelihood of restoration given that mate defending behaviours typically result in emotional and/or physical distancing from the other person, verbally victimising them (e.g., derogation), and attempting to divert their own romantic partner's attention from the other person to themselves (Baker et al., 2017; Meyer et al., 2011). It is possible that, in situations where sexual interest in a partner occurs, status decrease may occur until clear boundaries are both established and adhered to, during which motivations are evaluated (such as mate poaching intentions), interest in the other person's partner may diminish over time, a person may develop their own romantic relationships or have an increase in satisfaction in their own relationship, or there may be a dissolution in the other person's romantic relationship which eliminates the conflict of interest. It is also possible

that sexual interest in the other person's partner may increase the chances of repairing the friendship to regain emotional or physical access to their partner. Further research should explore the interplay of these factors as well as the relationship between sexual interest amongst all members of friendship pairs because it is possible that friends may be sexually interested in similar people so both friends may be sexually interested in each other's partners, which may exacerbate or mitigate the impact on mating behaviours.

The second unique contributor in the friend's negative behaviour model was eccentric behaviour in the few months prior to dissolution (i.e., behaving in odd or strange ways) and the second contributor in the model regarding one's own negative behaviours was silly behaviour in the few months prior to dissolution, both of which negatively predicted the chances of restoring in the future. Silly behaviours are typically behaviours that are "foolish, childish or ridiculous" (Collins, n.d., para. 1). It is possible that both eccentric and silly behaviours in general indicate a lack of cohesion, respect, and understanding of one's another's behaviours, making them seem odd and trivial. However, the current study did not differentiate between different types of silliness, and it is possible that the combination of shared silliness and spontaneous shared laughter may be related to an increased chance of restoration. For example, one study found that more time spent spontaneously laughing together (i.e., shared laughter) when discussing how romantic couples first met has been found to be related to higher emotional closeness, support, and relationship quality, after controlling for other types of conversational laughter (Kurtz & Algoe, 2015). Thus, it would be helpful for future research to study how different types of silliness impact future restoration of close friendships.

6.7.3.6 Distal factors model – actor-factors

The next strongest model at predicting future restoration included factors about actor that indirectly impacts their behaviour and are reasonably stable across time (e.g., personality and intelligence). Unique contributors to the model included anxious attachment to the friend prior to dissolution and current introversion, both of which positively predicted future restoration. This indicates that retrospective reporting of being more anxiously attached to a close friend may be an indicator that restoration is more likely for that individual. This supports research that has found that higher attachment anxiety to close friends is predictive of higher investment and commitment to the friend (Chow & Tan,

2013). In addition, research has found that people with an anxious attachment style are more likely to want to restore romantic relationships, despite continuing to have more negative than positive thoughts about their former partner (Barbara & Dion, 2000).

The results of the current study should be interpreted with caution because this measure included only one of the four items in the original scale, indicating that this aspect of anxious attachment to one's friend is predictive, but it is uncertain if the other items in the scale are. Future research should include the full scale to explore this concept further, as well as explore the quality of the restored friendships (e.g., positive and negative emotions) when restoration occurs. Introversion was not a significant predictor of future restoration by itself, but when combined with other factors in the multivariate model it became significant. This suggests that people in the current sample who were anxiously attached to their friend prior to dissolution may also be more introverted.

6.7.3.7 Positive behaviour models

The next strongest models at predicting future restoration consisted of positive behaviours engaged in by the friend and the actor in the lead up to dissolution. Regarding friend-positive behaviours, several pre-dissolution behaviours predicted future restoration at a univariate level, but when combined into the model together, only loyalty uniquely contributed to the model, positively predicting future restoration. Gratitude was close to significance in the model ($p = .050$) and may be significant with a larger sample. The findings suggest that people are more likely to restore closeness with friends who they believe to have remained loyal to them during the process of dissolution. This stresses the importance of managing interactions and altercations well where possible (e.g., not "burning bridges") so that restoration may be more possible in the future. This adds to findings by Kito (2016) that found that loyalty was one of the four factors (alongside helpful relational communication skills, caring, and honesty) that explain all seven of the key concepts they identified in romantic relationships quality (love, trust, relationship quality, commitment, intimacy, passion, and satisfaction) by demonstrating that it also predicts restoration in close friendships.

Regarding actor-positive behaviours, several pre-dissolution behaviours predicted future restoration at a univariate level, The pre-dissolution factors in the final model were being authentic, being trusting, good communication ability, and being considerate. However, there were no significant contributors in the

multivariate model and the model only weakly predicted future restoration. This indicates that when considered together there were no actor-positive behaviours that uniquely predicted future restoration.

6.7.3.8 Friendship dynamics model

The next strongest model consisted of interactive factors that involved both dyad members, such as being bothered by the other person's morals, values, and changes in time spent together. Being bothered by one another's morals pre-dissolution predicted future restoration in the univariate models. However, only being bothered by one's friend's morals uniquely contributed to the multivariate model. The model was relatively weak at predicting future restoration. This finding supports the stimulus-value-role model which stipulates that people select other people to have a role in their lives, in part by the level to which the other person's attitudes and values align with their own (e.g., morals; Murstein, 1970), by demonstrating that discrepancies in morals also impacts reselection of previously selected close friends in the future. Moral discrepancies and violations may include expressing differences of opinion on moral based issues, constructive deviance (e.g., suggesting positive changes to the ways things are currently done), or demonstrated conformity to group-morals via choosing acceptable group behaviours (e.g., Nezlek et al., 2015; Pfundmair, 2019; Wang, 2022; Williams, 2009).

The literature has shown that individuals who are known to have previously deviated from a group norm or rule receive less support from group members in the event of ostracism and receive harsher moral judgments from peers (Nezlek et al., 2015; Williams, 2009). This is exacerbated when the targeted individual appears to be socially similar to the rejector, resulting in a biased assumption that the rejector's motives are punitive (i.e., a deserved punishment) rather than malicious (i.e., coercive) in nature, and the attribution of blame toward the target rather than the rejector (Rudert et al., 2018). While demonstrated aggression is higher in younger adults (e.g., in the female population; Kalemi et al., 2019), the desire to punish others for "immoral" rule violations in daily life has been found to be higher in older adults, adults with more conservative political beliefs, people who identify themselves as more morally superior, and the degree to which the person feels socially closer to the perpetrator than the victim (Hofmann et al., 2018). In addition, people tend to demonstrate hypocrisy by morally judging others more harshly following transgressions, while giving

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themselves more leniency, when they believe that one's needs in close friendships and romantic relationships can only be met via the use of competitive behaviours (Weiss et al., 2021). Decreasing external pressures on social groups, such as high competition environments or time- or resource-poor situations, has been suggested to help foster group inclusiveness, empathy, and tolerance of the weaknesses of group members (Robinson et al., 2013; Rudert et al., 2019; Rudert, 2020).

The current study adds to the literature by finding that being bothered by moral discrepancies prior to dissolution is a warning sign that dissolved close friendships are less likely to restore in the future. Future research could explore the impact of competitive environments and mindsets on forgiveness and restoration of closeness in friendships where moral discrepancies or hypocrisies have been identified, and whether decreases in competitiveness increase likelihood of restoration. It would also be interesting to determine the level of awareness people have of their own moral hypocrisy within close friendships.

6.7.3.9 Contextual factors model – friend-factors

The next strongest model consisted of contextual factors, or situational factors, impacting the friend prior to dissolution that had an impact on future restoration (such as peer influence and mental health). The multivariate model had one unique contributor: peer ostracism of the friend prior to dissolution, which negatively impacted future restoration. This suggests that either peers influence whether close friends restore post dissolution, or that when close friends dissolve, they influence the peer group to align with them and gain strength in alienating their friend.

The literature has found that friends who act neutrally or support ostracism of friends (i.e., are pro-aggressor), tend to agree with and be pleased by the ostracism of the friend (Jones & Rutland, 2020; Wojcik & Flak, 2021), whereas when witnesses of ostracism are angered by the behaviour they make plans and take actions to eliminate the ostracism (e.g., by telling the perpetrator that the behaviour is unacceptable) which typically have an immediate effect on eradicating the behaviour (Jones & Rutland, 2020). Research has also found that people are more likely to be pleased by, or agree with, the ostracism of friends or peers for a range of reasons, such as the person not abiding by the rules of the group, regardless of whether the person has group-enhancing intentions (e.g., constructive deviance), or self-motivated intentions (Jones & Rutland, 2020;

Nezlek et al., 2015; Wang, 2022; Williams, 2009). Some growth in ability to refrain from peer pressure occurs from ages 14-18 years of age, however, little growth occurs in the surrounding age groups (10-14 years or 18-30 years of age; Steinberg & Monahan, 2007). The current findings suggest that ostracism is worth exploring more to determine why it occurs in close friendships and associated peer groups, and how strongly peer-group ostracism is related to within-dyad ostracism.

6.7.3.10 Distal factors model – friend-factors

The next strongest model at predicting future restoration included factors about the friend that indirectly impact their behaviour and are reasonably stable across time (e.g., personality and intelligence). People whose previous close friend had higher self-esteem in the few months prior to dissolution were more likely to restore closeness with them in the future. It is possible that these people did not ostracise or try to control their friend during their dissolution process because literature has found that ostracism and controlling behaviours significantly impair the self-esteem of targets (e.g., Ali et al., 2014, Hales et al., 2020; Kelly & Johnson, 2008; Krantz & Dang Vung, 2009; Lutz, 2022) which may indicate they had less intent to permanently sever the close friendship and created fewer obstacles to restoring closeness with the person in the future. Likewise, research into adult female aggression has found that higher aggression is independently predicted by low self-esteem (Kalemi et al., 2019), which indicates that close friends who have higher self-esteem prior to dissolution are less likely to behave aggressively, which may make restoration with them more feasible and safer. It is also possible that the friend had higher expected future satisfaction prior to dissolution, which is both uniquely predicted by higher self-esteem and predictive of commitment (Baker et al., 2017), and may result in more commitment to restore closeness in the future. However, the friend-distal-factors model was relatively weak at predicting restoration, indicating that other models are better at predicting restoration.

6.8 Conclusion

In conclusion, this chapter sought to determine predictors of future restoration of close friendships in adulthood. Of the groups of factors studied, the strongest multivariate models (and unique contributors to each model) in descending order were the actor-intrapersonal processes model (higher emotional closeness and higher commitment), actor-contextual factors model (actor's romantic partner

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more sexually interested in one's friend and low likeability), friend-oppositional behaviours model (less ostracism and verbal victimisation of actor by friend), friend-intrapersonal processes model (higher motivation (desire) and lower hurt), actor-negative behaviours model (lower eccentricity and higher sexual interest in friend's romantic partner), friend-negative behaviours model (lower silly and higher sexual interest actor's romantic partner), actor-distal factors model (higher anxious attachment to friend and lower extroversion), friend-positive behaviours model (higher loyalty), friendship dynamic factors model (friend's morals bothered actor less), friend-contextual factors model (lower peer ostracism of friend), and friend-distal factors model (higher self-esteem).

The overall model combining the significant predictors found that when combined, the unique factors predicting future restoration of close friendship in descending order of strength were higher friend sexual interest in one's romantic partner pre-dissolution, friend-motivation (desire) to restore, actor-emotional closeness, and lower actor-likeability. The model was much stronger than the other models discussed above, obtaining a Nagelkerke R Square of .609 (60.9%). This overall model was almost twice as strong at predicting future restoration as the strongest concept model discussed above (the actor-intrapersonal processes model, Nagelkerke R Square .325 (32.5%)). However, the results from the overall model should be interpreted with caution because of low participant numbers in the restored subgroup and more factors included in the analysis than is optimal for that number. In contrast, the numbers of factors in the individual models were more appropriate for the number of participants in restored group.

Together, the results highlight several important points regarding the likelihood of close friendship restoration. First, peer influence (i.e., peer-group initiated) and/or peer influencing (i.e., dyad member influencing group) can result in a mobbing response to conflicts and transgressions, where peers select one dyad member to support and together bully the other dyad member. Combined with findings from the ostracism chapter of this thesis (Chapter 7) the results suggest that in turn, the bullied dyad member is likely to respond by increasing their own ostracising and victimisation behaviours. Such behaviours decrease the likelihood of future restoration. These results support adolescent research that has found that "gossiping and sharing secrets" was one of the five major causes of resentment in adolescent friendships (Öztürk & Atli, 2021, p. 667). Managing conflicts within-dyad rather than including the peer-group may decrease the

chances of group mobbing and retaliation, demonstrate loyalty, and result in less damage to one another's self-esteem, emotional closeness, and commitment.

Another theme in the results was the increased likelihood of restoration in close friendships that have been impacted by sexual interest in or from the romantic partners of either dyad member. The adolescent literature has found that one of the five main sources of resentment in adolescents is their friend "falling in love with" their romantic partner (Öztürk & Atli, 2021, p. 667). The current research extends these findings by demonstrating that despite the apparent instability that sexual tension between friends and romantic partners may cause, they are also more likely to restore in the future. It is likely that appropriate boundary setting or changes in romantic relationship status or partners may allow friends to restore closeness in friendships that are otherwise high in friendship quality. It is also possible that motivation to restore is influenced by a desire to have more contact with the friend's romantic partner (or vice versa) rather than the friend themselves, which may result in the downplaying of sexual interest in an attempt to have higher access to person they are sexually interested in.

Finally, and most importantly, the results suggest that restoration involves both members of a dyad being emotionally invested in the process. Oswald and Clark's (2006) statement "although each person may bring to the relationship certain personal styles and social skills...it takes two people, working together, to maintain a friendship" (p. 346) could be extended to say "...and restore a friendship". The sample demonstrated substantial interest in learning more about strategies to restore their previous close friendships, via intervention programs, further suggesting that many people are interested in learning how to navigate restoration more effectively and the possible benefits of associated research for clinical populations and the public at large.

It is worth noting that restoration may not always be the optimal goal for dissolved friendships. While good quality close friendships tend to increase mental health and wellbeing (e.g., Binder et al., 2012; Holt-Lunstad et al., 2015), close friendships that are strained or characterised by bullying or other frenemy behaviours (e.g., ostracism, verbal victimisation, pro-antagonist or neutral in peer groups) are detrimental to mental health and wellbeing (e.g., Chopik, 2017; Forbes et al., 2020; Nezelek et al., 1994; Sutin et al., 2020; Troop-Gordon & Ladd, 2005). Close friendships characterised by bullying or frenemy behaviours have also been found to exacerbate peer ostracism and bullying of the target friend

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(Boulton et al., 1999; Wojcik & Flak, 2021). Consequently, successful restoration of close friendship may require personal insight, behaviour change, and maintenance on the behalf of both dyad members, which may be expressed via apologies for one's own role in the dissolution, forgiveness, and continued attempts to positively modify own behaviours and responses to the friend (e.g., Dunbar and Machin, 2014; Kemp et al., 2021; Strelan, 2018).

Where forgiveness and positive behaviour change is not sustained, restoration may lead to further harm to mental health and wellbeing, especially when abusive behaviours are present (e.g., Pape & Arias, 2000). Researchers have found that following romantic relationship breakups a small subset of people experience increased wellbeing and mental health, an increased understanding of oneself in the role of the dissolution, and an increased ability to identify and form personal goals to change specific behaviours in future to reduce future dissolution (e.g., Helgeson et al., 2006; Hebert & Popadiuk, 2008; Kansky & Allen, 2018; Lewandowski and Bizzoco, 2007; Tedeschi & Calhoun, 1996). This experience is called post-traumatic growth (Tedeschi & Calhoun, 1996). Thus, it is important to assess the benefits and costs of restoration on a case-by-case basis (Kansky & Allen, 2018; Pape & Arias, 2000), and to understand that benefits and costs may change over time as dyad members reflect on their role in, and response to, the dissolution. Thus, while restoration may not be suitable in the short-term, under certain circumstances it may still be possible further in the future.

A strength of the current study was that it evaluated and compared the ability of a wide range of factors to predict future restoration of close friendships that had been found in the literature to predict interpersonal outcomes in the child/adolescent friendship literature and the adult romantic literature and was able to demonstrate that close adult friendships are impacted by the similar factors as these related populations. Another strength of the study is that the study was also longitudinal, which allowed for the analysis of the change in close friendship to have occurred within the timeframe of the current study. The study also incorporated different genders, ages, breakup-initiation status, and included a wide range of nationalities, thereby decreasing the chance of a homogenous sample and allowing for comparisons of these factors where needed. However, it is noted that there was an overrepresentation of younger adults, females, participants who identified as "White", and participants residing in Australia in the sample.

The current study has several limitations that should be addressed in future research. First, many items in the study were face-valid items which poses an increased risk that items may have been interpreted differently by different participants. An attempt was made to reduce this risk by providing thesaurus examples of the intended meaning of the concept based on the concept retrieved from the literature. However, future research should examine these concepts using established measures. As discussed above, another limitation is that while there are a reasonable number of participants who were involved in wave 2 of the study, there was only a comparatively small number in the restoration group.

It would be ideal for future research to have more even numbers in comparison groups. Also, it was not clear in the current study how recently dissolution occurred. Research has found that restoration of interpersonal relationships is most likely within the first month following a conflict, decreases significantly with each subsequent month, and is rare after the first 12 months (Dunbar & Machin, 2014). Thus, for people who reported on historic close friendships (i.e., that had dissolved long ago) the chance of restoration is likely to have been much poorer. It is possible that people in the current study may also have reported on recently dissolved close friendships which may have inflated rates of restoration reported. Future research should ask participants how recently dissolution occurred so that this can be controlled for or compared

Chapter 7: Ostracism of close friends in adulthood

7.1 Playlist: Ostracism

Playlist link

<https://open.spotify.com/playlist/4TL1cZIdf3CfyxSJYPgkhk?si=7e2a7c249bd447>

[36](#)

Songs

“That friend” (Tsai, 2021, track 1)

“Backseat rider” (Kays, 2021, track 1)

“Ex best friend” (Kole, 2021, track 1)

“Positively 4th Street” (Dylan, 1965, track 9)

7.2 Rationale

The introductory chapter to this thesis identified the question of whether adults personally ostracise their close friends (now referred to as actor ostracism of friend) and why. Ostracism involves excluding or ignoring another person, either in person or when they are not present (Wesselmann et al., 2017). Existing studies tend to focus on ostracism from social groups in childhood and adolescents (e.g., Arslan, 2019; Boulton et al., 1999; Wójcik & Rzeńca, 2021), ostracism within the workplace environment in adults (e.g., Liu et al., 2021), ostracism in simulated online gaming experiences, or the experiences of targets of ostracism retrospectively (e.g., Wójcik & Rzeńca, 2021). Both actor and target experiences of ostracism have been researched in these settings (e.g., Hales et al., 2020; Jaubert et al., 2022; Lutz, 2022; Wójcik & Rzeńca, 2021), as well as bystander/witness responses to ostracism in social groups (e.g., Jones & Rutland, 2020; Legate et al., 2021).

Less research has been conducted on ostracism within close friendships, especially in adulthood. In chapter 5, within-dyad ostracism was found to impact close friend dissolution at the multivariate level, and peer ostracism was found to impact close friend dissolution at the univariate level. In chapters 6 and 7, within-dyad ostracism was predictive of distress and restoration at the univariate level, peer group ostracism was found to impact current distress and restoration of close friendship at the multivariate level, and within-dyad ostracism was found to impact restoration at the multivariate level. This indicates that ostracism has an

impact on maintenance, distress, and restoration in close adult friendships and warrants further exploration.

This study aims to quantitatively analyse the frequency and the best predictors of ostracism of close adult friends based on the wide variety of factors that significantly impact outcomes in child/adolescent friendships, adult interpersonal relationships, and adult romantic relationships. Further, it aims to assess predictors of ostracism of both current close friends (i.e., present time) and of previous close friends (i.e., retrospectively) to determine whether current and retrospective predictors are similar. This study also aims to determine the strength of the relationship between actor, target, and peer ostracism to determine whether this behaviour is unidirectional, bidirectional, or multidirectional.

It is hypothesised that higher avoidant attachment, antagonism, verbal victimisation, and sexual interest will be the best predictors of ostracism of close friends. It is also hypothesised that there will be a high correlation between actor ostracism of a close friend, the perception of ostracism of oneself (actor) from the close friend, the perception of peer ostracism towards oneself (actor), and the perception of peer ostracism towards the close friend.

7.3 Study 1. Actor ostracism of current close friends: Current perspective

7.3.1 Aim

The aim of the study was to understand the frequency of current close friend ostracism and verbal victimisation perpetrated by peer groups or personally (i.e., actor administered). It also aims to understand a wide range of possible factors predicting current ostracism of a current close friend based on the thirteen groups of variables identified in previous chapters (actor-distal factors, actor-intrapersonal factors, actor-demonstrated positive behaviours, actor-demonstrated oppositional behaviours, actor-other demonstrated negative behaviours, actor-contextual factors, friend-distal factors, friend-demonstrated positive behaviours, friend-demonstrated oppositional behaviours, friend-other demonstrated negative behaviours, friend-contextual factors, and friendship dynamic factors).

7.3.2 Participants

Participants included 827 participants who started the CCF section of the wave 1 survey. Given the extensive survey length, incomplete survey results were also considered, and numbers included in models differ based on the number of participants who had completed the survey questions relevant to that model. The sample contained 607 females, 209 males, 9 non-binary, 1 “other”, and 1 person

CHAPTER 7: OSTRACISM

“decline to state” their gender. Participants reported on a same-gender friendship 85.7% of the time. Best friendships accounted for 48.6% of friendships discussed, and close friendships accounted for 51.4%. The age of participants was skewed toward younger adults, with 63.6% of participants aged 18-24 years. The sample consisted of participants who resided across 28 countries, with the majority residing in Australia (75%) or the United States (14.3%). A full set of sociodemographic and dyad information is contained in Appendix H.

7.3.3 Data analysis

In the current study, descriptive analyses, frequency analyses, and a series of univariate and multivariate linear regression analyses were conducted using IBM SPSS Statistics (Version 27). Thirteen groups of variables were explored in the analysis and the final model factors for each group were included in a final analysis (see Appendix E). For each group, univariate linear regressions were undertaken for each predictor and a cut-off point of $p < .20$ was used for inclusion in each multivariate regression analysis (Hosmer et al., 2013). Linear regressions were run for each of the 13 models. Linear regression assumptions including independence of errors, linearity in the logit for continuous variables, absence of multicollinearity, and lack of strongly influential outliers were assessed. Data were assessed for multivariate outliers using a Mahalanobis distance test and Cook’s distance test (Tabachnick & Fidell, 2013), and multivariate outliers removed. Multicollinearity was assessed using both a Spearman correlation matrix between continuous non-normally distributed predictors and assessment of VIF and tolerance values.

7.3.4 Results

7.3.4.1 Frequency of within dyad and peer ostracism and verbal victimisation in current close friendships

Ostracism of current close friends was uncommon, with 81.3% of participants stating that they never ostracise their close friend, 8.8% stating they occasionally ostracise their close friend, 6.5% indicating they sometimes ostracise their close friend, 1.7% stating they regularly ostracise them, and 1.7% indicating they always ostracise them. This indicates that only 3.4% of participants frequently ostracised their close friend. Similarly, participants indicated that it was uncommon to experience ostracism from their close friend, with 77.1% stating that their close friend never ostracises them, 9.8% indicating this occurs occasionally, 8.8% indicating this occurs some of the time, 2.8% stating this

occurs regularly, and 1.5% indicating that their close friend always ostracises them. Thus, only 4.3% of participants were frequently ostracised by their close friend. This indicates that 18.7% to 22.9% of participants of close friendships experiences some level of within-dyad ostracism, but that higher levels of ostracism were rare, with ostracism typically being infrequent or non-existent. Comparing this with within-dyad verbal victimisation, 18% of participants indicated they verbally victimise their close friend to some degree, but that this is typically infrequent with only 2.5% of participants engaging in this behaviour frequently, and 18% of participants indicated that their friend verbally victimises them, but again this behaviour is typically infrequent, with only of 3.8% of people reporting being frequently verbally victimised by their close friend.

In contrast, peer ostracism of each dyad member was reported as being more frequent than within-dyad ostracism. Participants believed that they were more frequently ostracised by mutual peers than their close friends, with 49.1% indicating that they are ostracised by peers to some degree, and 29.3% indicating that their close friend is ostracised by their peers to some degree. Again, higher levels of peer ostracism were rare for both dyad members, with most peer ostracism being considered infrequent or occurring sometimes. Compared to peer verbal victimisation, 30.1% of participants indicated they are verbally victimised by mutual peers to some degree, but that this typically occurs infrequently, with only 5% of participants believing this occurs frequently, and 26.8% of participants indicated that their friend is verbally victimised by mutual peers, but typically infrequently, with only 4.1% of participants indicating that their friend was verbally victimised by their peers.

7.3.4.2 Predictors of actor ostracism of current close friend

7.3.4.2.1 Distal factor models

7.3.4.2.1.1 Model of self-distal factors predicting actor ostracism of current close friend

Self-distal variables that met the selection criteria for inclusion in the multivariate model variable selection process using the cut-off point of $p < .20$ are presented in Appendix O (table 1). At the univariate level, avoidant attachment to CCF, decay belief, and anxious attachment to CCF positively predicted ostracism of CCF. Perceived intelligence negatively predicted ostracism of CCF.

Data were assessed for multivariate outliers and outliers were identified and removed. No multicollinearity was evident, so each of the variables were

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considered as potential multivariate predictors of ostracism. Non-significant items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A linear regression was calculated to predict ostracism of current close friend. Avoidant attachment to CCF, anxious attachment to CCF, perceived intelligence, and decay belief predicted ostracism of current close friend, $F(4, 629) = 32.05, p < .001$, with an R^2 of .17 (see table 7.1). All four variables were significant predictors of ostracism of CCF and the amount of variance uniquely explained by each factor was: 10.9% avoidant attachment to CCF, 1.2% decay belief, 0.6% anxious attachment to CCF, and 0.6% perceived intelligence.

Table 7.1

Actor-distal factors – multivariate linear regression predicting actor ostracism of current close friend

Actor-distal factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
								.17
Avoidant attachment to friend	.25	.03	.34	.33	<.001	.19	.30	
Decay belief	.06	.02	.11	.11	.002	.02	.10	
Anxious attachment to friend	.04	.02	.09	.08	.021	.01	.01	
Intelligence	-.08	.04	-.08	-.08	.032	-.16	-.01	

7.3.4.2.1.2 Model of current close friend distal factors predicting actor ostracism of current close friend

Current close friend distal variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 2). At the univariate level, significant positive predictors of ostracism of CCF were antagonism, avoidant attachment to actor and anxious attachment to actor. Negative predictors were perceived intelligence, agreeableness, and openness.

Data were assessed for multivariate outliers and outliers were identified and removed. No multicollinearity was evident, so all variables were considered as potential multivariate predictors of ostracism of CCF. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of

CCF. Anxious attachment to actor, intelligent, openness, and antagonism (PDI5) predicted ostracism of current close friend, $F(4, 630) = 27.39$, $p < .001$, with an R^2 of .15 (see table 7.2). CCF-factors: intelligent and openness negatively predicted ostracism of CCF, and anxious attachment to actor and antagonism positively predicted ostracism of CCF. The amount of variance each CCF factor explained in the model was: 5.8% antagonism (PDI5), 2.6% intelligent, 1.7% anxious attachment to actor, and 0.6% openness.

Table 7.2

Current close friend distal factors - multivariate model predicting actor ostracism of current close friend

Current close friend distal factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
								.15
Antagonism	.07	.02	.01	.24	<.001	.05	.09	
Intelligence	-.15	.03	-.16	-.16	<.001	-.22	-.08	
Anxious attachment to actor	.06	.02	.13	.13	.001	.03	.10	
Openness	-.03	.01	-.08	-.08	.032	.05	.09	

7.3.4.2.2 Intrapersonal process models

7.3.4.2.2.1 Model of actor-intrapersonal processes predicting actor ostracism of current close friend

Actor-intrapersonal process variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 3). At the univariate level, negative predictors of ostracism were likes CCF, motivation, expected future motivation (desire), expected future satisfaction, commitment, positive illusory belief, death devastation, plans to improve, and care for welfare. Positive predictors of ostracism were negative emotions and current hurt.

Data were assessed for multivariate outliers and outliers were identified and removed. Motivation, expected future satisfaction, and commitment were removed to reduce multicollinearity. All other variables were considered as potential multivariate predictors of ostracism of CCF. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of current

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close friend. Actor likes CCF, negative emotions, positive illusory belief, and death devastation predicted ostracism of current close friend, $F(4, 594) = 76.66$, $p < .001$, with an R^2 of .34 (see table 7.3). All four variables were significant positive predictors of ostracism of current close friend. The amount of variance each factor uniquely explained in the model was: 9.6% likes CCF, 3.2% negative emotions, 1.7% positive illusory belief, and 0.8% death devastation.

Table 7.3

Actor-intrapersonal processes - multivariate model predicting actor ostracism of current close friend

Actor-intrapersonal process	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
								.34
Like	-.42	.05	-.35	-.31	<.001	-.51	-.33	
Negative emotions	.09	.02	.20	.18	<.001	.06	.12	
Positive illusory belief	-.15	.04	-.14	-.13	<.001	-.22	-.07	
Death devastation	-.07	.03	-.10	-.09	.011	-.13	-.02	

7.3.4.2.2.1 Model of current close friend intrapersonal processes predicting actor ostracism of current close friend

Current close friend-intrapersonal process variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 4). At the univariate level, CCF-hurt positively predicted ostracism of CCF. Negative predictors were likes actor, current satisfaction, motivation (desire), and expected future motivation (desire).

Data were assessed for multivariate outliers and outliers were identified and removed. Motivation (desire) was removed to reduce multicollinearity. All other variables were considered as potential multivariate predictors of emotional closeness. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of CCF. CCF-expected future motivation (desire), CCF likes actor, and CCF hurt predicted ostracism of current close friend, $F(3, 616) = 108.85$, $p < .001$, with an R^2 of .35 (see table 7.4). CCF-hurt positively predicted ostracism of CCF, and CCF-likes actor and CCF-expected future motivation (desire) negatively predicted ostracism of CCF. The amount of unique

variance each CCF-factor explained in the model was: 8.4% CCF hurt, 7.8% CCF likes actor, and 1% CCF-expected future motivation (desire).

Table 7.4

Current close friend contextual factors - multivariate model predicting actor ostracism of current close friend

Current close friend intrapersonal process	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.35
Hurt	.29	.03	.31	.29	<.001	.23	.36	
Like	-.36	.04	-.34	-.28	<.001	-.44	-.28	
Expected future motivation (desire)	-.07	.02	-.11	-.10	.004	-.11	-.02	

7.3.4.2.3 Interpersonal behaviours models: demonstrated positive behaviours

7.3.4.2.3.1 Model of actor-positive interpersonal behaviours predicting actor ostracism of current close friend

Actor-positive behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 5). At the univariate level, altruistic, grateful, kind, having good hygiene, considerate, loyal, compromises, confident, optimistic, forgiving, empathic, good communication skills, trustworthy, takes responsibility, authentic, maintenance behaviours, reciprocation, and trusting were significant negative predictors of actor ostracism of CCF, except relies on CCF for practical needs, which was a significant positive predictor of ostracism of CCF.

Data were assessed for multivariate outliers and outliers were identified and removed. Trustworthy and considerate were removed to reduce multicollinearity. All other variables were considered as potential multivariate predictors of commitment. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of CCF. Actor- authentic, empathic, loyal, reciprocation, having good hygiene, trusting, and relies on CCF for practical needs predicted ostracism of CCF, $F(6, 624) = 36.01, p < .001$, with an R^2 of .26 (see table 7.5). All seven variables were significant positive predictors of ostracism of CCF. The amount of variance each actor-distal factor uniquely

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explained in the model was: 3.6% authentic, 2.6% empathic, 2.3% relies on CCF for practical needs loyal, 1% trusting, and 0.5% reciprocation.

Table 7.5

Actor-positive behaviours – multivariate linear regression predicting actor ostracism of current close friend

Actor-positive behaviour	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.26
Authentic	-.26	.05	-.21	-.19	<.001	-.36	-.17	
Empathic	-.18	.04	-.17	-.16	<.001	-.26	-.10	
Relies on friend for practical needs	.11	.03	.15	.15	<.001	.06	.17	
Loyal	-.12	.04	-.13	-.12	.001	-.19	-.05	
Trusting	-.09	.04	-.11	-.10	.005	-.18	-.03	
Reciprocation	-.09	.04	-.09	-.07	.035	-.17	-.01	

7.3.4.2.3.2 Model of current close friend positive interpersonal behaviours predicting actor ostracism of current close friend

Current close friend positive behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 6). At the univariate level, grateful, optimistic, compromises, forgiving, takes responsibility, maintenance behaviours, reciprocates, kind, altruistic, having good hygiene (as perceived by the actor), empathic, good communication ability, considerate, loyal, trusting, trustworthy, and confident were significant negative predictors of actor ostracism of CCF, except CCF-relies on actor for practical needs, which was a significant positive predictor of ostracism of CCF.

Data were assessed for multivariate outliers and outliers were identified and removed. CCF-considerate was removed to eliminate multicollinearity. All other variables were considered as potential multivariate predictors of ostracism of CCF. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of CCF. CCF-positive behaviours: reciprocation, trustworthy, having good hygiene, and relies on actor for practical needs predicted ostracism of CCF, $F(4, 605) = 23.26, p < .001$, with an R^2 of .13 (see table 7.6). Reciprocation, trustworthy and having good hygiene were significant negative

predictors ostracism of CCF, and CCF relies on actor for practical needs was a significant positive predictor of ostracism of CCF. The amount of variance each CCF-factor uniquely explained in the model was: 2.9% reciprocation, 2.9% trustworthy, 0.8% having good hygiene, and 0.6% relies on actor for practical needs.

Table 7.6

Current close friend positive behaviours - multivariate model predicting actor ostracism of current close friend

Current close friend positive behaviour	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.13
Reciprocation	-.18	.04	-.19	-.17	<.001	-.26	-.10	
Trustworthy	-.24	.05	-.19	-.17	<.001	-.34	-.13	
Hygienic	-.08	.03	-.09	-.09	.017	-.14	-.01	
Relies on actor for practical needs	.06	.03	.08	.08	.029	.01	.12	

7.3.4.2.4 Interpersonal behaviours models: demonstrated oppositional behaviours

7.3.4.2.4.1 Model of actor-oppositional interpersonal behaviours predicting actor ostracism of current close friend

Actor-oppositional behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 7). At the univariate level, controlling, passive aggressive, defensive, stonewalls, aggressive (mean), verbally victimises CCF, entitled, selfish, judgemental, arrogant, self-righteousness, and perfectionistic (other-oriented) were significant positive predictors of actor ostracism of CCF.

Data were assessed for multivariate outliers and outliers were identified and removed. No multicollinearity was present, so all variables were considered as potential multivariate predictors of ostracism of current close friend. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of CCF. Verbal victimisation of CCF and selfishness predicted ostracism of CCF, $F(2, 641) = 548.94$, $p < .001$, with an R^2 of .63 (see table 7.7). Both factors positively predicted ostracism of CCF. The amount of variance each

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actor-factor explained in the model was: 56.3% verbal victimisation of CCF and 0.5% selfish.

Table 7.7

Actor-oppositional behaviours - multivariate model predicting actor ostracism of current close friend

Actor-oppositional behaviour	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.63
Verbal victimisation of friend	.88	.03	.77	.75	<.001	.83	.94	
Selfish	.06	.02	.08	.07	.002	.00	.02	

7.3.4.2.4.2 Model of current close friend oppositional interpersonal behaviours predicting actor ostracism of current close friend

Current close friend-oppositional behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 8). At the univariate level, positive predictors of actor ostracism of CCF were verbally victimises actor, ostracises actor, controlling, passive aggressive, defensive, stonewalls, aggressive (mean), judgemental, arrogant, self-righteous, selfish, perfectionistic (other-oriented), and entitled.

Data were assessed for multivariate outliers and outliers were identified and removed. CCF-verbally victimises actor was removed to eliminate multicollinearity. All other variables were considered as potential multivariate predictors of ostracism of CCF. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of CCF. CCF-behaviours: arrogant, controlling, and selfish predicted ostracism of CCF, $F(3, 623) = 169.60$, $p < .001$, with an R^2 of .45 (see table 7.8). All three variables were significant positive predictors of actor ostracism of CCF. The amount of unique variance each CCF-factor explained in the model was: 32.5% ostracises actor, 0.5% controlling, and 0.4% entitled.

Table 7.8

Current close friend oppositional behaviours - multivariate model predicting actor ostracism of current close friend

Current close friend oppositional behaviour	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.45
Ostracises actor	.58	.03	.61	.57	<.001	.52	.64	
Controlling	.06	.02	.08	.07	.021	.01	.10	
Entitled	.05	.02	.07	.06	.032	.00	.10	

7.3.4.2.5 Interpersonal behaviours models: demonstrated negative behaviours

7.3.4.2.5.1 Model of actor-negative interpersonal behaviours predicting actor ostracism of current close friend

Actor-negative behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 9). At the univariate level, positive predictors of ostracism of CCF were jealous of CCF's characteristics, jealous of CCF's interactions, boring, shows off, pessimistic, sexual interest in CCF, sexual interest in CCF's partner, coercive, hypocritical, high peer conformity goals, and low peer conformity goal. Ambitious negatively predicted ostracism of CCF.

Data were assessed for multivariate outliers and multivariate outliers were identified and removed. No multicollinearity was evident, so all variables were considered as potential multivariate predictors of ostracism of CCF. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of CCF. Sexual interest in CCF, sexual interest in CCF's partner, shows off, hypocritical, silly, and ambitious predicted ostracism of CCF, $F(6, 625) = 51.83, p < .001$, with an R^2 of .33 (see table 7.9). All six variables were significant predictors of ostracism of CCF. Sexual interest in CCF, sexual interest in CCF's partner, shows off, and hypocritical positively predicted ostracism of CCF. Silly and ambitious negatively predicted ostracism of CCF. The amount of variance each factor uniquely explained in the model was: 5.8% sexual interest in CCF,

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3.6% sexual interest in CCF's partner, 0.8% shows off, 0.5% hypocritical, 0.6% silly, and 1% ambitious.

Table 7.9

Actor-negative behaviours - multivariate model predicting actor ostracism of current close friend

Actor-negative behaviour	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.33
Sexual interest in friend's partner	.38	.05	.32	.24	<.001	.28	.48	
Sexual interest in friend	.23	.04	.24	.19	<.001	.15	.31	
Ambitious	-.07	.03	-.10	-.10	.004	-.12	-.02	
Shows off	.07	.03	.10	.09	.006	.02	.12	
Silly	-.05	.02	-.08	-.08	.021	-.10	-.01	
Hypocritical	.06	.03	.08	.07	.024	.01	.11	

7.3.4.2.5.2 Model of current close friend negative interpersonal behaviours predicting actor ostracism of current close friend

Current close friend negative-variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 10). At the univariate level, positive predictors of ostracism of CCF were coercive, sexual interest in actor, sexual interest in actor's partner, jealous of actor's characteristics, jealous of actor's interactions, boring, eccentric, shows off, high peer conformity goals, low peer conformity goals, pessimistic, and hypocritical. Ingratiation and ambitious were negative predictors of ostracism of CCF.

Data were assessed for multivariate outliers and multivariate outliers were identified and removed. CCF jealous of actor's characteristics was removed to reduce multicollinearity. All other variables were considered as potential multivariate predictors of ostracism of CCF. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of CCF. CCF- sexual interest in actor's partner, sexual interest in actor, boring, low peer conformity goals, high peer conformity goals, and ingratiation predicted ostracism of CCF, $F(6, 613) = 42.39, p < .001$, with an R^2 of .29 (see table 7.10). Ingratiation negatively predicted ostracism of CCF, and sexual interest in actor's partner,

sexual interest in actor, boring, low peer conformity goals, and high peer conformity goals positively predicted ostracism of CCF. The amount of variance each CCF-factor explained in the model was: 3.2% sexual interest in actor's partner, 3.2% sexual interest in actor, 2.9% boring, 1% low peer conformity goals, 0.8% high peer conformity goals, and 0.6% ingratiation.

Table 7.10

Current close friend negative behaviours - multivariate model predicting actor ostracism of current close friend

Current close friend negative behaviour	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.29
Sexual interest in actor's partner	.24	.05	.22	.18	<.001	.15	.33	
Sexual interest in actor	.21	.04	.22	.18	<.001	.13	.29	
Boring	.16	.03	.18	.17	<.001	.10	.22	
Low peer conformity goals	.07	.03	.11	.10	.003	.12	.24	
High peer conformity goals	.07	.02	.10	.09	.003	.02	.12	
Ingratiation	-.02	.01	-.08	-.08	.024	-.03	-.00	

7.3.4.2.6 Contextual factor models

7.3.4.2.6.1 Model of actor-contextual factors predicting actor ostracism of current close friend

Actor-contextual variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 11). At the univariate level, positive predictors of actor ostracism of CCF were peers verbally victimise actor, peers ostracise actor, actor's partner sexually interested in CCF, and alternative close friends. Negative predictors of actor ostracism of CCF were commitment to maintain other CCFs, likeability, popularity, keeps friends easily, makes friends easily, and peer approval of actor.

Data were assessed for multivariate outliers and outliers were identified and removed. No multicollinearity was evident, so all items were selected for model consideration. The factors that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of CCF. Peers verbally victimise actor, actor's partner sexually interested in CCF, peers ostracise actor, stress,

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popularity, commitment to maintaining other close friendships, and alternative friends predicted ostracism of CCF, $F(7, 616) = 22.60, p < .001$, with an R^2 of .41 (see table 7.11). All seven variables were significant predictors of ostracism of CCF, with peers verbally victimising actor, actor's partner sexually interested in CCF, peers ostracise actor, and alternative friends positively predicting ostracism of CCF, and stress, popularity, and commitment to maintaining other close friendships negatively predicting ostracism of CCF. The amount of variance each factor uniquely explained in the model was: 9.6% peers verbally victimise actor, 2.0% actor's partner sexually interested in CCF, 1% peers ostracise actor, 1% commitment to maintaining other close friendships, 1% alternative friends., 0.6% stress, 0.5% and popularity.

Table 7.11

Actor-contextual factors - multivariate model predicting actor ostracism of current close friend

Actor-contextual factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
								.41
Peers verbally victimise actor	.40	.04	.41	.31	<.001	.32	.47	
Actor's partner sexual interest in friend	.17	.04	.16	.14	<.001	.10	.25	
Peers ostracise actor	.10	.03	.13	.10	.001	.04	.15	
Commitment to maintain other close friendships	-.04	.01	-.10	-.10	.001	-.07	-.22	
Alternative friends	.07	.02	.10	.10	.002	.03	.11	
Stress	-.17	.07	-.08	-.08	.013	-.30	-.04	
Popularity	-.07	.03	-.08	-.07	.017	-.13	-.01	

7.3.4.2.6.2 Model of current close friend contextual factors predicting actor ostracism of current close friend

Current close friend contextual variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 12). At the univariate level, positive predictors of actor ostracism of CCF were peers verbally victimise CCF, peers ostracise CCF, CCF's partner sexually interested in actor, alternative friends, and negative affect. Significant negative predictors of actor ostracism of CCF were likeability and popularity.

Data were assessed for multivariate outliers and outliers were identified and removed. Peers verbally victimise CCF was removed to reduce multicollinearity. All other variables were considered as potential multivariate predictors of emotional closeness. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of CCF based on peers ostracise CCF, CCF's partner sexually interested in actor, CCF-likeability, and CCF-alternative friends predicted ostracism of CCF, $F(4, 618) = 103.04, p < .001$, with an R^2 of .40 (see table 7.12). Peers ostracise CCF, CCF's partner sexually interested in actor, and CCF-alternative friends positively predicted ostracism of CCF, and CCF-likeability negatively predicted ostracism of CCF. The amount of unique variance each CCF-factor explained in the model was: 11.6% peers ostracise CCF, 7.3% CCF's partner sexually interested in actor, 2.3% CCF-likeability, and 0.8% CCF-alternative friends.

Table 7.12

Current close friend contextual factors - multivariate model predicting actor ostracism of current close friend

Current close friend contextual factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
								.47
Peers ostracise friend	.32	.03	.38	.34	<.001	.27	.39	
Friend's partner sexually interested in actor	.32	.04	.30	.27	<.001	.25	.40	
Likeability	-.15	.03	-.16	-.15	<.001	-.21	-.09	
Alternative friends	.06	.02	.09	.09	.004	.02	.10	

7.3.4.2.6.3 Model of friendship dynamic contextual factors predicting actor ostracism of current close friend

Friendship dynamic variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 13). At the univariate level, positive predictors of actor ostracism of CCF were change in time spent together, current activities, actor-religious/spiritual beliefs bother CCF, actor-political beliefs bother CCF, actor-values bother CCF, actor-morals bother CCF, CCF-religious/spiritual beliefs bother actor, CCF-

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political beliefs bother actor, CCF-values bother actor, and CCF-morals bother actor. Whereas common interests negatively predicted ostracism of CCF.

Data were assessed for multivariate outliers were identified and removed. Actor-religious/spiritual beliefs bother CCF, actor-political beliefs bother CCF, actor-values bother CCF, actor-morals bother actor, CCF-morals bother actor, and CCF-political beliefs bother actor. All other variables were considered as potential multivariate predictors of ostracism of CCF. A final linear regression was calculated to predict ostracism of CCF. CCF-religious/spiritual beliefs bother actor, CCF-values bother actor, common interests, and current activities predicted ostracism of CCF, $F(4, 590) = 76.81, p < .001$, with an R^2 of .34 (see table 7.13). CCF-religious/spiritual beliefs bother actor, CCF-values bother actor, and current activities positively predicted ostracism of CCF, and common interests negatively predicted ostracism of CCF. The amount of variance each factor uniquely explained in the model was: 10.9% CCF-religious/spiritual beliefs bother actor, 2.3% CCF-values bother actor, 1% common interests, and 0.8% current activities.

Table 7.13

Friendship dynamic factors - multivariate model predicting actor ostracism of current close friend

Friendship dynamic factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.34
Friend- religious/spiritual beliefs bother actor	.42	.04	.41	.33	<.001	.33	.50	
Friend-values bother actor	.16	.04	.19	.15	<.001	.09	.24	
Common interests	-.10	.03	-.11	-.10	.002	-.16	-.04	
Current activities	.05	.02	.10	.09	.006	.02	.08	

7.3.4.3 Model summaries

A summary of the univariate models predicting ostracism of current close friend that have small (0.1 to <0.2), moderate (0.2 to <0.3), or large (>0.3) effect sizes (Gignac & Szodorai, 2016) is provided in Appendix O table 14. Multivariate models predicting ostracism of current close friend is provided in table 7.14.

Table 7.14

Summary of multivariate linear regression models predicting actor ostracism of current close friend

Model	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Distal factors: actor								.17
Avoidant attachment to friend	.25	.03	.34	.33	<.001	.19	.30	
Decay belief	.06	.02	.11	.11	.002	.02	.10	
Anxious attachment to friend	.04	.02	.09	.08	.021	.01	.01	
Intelligence	-.08	.04	-.08	-.08	.032	-.16	-.01	
Distal factors: friend								.15
Antagonism	.07	.02	.01	.24	<.001	.05	.09	
Intelligence	-.15	.03	-.16	-.16	<.001	-.22	-.08	
Anxious attachment to actor	.06	.02	.13	.13	.001	.03	.10	
Openness	-.03	.01	-.08	-.08	.032	.05	.09	
Intrapersonal processes: actor								.34
Likes	-.42	.05	-.35	-.31	<.001	-.51	-.33	
Negative emotions	.09	.02	.20	.18	<.001	.06	.12	
Positive illusory belief	-.15	.04	-.14	-.13	<.001	-.22	-.07	
Death devastation	-.07	.03	-.10	-.09	.011	-.13	-.02	
Intrapersonal processes: friend								.35
Current hurt	.29	.03	.31	.29	<.001	.23	.36	
Likes	-.36	.04	-.34	-.28	<.001	-.44	-.28	
Expected future motivation (desire)	-.07	.02	-.11	-.10	.004	-.11	-.02	
Positive behaviours: actor								.26
Authentic	-.26	.05	-.21	-.19	<.001	-.36	-.17	
Empathic	-.18	.04	-.17	-.16	<.001	-.26	-.10	
Relies on friend for practical needs	.11	.03	.15	.15	<.001	.06	.17	
Loyal	-.12	.04	-.13	-.12	.001	-.19	-.05	
Trusting	-.09	.04	-.11	-.10	.005	-.18	-.03	
Reciprocation	-.09	.04	-.09	-.07	.035	-.17	-.01	
Positive behaviours: friend								.13
Reciprocation	-.18	.04	-.19	-.17	<.001	-.26	-.10	
Trustworthy	-.24	.05	-.19	-.17	<.001	-.34	-.13	
Hygienic	-.08	.03	-.09	-.09	.017	-.14	-.01	
Relies on actor for practical needs	.06	.03	.08	.08	.029	.01	.12	
Oppositional behaviours: actor								.63
Verbal victimisation of friend	.88	.03	.77	.75	<.001	.83	.94	
Selfish	.06	.02	.08	.07	.002	.00	.02	
Oppositional behaviours: friend								.45
Ostracises actor	.58	.03	.61	.57	<.001	.52	.64	
Controlling	.06	.02	.08	.07	.021	.01	.10	
Entitled	.05	.02	.07	.06	.032	.00	.10	

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Negative behaviours: actor							.33
Sexual interest in friend's partner	.38	.05	.32	.24	<.001	.28	.48
Sexual interest in friend	.23	.04	.24	.19	<.001	.15	.31
Ambitious	-.07	.03	-.10	-.10	.004	-.12	-.02
Shows off	.07	.03	.10	.09	.006	.02	.12
Silly	-.05	.02	-.08	-.08	.021	-.10	-.01
Hypocritical	.06	.03	.08	.07	.024	.01	.11
Negative behaviours: friend							.29
Sexual interest in actor's partner	.24	.05	.22	.18	<.001	.15	.33
Sexual interest in actor	.21	.04	.22	.18	<.001	.13	.29
Boring	.16	.03	.18	.17	<.001	.10	.22
Low peer conformity goals	.07	.03	.11	.10	.003	.12	.24
High peer conformity goals	.07	.02	.10	.09	.003	.02	.12
Ingratiation	-.02	.01	-.08	-.08	.024	-.03	-.00
Contextual factors: actor							.41
Peers verbally victimise actor	.40	.04	.41	.31	<.001	.32	.47
Actor's partner sexual interest in friend	.17	.04	.16	.14	<.001	.10	.25
Peers ostracise actor	.10	.03	.13	.10	.001	.04	.15
Commitment to maintain other close friendships	-.04	.01	-.10	-.10	.001	-.07	-.22
Alternative friends	.07	.02	.10	.10	.002	.03	.11
Stress	-.17	.07	-.08	-.08	.013	-.30	-.04
Popularity	-.07	.03	-.08	-.07	.017	-.13	-.01
Contextual factors: friend							.40
Peers ostracise friend	.32	.03	.38	.34	<.001	.27	.39
Friend's partner sexually interested in actor	.32	.04	.30	.27	<.001	.25	.40
Likeability	-.15	.03	-.16	-.15	<.001	-.21	-.09
Alternative friends	.06	.02	.09	.09	.004	.02	.10
Contextual factors: friendship dynamics							.34
Friend-religious/spiritual beliefs bother actor	.42	.04	.41	.33	<.001	.33	.50
Friend-values bother actor	.16	.04	.19	.15	<.001	.09	.24
Common interests	-.10	.03	-.11	-.10	.002	-.16	-.04
Current activities	.05	.02	.10	.09	.006	.02	.08

7.4 Study 2. Actor ostracism of previous close friend: Retrospective

7.4.1 Aim

The aim of the study was to gain a retrospective understanding of the frequency of previous close friend ostracism and verbal victimisation perpetrated by peer groups or personally (i.e., actor/participant administered), as well as to understand a wide range of possible factors predicting actor (i.e., actor/participant administered) ostracism of a previous close friend within the few months leading up to the classification change from close friendship status (i.e., best or close) to a non-close friendship status (i.e., casual, acquaintance, or no friendship at all) based on the thirteen groups of variables identified in previous chapters (actor-distal factors, actor-intrapersonal factors, actor-demonstrated positive behaviours, actor-demonstrated oppositional behaviours, actor-other demonstrated negative behaviours, actor-contextual factors, friend-distal factors, friend-demonstrated positive behaviours, friend-demonstrated oppositional behaviours, friend-other demonstrated negative behaviours, friend-contextual factors, and friendship dynamic factors; McNulty, 2016).

7.4.2 Participants

Participants included 610 participants who started the PCF section of the wave 1 survey. Given the extensive survey length, incomplete survey results were also considered, and numbers included in models differ based on the number of participants who had completed the survey questions relevant to that model. The sample contained 442 females, 160 males, 6 non-binary, 1 “other”, and 1 person “decline to state” their gender. Participants reported on an unresolved (broken-up) close same-gender friendship 86% of the time, and an other-gender friendship the 13.8% of the time. Broken-up best friendships accounted for 50.7% of friendships discussed and broken-up close friendships accounted for 49.3%. Current status of friendships was 41.3 % “casual friends”, 22.3% “acquaintances”, and 36.4% “no friendship at all”.

The age of participants was skewed toward younger adults, with 71.3% of participants aged 18-24 years, and the remaining participants aged between 25 and 85 years of age. The sample consisted of participants who resided across 20 countries, with the majority residing in Australia (79.8%) or the United States (10.2%). A full set of sociodemographic and dyad information is contained in Appendix I.

7.4.3 Data analysis

Thirteen groups of variables were explored in the analysis and the final model factors for each group were included in a final analysis (see Appendix E for items). For each group, descriptive analyses, frequency analyses, and univariate linear regressions were undertaken for each predictor and a cut-off point of $p < .20$ was used for inclusion in each multivariate regression analysis. Linear regressions were run for each of the 12 models. Linear regression assumptions included independence of errors, linearity in the logit for continuous variables, absence of multicollinearity, and lack of strongly influential outliers. Data were assessed for multivariate outliers using a Mahalanobis Distance Test and Cook's distance test (Tabachnick, & Fidell, 2013), and multivariate outliers removed. Multicollinearity was assessed using both a Spearman correlation matrix between continuous non-normally distributed predictors and assessment of VIF and tolerance values. Analyses were conducted using IBM SPSS Statistics (Version 27).

7.4.4 Results

7.4.4.1 Frequency of within dyad and peer ostracism and verbal victimisation in close friendships: retrospective analysis

Ostracism of close friends in the few months prior to dissolution was reasonably common, with 51.9% of participants stating that they never ostracised their close friend (compared with 81.3% in the current close friend analysis above), 13.9% stating they occasionally ostracised their close friend, 17.1% indicating they sometimes ostracised their close friend, 11.4% stating they regularly ostracised them, and 5.6% indicating they always ostracise them. This indicates that 17% of participants indicated they frequently ostracised their close friend in the months leading up to dissolution (compared to 3.4% in the current close friend analysis). This suggests an increase in actor ostracism during the final dissolution phase for many close friendships.

Similarly, participants indicated that it was common to experience ostracism from their close friend in the few months prior to the dissolution of the close friendship, with 36.4% stating that their close friend never ostracised them (compared with 77.1% of current close friends stating that their close friend never ostracises them), 10.7% indicating this occurred occasionally, 21.8% indicating this occurred some of the time, 18.3% stating this occurred regularly, and 12.7% indicating that their close friend always ostracised them prior to dissolution. Thus,

31% of participants reported being frequently ostracised by their close friend prior to dissolution (compared with 4.3% of current close friends). This indicates that 48.1% to 63.6% of friendships experienced some level of within-dyad ostracism leading up to dissolution (compared to 18.7% to 22.9% of currently close friendships) and that higher levels of ostracism were much more frequent prior to dissolution than in current close friendships (31% versus 4.1%). Thus, increases in the frequency of within-dyad ostracism should be considered a warning sign for immediate dissolution of close friendships and taken very seriously in the clinical setting and wider community.

Comparing this with within-dyad verbal victimisation, 37% of participants indicated they verbally victimised their close friend to some degree in the months prior to dissolution (compared with 18% of current close friend), but that this was still typically infrequent with 6.3% of participants engaging in this behaviour frequently (compared with 2.5% of current close friends), and 49.5% of participants indicated that their close friend verbally victimised them in the months leading up to dissolution (compared with 18% of current close friends), and this behaviour was believed to occur more frequently, with only of 17.3% of people reporting being frequently verbally victimised by their close friend (compared with 3.8% of current close friends). This suggests that both dyad members increase their verbal victimisation of close friends in the month prior to dissolution, but that there may be a tendency for people to believe that one's close friend had been verbally victimising them more frequently than had been the case.

The results of the current study suggest that within-dyad ostracising and verbal victimising behaviours tend to increase at the end of the close friendship, and even small increases may signify the end of the friendship, given that most close friendships do not experience within-dyad ostracism or verbal victimisation. If the issues underlying these behaviours cannot be identified and rectified quickly, these friendships may be at risk of rapid dissolution.

The frequency of peer ostracism and verbal victimisation in the few months prior to dissolution were also analysed. Regarding peer ostracism in the lead up to dissolution, 45.7% of participants reported experiencing some level of ostracism from peers (compared to 49% in the current close friend analysis). High levels of peer ostracism of actor were more frequent in the retrospective analysis (15.5%) than the current perspective analysis (7.9%). Some level of peer-ostracism of close friends was reported to be higher in the retrospective analysis

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than the current perspective analysis (41.4% compared to 29.3%), and higher levels of peer ostracism toward one's friend was also more frequent in the retrospective analysis (13.4%) than the current perspective analysis (5.1%). Regarding peer verbal victimisation, 36.8% of participants indicated they were verbally victimised by mutual peers to some degree in the months prior to the dissolution of their close friendship (as opposed to 30.1% in the current close friend analysis), and regular verbal victimisation from peers occurred slightly more frequently in the retrospective analysis (10.9%) than the current perspective analysis (5%).

Regarding peer verbal victimisation of close friends in the months prior to dissolution, 37.3% of participants indicated that their friend was verbally victimised by mutual peers (as opposed to 26.8% in current close friendships), and 7.1% of participants reported this occurred frequently (as opposed to 4.1% in current close friendships). Taken together, the results indicate that there is an increase in the overall frequency of ostracism and peer verbal victimisation of close friends in the months prior to dissolution, and an increase in peer verbal victimisation of oneself. In addition, the frequency of high levels of peer ostracism and verbal victimisation of oneself and the close friend increases during this period. Thus, increases in peer verbal victimisation and ostracism, especially high levels of these behaviours, toward either dyad member should be considered a warning sign for future dissolution of the close friendship and addressed where possible.

7.4.4.2 Predictors of actor ostracism of previous close friend

7.4.4.2.1 Distal factor models

7.4.4.2.1.1 Model of actor-distal factors predicting actor ostracism of previous close friend (pre-dissolution)

Actor-distal factors that met the selection criteria for inclusion in the multivariate model variable selection process using the cut-off point of $p < .20$ are presented in Appendix O (table 15). At the univariate level, antagonism, and neuroticism positively predicted ostracism of PCF. Whereas locus of control (internal) and conscientiousness negatively predicted ostracism of PCF.

Data were assessed for multivariate outliers, but no multivariate outliers were identified. No multicollinearity was evident, so each of the variables were considered as potential multivariate predictors of ostracism of PCF. Items that contributed the least to the model were removed one at a time and the model rerun

after each item deletion. A simple regression was calculated to predict ostracism of PCF. Antagonism, anxious attachment to PCF (pre-dissolution), conscientiousness, avoidant attachment to PCF (pre-dissolution), internal LOC and neuroticism predicted ostracism of PCF (pre-dissolution), $F(6, 556) = 8.88$, $p < .001$, with an R^2 of .09 (see table 7.15). Antagonism, avoidant attachment to PCF and neuroticism positively predicted ostracism of PCF, and internal LOC, anxious attachment to PCF, and conscientiousness negatively predicted ostracism of PCF. The amount of variance each factor uniquely explained in the model was: 3.2% antagonism (PDI5), 2% anxious attachment to PCF (pre-dissolution), 1% conscientiousness, 1% avoidant attachment to PCF (pre-dissolution), 1% internal LOC, and 0.6% neuroticism.

Table 7.15

Actor-distal factors – multivariate linear regression predicting actor ostracism of previous close friend (pre-dissolution)

Actor-distal factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
								.09
Antagonism	.09	.02	.18	.18	<.001	.05	.13	
Anxious attachment to friend (pre-dissolution)	-.08	.03	-.14	-.14	.001	-.17	-.04	
Conscientiousness	-.06	.03	-.10	-.10	.017	-.11	-.01	
Avoidant attachment to (pre-dissolution)	.07	.03	.10	.10	.020	.01	.12	
Locus of control (internal)	-.08	.04	.10	.10	.026	-.15	-.01	
Neuroticism	.06	.03	.09	.08	.037	.00	.11	

7.4.4.2.1.2 Model of previous close friend distal factors predicting actor ostracism of previous close friend (pre-dissolution)

Previous close friend distal factors that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 16). At the univariate level, positive predictors of actor ostracism of PCF (pre-dissolution) were antagonism, neuroticism, and conscientiousness. Negative predictors of actor ostracism of PCF (pre-dissolution) were avoidant attachment to actor, agreeableness, and intelligence.

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Data were assessed for multivariate outliers and outliers were identified and removed. No multicollinearity was evident, so all variables were considered as potential multivariate predictors of ostracism of PCF pre-dissolution. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of PCF. PCF- antagonism, avoidant attachment to actor, and conscientiousness predicted ostracism of PCF (pre-dissolution), $F(3, 562) = 15.41, p < .001$, with an R^2 of .08 (see table 7.16). Higher PCF- antagonism and conscientiousness predicted higher ostracism of PCF, and lower PCF-avoidant attachment to actor predicted higher ostracism of PCF. The amount of variance each PCF-factor explained in the model was: 3.2% antagonism (PDI5), 1.7% avoidant attachment to actor, and 1.4% conscientiousness.

Table 7.16

Previous close friend distal factors - multivariate model predicting actor ostracism of previous close friend (pre-dissolution)

Previous close friend distal factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
Antagonism	.06	.01	.18	.18	<.001	.03	.08	.08
Avoidant attachment to actor	-.09	.03	-.13	-.13	.001	-.15	-.04	
Conscientiousness	.06	.02	.12	.12	.005	.02	.10	

7.4.4.2.2 Intrapersonal process models

7.4.4.2.2.1 Model of actor- intrapersonal processes predicting actor ostracism of previous close friend (pre-dissolution)

Actor-intrapersonal process variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 17). At the univariate level, positive predictors of ostracism of PCF pre-dissolution were current negative emotions, current dissolution distress, and hurt (pre-dissolution and current). Negative predictors of ostracism were expected future satisfaction, restoration likelihood, commitment, readiness to change, plans to improve, positive emotions, likes PCF (current), expected future motivation (desire), death devastation, motivation (desire), positive illusory belief, liked PCF (pre-dissolution).

Data were assessed for multivariate outliers and outliers removed. Commitment, restoration likelihood, plans to improve, expected future motivation (desire), expected future satisfaction, positive emotions, likes actor (current), motivation (desire), and readiness to change were removed to reduce multicollinearity. All other variables were considered as potential multivariate predictors of ostracism of PCF (pre-dissolution). Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of PCFs based on liked PCF (pre-dissolution) and current dissolution distress. A significant regression was found, $F(2, 536) = 41.73, p < .001$, with an R^2 of .14 (see table 7.17). Ostracism of PCF was predicted by lower pre-dissolution liking of the PCF, and higher current dissolution distress. The amount of variance each factor uniquely explained in the model was: liked PCF (pre-dissolution) and current dissolution distress.

Table 7.17

Actor-intrapersonal processes - multivariate model predicting actor ostracism of previous close friend (pre-dissolution)

Actor- intrapersonal process	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
								.14
Liked friend (pre-dissolution)	-.40	.05	-.33	-.33	<.001	-.50	-.31	
Dissolution distress (current)	.03	.01	.19	.19	<.001	.02	.04	

7.4.4.2.2.2 Model of previous close friend intrapersonal processes predicting actor ostracism of current close friend (pre-dissolution)

Previous close friend intrapersonal process factors that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 18). At the univariate level, pre-dissolution hurt positively predicted ostracism of PCF, and pre-dissolution liked actor negatively predicted actor ostracism of PCF pre-dissolution.

Data were assessed for multivariate outliers and outliers were identified and removed. No multicollinearity was present, so all variables were considered as potential multivariate predictors of ostracism of PCF. Items that contributed the

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least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of PCF. Pre-dissolution PCF- hurt and liked actor predicted ostracism of PCF (pre-dissolution), $F(2, 565) = 54.07, p < .001$, with an R^2 of .16 (see table 7.18). PCF hurt pre-dissolution positively predicted ostracism of PCF, and PCF liked actor negatively predicted ostracism of PCF. The amount of unique variance each pre-dissolution PCF-factor explained in the model was: 14.4% hurt and 0.8% liked actor.

Table 7.18

Previous close friend intrapersonal processes - multivariate model predicting actor ostracism of previous close friend (pre-dissolution)

Previous close friend intrapersonal process	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
								.16
Hurt (pre-dissolution)	.45	.05	.38	.38	<.001	.36	.53	
Liked actor (pre-dissolution)	-.12	.05	-.09	-.09	.020	-.22	-.20	

7.4.4.2.3 Interpersonal behaviour models: demonstrated positive behaviours

7.4.4.2.3.1 Model of actor-positive interpersonal behaviours predicting actor ostracism of previous close friend (pre-dissolution)

Actor-positive behaviour (pre-dissolution) variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 19). At the univariate level, negative predictors of pre-dissolution ostracism of PCF were grateful, having good hygiene (as perceived by the actor), empathic, considerate, loyal, compromised, forgiving, good communication skills, trustworthy, takes responsibility for actions, maintenance behaviours, authentic, reciprocation, relied on PCF for emotional needs, and trusting.

Data were assessed for multivariate outliers and outliers were identified and removed. Trustworthy and considerate were removed to reduce multicollinearity. All other variables were considered as potential multivariate predictors of ostracism of PCF. Items that contributed the least to the model were

removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of PCF. Pre-dissolution actor-authentic, loyal, reciprocation, and grateful behaviours predicted pre-dissolution ostracism of PCF, $F(4, 532) = 18.83, p < .001$, with an R^2 of .12 (see table 7.19). Pre-dissolution actor behaviours: loyal, authentic, reciprocation and gratitude negatively predicted ostracism of PCF. The amount of variance that each pre-dissolution actor-factor uniquely explained in the model was: 2.3% loyal, 1.2% authentic, 1% grateful, and 1% reciprocation.

Table 7.19

Actor-positive behaviours – multivariate linear regression predicting actor ostracism of previous close friend (pre-dissolution)

Actor-positive behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
								.12
Loyal	-.19	.05	-.16	-.15	<.001	-.29	-.09	
Grateful	-.15	.06	-.11	-.10	.011	-.27	-.02	
Authentic	-.15	.06	-.13	-.11	.008	-.26	-.04	
Reciprocation	-.14	-.06	-.11	-.10	.017	-.16	-.03	

7.4.4.2.3.2 Model of previous close friend positive interpersonal behaviours predicting actor ostracism of previous close friend (pre-dissolution)

Previous close friend positive pre-dissolution behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 20). At the univariate level, positive predictors of ostracism of PCF were relied on actor for emotional needs and relied on actor for practical needs. Negative predictors of exclusion of PCF were trusting, having good hygiene, took responsibility for actions, optimistic, trustworthy, considerate, grateful, empathises, forgiving, loyalty, altruistic, and compromises.

Data were assessed for multivariate outliers and outliers were identified and removed. PCF- considerate, trustworthy, relied on actor for emotional needs, empathic, and takes responsibility were removed to eliminate multicollinearity. All other variables were considered as potential multivariate predictors of exclusion of PCF. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression

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was calculated to predict ostracism of PCF. PCF pre-dissolution behaviours: trusting, having good hygiene, and relied on actor for practical needs predicted ostracism of PCF (pre-dissolution), $F(3, 549) = 17.06, p < .001$, with an R^2 of .09 (see table 7.20). Lower PCF- hygiene and trusting behaviours predicted higher ostracism of PCF, and higher PCF-reliance on actor for practical needs predicted higher ostracism of PCF. The amount of variance each factor uniquely explained in the model was: 2.9% trusting, 2.9% hygiene, and 2.9% relied on actor for practical needs.

Table 7.20

Previous close friend positive behaviours - multivariate model predicting actor ostracism of previous close friend (pre-dissolution)

Previous close friend positive behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.09
Hygienic	-.21	.05	-.18	-.17	<.001	-.31	-.12	
Trusting	-.18	.05	-.17	-.17	<.001	-.27	-.10	
Relied on actor for practical needs	.14	.05	.13	.12	.002	.05	.23	

7.4.4.2.4 Interpersonal behaviour models: demonstrated oppositional behaviours

7.4.4.2.4.1 Model of actor-oppositional interpersonal behaviours predicting actor ostracism of previous close friend (pre-dissolution)

Actor-oppositional behaviour (pre-dissolution) variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 21). At the univariate level positive predictors of actor ostracism of PCF pre-dissolution, were actor- controlling, passive aggressive (mean), defensive, stonewalls, verbally victimised PCF, entitled, judgemental, arrogant, self-righteous, persistent, selfish, and perfectionistic (other-oriented) were significant positive predictors of actor ostracism of PCF pre-dissolution.

Data were assessed for multivariate outliers and outliers were identified and removed. Arrogant was removed to reduce multicollinearity. All other variables were considered as potential multivariate predictors of ostracism of

PCF. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of PCF. Actor-pre-dissolution behaviours: verbally victimised PCF and defensive predicted ostracism of PCF (pre-dissolution), $F(2, 534) = 145.98, p < .001$, with an R^2 of .35 (see table 7.21). Both predictors positively predicted exclusion of PCF. The amount of variance each factor explained in the model was: 27% verbally victimised PCF and 1.7% defensive.

Table 7.21

Actor-oppositional behaviours pre-dissolution - multivariate model predicting actor ostracism of previous close friend (pre-dissolution)

Actor-oppositional behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
								.35
Verbally victimised friend	.77	.05	.54	.52	<.001	.67	.87	
Defensive	.14	.04	.14	.13	<.001	.07	.21	

7.4.4.2.4.2 Model of previous close friend oppositional interpersonal behaviours predicting actor ostracism of previous close friend (pre-dissolution)

Previous close friend pre-dissolution oppositional behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 22). At the univariate level, positive predictors of ostracism of PCF were controlling, passive aggressive, defensive, verbally victimised actor, stonewalls, judgemental, arrogant, self-righteous, persistent, selfish, perfectionistic (other-oriented), and entitled.

Data were assessed for multivariate outliers and outliers were identified and removed. Entitled, judgemental, and arrogant were removed to eliminate multicollinearity. All other variables were considered as potential multivariate predictors of ostracism of PCF. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of PCF. Pre-dissolution PCF behaviours- verbally victimised actor and self-righteousness predicted ostracism of PCF (pre-dissolution), $F(2, 553) = 53.80, p < .001$, with an R^2 of .16 (see table 7.22). Both variables were significant positive predictors of ostracism of actor.

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The amount of unique variance each PCF-factor explained in the model was: 10.2% verbally victimised actor and 2.3% self-righteousness.

Table 7.22

Previous close friend oppositional behaviours - multivariate model predicting actor ostracism of previous close friend (pre-dissolution)

Previous close friend oppositional behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.16
Verbally victimised actor	.34	.04	.33	.32	<.001	.26	.43	
Self-righteousness	.17	.04	.16	.15	<.001	.08	.25	

7.4.4.2.5 Interpersonal behaviour models: demonstrated negative behaviours

7.4.4.2.5.1 Model of actor-negative interpersonal behaviours predicting actor ostracism of previous close friend (pre-dissolution)

Actor-negative behaviour variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 23). At the univariate level, positive predictors of ostracism of PCF were sexual interest in PCF's partner, jealous of PCF interactions, unavailable, eccentric, perfectionistic (self-oriented and other-oriented), shows off, competitive, high peer conformity goals, coercive, sexual interest in PCF, hypocritical, and pessimistic.

Data were assessed for multivariate outliers and outliers were identified and removed. Jealous of PCF's characteristics was removed to eliminate multicollinearity. All other variables were considered as potential multivariate predictors of ostracism of PCF. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of PCF. Pre-dissolution actor-sexual interest in PCF's partner, actor-hypocritical, actor-unavailable predicted pre-dissolution ostracism of, $F(3, 554) = 22.00, p < .001$, with an R^2 of .11 (see table 7.23). All three factors positively predicted ostracism of PCF, and the amount of variance each pre-dissolution actor-factor uniquely explained in the model was: 4.4% sexual interest in PCF's partner, 2.6% hypocritical, 1.2% unavailable.

Table 7.23

Actor-negative behaviours - multivariate model predicting actor ostracism of previous close friend (pre-dissolution)

Actor-negative behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.11
Sexual interest in friend's partner	.36	.07	.21	.21	<.001	.22	.50	
Hypocritical	.19	.05	.16	.16	<.001	.10	.28	
Unavailable	.12	.04	.11	.11	.006	.04	.21	

7.4.4.2.5.2 Model of previous close friend negative interpersonal behaviours predicting actor ostracism of previous close friend (pre-dissolution)

Previous close friend negative behaviour factors that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 24). Positive predictors of ostracism of PCF were sexual interest in actor's partner, shows off, jealous of actor's characteristics, jealous of actor's interactions, pessimistic, reassurance seeking, sexual interest in friend, boring, eccentric, hypocritical, competitive, high conformity goals, and coercive.

Data were assessed for multivariate outliers and outliers were identified and removed. PCF- jealous of actor's characteristics and show off were removed to reduce multicollinearity. All of the other variables were considered as potential multivariate predictors of emotional closeness. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of PCF. Pre-dissolution PCF- sexual interest in actor's partner, sexual interest in actor, jealous of actor's interactions, pessimism, and reassurance seeking predicted pre-dissolution ostracism of PCF, $F(5, 555) = 26.11, p < .001$, with an R^2 of .14 (see table 7.24). All five factors positively predicted ostracism of PCF. The amount of variance each PCF-factor explained in the model was: 1.7% sexual interest in actor's partner, 1.7% sexual interest in actor, 1.2% pessimism, 0.8% jealous of actor's interactions, and 0.8% reassurance seeking.

Table 7.24

Previous close friend negative behaviours - multivariate model predicting actor ostracism of previous close friend (pre-dissolution)

Previous close friend negative behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.14
Sexual interest in friend's partner	.22	.06	.16	.13	.001	.09	.35	
Sexual interest in actor	.23	.07	.15	.13	.001	.09	.36	
Pessimistic	.12	.05	.12	.11	.008	.03	.21	
Reassurance seeking	.10	.04	.10	.09	.021	.02	.19	
Jealous of actor's interactions	.09	.04	.10	.09	.027	.01	.17	

7.4.4.2.6 Contextual factor models

7.4.4.2.6.1 Model of actor-contextual factors predicting actor ostracism of previous close friend (pre-dissolution)

Actor-contextual factors that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 25). Significant positive predictors of actor ostracism of PCF pre-dissolution at the univariate level were ostracism of PCF, pre-dissolution actor-partner sexually interested in PCF, peers ostracised PCF, peers verbally victimised actor, negative affect (pre-dissolution), alternative friends (pre-dissolution), stress (pre-dissolution), and peer approval of actor (pre-dissolution). Whereas current life satisfaction negatively predicted ostracism of PCF pre-dissolution.

Data were assessed for multivariate outliers and outliers were identified and removed. Pre-dissolution anxiety and peers verbally victimised actor were removed to eliminate multicollinearity. The factors that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of PCF. Pre-dissolution factors: actor's partner sexual interest in PCF, peers ostracised actor, alternative friends, and life satisfaction (current) predicted pre-dissolution ostracism of PCF, $F(4, 554) = 16.17, p < .000$, with an R^2 of .11 (see table 7.25). Current life satisfaction negatively predicted pre-dissolution ostracism of PCF, whereas pre-dissolution peer exclusion of actor, alternative friends, and actor's

partner's sexual interest in PCF positively predicted ostracism of PCF. The amount of variance each factor uniquely explained in the model was: 4.4% actor's partner sexual interest in PCF, 2% peers ostracised actor, 2.9% alternative friends (pre-dissolution), and 0.6% life satisfaction (current).

Table 7.25

Actor-contextual factors - multivariate model predicting actor ostracism of previous close friend (pre-dissolution)

Actor-contextual factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.11
Actor's partner sexually interested in friend (pre-dissolution)	.37	.07	.21	.21	<.001	.23	.51	
Alternative friends (pre-dissolution)	.17	.04	.17	.17	<.001	.09	.26	
Peers ostracised actor (pre-dissolution)	.14	.04	.14	.14	.001	.06	.22	
Life satisfaction (current)	-.07	.04	-.08	-.08	.045	-.14	-.00	

7.4.4.2.6.2 Model of previous close friend contextual factors predicting actor ostracism of previous close friend (pre-dissolution)

Previous close friend intrapersonal process factors that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 26). At the univariate level, significant positive predictors of ostracism of PCF were peers ostracised actor, peers verbally victimised actor, PCF's partner sexually interested in actor, negative affect, and anxious. Significant negative predictors were likeability and alternative friends.

Data were assessed for multivariate outliers and outliers were identified and removed. Pre-dissolution factors PCF-anxious and peers verbally victimised PCF were removed to eliminate multicollinearity. All other variables were considered as potential multivariate predictors of ostracism of PCF. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict ostracism of PCF. Pre-dissolution peers ostracised PCF and PCF's partner sexually interested in actor predicted pre-dissolution ostracism of PCF, $F(2, 544)$

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= 112.73, $p < .001$, with an R^2 of .29 (see table 7.26). Both factors positively predicted exclusion of PCF. The amount of unique variance each factor explained in the model was: 23% peers ostracised PCF pre-dissolution and 0.6% PCF's partner sexually interested in actor pre-dissolution.

Table 7.26

Previous close friend contextual factors - multivariate model predicting actor ostracism of previous close friend (pre-dissolution)

Previous close friend contextual behaviours (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		R^2
						Lower	Upper	
								.29
Peers ostracised friend (pre-dissolution)	.55	.04	.51	.48	<.001	.47	.63	
Friend's partner sexually interested in actor	.12	.06	.08	.08	.029	.01	.23	

7.4.4.2.6.3 Model of friendship dynamic contextual factors predicting actor ostracism of previous close friend (pre-dissolution)

Friendship dynamic variables that met the selection criteria for inclusion in the multivariate model variable selection process are presented in Appendix O (table 27). At the univariate level, positive predictors of actor ostracism of PCF were PCF-morals bothered actor, actor-values bothered PCF, PCF-values bothered actor, actor-morals bothered PCF, PCF-political beliefs bothered actor, actor-political beliefs bothered PCF, PCF-religious/spiritual beliefs bothered actor, actor-religious/spiritual beliefs bothered PCF, and altercations. Significant negative predictors of ostracism of PCF were previous life events and common interests.

Data were assessed for multivariate outliers and outliers were identified and removed. Actor-religious/spiritual beliefs bothered PCF, and actor-political beliefs bothered PCF were removed to reduce multicollinearity. All other variables were considered as potential multivariate predictors of emotional closeness. A final linear regression was calculated to predict ostracism of PCF. Pre-dissolution PCF-morals bothered actor, PCF-religious beliefs bothered actor, actor -values bothered PCF, and altercations predicted pre-dissolution ostracism of PCF, $F(4, 541) = 24.28$, $p < .001$, with an R^2 of .15 (see table 7.27). All four

factors positively predicted ostracism of PCF. The amount of unique variance each factor explained in the model was: 2.0% altercations, 1.7% PCF-morals bothered actor, .08% PCF-religious beliefs bothered actor, and .08% actor -values bothered PCF.

Table 7.27

Friendship dynamic factors - multivariate model predicting actor ostracism of previous close friend (pre-dissolution)

Friendship dynamic factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
								.15
Altercations	.21	.06	.15	.14	.001	.09	.33	
Friend-morals bothered actor	.16	.05	.17	.13	.001	.07	.26	
Friend-religious/spiritual beliefs bothered actor	.13	.06	.10	.09	.029	.01	.24	
Actor-values bothered friend	.15	.07	.13	.09	.021	.02	.28	

7.4.4.3 Model summaries

A summary of the univariate models predicting pre-dissolution ostracism of PCF that have small (0.1 to < 0.2), moderate (0.2 to < 0.3) or large (> 0.3) effect sizes (Gignac & Szodorai, 2016) is provided in Appendix O (table 28). Multivariate models predicting ostracism of previous close friend pre-dissolution is provided in table 7.28.

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Table 7.28

Summary of multivariate linear regression models predicting actor ostracism of previous close friend (pre-dissolution)

Model	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Distal factors:								.09
actor								
Antagonism	.09	.02	.18	.18	<.001	.05	.13	
Anxious attachment to friend (pre-dissolution)	-.08	.03	-.14	-.14	.001	-.17	-.04	
Conscientiousness	-.06	.03	-.10	-.10	.017	-.11	-.01	
Avoidant attachment to friend (pre-dissolution)	.07	.03	.10	.10	.020	.01	.12	
Locus of control (internal)	-.08	.04	.10	.10	.026	-.15	-.01	
Neuroticism	.06	.03	.09	.08	.037	.00	.11	
Distal factors:								.08
friend								
Antagonism	.06	.01	.18	.18	.000	.03	.08	
Avoidant attachment to actor (pre-dissolution)	-.09	.03	-.13	-.13	.001	-.15	-.04	
Conscientiousness	.06	.02	.12	.12	.005	.02	.10	
Intrapersonal processes: actor								.14
Liked friend (pre-dissolution)	-.40	.05	-.33	-.33	<.001	-.50	-.31	
Dissolution distress (current)	.03	.01	.19	.19	<.001	.02	.04	
Intrapersonal processes: friend								.16
Hurt (pre-dissolution)	.45	.05	.38	.38	<.001	.36	.53	
Liked actor (pre-dissolution)	-.12	.05	-.09	-.09	.020	-.22	-.20	
Positive behaviours (pre-dissolution): actor								.12
Loyal	-.19	.05	-.16	-.15	<.001	-.29	-.09	
Grateful	-.15	.06	-.11	-.10	.011	-.27	-.02	
Authentic	-.15	.06	-.13	-.11	.008	-.26	-.04	
Reciprocation	-.14	.06	-.11	-.10	.017	-.16	-.03	
Positive behaviours (pre-dissolution): friend								.09
Hygienic	-.21	.05	-.18	-.17	<.001	-.31	-.12	
Trusting	-.18	.05	-.17	-.17	<.001	-.27	-.10	
Relied on actor for practical needs	.14	.05	.13	.12	.002	.05	.23	
Oppositional behaviours (pre-dissolution): actor								.35
Verbally victimised friend	.77	.05	.54	.52	<.001	.67	.87	
Defensive	.14	.04	.14	.13	<.001	.07	.21	

Oppositional behaviours (pre-dissolution): friend							.16
Verbally victimised actor	.34	.04	.33	.32	<.001	.26	.43
Self-righteousness	.17	.04	.16	.15	<.001	.08	.25
Negative behaviours (pre-dissolution): actor							.11
Sexual interest in friend's partner	.36	.07	.21	.21	<.001	.22	.50
Hypocritical	.19	.05	.16	.16	<.001	.10	.28
Unavailable	.12	.04	.11	.11	.006	.04	.21
Negative behaviours (pre-dissolution): friend							.14
Sexual interest in actor's partner	.22	.06	.16	.13	.001	.09	.35
Sexual interest in actor	.23	.07	.15	.13	.001	.09	.36
Pessimistic	.12	.05	.12	.11	.008	.03	.21
Reassurance seeking	.10	.04	.10	.09	.021	.02	.19
Jealous of actor's interactions	.09	.04	.10	.09	.027	.01	.17
Contextual factors: actor							.11
Actor's partner sexually interested in friend (pre-dissolution)	.37	.07	.21	.21	<.001	.23	.51
Alternative friends (pre-dissolution)	.17	.04	.17	.17	<.001	.09	.26
Peers ostracised actor (pre-dissolution)	.14	.04	.14	.14	.001	.06	.22
Life satisfaction (current)	-.07	.04	-.08	-.08	.045	-.14	-.00
Contextual factors: friend							.29
Peers ostracised friend (pre-dissolution)	.55	.04	.51	.48	.000	.47	.63
Friend's partner sexually interested in actor	.12	.06	.08	.08	.029	.01	.23
Contextual factors: friendship dynamics							.15
Altercations	.21	.06	.15	.14	.001	.09	.33
Friend-morals bothered actor	.16	.05	.17	.13	.001	.07	.26
Friend-religious/spiritual beliefs bothered actor	.13	.06	.10	.09	.029	.01	.24
Actor-values bothered friend	.15	.07	.13	.09	.021	.02	.28

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7.5 Discussion

7.5.1 Overview

In the previous chapters of this thesis ostracism was found to have an impact on maintenance, distress, and restoration in close adult friendships, which suggested that it is worth exploring more as a concept. The aim of this chapter was to quantitatively analyse the frequency and the best predictors of ostracism of close adult friends based on the wide variety of factors that significantly impact outcomes in child/adolescent friendships, adult interpersonal relationships, and adult romantic relationships. Further, it aimed to assess predictors of ostracism of both current close friends (i.e., present time) and of previous close friends (i.e., retrospectively) to determine whether current and retrospective predictors are similar. This study also aims to determine the strength of the relationship between actor, target, and peer ostracism to determine whether this behaviour is unidirectional, bidirectional, or multidirectional. The findings of this study are discussed in relation to the literature review in the introduction chapter.

During the analysis phase of this study, strong relationships were found between actor ostracism and actor verbal victimisation, peer ostracism and peer verbal victimisation, peer and actor ostracism, and peer and actor verbal victimisation. In addition, chapters 4 and 6 found that close friendships characterised by ostracism or verbal victimisation were more likely to dissolve in the short term and less likely to restore in the future. Chapter 7 showed that ostracism and verbal victimisation increased the likelihood of current and future distress. Literature has found that peer verbal victimisation prior to a simulated social exclusion event has been found to exacerbate negative responses to the ostracism at a neural level in a sample of adolescent and adult females. This neural response affects emotional and cognitive responses to ostracism, and the potential for increased mental health issues following the ostracism (McIver et al., 2018), possibly because the ostracism cannot be excused as an isolated event and the risk of repeated targeting may be higher.

Together, these results suggest that where verbal victimisation or ostracism are detected by a target there is a strong likelihood of the other also occurring, and that the peer group are likely to be engaging in these behaviours as well. It also suggests that people may miss the long-term significance of these issues because of a tendency to have a positive bias toward the longevity of close friendship (Helgeson, 1994; MacDonald & Ross, 1999), possibly excusing

behaviours as being beyond the control of the friend when occurring alongside peer ostracism or verbal victimisation, or assuming that these behaviours are typical of friendships. They may also miss the possibility that their friend believes that they should be ostracised and verbally victimised, supporting the decisions of the antagonist (e.g., following a transgression). In addition, when people become aware of being the target of verbal victimisation, they are more negatively impacted by ostracism events than when they are not aware of being targeted.

The literature has found that best friendships characterised by ostracism or verbal victimisation amplify peer group ostracism and verbal victimisation instead of acting as a buffer to these behaviours (Boulton et al., 1999), and that peers who are angered by these behaviours tend to actively work to prevent them from occurring (Jones & Rutland, 2020). Thus, it is possible that the close friend may be either a supporter or an instigator of peer ostracism or verbal victimisation, taking on the role of an overt aggressor or a less obvious “frenemy”. “Frenemies” are defined as friends who exist within shared peer groups that are typically characterised by bullying, and who themselves act as a pro-aggressor (i.e., condoning the bullying), or as neutral toward the victim friend when around the peer group, and as being pro-victim, or on the side of the victim friend, when alone with the victim (Wojcik & Flak, 2021). If the close friend is the instigator of such behaviours it is possible that they may gain strength from enlisting support from the peer group to enforce punishments and achieve status reduction of the close friendship in a way that takes the focus off of their own role in the behaviour and use the peer group as a scapegoat for the behaviour.

Mobbing has been defined as group level “verbal harassment, aggressive words, sarcasm, slander or social isolation repeatedly targeted at a specific person at a specific period of time” (Tatar & Yüksel, 2019, p. 57). However, the direction of influence between peers and dyad member use of these behaviours was not studied in the current study so it is unclear whether the close friends in the current sample were the original instigators of these behaviours and being supported by peers, or whether the peer groups were instigating the behaviours and then these behaviours being applied within the dyad.

Further studies could evaluate the relationship between peer and within-dyad bullying behaviours, and whether close friends mirror each other’s ostracising and victimisation behaviours with both members taking on the role of the target and the victim, and how peers select which dyad member to align with

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when within-dyad ostracism or verbal victimisation occur. Literature suggests that people tend to align with people they felt more socially close to (Hofmann et al., 2018). However, literature has also found that people align with people who they believe have been wronged in transgressions (Hofmann et al., 2018; Nezlek et al., 2015; Wang, 2022; Williams, 2009). Further study is required to determine how peers choose which dyad member they will align with when they are emotionally closer to the transgressor than the victim.

From the findings in the dissolution chapter of this thesis (Chapter 5), it is possible that an accumulation of small issues may have occurred and resulted in the member taking actions to reduce the status to a lower level, and that they may enlist the support of the peer group to enforce this decrease if they believe that they are more emotionally close to the peer group than their close friend. This may result in severe long-term consequences to their mental health because of losing emotional closeness to not only their close friend but also their wider social support network, which based on findings from the restoration chapter (Chapter 6) is unlikely to restore in the future.

Distress and mental health issues occur when people are ostracised by people who helped fulfill their fundamental needs (i.e., sense of control, self-esteem, belonging, and meaningful existence), acting as alert to change behaviours, restore connections, and/or seek new social connections to meet these needs (Hales et al., 2020; Jaubert et al., 2022; Legate et al., 2021; Lutz, 2022; Williams, 2007; 2009). Repeated ostracism, or chronic rejection can lead to resignation, helplessness, despair, and suicide (Williams, 2009).

Given the strong relationship between peer and actor ostracism and verbal victimisation, ostracism appearing as a predictor of the other concepts explored in this thesis (i.e., dissolution, restoration, and distress), and the reduced likelihood of results being biased when asking people for their own reasons for their behaviours (i.e., first person reporting) than when making assumptions about the reasons for another person's perspective (Eyal et al., 2018), actor ostracism was chosen to focus on in more depth in the current study.

7.5.2 Frequencies

The frequency of actor ostracism of close friends was explored. It was found that 18.7% of participants reported ostracising their current close friend to some degree, but high frequency ostracising was uncommon, with only 3.4% of participants ostracising their close friend frequently. In contrast, 48.1% of

participants retrospectively reported ostracising their close friend in the few months prior to dissolution, and high frequency ostracising was higher, with 17% of participants ostracising their friend frequently during this period. This indicates that high frequency ostracism tended to be more prevalent during the dissolution process.

Higher overall and high frequency ostracism and verbal victimisation in the months prior to dissolution were also found from the close friend to the actor, and from peers to the actor and the close friend. Together, these results indicate that any increases in within dyad or peer verbal victimisation or ostracism, but especially high frequencies of these behaviours, should be considered potential warning signs of imminent dissolution and addressed where possible. The co-occurrence of verbal victimisation and ostracism suggests that people may be particularly vulnerable to damage to their mental health and wellbeing. For example, as noted earlier, literature has found that peer victimisation prior to ostracism events in friendships exacerbates negative responses to the ostracism at a neural level and affects both emotional and cognitive responses to ostracism, increasing the potential for subsequent mental health issues (McIver et al., 2018).

7.5.3 Study 1. Actor ostracism of current close friends: Current perspective

7.5.3.1 Approach

To determine which factors underlie actor ostracism, many factors that are known in the literature to impact outcomes in interpersonal relationships were explored by grouping factors into themes that reflect the contextual model of relationship outcomes and comparing the relative strength of each model. This approach was chosen to identify the relative strength of groups of factors, as well as factors within their group, and better understand which factors are pertinent when predicting future restoration so that future research can focus more on these factors. Thirteen groups were compared: distal factors (actor; friend), interpersonal processes (actor; friend), positive factors (actor; friend), negative factors (actor; friend), oppositional factors (actor; friend), contextual factors (actor; friend), and friendship dynamic factors.

7.5.3.2 Model comparisons

7.5.3.2.1 Oppositional behaviour models

The strongest multivariate models at explaining actor ostracism were the oppositional behaviour models, which consisted of a variety of different oppositional behaviours engaged in by the actor. The actor-model explained 63%

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of variance, and the friend-model explained 45% of variance, in actor ostracism of one's close friend. When considered separately, each of the actor- and friend-oppositional factors explained small amounts of variance in actor ostracism, except for three factors which explained larger amounts of variance: verbally victimising the friend (62% variance explained), being verbally victimised by the friend (58% variance explained), and being ostracised by the friend (44% variance explained). This indicates that each of the oppositional behaviours engaged in by the actor and the close friend increased their chance of being currently ostracised by the participant to a small degree, but that verbally victimising one's close friend, or being ostracised or verbally victimised by the close friend increases the chance of ostracising them also.

In the actor-model, the two unique contributors at the multivariate level in order of strength were verbally victimising the friend (75%) and being selfish (7%). In the friend-model, the three unique predictors in order of strength were being ostracised by one's friend, perceiving the friend as controlling, and perceiving the friend as entitled. This suggests a retaliatory or vindictive element to ostracism within close friends, with ostracisers taking on the role of both bully/perpetrator and victim. Verbally victimising one's friend and being ostracised by one's friend were by far the strongest predictors in their respective models. It is unclear whether actor ostracism is a response to being verbally victimised by the close friend, or whether the friend is verbally victimising them in response to having been ostracised. However, it appears that once the behaviours begin it likely results in a vicious circle of ostracism and verbal victimisation within dyads and the peer group.

According to the results in the dissolution chapter (Chapter 5), people seem to view themselves as the victim of circumstance when close friendships dissolve, placing almost exclusive blame on the friend's role rather than sharing responsibility. In addition, literature has found that people who ostracise tend to feel that this behaviour is deserved by the target and pleases the perpetrator to administer or witness (Jones & Rutland, 2020). Thus, when verbal victimisation or actor ostracism of a close friend is chosen it is likely viewed as being deserved by the friend, and likely gives the person pleasure to administer (e.g., Hofmann et al., 2018; Jones & Rutland, 2020), thereby reducing or eliminating their own feelings of guilt, remorse, and anger at one's own ostracising behaviours that would be necessary for them to stop their ostracising behaviours, take

responsibility, apologise, choose fewer negative behaviours and more positive behaviours, and stop the vicious cycle (e.g., Dunbar & Machin, 2014; Jones & Rutland, 2020; Kemp et al., 2021; Strelan, 2018; Worthington et al., 2007).

7.5.3.2.2 Contextual factor models

The next strongest models at predicting actor ostracism of close friends were the actor- and friend- contextual factors models, which was comprised of contextual factors affecting the actor and the friend that have been found in the literature to have a secondary impact on interpersonal outcomes. Regarding the actor-contextual model, people were more likely to ostracise close friends when they themselves were being targeted by the peer group via verbal victimisation and/or ostracism, with peer verbal victimisation explaining the most variance at both the univariate (37%) and multivariate levels (31%).

As seen above, it is highly likely that peer verbal victimisation and ostracism are highly related to actor verbal victimisation and ostracism, so it is likely that when people are targeted themselves by their peer groups they are also being targeted by their close friend. It is also likely that the close friend is supportive of them being targeted (i.e., pleased by the behaviour), especially when the targeting is chronic, because people who are angered by witnessing these behaviours have been found to be more motivated to take assertive action against the behaviour, which abruptly stops the behaviours in many instances (Jones & Rutland, 2020). Thus, people who are being repeatedly targeted by their peers may assume that their close friend also reflects the mindset of the group, or may have even initiated the targeting behaviours to begin with, which renders the close friend a threat to their mental health and wellbeing, and may result in ostracism of the close friend as a warning sign to stop the behaviour, as retaliation, or as a self-preservation strategy to minimise further personal harm from the peer targeting (e.g., reducing opportunities for the close friend to gather information about them at social events and provide this to the peer group as ammunition).

People were also more likely to ostracise close friends who they believed their partner was sexually interested in, and this uniquely contributed to the multivariate model. This supports literature that has found that people use mate defending behaviours, such as derogation (e.g., verbal victimisation) and ostracism of attractive alternative romantic partners to preserve the quality and longevity of their romantic relationship. Interestingly, research has found that partners are highly accurate in detecting when their romantic partner is sexually

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interested in attractive alternatives (Neal & Lemay, 2014), and that mate defending strategies are successful in preserving relationships in the short-term (Meyer et al., 2011). Together with the results from Chapters 5, 6 and 7, sexual tension appears to create an instability in close friendship status, with ostracism and dissolution more likely, higher distress about the dissolution, and restoration more likely. This suggests a high cognitive and emotional cost to these friendships, even if the close friend does not reciprocate sexual interest in the romantic partner. It may be possible for this instability to reduce if motives are made clear and clear boundaries are established if necessary.

Other weaker contributors to the multivariate model were having more alternate close friends, being less committed to maintaining other close friendships, being less stressed, and being less popular. Together, these findings suggest that people who are less committed to their friends and less popular in general, may be more susceptible to negative peer influence and/or to leaving their close friends when attractive alternative friends are available, and they do not have other stressors from keeping them from pursuing the alternative friends. Less commitment to close friends may result in poorer quality friendships that are unbalanced in benefitedness (i.e., the balance of rewards and costs associated with the friendship), with the person regularly being over-benefited (i.e., receiving more rewards and/or producing more costs in the friendship) and their close friends being under-benefited (McNulty & Dugas, 2019). It is possible if the person is regularly willing to be over benefited in close friendships that they may also be less concerned about using ostracising behaviours which are also detrimental to the other person's welfare.

Regarding the friend-contextual factors model, similar results were found, with peer verbal victimisation of friend explaining slightly more variance in actor ostracism of the friend (43%) than the multivariate model (40%). Also, similar contextual factors were found to contribute to the multivariate model for contextual factors in relation to the friend as to the actor. Peer ostracism of friend contributed most to the model, followed by sexual interest from the friend's partner toward the actor, both were positive predictors of actor ostracism of friend. These results suggest that people whose peers ostracise their close friends also engage in ostracising behaviours toward their close friend, although it is unclear who initiated the ostracism behaviours: the person, the peer group, or if it is in response to being ostracised themselves. Again, partner sexual interest was

predictive of ostracism, but it is interesting that ostracism was administered to close friends whose partner was sexually interested in them. It is unclear whether this is because the friend had been ostracising them as a method of mate defending and that they were responding by ostracising the friend, or whether people are uncomfortable about unwanted sexual attention so gain space or create boundaries to reduce that attention by leaving the friend and their partner out of activities. Further research could explore directionality and reasons for people choosing to ostracise the close friends in such situations.

People were more likely to ostracise close friends who were generally less likeable, and those who had more alternate close friends. This reflects research in early adolescent friendships which has found that being considered generally unlikeable exacerbates the chances of being socially excluded, especially for females (Closson et al., 2017). It is interesting that this perception and response also exists in close adult friendships, given that the friendship has reached a close or best friendship level, which typically requires a large amount of time and energy to develop (Hall, 2019). It is possible that peer perspectives were initially unknown or grew negative over time, such as if a close friendship grew outside of a peer context and then peer dislike of the friend became evident when they got to know the friend, or if an altercation occurred between the friend and a peer member and this dislike spread through the group. Alternatively, it may already have been known that the friend was generally unlikeable but that they had other attributes that they wanted to invest in but that they actively made attempts to keep the friend and peer group separate (via ostracism) to preserve both sets of relationships. Future research could explore how perceptions of unlikability of close friends develop and impact ostracism.

Regarding the current finding that people ostracise friends who have more alternate close friends, it is possible that people do not believe that these close friend will have enough time and energy to invest in their friendship, or that the friend may be more risky to invest in because they already have their fundamental needs met elsewhere and may not need them as much (e.g., Dunbar, 1993; Hill & Dunbar, 2003), both of which may result in the actor being underbenefited in the friendship and the friend being overbenefited, and decreased satisfaction and commitment (McNulty & Dugas, 2019).

7.5.3.2.3 Intrapersonal process models

The next strongest models at explaining variance in actor ostracism of one's close friend were the intrapersonal process models. The first intrapersonal model contained factors about the friend's cognitive processes and emotions (e.g., current hurt, liking, motivation) as perceived by the actor. Unique contributors to the model were the friend feeling hurt, the friend not liking the actor, the friend being less intelligent, and the friend having lower desire to be close friends in the future. It is likely that the hurt experienced by the friend is a response to them being ostracised and/or verbally victimised by the actor and the mutual peer group given the strong relationship between these factors found above, but further research should determine the cause of hurt because this clarification was not sought in the current study.

The next strongest contributor to the model was being liked less by one's friend. People may ostracise close friends who don't reciprocate their level of like for them. Liking has been found to decrease when people are uncertain about the desired classification level of the other person in romantic relationships (Knobloch & Solomon, 2002), thus a person who is ostracising their close friend may notice a decrease in the amount that they like them. The friend's lack of desire to continue being friends in the future may be a trigger to them being ostracised, or being ostracised may have resulted in the friend being less motivated to remain close friends in the future. Directionality of these factors is difficult to determine in the current study and could be studied more in future studies.

The second intrapersonal model contained factors about one's own intrapersonal processes (e.g., current hurt, liking, motivation). Similar factors appeared in the multivariate model as in the friend's intrapersonal processes model. Liking the friend less explained the most variance in the model, followed by having more negative emotions about the friend, lower positive illusory beliefs about the friend (i.e., viewing them as a less ideal friend), and lower death devastation (i.e., believing they would be less devastated if the close friend died). Given the reciprocal, socially pervasive and devastating nature of actor ostracism found above and in the previous chapters of this thesis, it is likely that both dyad members will eventually ostracise one another. Thus, it is unsurprising that the effects on each dyad member are similar, with both members liking one another

less, having higher scores on negative interpersonal process measures, and lower scores on positive interpersonal processes measures.

7.5.3.2.4 Friendship dynamic factors model

The model that explained the next highest amount of variance in actor ostracism consisted of interactive factors that involved both dyad members, such as being bothered by the other person's morals, values, and changes in time spent together. Being bothered by the close friend's religious or spiritual beliefs was the strongest contributor to the model, followed by being bothered by their values, having fewer common interests, and being currently involved in more activities together. It is possible that being involved in more activities together provides more opportunity for ostracism to occur, especially when these activities involved peers who may be initiating, replicating, or supporting the ostracism.

Research has found that ostracism from religious groups increases existential concerns and decreases feelings of belonging, meaning and self-esteem, whereas inclusion and acceptance from religious groups has been found to decrease the negative effects of ostracism (Hales et al., 2020). Thus, this lack of within-dyad acceptance of differences in religious beliefs is likely problematic long-term because ostracism has been found in the previous chapters of this thesis to predict dissolution, distress, and lower likelihood of restoration in the future. These differences may also be mirrored by the peer group, who may also ostracise the close friend from the religious or social group. This finding, along with the finding that lack of acceptance of differences in values, support selection criteria models, such as the value stage and role stages of the stimulus-value-role model (Murstien, 1970), that stipulate that people evaluate and re-evaluate value and attitude alignment between themselves and people in their social network and may reclassify the position of people if misalignment is detected or occurs across time.

The finding that lower common interests predict higher ostracism of close friends extends existing findings about the impact common interests on interpersonal relationships. For example, one study examined the percentage of participants who believed that a wide range of factors were impacting a range of different aspects of their romantic relationship (Kito et al., 2016). The aspects that were believed to be impacted by common interests were: overall relationship quality (listed by 5.13% of participants), commitment (6.49%), passion (2.67%), and satisfaction (5.13%). These findings suggest that common interests are important for the current quality of relationships as well as behaviours, such as

ostracism, that have long term negative consequences for the within-dyad relationship, as well as with the support group when peer groups mirror these behaviours.

7.5.3.2.5 Negative behaviour models

The next strongest models at explaining variance in actor ostracism were the negative behaviour models, which consisted of items that have been found in the literature to have a negative impact on the quality of interpersonal relationships, but that are not typically considered oppositional in nature. The actor-negative behaviours model explained 33% of variance in actor ostracism, and the friend-negative behaviours model explained 29%.

Within-dyad sexual interest and sexual interest of either dyad member in the other member's romantic partner were the strongest predictors at both the univariate and multivariate levels in both models. This suggests that people ostracise close friends when there is sexual interest between any of the members of the dyad or their romantic partners regardless of whether the interest is coming from them or directed toward them. This supports the findings that sexual interest creates disharmony within close friendships and may be considered burdensome (Bleske-Recheck et al., 2012), and that unwanted sexual interest is regulated within the dyad themselves to indicate escalation disinterest (Akbulut & Weger, 2016; Guerrero & Chavez, 2005; Weger & Emmett, 2009), in this case via ostracising behaviours.

As seen in the previous chapters of this thesis, sexual interest also increases the chances of dissolution and distress in close friendships, but is more likely to result in future restoration, possibly once intentions are understood, boundaries have been established, and relational uncertainty is reduced. This supports research that has found that it is uncommon for close friendships to escalate romantically (Stinson et al., 2021), with friendship preservation being considered more important than sexual factors for both males and females (Lehmiller et al., 2011). When a person is sexually interested in a friend, they may ostracise the friend to punish them for lack of reciprocation or to de-escalate their own unrequited feelings. When people who are sexually interested in a friend's partner ostracise the friend, they may be attempting to de-escalate their sexual interest, or they may be attempting to sabotage the friend's relationship by weakening the friend and their relationship and creating more opportunities to have sexual or romantic interactions with the partner.

Research has found that when adults attempt to poach romantic mates from their friends they tend to use behaviours that gradually weaken the commitment of the romantic partner to their friend and increase the friend's partner's sexual desire in themselves and perception of them as a valuable partner (Lemay et al., 2016). For example, a friend may invite a friend's romantic partner to an event but ostracise the close friend, strategically suggesting that they would be better suited to attend the event with than the close friend would be to provide an opportunity to strengthen their own connection with the friend's partner and weaken the commitment of the partner to the friend. As noted earlier, research has also found that one of the five major reasons for resentment of friends in adolescents was "falling in love with my friend's boyfriend/girlfriend" (Öztürk & Atli, 2021) which suggests that the negative impact of sexual tension on friendships is an issue across the lifespan.

Other actor-factors that weakly explained actor ostracism of the close friend in the multivariate model were being less silly, showing off more, being more hypocritical, and being less ambitious in general. The literature has found that when people experience higher quality, more support, and higher emotional closeness in their friendships and romantic relationships they experience more shared emotional responses to events, such as shared spontaneous laughter and humour (i.e., "good natured teasing, wit and silliness, private jokes, fun and exaggeration, and nervous giggling") in romantic relationships (Kurtz & Algoe, 2016, p. 580), shared sadness in friendships (Wrobel, 2018), and shared neural responses to witnessing the rejection of the other dyad member in friendships (Beeney et al., 2011). It is possible that lower silliness may reflect less emotional closeness and shared emotional responses with their friend which may result in less concern or awareness of the negative impact of their ostracism on their friend.

Aspects of showing off (such as higher levels of generosity and risk-taking behaviours) have been found to occur in people, especially males, when they are in the immediate vicinity of members of the opposite sex (Iredale et al., 2008; Pawlowski et al., 2008). It is possible that higher showing off in the current study may have indicated an interest in alternative partners or friends, and that they may have withdrawn investment in the close friendship to allow for increased connection to the alternatives. In addition, they may believe their friendship with the close friend threatens their own social position, especially if they consider their friend to be socially disadvantaged (e.g., poor social skills, unlikeable). This

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may then lead them to ostracise their friend to gain social status or to mimic social ostracising behaviours to gain favour from the group and maintain status in the group.

The findings in the current study that higher hypocritical behaviours predict actor ostracism of close friends supports literature that has found that hypocrisy is indicative of a belief that one's needs in close friendships and romantic relationships can only be met via the use of competitive behaviours, which is related to a tendency to be more lenient toward themselves and to morally judge others for transgressions (Weiss et al., 2021). Thus, being more hypocritical may have predicted ostracism of close friends because of higher leniency toward oneself and higher judgement and punishment of their friend's transgressions.

Lower ambition was also found in the current study to predict actor ostracism. Research has found that ambitious people value themselves more when they feel like they are succeeding at their goals and when other people recognise their achievements, and that they are also more likely than less ambitious people to learn from their mistakes and make changes to reduce making the same mistakes in the future (Barsukova, 2016). Thus, ambitious people may be less likely to ostracise close friends because ostracism is risky and may lead to either social approval or disapproval (Jones & Rutland, 2020), which risks negative attention and action from others. In addition, the tendency to work through challenges rather than walk away from them may increase the chances that an ambitious person may attempt to work through the challenges that may lead others to ostracise their close friends rather than engage in ostracism.

Other friend-factors that contributed to the multivariate model were being more boring, having low or high conformity goals, and having low ingratiation (e.g., deliberately using behaviours to increase favour in other people). The finding that people are more likely to ostracise close friends who they find boring extends existing findings about the impact of boredom on interpersonal relationships. Harasymchuk and Fehr (2012) summarised that boredom in close adult relationships "is the result of a deceleration of relationship growth" (p. 163), characterised by lack of self-expansion, and deteriorations in quality, and positive and novel aspects of the relationship. The current findings indicate that boredom not only impacts quality but also increases the chances that people will be simultaneously ostracising their close friend. People were also more likely to

ostracise close friends who appeared to have either high or low peer conformity goals. This supports literature that has found that popular females experience higher levels of ostracism and reputational victimisation if they have either high levels of peer conformity goals (i.e., desire to conform to the peer group) or low levels of peer conformity goals. The literature found that popular males only experienced higher levels of ostracism if they have low conformity goals (Closson et al., 2017). Interestingly, the current findings suggest that people ostracise close friends with high or low conformity goals regardless of popularity.

The current sample consisted of a higher percentage of females than exists in the general population, which may have led to the finding that people ostracised close friends with high peer conformity goals. Future research could explore whether gender differences exist regarding the ostracism of close friends with high peer conformity goals. The current study found that people ostracise close friends who engage in fewer ingratiation behaviours (i.e., complimenting, taking an interest, praising, and doing personal favours; Kacmar et al., 2007). This supports romantic literature that has found that people engage in more ingratiation behaviours when they feel valued by the other person (Lemay & Sponberg, 2015), and suggests that close friends who are ostracised may feel less valued and respond by engaging in fewer ingratiation behaviours.

7.5.3.2.6 Positive behaviours model – actor-factors

The model that explained the next highest amount of variance in actor ostracism of a close friend consisted of factors relating to one's own positive behaviours within the friendship. This model explained 26% of the variance in actor ostracism. At the multivariate level, factors that uniquely contributed to the model (in descending order of strength) were being less authentic, less empathic, relying more heavily on the close friend for practical support, being less loyal, less trusting, and engaging in less reciprocation towards the close friend. Research has found that higher friendship quality (e.g., satisfaction) allows for people to become more authentic in their best friendships in adolescents, but that these constructs are distinct, with authenticity being related to higher self-esteem in general and in relationship to their best friendship, lower levels of loneliness, and higher satisfaction in their best friendship (Peets & Hodges, 2017). It is possible that authenticity suggests higher feelings of emotional safety within a best or close friendship, and that inauthenticity may suggest wariness or a more surface level connection that may lead to them being less protective of the friendship and

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more likely to engage in ostracising behaviours if they feel under threat or in situations where they feel they need to choose between supporting their friend or mirroring peer group ostracism.

The current study found that lower empathy uniquely explained actor ostracism. The literature has found that people mimic the negative emotions in strangers and friends (Wrobel, 2018), and this is higher at a neural level (Beeney et al., 2011) for people who feel emotional closer to their friend (Wrobel, 2018), such as when witnessing their friend being rejected by other people (Beeney et al., 2011). It has been suggested in the literature that more competitive peer environments may reduce empathy within peer group members (Rudert, 2020). In addition, lower empathy has been found to disrupt the ability of people with avoidant attachment styles to forgive friends for transgressions (Burnette et al., 2009). It is possible that lower empathy indicates fewer shared, or mimicked, emotions with close friends, resulting in less mutual experiencing of social pain from ostracism events themselves and likely lower cost to themselves of engaging in ostracising behaviours toward one's friend.

In the current research, less loyalty to a close friend predicted higher ostracism of that friend. Research has found that loyalty underlies each of the key concepts in romantic relationship quality: commitment (listed by 25.97% of participants), overall relationship quality (listed by 12.82% of participants), trust (9.09%), love (7.69%), satisfaction (7.69%), intimacy (6.49%), and passion (2.67%; Kito et al., 2016). Thus, it is likely that a lack of loyalty to one's close friend reflects a pervasive issue within the friendship that leads people to be less concerned about the potential risks of engaging in ostracising behaviours on the long-term quality and longevity of the friendship.

In the current research, being less trusting of a close friend predicted higher ostracism of that friend. Research has found that trust is one of the key concepts in romantic relationship quality, underlying each of the following aspects: commitment (listed by 53.25% of participants), love (46.15%), overall relationship quality (37.18%), satisfaction (30.77%), intimacy (24.68%), and passion (10.67%; Kito et al., 2016). Trusting an untrustworthy romantic partner long-term has been found to be related to lower satisfaction and fewer maintenance behaviours (Murray et al., 2015). In addition, trust has been found to reflect the level to which a person believes their friend (Wieselquist, 2007) or peers (Levine, 2018; Salamon & Robinson, 2008) are committed to them, and to

be predicted by an optimistic outlook about the future of the relationship (Murray & Holmes, 1997). A lack of trust in a close friend suggests a concern or wariness about the potential for that friend to cause distress or harm in the future and may result in people engaging in ostracising behaviours to extricate themselves from the friend to avoid being exposed to as many situations where they may experience threat or further harm from the friend, and long-term dissatisfaction and underbenefitedness (i.e., experiencing higher friendship costs and lower benefits relative to their friend).

Lower reciprocation was found to predict higher ostracism of close friends in the current study. Reciprocity of best friend status has been found to be more common in females (60% reciprocity) than males (40% reciprocity) in adolescents (Vaquera & Kao, 2008), and only 50% of friends have been found to reciprocate the same level of emotional closeness and friendship classification level (Almaatouq et al., 2016; Murphy, 2016). Reciprocation is highest when both dyad members have a secure attachment style (Grabill & Kerns, 2000). Lack of reciprocation can lead to one dyad member being underbenefited (receives fewer rewards and/or produces fewer costs) and the other person being overbenefited (receives more rewards and/or their produces more costs) in the relationship (McNulty & Dugas, 2019). People who perceive that their maintenance behaviours are not reciprocated or are unsuccessful in eliciting a desired increase in relationship quality tend to experience increased depressive symptoms (Baker et al., 2013), and higher distress (McNulty & Dugas, 2019). Thus, lower reciprocation of maintenance behaviours may be a warning sign that a person does not reciprocate the same level of emotional closeness as their close friend and may be less concerned about engaging in behaviours that may end the close friendship such as ostracism.

The finding in the current study that increased reliance on close friends for practical support is related to higher ostracism of that friend was surprising because the support group in the social network are the innermost circle of the network, comprising the people one is most emotionally close to (Hill & Dunbar, 2003). However, it may be the perception that one can rely on these individually for practical support if needed that signifies higher emotional closeness (e.g., Roberts & Dunbar, 2015; Wójcik & Rzeńca, 2021), but actual reliance on the individual may signify a lack of valuing the other person since this may weaken the other person's own resources (e.g., emotional, financial, time), and/or may

lead to feelings of guilt and a disconnect emotionally from the friend if enacted. These factors may all result in an increased likelihood of ostracising the close friend.

7.5.3.2.7 Distal factor models

The distal factor models (e.g., the personality and attachment style of each dyad member) were weaker at explaining actor ostracism, with actor-factors explaining 17% of variance and friend-factors explaining 15% of variance. High avoidant and high anxious attachment both uniquely explained actor ostracism in the actor-factor model, but high avoidant attachment contributed more strongly. This supports research that has found that individuals with an insecure attachment style (anxious or avoidant) have been found to have less satisfaction in relationships than securely attached individuals (Catel, 2020; Cooper, 2017; Esmeirat, 2019; Lee, 2017; Senn, 2016; Waring, 2016), to be less satisfied than their current romantic partner (Candel & Turlic, 2019), and to have lower expected future satisfaction regarding the relationship (Baker et al., 2017).

The current findings also support research comparing anxious attachment and avoidant attachment on long-term romantic relationships that found that avoidant attachment was more detrimental to the satisfaction of both members of the dyad than anxious attachment (Morelro et al., 2017). The authors also found that individuals' attachment style more strongly affected own satisfaction within the friendship than their partner's satisfaction. Avoidant attachment has also been found in the literature to be more predictive of relationship disengagement (Callaci et al., 2020), dissolution (McNeilis & Segrin, 2019; Grignon, 2019; Grau & Doll, 2003; Terwogt & Mol, 2005; Molero et al., 2017), and initiation of dissolution than anxious attachment (Barbara & Dion, 2000). Interestingly, perceiving a close friend was anxiously attached to them, but not avoidant attached, uniquely contributed to the multivariate model in the current study, although both were predictive at the univariate level.

Higher decay beliefs also uniquely contributed to the model, indicating that people were more likely to ostracise their close friend if they believed that decay was irreversible. This supports literature that has found that people with higher decay beliefs are less satisfied with, have more distress about (Bradbury & Fincham, 1990; Lemay, 2016), and are less committed to their romantic relationships, and more likely to pursue attractive alternatives (Carswell & Finkel, 2018a).

Both lower perceived intelligence of the actor and of the friend uniquely contributed to actor ostracism in their respective models, indicating that higher intelligence may be protective against within-dyad ostracism and associated outcomes. Research has found that rating a romantic partner as more intelligent than they are rated by objective observers is related to higher relationship satisfaction (Ogolsky et al., 2017), indicating that positive illusory beliefs about the partner are protective of relationship quality.

Higher friend-antagonism and lower friend-openness also uniquely contributed to the friend-factor model. This is consistent with literature that has found that lower agreeableness (Malouff et al., 2010) and lower openness (Weidman et al., 2017) are related to lower satisfaction in romantic relationships and lower agreeableness increases the chances that a person will be ostracised by their peers (Rudert, 2020).

The results of the distal models should be interpreted with caution because of the inclusion of part-scales for the attachment and implicit belief measures because of human error. Further research should determine whether these models are stronger or weaker when using full scale measures.

7.5.3.2.8 Positive behaviours model – friend-factors

The model that explained the least amount of variance in actor ostracism consisted of positive behaviours currently engaged in by the friend. The model explained 13% of variance. As with the actor-positive behaviours model, lower friend reciprocation behaviours, lower friend trustworthiness, and higher friend reliance on the actor for practical needs uniquely contributed to the model, indicating that people ostracised friends who reciprocated less, were less trustworthy, and/or relied on them more to help them meet their practical needs. This again suggests that it is the perception that one can rely on their close friend that indicates closeness but stronger actual reliance on one-another for practical needs may put the dyad at risk of fracture and either member ostracising the other.

People were also more likely to ostracise close friends who they believed had poorer hygiene. This is similar to findings in the romantic literature that disliking a romantic partner's body odour is related to lower commitment and higher intentions to break up with that person (Keaveny & Mahmut, 2021). This is interesting because it was hypothesised that this may be a result of mate selection, with people with poorer body odour suggesting less value as a mate because it may suggest poorer health. However, the results of the current study suggest that

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people also ostracise close friends with worse hygiene. It is possible that as people become less committed they begin to notice existing poor hygiene in their partner/close friend and begin to ostracise them and make plans to breakup with them, alternatively the friend/partner may not have poor hygiene but increased dislike or lower commitment for the person may make the person appear less hygienic or more “stinky” and result in higher ostracism of the person, or it may be that when there is a change in the hygiene level in their partner/friend (e.g., they feel more comfortable and make less effort, they become less committed themselves and make less effort) they become more disgusted and reduce their commitment to the person and ostracise them more. Further research could examine the directionality of hygiene disgust and ostracism in close friendships by measuring hygiene disgust and ostracism at the onset of close friendship development and tracking changes in this over time.

7.5.4 Study 2. Actor ostracism of previous close friends: Retrospective

7.5.4.1 Model comparisons

7.5.4.1.1 Methodological approach and frequency of actor ostracism of previous close friends: retrospective

To determine which factors underlie actor ostracism from a retrospective stance, many factors that are known in the literature to impact outcomes in interpersonal relationships were explored by grouping factors into themes that reflect the contextual model of relationship outcomes and comparing the relative strength of each model. This methodological approach was chosen to identify the relative strength of groups of factors, as well as factors within their group, and better understand which factors are pertinent when predicting future restoration so that future research can focus more on these factors. Thirteen groups were compared: distal factors (actor; friend), interpersonal processes (actor; friend), positive factors (actor; friend), negative factors (actor; friend), oppositional factors (actor; friend), contextual factors (actor; friend), and friendship dynamic factors.

7.5.4.1.2 Oppositional behaviour model – actor-factors

The actor-oppositional behaviour model explained the most variance in actor ostracism retrospectively (35% variance explained), with two factors uniquely contributing to the multivariate model: verbally victimising one’s friend (54% explained) and being defensive (13% explained). This indicates that actor-oppositional behaviours, and most importantly the verbal victimising of one’s

friend, explained the most variance in actor ostracism when reported in the present time or retrospectively. However, it appears that people downplay the impact of their own oppositional behaviours over time, given that the model was stronger when reporting in the present time (63%) than retrospectively (37%). Interestingly, being selfish uniquely contributed to the current perspective model, but being defensive uniquely contributed to the retrospective model, suggesting a shift from blaming oneself (the actor) to the friend for the ostracism over time, perhaps to alleviate personal feelings of guilt, or because of a minimisation of one's own behaviours when other factors are considered in hindsight (e.g., realising that the other person had been verbally victimising or ostracising them also).

7.5.4.1.3 Contextual factors model – friend-factors

The friend-contextual factors model was the second strongest model at explaining actor ostracism retrospectively (29% variance explained), indicating that the friend-contextual factor model was one of the strongest models at explaining actor ostracism from both a current- and retro- perspective. Again, people were more likely to report having ostracised their previous close friends when their peer group was targeting the friend via verbal victimisation and/or ostracism, with both factors explaining a similar amount of variance at the univariate level (25%; 28%), and the friend being ostracised by the peer group contributing the most to the multivariate model (48%). Also, sexual tension was included in the model, with higher sexual interest from the friend's partner toward the actor contributing to the retrospective model, and sexual interest from one's own partner toward one's close friend contributing to the current perspective model above. This further supports the findings in the literature that adult close friendships are significantly impacted by peer-influence (Jones & Rutland, 2020), and that unwanted sexual interest from the romantic partners of close friends or from one's own partner towards close friends increases the likelihood of the actor personally ostracising their close friend. This is suggestive of both mate defending behaviours and the prevention of unwanted sexual advances from the partners of close friends (e.g., Akbulut & Weger, 2016; Baker et al., 2017; Bleske-Recheck et al., 2012; Guerrero & Chavez, 2005; Meyer et al., 2011; Weger & Emmett, 2009).

7.5.4.1.4 Intrapersonal processes model – friend-factors

The friend-intrapersonal processes model was the next strongest at explaining actor ostracism of close friends retrospectively (16% variance

explained). This is somewhat less strong than the current perspective version of this model discussed above (35% variance explained). However, the retrospective model contained two unique contributors, both of which were found in the current perspective model: the friend feeling more hurt, and perceiving the actor as being less liked by the friend. This indicates that current and retrospective reporting of their friend feeling more hurt and being less liked by their friend are warning signs that actor ostracism of their friend may be currently occurring or may have impacted dissolution of closeness in the past.

7.5.4.1.5 Oppositional behaviours model – friend-factors

The friend-oppositional behaviours model explained less variance retrospectively (16%) than the present time model (45%), in terms of overall variance explained and also relative to the other retrospective models run. Whereas friend-ostracism of the actor, friend-controlling and friend-entitled behaviours contributed to the present time model above, friend-verbal victimisation of the actor and self-righteous behaviours uniquely contributed to the retrospective model. It is likely that since verbal victimisation and ostracism are so highly correlated in the current sample, they are almost interchangeable. Both factors were much stronger contributors than the other factors in their model.

The finding that friend-self-righteous behaviours uniquely contributed to the retrospective model is interesting. Typically, people who demonstrate more self-righteous beliefs (e.g., moral superiority) are more likely to ostracise others following transgressions (Hofmann et al., 2018). It is unclear whether people ostracise self-righteous close friends first or as a response to being ostracised by the self-righteous friend. However, self-righteousness did not appear in the actor-oppositional multivariate model in either the retrospective or present time analyses, indicating that it was not as important as other factors when combined into models with other oppositional factors. Thus, future research should analyse when and why people ostracise close friends who engage in self-righteous behaviours.

7.5.4.1.6 Friendship dynamics model

The model that explained the next highest amount of variance in actor ostracism of close friends retrospectively consisted of interactive factors that involved both dyad members, such as being bothered by the other person's morals, values, and changes in time spent together. The multivariate model explained 15% of variance in actor ostracism and had four unique contributors:

having an altercation with one another, being bothered by the close friend's morals, being bothered by the close friend's religious beliefs, and the friend being bothered by one's own values.

At the univariate level, one's own bother and the friend's bother on each of the values, morals, and religious beliefs factors were highly related and explained almost identical amounts of variance regardless of which dyad member was "bothered" by the factor. Also, the final model selected either one's own bother or the friend's bother for each factor. Thus, it appears that actor ostracism can occur towards one's friend when there are within-dyad discrepancies in these factors that bother either of the dyad members. This was similar to the findings in the current perspective model described above. However, the current perspective and retrospective models differed slightly, with fewer common interests and more current activities being included in the current perspective model only, and more altercations and feeling more bothered by the friend's morals included in the retrospective model only.

The finding that being bothered by a close friend's morals contributed to the retrospective model supports research that has found that people are more likely to ostracise friends following a transgression if they believe they are morally superior to the friend (Hofmann et al., 2018), and may reflect the existence of competitiveness, time- or resource- constraints within the dyad or in the peer environment (Robinson et al., 2013; Rudert et al., 2019; Rudert, 2020; Weiss et al., 2021). While people may initially believe that their morals align, it may be that across time discrepancies may be disclosed or become apparent, and if people are unwilling to forgive transgressions, have invested less in the friendship, the friendship costs appear higher than the benefits, or if there are other better suited friends available, the role or classification of the friend may be re-evaluated, as postulated in selection models such as the stimulus-value-role model (Murstein, 1970), process theories (Reis et al., 2004; Reis & Patrick, 1996; Reis & Shaver, 1988), social exchange theories (e.g., Adams, 1965; Hatfield et al., 1979; Homans, 1961; Walster et al., 1978), interdependence theory (Thibaut & Kelley, 1959), and the investment model (Rusbult, 1983).

The findings that altercations uniquely contributed to actor ostracism in the retrospective model is similar to findings in the literature that disagreements, or altercations, about common events was one of the five main reasons for resentment in friendships in adolescents (Öztürk & Atli, 2021). Many significant

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conflicts that result in close friendship dissolution in adults are resolvable within the first few weeks following the conflict, but the chances of restoration become much less likely with each passing week and highly unlikely following a 12-month period (Dunbar & Machin, 2014). However, genuine apologies from dyad members for any transgressions that either one of them committed during the conflict (i.e., people may take on the roles of both victim and transgressor during the conflict period) are typically required to facilitate forgiveness (Dunbar & Machin, 2014; Kemp et al., 2021). Apologies may be offered but not accepted or may not be genuinely offered by both dyad members, which may hamper forgiveness and restoration (Dunbar & Machin, 2014). This may reflect a lack of insight into one's own role in the conflict, an inability to perspective-take, or focusing on assumptions about the thoughts and actions of others rather than directly asking the other person about their thoughts and their reasons for their actions.

Research has found that stronger beliefs in assumptions both decreases accuracy and increases confidence in the assumption, which can subsequently result in aggressive responses to inaccurate assumptions (e.g., Eyal et al., 2018). Inaccurate assumptions about the friend's perspective regarding altercations may result in people feeling justified in their personal ostracism of close friends but cause unnecessary and severe damage to the friendship and mental health of both dyad members long term. It has also been found that close friends and romantic partners tend to handle altercations by choosing strategies that will maximise rewards and minimise costs and likelihood of future dissolution of the relationship, whereas family members and non-close peers tend to use strategies that enforce authority and are aimed at increasing personal gain with less focus on maintaining the quality of the relationship (Laursen, 1993a). This also suggests that the use of actor ostracism of close friends during altercations is indicative of a lack of care about the longevity of the friendship and a likelihood that the close friendship will dissolve in the future.

7.5.4.1.7 Intrapersonal processes model – actor-factors

The model that explained the next highest amount of variance in actor ostracism retrospectively was the actor-intrapersonal model, which contained factors about one's own intrapersonal processes (e.g., current hurt, liking, motivation). Two unique contributors were found in the multivariate model: liking the friend less pre-dissolution, and higher current breakup distress. This is similar

to the findings in the current perspectives model which found that liking the current close friend less explained the most variance in actor ostracism, indicating that liking one's friend reduces the chances of ostracising the friend and may serve as a protector against peer ostracism and/or mirroring of peer ostracising behaviours. It is interesting that current breakup distress uniquely contributed to the model. This concept was not examined in the current perspectives model because the close friendship was not dissolved. It is possible that people ostracise close friends when they feel distressed by aspects of the friendship (e.g., they have been verbally victimised or ostracised themselves), or it is possible that ostracising close friends has a longer-term consequence of feeling ongoing distress about the breakup (e.g., because they feel guilty or experience social reprimand for the ostracising). Further research could explore whether distress precipitates actor ostracism of one's friend or the other way around.

7.5.4.1.8 Negative behaviours model – friend-factors

The next strongest model at explaining variance in actor ostracism retrospectively was the friend-negative behaviour model, which explained 14% of variance in actor ostracism, compared to 29% variance in the current perspective model. As in the current-perspective model, higher sexual interest from the friend toward the actor or the actor's romantic partner explained the highest amount of variance in actor ostracism of the friend, further suggesting that sexual tension between close friends or their partners is detrimental to the quality and stability of the friendship.

The other unique contributors to the retrospective model were the friend being more pessimistic, engaging in more reassurance seeking behaviours, and being more jealous of one's interactions with other people. While these factors were not contributors to the current perspective model, both being more pessimistic and being more jealous of one's interactions with others were significant at the univariate level. Interestingly, reassurance seeking was not significant at the univariate level or considered for multivariate regression analysis in the current perspectives model, whereas it was a unique contributor to the retrospective model for dissolved close friendships, suggesting that reassurance seeking behaviours do not explain variance in actor ostracism in current close friendships, but that people who respond to being ostracised by engaging in reassurance seeking behaviours may be more likely to subsequently reclassify or to have their friendship re-classified to a lower level of friendship.

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This supports literature that has found that classification uncertainty and discrepancies can result in increased distress, reassurance seeking behaviours, and poor mental and physical health outcomes in interpersonal relationships (Akbulut & Weger, 2016; Baker et al., 2013; Baxter & Wilmot, 1984; Bell & Buerkel-Rothfuss, 1990; Eyal et al., 2018; Guerrero & Chavez, 2005; Knobloch & Solomon, 2002; Rose et al., 2016; Weger & Emmett, 2009).

The findings that higher friend-jealousy of one's interactions uniquely contributed to the retrospective model supports findings in the literature that jealousy was one of the major causes of significant conflict incidents in romantic relationships (Dunbar & Machin, 2014) and one of the major causes of resentment in adolescent friendships (Öztürk & Atli, 2021), although both of these articles focused on one's own jealousy rather than that of the other person. It also supports findings that relationship uncertainty, which is likely increased for the friend during periods of ostracism, increases jealousy (Knobloch & Solomon, 2002). This is unsurprising given that the friends who are frequently ostracised are likely to make comparisons between themselves and the friends who are being selected instead of them, especially given that their close friendship is at risk of dissolution and may have significant consequences for their mental health and wellbeing. Jealousy may act as an alert to change their behaviours to be more favourable to their close friend to reduce the chances of further ostracism.

7.5.4.1.8 Positive behaviours model – actor-factors

The model that explained the next highest amount of variance in actor ostracism of a previous close friend pre-dissolution consisted of factors relating to one's own positive behaviours. This model explained 12% of the variance in actor ostracism retrospectively, compared to 26% of variance in the current perspective model above. At the multivariate level, factors that uniquely contributed to the model (in descending order of strength) were being less loyal, less grateful, less authentic, and engaging in less reciprocation towards the close friend prior to dissolution. Two of these unique contributors were also present in the current perspective model: being less loyal and engaging in less reciprocation. This suggests that these two factors are particularly likely to co-occur with actor ostracism of close friends. It is possible that lower authenticity is identified in hindsight once the friendship has dissolved and people are able to reflect on differences in themselves post dissolution. Future research could explore this further.

7.5.4.1.9 Negative behaviours model – actor-factors

The next strongest models at explaining variance in actor ostracism retrospectively was the actor-negative behaviour models, which consisted of items that have been found in the literature to have a negative impact on the quality of interpersonal relationships, but that are not typically considered oppositional in nature. The model explained 11% of variance in actor ostracism, compared to 33% in the current perspective model. Unique contributors to the model were sexual interest in the friend's romantic partner, being more hypocritical and being less available (e.g., busier). Both higher sexual interest in the friend's romantic partner and being more hypocritical appeared in the retrospective and current perspective models. Unavailability resulting from high workloads have been found in the literature to decrease satisfaction in romantic relationships across time (Lavner & Clark, 2017). However, it is interesting that in the current perspectives analysis, unavailability was neither in the multivariate model or predictive of actor ostracism at the univariate level, suggesting that at the time of actor ostracism people are not more unavailable, but are choosing to ostracise the friend for other reasons. It is possible that unavailability may be used as an excuse to avoid or ostracise their close friend at the time and that over time this may become a side-effect of personally ostracising the friend rather than the original cause. It would be interesting for further research to explore the interplay between the development of actor ostracism of close friends and unavailability across time.

7.5.4.1.10 Contextual factor model – actor-factors

The next strongest model at predicting actor ostracism of close friends was the actor-contextual factors model, which was comprised of contextual factors affecting the actor that have been found in the literature to impact interpersonal outcomes. This model explained 11% of actor ostracism retrospectively, compared with 41% of actor ostracism in the current perspectives model above. Unique contributors to the retrospective model were one's partner being more sexually interested in one's friend, having more alternative close friends, being ostracised by mutual peers, and having lower current life satisfaction. Three of these factors also contributed to the current perspective model: one's partner being more sexually interested in one's friend, having more alternative close friends, and being ostracised by mutual peers. Being verbally victimised by mutual peers was again one of the best predictors at the univariate level but was eliminated from selection for the final model because it was so highly related to

peer ostracism. Interestingly, lower life satisfaction did not uniquely contribute to the current perspective model at either the univariate or multivariate level. This suggests that this may be unique to cases where people have personally ostracised their close friend and then the close friendship had subsequently dissolved. Future research could explore this possibility further.

7.5.4.1.11 Positive behaviours model – friend-factors

The friend-positive behaviours model explained a similar amount of variance in actor ostracism retrospectively (9%) as the current perspectives model (13%), and each of the two unique contributors in the retrospective model were also included in the current perspectives model above: the friend being less hygienic and the friend relying on the actor for their practical support. Interestingly, the friend being less trustworthy uniquely contributed to the current perspective model, whereas the friend being less trusting uniquely contributed to the retrospective model. This suggests that distrust impacts actor ostracism but that it may result from either believing the friend to be untrustworthy themselves or the friend being untrusting of the actor. Further research could explore the concept of trust and trustworthiness in relation to actor ostracism of close friends further to determine how they impact one another. The results also support the findings in the current perspectives model that people ostracise close friends who they believe have poorer hygiene and who rely on them for practical support, indicating that these factors should be considered as possible warning signs of actor ostracism and people may need to consider alternate ways to manage these situations with their close friends to ostracising them because of the possible long term effects on the longevity of the close friendships and the wellbeing of both dyad members.

7.5.4.1.12 Distal factor models

The distal factor models (e.g., the personality and attachment style of each dyad member) were weaker at explaining actor ostracism retrospectively, with actor-factors explaining 9% of variance and friend-factors explaining 8% of variance. These models were also among the weakest at explaining variance in actor ostracism out of the current perspective models. Higher actor-and friend-antagonism explained the highest amount of variance in actor ostracism in their retrospective models, as was the in the current perspectives friend-factor model, suggesting that both higher actor- and friend- antagonistic behaviours are warning signs that ostracism is more likely within the dyad and could be targeted in the

therapy settings to explore and practice less destructive attitudes and responses. Higher actor-avoidant attachment uniquely contributed to the retrospective actor-factor model, as it did in the current perspectives model. Interestingly, lower friend-avoidant attachment uniquely contributed to the retrospective model. This suggests that people with higher avoidant attachment are more likely to ostracise their close friends, and people are less likely to ostracise friends who have higher attachment avoidance. This seems counterintuitive, but it is possible that more avoidantly attached friends already put space between themselves and their close friend so there are fewer opportunities for them to be ostracised.

Similarly, lower self-conscientiousness and higher friend-conscientiousness uniquely contributed to their respective models. This suggests that people with low conscientiousness are more likely to ostracise their close friends, perhaps because of the effort required to fix issues that occur in close friendships, and people are more likely to ostracise close friends who are higher in conscientiousness. This finding differs from the literature, which has found that people are more likely to ostracise people who are lower in conscientiousness (Rudert et al., 2020). It is possible that people who are lower in conscientiousness have less energy to invest in maintaining friendships that are struggling, and that people who are higher in conscientiousness and self-compassion may make more unwanted restoration attempts, leading to the friend ostracising them more (e.g., Baker & McNulty, 2011). It would be interesting to see whether there is an interactive effect between higher conscientiousness and antagonism because the literature has found that people are most likely to ostracise people who are high in either conscientiousness or agreeableness but not the other (Rudert et al., 2020). This could be evaluated in future research.

Being less anxiously attached to one's friend uniquely contributed to the retrospective model, whereas being more anxiously attached to one's friend uniquely contributed to the current perspectives model. It is unclear why this is the case, and the result should be interpreted with caution because this was only one item from a short scale that was accidentally removed during the survey development phase and it would be beneficial to explore further using the full scale.

Lower internal locus of control was found to uniquely contribute to the actor-model, indicating that people who feel they have less control over their environment are more likely to ostracise their close friends, possibly when they

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feel pressure from external forces such as the peer group to do so. This extends findings that people who have a lower internal locus of control tend to experience less psychological strain when exposed to workplace bullying, which is likely because they do not attribute as much blame to themselves and internal factors for the bullying behaviours and take less offense to them (Reknes et al, 2019).

Higher actor neuroticism uniquely contributed to the retrospective model. Research has found that people who are higher in neuroticism report that they experience higher levels of ostracism (Rudert et al., 2020), which may mean that they also are more likely to ostracise in retaliation. Research has also found that higher neuroticism, and the interaction of higher neuroticism and higher conscientiousness, predicted lower satisfaction 4-months later in dating couples (Taggart et al., 2019). Given that people's personality traits are thought to be activated in certain contexts and essentially dormant in between (McNulty 2016; Mischel & Shoda, 1995), it is possible that people who have the propensity for high neuroticism may not have had this trait activated before in relation to the close friend and that a negative response to this being activated may be unprecedented ostracism of one's friend which subsequently resulted in dissolution of the friendship (given this factor appeared in dissolved friendships only). Future research could explore when and why people with higher neuroticism ostracise their close friends. The results of the distal models should be interpreted with caution because of the inclusion of part-scales for the attachment and implicit belief measures because of human error. Further research should also determine whether these models are stronger or weaker when using full scale measures.

7.6 Conclusion

In conclusion, most close friendships in the study did not experience within-dyad ostracism or verbal victimisation, and high frequency ostracism and verbal victimisation was particularly uncommon. Peer-ostracism and verbal victimisation was more common, but high frequencies of these behaviours remained uncommon. However, analysis of these rates in close friendships that had dissolved found higher frequencies of these behaviours across all groups, including increased high frequency ostracism and verbal victimisation. This suggests that the presence and increase of these behaviours, especially high frequencies, is characteristic of the dissolution phase of close friendships. Unfortunately, this process may be difficult to reverse, in part because peers may

also be involved in ostracising or verbally victimising one or both dyad members, creating a mobbing effect which can severely affect the target's mental and physical health (Tatar & Yüksel, 2019) and likely impedes chances of restoration. This reflects findings in child, adolescent and workplace bullying literature (e.g., Tatar & Yüksel, 2019) and indicates that adult close friendships experience the same difficulties as these other populations.

A series of models was run to determine how well they explained actor ostracism relative to one another and identify key factors that contributed to the models. These models were run for two groups: current close friends (current perspective) and previous close friends (retrospective) to compare current and retrospective reporting of actor ostracism. The models that explained the most variance in actor ostracism of close friends from both current perspective and retrospectively were the oppositional behaviour models, followed by the contextual factor models, and interpersonal process models.

Factors that contributed to both the current perspective and retrospective models were verbally victimising one's friend, peers ostracising the friend or the actor, the friend's partner being sexually interested in the actor, one's own partner being sexually interested in one's friend, having more alternate close friends, liking one another less, the friend feeling more hurt, and discrepancies in religious/spiritual beliefs or values. This indicates that people who ostracise their close friends are more likely to verbally victimise them and be influenced by and/or to influence the peer group to also ostracise and verbally victimise the friend, thereby threatening the friend's position in their social network, not just the close friendship. It also indicates that people are likely to use ostracism as a form of mate defending and to reduce unwanted sexual attention from friend's partners. In addition, as people like each other less, discrepancies in religious/spiritual beliefs or values become more evident, and/or alternative friends are available, the costs of those friendships may begin to outweigh the benefits and people may use ostracising behaviours to signal disinterest in continuing the close friendship and to actively reduce the amount of energy and effort spent on maintaining that friendship. Unfortunately, it appears that given the aggressive nature of ostracism, especially given the high association with verbal victimisation, and separating the friend from their wider social network, close friends are likely to be hurt and distressed by the process in the short and long term.

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The models that explained the least variance from both the current perspective and retrospective models were the negative behaviour models, positive behaviour models, and distal factor models. Factors that contributed to both the current perspective and retrospective models were sexual interest in one's another's romantic partners, sexual interest in one another, higher antagonistic behaviours of either dyad member, the actor being more hypocritical, less authentic, less loyal, reciprocating less, and having higher avoidant attachment to their friend, and the friend having poorer hygiene and relying on the actor to help them meet their practical needs.

Given that these factors are likely to co-occur with actor ostracism of close friends it may be helpful to explore them in the therapy setting to determine why people have ostracised close friends or why they may have been ostracised themselves, and to identify factors that may precipitate future ostracising behaviours. As discussed above, several other factors also contributed to the various models, and should also be considered when considering factors that co-occur with actor ostracism of close friends.

Comparing the variance explained by the current perspective and retrospective models, the current perspective models consistently explained 2-3 times more variance in actor ostracism than their corresponding retrospective models. It is possible that this is because of differences in the friendships examined, i.e., comparing current friendships to friendships that had subsequently dissolved and not retrospectively exploring friendships that had continued despite encountering within-dyad ostracising behaviours and possible reductions in quality when recounting memories. It is also possible that retrospectively, issues are still weighted similarly relative to one another across time but that overall, they were all considered less severe. Or it may be that the issues are still considered equally problematic over time, but that people downplay their own role in the dissolution, such as their own ostracising behaviours. Further research could explore these possibilities in more depth. Research could also evaluate whether there are other additional factors not included in the current study that may explain more of the variance in actor ostracism retrospectively, such as which approaches are used by dyads to address transgressions, conflicts, and unmet needs prior to the onset of ostracism.

Thus, actor ostracism is uncommon in close friendships and when it does occur, especially with high frequency, or when there is an increase in this

behaviour, this may signal the final stages of the close friendship. In addition, when the behaviour occurs, it is likely that peers are involved who approve of the behaviour. Current perspective models predicted more variance in actor ostracism than retrospective models, but the order of strength of models from both perspectives and the reasons identified were very similar. This indicates that where current perspectives are not possible, retrospective reports are a valuable source of information.

Chapter 8: General discussion

8.1 Aims

In this thesis, the aims were to determine status and friendship quality reciprocity in close and best friends, increase the predictability of dissolution and restoration of close and best friendships in adulthood, and to determine which factors and factor groups best explained dissolution distress. Another aim was to determine whether close adult friendships are impacted by similar factors as romantic relationships and child/adolescent friendships. Further, there was a focus on actor-ostracism of close friends. In this chapter, a summary is given of the key themes identified within and across the four main outcome chapters (dissolution, distress, ostracism, and restoration) and their clinical and research implications. Strengths and limitations of this thesis are also highlighted and recommendations for future research are provided.

8.2 Key findings and themes

8.2.1 Within-chapter key findings and themes

The key findings and themes of each chapter have been detailed in the chapter discussion and conclusion sections. To summarise, close and best friends were found to be able to predict each other's ratings of friendship quality with high accuracy. High reciprocity of friendship quality was also found in close and best friends in the current sample, with the highest amount of inter-rater agreement found between reciprocated best friendships, followed by close-best friendships, and then reciprocated close friendships. This suggests that friend dyads modify their ratings of friendship quality to accommodate for each other's classification of the friendship.

Our results revealed that most participants were committed to maintaining best and close friendships, as most were willing to engage in substantial effort to maintain the best/close connection with their friend: 71.7% were willing to engage in a face-to-face or online intervention program to learn how to maintain closeness with one's current close/best friend (82.2% if their friend let it be known that they want to be involved also). In contrast, people were less willing to spend the effort engaging in face-to-face or online intervention program to learn how to restore closeness with one's previous close/best friend was 45.8% (54.2% if their friend let it be known that they want to be involved also). Never-the-less, a finding of approximately 50% of people wanting to learn about how to restore

dissolved close friendships is significant, and overall the results suggest a substantial interest in the general public to engage in friendship intervention programs about maintenance and restoration of close friendships. Thus, further examination of the specific content of both types of interventions appears to be warranted. For example, interventions may include general dissolution prevention (e.g., maintenance) and restoration strategies, as well as targeted strategies for specific individuals and/or dyads seeking therapy. Group information or therapy sessions may also be beneficial by normalising friendship struggles in adulthood and providing peer support to individuals. Intervention could include face-to-face or online modalities, or a blend of both.

The dissolution chapter demonstrated that dissolution in best and close adult friendships is impacted by the same factors as in adult romantic relationships and child/adolescent friendships. However, each of the factors and concept models in isolation weakly predicted dissolution, and given the breadth of predictors considered, this suggests that dissolution may be the result of slow or sudden build-up of several factors which have overloaded the classification level and resulted in a decrease in friendship status. This decrease was predominantly considered the fault of the other person rather than oneself, indicating that people were generally unable to identify, or minimised, their own role in the dissolution of their close friendships.

The distress chapter found that dissolution distress reflects an untimely and unwanted lowering of friendship classification in individuals who want to, and are committed to, restoring closeness but have not been able to do so yet. In addition, distress was found to be exacerbated by within-dyad sexual interest or sexual interest in or from one another's romantic partners, within-dyad or peer bullying (verbal victimisation or ostracism), altercations, and continued engagement in a wider range of activities with one another (e.g., leisure activities, holidays, studying together, playing sports together), especially if the friends share more common interests.

The restoration chapter found that certain friendships were more likely to restore than others. Several main themes emerged: increased likelihood of restoration in close friendships that have been impacted by sexual interest in or from the romantic partners of either dyad member, the negative impact of ostracism on restoration, and the importance of both dyad members being emotionally invested in the restoration process.

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Finally, the ostracism chapter found that within-dyad ostracism is uncommon in close friendships and when it does occur, especially with high frequency, or when there is an increase in this behaviour, the chances of impending dissolution are higher. In addition, when actor-ostracism occurs, it is likely that peers are involved who approve of the behaviour, which decreases the chances of future restoration. Ostracism was predicted by a wide range of factors when considered in isolation. When considered together in multivariate models, two major themes were evident: peer bullying (ostracism and verbal victimisation) and sexual interest (toward or from one another or one another's romantic partners). Both themes were found to exacerbate ostracism.

8.2.2 Across chapter themes

8.2.2.1 Major themes

Across the four chapters, three main themes were found to impact the outcomes explored: sexual interest, bullying behaviours (verbal victimisation and ostracism), and the similarity in factors impacting close adult friendships as impact romantic relationships and child/adolescent friendships. These themes are previously discussed and considered in relation to the existing literature in the discussion and conclusion sections of their respective chapters but will be briefly outlined here.

8.2.2.1.1 Sexual interest

Sexual interest between close friends or their partners in any direction appeared to be associated with a range of issues including increased chances of dissolution, ostracism, and distress. Interestingly, the chances of restoration were also higher when these issues had been present. It is possible that relationship uncertainty may be decreased once the sexual intentions of dyad members and their partners are better understood, and increased boundaries may be set if unwanted sexual intentions are identified. This additional information or boundary setting may reduce concerns about romantic escalation or advances and allow for close friendships to restore. It is also possible that romantic partners may change and eliminate the threat of sexual interest from or toward romantic partners, also allowing the close friendship to restore.

8.2.2.1.2 Bullying behaviours (verbal victimisation and ostracism)

Bullying behaviours (verbal victimisation and ostracism), while uncommon in close friendships in general, were found to increase during the dissolution phase of close friendships in general, and higher levels of these

behaviours during this phase were indicative of higher dissolution distress. In addition, higher levels of these behaviours during the dissolution phase predicted lower levels of restoration in the future. When close friends ostracise one another, this is likely to occur within the peer setting (e.g., not inviting them to a group event), whereas verbal victimisation may occur either within the peer setting (e.g., making derogatory comments about the friend to the peers when the friend is or is not present) or when the friends are alone (e.g., making derogatory comments to them when alone). The findings highlight the importance of managing conflict within dyads rather than within peer-groups to reduce the likelihood of retribution, as well as to preserve each other's wellbeing, and to achieve better friendship outcomes long-term.

8.2.2.1.3 Similarities in predictors to romantic relationships and child/adolescent friendship literature

One of the aims of the thesis was to determine whether similar factors impact adult friendship outcomes as impact romantic relationships and child/adolescent friendships. An extensive literature review identified an enormous number of concepts that impact outcomes in these related fields, and single item scales, short scales, and face valid items representing each of these concepts were included in the surveys to determine which factors also impacted adult friendship outcomes. At the univariate level almost all the concepts predicted each of the outcomes explored across the chapters. While the strength of these relationships was not compared to those in the related areas of literature, these results suggest that adult friendships are impacted by the same factors to some degree.

8.2.2.2 *Minor themes*

Other key themes that affected more than one of the concepts explored were: feeling hurt, loyalty, likeability, and alternative friends. While other factors may have predicted more variance in certain outcomes, these common factors are important to consider because of their ability to predict or explain aspects of a wide range of key outcomes related to close friendships in adulthood.

8.2.2.2.1 Hurt and loyalty

Feeling hurt was the most frequently reported reason (“dealbreaker”) for the dissolution of close friendships. People who engaged in lower levels of ostracism of their friend prior to dissolution identified that their friend also felt less hurt during this process, and their friendship was more likely to have restored

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to a close or best friend status by the 6-month follow up study. In addition, people who engaged in lower levels of ostracism in their current close friendships indicated that their current friend was less hurt. This suggests that people are aware their ostracising behaviours are hurting their close friend at the time but that they believe their behaviours are justifiable (i.e., deserved), and/or that they feel less emotionally attuned to the social pain that the friend feels because they feel less emotionally close to the friend at the time. Unfortunately, such behaviours are costly to the friendship long-term. Similarly, a lack of loyalty in the dissolution phase was reported as a common “dealbreaker” leading to the dissolution of close friendships and a lower chance of restoring to a close or best friend level by the 6-month follow up study.

8.2.2.2.2 Likeability and alternative friends

Another theme across the chapters was alternative close friends and current likeability. Having alternative close friends increased the chances of actor-ostracism, both of their previous close friend during the dissolution phase and of their current close friend. Having alternative close friends during the dissolution phase of close friendships was also protective against the actor experiencing dissolution distress longer-term. It is possible that having more alternative close friends in general may make close friends more disposable and likely to be ostracised because of the energy required to maintain each of the friendships, and because the individual may already be at capacity for friends in the inner layers of their social network. If a better suited alternative close friend presents, they may ostracise the existing friend to make room for the new friend in that layer (e.g., Dunbar, 1993; Hill & Dunbar, 2003), and the close friend may then be reclassified to a lower friendship level or no friendship at all. It is likely that during phases where people are more time- or resource-poor (e.g., are selling a house, have small children, have work deadlines), they are more selective about which friendships they invest in, and may ostracise people who meet their needs less well than alternative friends, either temporarily or permanently. People who considered themselves to be more generally likeable were also less likely to experience dissolution distress or to have restored their friendships by the 6-month follow up.

This suggests that alternative close friends pose a threat to the longevity of existing close friendships and increases bullying behaviours (e.g., ostracism) toward existing close friends. In addition, the findings suggest that distress alerts

people to gaps in their social network that they may find difficult to fill (e.g., if they are less likeable) and propelling them to restore close friendships that have dissolved. There may be situations where people have more, or less, alternative friends, than is normal for them (e.g., if a person moves to a new community, or several people within their community leave), which may impact their close friendships more or less than normal. In addition, people may have alternative friends but not alternative friends that are as close as, or fulfil the same needs as, this close friend, which may serve to protect the friendship.

8.3 Clinical and research implications

Clinicians and researchers have long been aware of the complicated relationship between friendships and mental health (e.g., Binder et al., 2012; Chopik, 2017; Forbes et al., 2020; Holt-Lunstad et al., 2015; King et al., 2016; Nezlek et al., 1994; Sutin et al., 2020; Troop-Gordon & Ladd, 2005). There is a wide variety of therapy programs developed for use with romantic couples (Barnes et al., 2007; Madison & Madison, 2013), making new friendships, and basic social skill development (Foster & Bussman, 2008; Masi et al., 2011). However, there are relatively few programs and strategies that are specific to maintaining and restoring friendships, especially adult friendships, and ways to manage adult friendships within peer group and couple settings (e.g., Erdley & Day, 2017 as well as Adams, 1965).

As demonstrated in the current thesis, factors that affect romantic relationships and child/adolescent friendships also affect friendship outcomes, so in a sense it is likely that any therapy goals and techniques using strategies from these areas may have a positive influence on friendships. However, the comparative level to which these factors impact outcomes in adult friendships has previously been unknown.

The current research identifies factors and themes that are particularly important in impacting a range of key outcomes in close and best adult friendships that may be particularly important for clinicians to explore in the therapy setting. Some of the key themes identified in the current research (e.g., sexual interest and bullying) may not naturally be disclosed by individuals in the therapy setting because they may elicit strong discomfort for the individual (e.g., shame, embarrassment, vindictiveness, guilt, denial, and defensiveness) and be particularly difficult for individuals to disclose. For example, they may be concerned that disclosing this information may negatively impact the therapist's

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view of them, or they may find the topics elicit strong negative emotions in themselves. It is also unlikely that questions about sexual interest within friend couples or actor-bullying of close friends are routinely asked by clinicians during intake assessment or subsequent sessions because they may not inherently appear to be relevant or may appear too confrontational (e.g., "how sexually interested do you believe your partner is in your close friend" or "how often did you leave out, ignore, or stop talking to your friend"). However, it is possible that exploring these concepts carefully in the therapy setting, such as discussing responses to items selected on relevant rating scale questionnaires, may allow people to recognise and explore their own motivations, experiences, and contributions to friendship challenges more deeply. This may also assist in the development of therapy goals that are better suited to the long-term needs of the client and better at eliciting meaningful change. Working on these issues may result in decreases in distress and ongoing within-dyad-, and peer-, ostracism and verbal victimisation (e.g., by managing conflicts within-dyads rather than involving peer-group members). In addition, working on these issues may help identify whether restoration is likely or beneficial to the individual's wellbeing at present.

The results indicated that dissolution is predicted by the accumulation and interplay of a wide range of factors. However, there was a strong tendency for individuals to attribute sole blame for the dissolution of close friendships to the behaviours and characteristics of the friend. Nevertheless, individuals were able to identify factors about themselves that contributed to dissolution when asked about their behaviours in a different way. For example, when asked about the impact of their behaviours on the closeness of their friendship, the "dealbreaker" factors were almost entirely attributed to the friend's behaviours, indicating a strong negative bias toward the friend. However, when asked to rate their own and their friend's behaviours in the few months leading up to the dissolution of the close friendship using a 5-point Likert scale (i.e., "how you/this person came across in this friendship"), they were able to identify a range of their own behaviours that predicted dissolution when analysed.

Thus, clinicians should be aware that the way questions are asked in therapy sessions and the methods of eliciting information may significantly impact the information received, and its value in assisting the development of individually tailored therapy goals. For example, the tendency for people to blame others for dissolution indicates that they may downplay the significance of their

own behaviours in their friendships. This makes genuine apologies, which are important in the facilitation of forgiveness and restoration in adult friendship, and long-term changes in unwanted behaviours, difficult to achieve (e.g., Kemp et al., 2021; McCullough, 2008; Strelan, 2018; Worthington, 2001). Further self-reflection and experience during the therapy process may enable people to re-evaluate their contribution and increase the genuineness of their apology, remorse for behaviours, and reduction in unwanted behaviours in the future.

Another clinical implication from the current findings is that it appears that restoration requires the emotional and practical investment of both friends. Thus, it may be beneficial for clinicians to ask individuals about the level of emotional (e.g., desire to restore) and practical (e.g., maintenance behaviours) reciprocity of their friend to determine the likelihood of restoration success. While ability to accurately predict restoration is not yet possible, lack of emotional and practical reciprocity may be interpreted as warning signs that restoration may be unlikely in the short-term. If individuals want to restore with former close friends but are unsure about their friend's desire to restore, the individual may be encouraged to attend to or seek out this information before making further restoration attempts so that they are less likely to experience recurrent rejection, which has been found to be predictive of lifelong mental health issues and suicide (Williams, 2009). Extending Oswald and Clark's (2006) statement: "although each person may bring to the relationship certain personal styles and social skills...it takes two people, working together, to maintain a friendship" (p. 346), clinicians should also be aware that it "takes two people, working together", to restore a friendship.

8.4 Study contributions and strengths

The current research was novel in several ways and identified several areas impacting outcomes in close adult friendships that had not been explored in depth in the literature. For example, the study included an extensive number of factors impacting dissolution, distress, restoration, and ostracism of romantic relationships and child/adolescent friendships to determine whether adult friendships are impacted by similar factors. Also, the study grouped factors to determine the relative strength of types of factors on each of the main outcomes. In addition, the study examined the interrelationship and frequency of bullying behaviours within close adult friendships and their peer groups. Sexual interest from and/or toward the romantic partners of close friends was also explored,

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enabling the impact of attractive alternatives on adult friendship outcomes to be explored, whereas typically only the impact of attractive alternatives on romantic relationship outcomes has been explored.

A strength of the current study was that by evaluating and comparing the ability of a wide range of factors to predict or explain each of the major thesis outcomes, the study allowed the factors to be compared in a single sample of participants, eliminating potential problems with differences in study designs, analyses, and participants across studies. The study also incorporated different genders, ages, breakup-initiation status, ethnicities, and included a wide range of nationalities (28 countries of residence were represented), thereby decreasing the chance of a homogenous sample and increasing the generalisability of the results to other adult samples. However, it is noted that there was an overrepresentation of younger adults, females, participants who identified as “White”, and participants residing in Australia in the sample.

A third strength was that the dissolution and restoration studies were prospective, using longitudinal designs, allowing for changes in friendship status to be tracked within the timeframe of the current study rather than relying on hindsight, thereby increasing the accuracy of information given. The studies were also cross-sectional, with participants reporting on both a current and previous close friendship, which again eliminated issues associated with comparing data from different samples and comparing studies with different study designs and analyses.

Another strength in the current research was that grouping the factors by themes for the analyses resulted in smaller numbers of factors being included in the multivariate regressions, increasing the replicability of the results in future samples. Finally, the wave 1 study provided participants with an opportunity to invite their current close friend to also participate, allowing for status and quality reciprocity, perspectives, and predictions of both members to be compared, and to demonstrate that the quality measures used in the current were sensitive enough to be able to differentiate between different status levels (i.e., best, and close friendship status).

8.5 Study limitations

The study had several limitations that could be addressed in future research. First, the surveys were very large and detailed, allowing for many factors to be tested in the same sample, but also increasing the chances of

respondent fatigue and the deterioration of quality of the answers given in the later sections of the survey. To minimise this issue in the follow-up surveys, questions relating to the main outcomes were placed at the beginning of the surveys. Second, many items in the wave 1 study were face-valid items because of a lack of single or small-scale questionnaires available in the literature for these factors and the study objective to compare the full range of concepts within a single sample. This increased the risk that items may have been interpreted differently by different participants. An attempt was made to reduce this risk by providing thesaurus examples of the intended meaning of the concept based on the concept retrieved from the literature. However, future research should examine these concepts using established measures.

Another limitation is that while there is a reasonable number of participants who were involved in wave 2 of the study, there was only a comparatively small number in the dissolution and restoration groups. It would be ideal for future research to have higher numbers in each of the comparison groups for better replicability of results. In addition, participants were not asked in Survey 1 how long it had been since their previously close friendship had dissolved, which resulted in an inability to analyse or control for the effects of time since dissolution on outcomes assessed (e.g., whether people whose close friendship had dissolved 6 months prior to wave 1 were more likely to restore their friendships at the 6-month follow-up than those whose friendship had dissolved 10 years prior to wave 1). It is possible that people reported on more recent breakups, but for those with stable friendships, it may have been some years since their last close friendship dissolution. The study is further limited by the restriction of including only fluent English-speaking participants, a high frequency of participants residing in Australia (75%) or the United States of America (14.3%), a high frequency of participants who identified as “White” (67.1%) or “Asian” (21.2%), higher frequencies of adults in the 18-24 year age group (63.6%) than other age groups, an overrepresentation of females (73.4%), and an overrepresentation of female-female current close friend dyads (65.8%) and previous close friend dyads (64.9%).

8.6 Future research opportunities

A range of future research opportunities has been suggested in the chapter discussions and conclusions. In particular, an analysis of the unique contributors within each of the strongest outcome models using more comprehensive measures

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of each factor may be valuable. Regarding dissolution, this could include analysis of the ability of the following negative behaviours (i.e., behaviours that are not directly oppositional but which negatively impact friendship outcomes) to predict future dissolution using comprehensive measures of each concept: within-dyad sexual interest, ambition, ingratiation, and lower peer conformity goals.

Regarding distress, further analysis could be conducted to ascertain the ability of the following intrapersonal processes (i.e., factors about the actor's cognitive processes and emotions) to explain distress: current desire to restore closeness, current negative emotions, and feeling more hurt during the dissolution phase.

Regarding future dissolution distress, further analysis could be made of the ability of current dissolution and commitment to explain future distress. Regarding actor ostracism of close friends, research could explore the ability of the following oppositional behaviours to explain ostracism: within-dyad verbal victimisation and ostracism, selfishness, and defensiveness. Regarding future restoration, further analysis of the ability of the following intrapersonal processes to predict future restoration could be made: emotional closeness and commitment.

Future research could also use, or develop, comprehensive measures of bullying behaviours and sexual interest within-dyads and peer/romantic partners to further explore the impact of these themes on close friendship outcomes in adulthood and compare how well they predict outcomes in this population to related populations (e.g., romantic relationships or child/adolescent friendships). In addition, future research could prospectively track the changes in friendships from the time people meet onwards so that the inter-relationships between factors and causality can be better determined (e.g., the inter-relationship between within-dyad verbal victimisation and distress).

Future research could also focus on verbal victimisation and ostracism administered by mutual peers and one another's immediate family (e.g., romantic partner, children, siblings, parents) to determine how family influence compares with peer influence when explaining or predicting reciprocation, dissolution, distress, ostracism, and restoration.

Also, research could be conducted from the perspective of romantic partners or peers to determine their motivation and influence over the outcomes in close adult friendships, as well as their own susceptibility to having their cognitions and behaviours be influenced by happy or disgruntled members of friendship dyads. In addition, methods of reducing the vicious cycle of within-

dyad bullying behaviours could be explored (e.g., assessing whether a dyad member ceasing bullying behaviours elicits a decrease in behaviours in the other member or peer-group). This could help determine whether ceasing these behaviours may increase one's own wellbeing and future course in friendships, and thus whether reductions in these behaviours may be a worthwhile goal in the therapy setting.

Research could also focus on developing an integrated intervention program for close adult friendships, which combines options for individual therapy, therapy for dyads, and options for involvement of peer group members or romantic partners where appropriate and beneficial.

8.7 Conclusion

In this thesis, the aim was to investigate reciprocation, dissolution, distress, restoration, and ostracism in close friendships in adulthood, and to determine whether similar factors impact these outcomes in this population as romantic relationships and child and adolescent friendships are impacted. The study used an international English-speaking sample and comprised all adult age groups, genders, and gender-combination dyads. The study also contained retrospective, current perspective, prospective studies, longitudinal and cross-sectional elements. The results found high predictability and inter-rater agreement of friendship quality in close and best friends, and that agreement was highest for reciprocated best friendships, followed by best-close friendships, and then reciprocated close friendships. Substantial interest in engagement in intervention programs targeting maintenance and restoration of close friendships was demonstrated. The findings indicated that outcomes in close adult friendships are impacted by the same factors that affect romantic relationships and child/adolescent friendships. Two major themes were identified throughout the thesis: the impact of sexual interest (within-dyads and romantic-partners), and bullying behaviours (within-dyad and peer- ostracism and verbal victimisation). Clinical implications and opportunities for future research are discussed. The information in this thesis has the potential to assist in the development of additional measures for use with close adult friendships, help inform future intervention programs and research, assist in the development of appropriate individually tailored therapy goals, and help identify individuals who are at risk of further psychological harm.

REFERENCES

References

- Adamczyk, K. (2019). Incremental validity of the Satisfaction with Relationship Status Scale in predicting young adults' well-being. What does it tell us? *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues*, 38(3), 865–872. <https://doi.org/10.1007/s12144-017-9666-9>
- Adams, J. S. (1965). Inequity in Social Exchange. *Advances in Experimental Social Psychology*, 2, 267-299. [https://doi.org/10.1016/S0065-2601\(08\)60108-2](https://doi.org/10.1016/S0065-2601(08)60108-2)
- Adele. (2008). My same. On 19 [Audio file].
<https://open.spotify.com/track/6McbSHjAKqf0fjsLDRzgr5?si=fab2ef227ee84732>
- Afifi, W. A., & Faulkner, S. L. (2000). On being "just friends": The frequency and impact of sexual activity in cross-sex friendships. *Journal of Social and Personal Relationships*, 17(2), 205–222. <https://doi.org/10.1177/0265407500172003>
- Agnew, C. R., & VanderDrift, L. E. (2015). Relationship maintenance and dissolution. In M. Mikulincer, P. R. Shaver, J. A. Simpson, & J. F. Dovidio (Eds.), *APA handbook of personality and social psychology, Vol. 3. Interpersonal relations* (pp. 581–604). American Psychological Association.
<https://doi.org/10.1037/14344-021>
- Agnew, C. R., Hadden, B. W., & Tan, K. (2019). It's about time: Readiness, commitment, and stability in close relationships. *Social Psychological and Personality Science*, 10(8), 1046-1055.
<https://doi.org/10.1177/1948550619829060>
- Aharony, N. Pan, W., Ip, C., Khayal, I., & Pentland, A. (2011). Social fMRI: Investigating and shaping social mechanisms in the real world. *Pervasive and Mobile Computing*, 7(6), 643-659. <https://doi.org/10.1016/j.pmcj.2011.09.004>
- Ahn, P. (2014). Fine on the outside. On *When Marnie was there song album – just know I love you* [Audio file].

- <https://open.spotify.com/track/0muntSMuAZzcwYBBMZj6sf?si=4cbf8adb96cb443f>
- Ainsworth, M. S. (1989). Attachments beyond infancy. *American Psychologist*, 44(4), 709–716. <https://doi.org/10.1037/0003-066X.44.4.709>
- Akbulut, V., Jr., & Weger, H., Jr. (2016). Predicting responses to bids for sexual and romantic escalation in cross-sex friendships. *The Journal of Social Psychology*, 156(1), 98–114. <https://doi.org/10.1080/00224545.2015.1066296>
- Al Dhaheri, A. S., Bataineh, M. F., Mohamad, M. N., Ajab, A., Al Marzouqi, A. A., Jarrar, A. H., Habib-Mourad, C., Abu Jamous, D. O., Ali, H. I., Al Sabbah, H., Hasan, H., Stojanovska, L., Hashim, M., Abd Elhameed, O. A., Shaker Obaid, R. R., ElFeky, S., Saleh, S. T., Osaili, T. M., Ismail, L. C. (2021). Impact of COVID-19 on mental health and quality of life: Is there any effect? A cross-sectional study of the MENA region. *PLoS ONE*, 16(3), e0249107. <https://doi.org/10.1371/journal.pone.0249107>
- Alcock, J. (2005). *Animal behavior: An evolutionary approach* (8th ed.). Sinauer Associates.
- Allen, P. (1982). *Who sank the boat*. Nelson.
- Ali, T. S., Abbas, A., Ather, F. (2014). Associations of controlling behavior, physical and sexual violence with health symptoms. *Journal of Women's Health Care*, 3(6), 1000202. <http://doi.org/10.4172/2167-0420.1000202>
- Almaatouq, A., Radaelli, L., Pentland, A., & Shmueli, E. (2016). Are you your friends' friend? Poor perception of friendship ties limits the ability to promote behavioral change. *PLoS ONE*, 11(3), e0151588. <https://doi.org/10.1371/journal.pone.0151588>
- Allan, G. (2003). Friendship. In K. Christensen, & D. Levinson (Eds.). *Encyclopedia of community* (pp. 512-516). Sage.

REFERENCES

- Allumbaugh, D. A. L. (2001). Relationship of interdependent self-construal to grief after the breakup of a romantic relationship: a test of a model. *Retrospective Theses and Dissertations*, 624. <https://lib.dr.iastate.edu/rtd/624>
- Amato, P. R. (2000). The consequences of divorce for adults and children. *Journal of Marriage and Family*, 62(4), 1269-1287. <https://www.jstor.org/stable/1566735>
- Amato, P. R., & Hohmann-Marriott, B. (2007). A comparison of high- and low-distress marriages that end in divorce. *Journal of Marriage and Family*, 69(3), 621–638. <https://doi.org/10.1111/j.1741-3737.2007.00396.x>
- American Psychiatric Association (2013). *The Personality Inventory for DSM-5—Brief Form (PID-5-BF)—Adult*. https://www.psychiatry.org/FileLibrary/Psychiatrists/Practice/DSM/APA_DSM5_The-Personality-Inventory-For-DSM-5-Brief-Form-Adult.pdf
- Armor, D. A., & Taylor, S. E. (1998). Situated optimism: Specific outcome expectancies and self-regulation. *Advances in Experimental Social Psychology*, 30, 309-379.
- Amrhein, P. C., Miller, W. R., Yahne, C. E., Palmer, M., & Fulcher, L. (2003). Client commitment language during motivational interviewing predicts drug use outcomes. *Journal of Consulting and Clinical Psychology*, 71(5), 862–878. <https://doi.org/10.1037/0022-006X.71.5.862>
- Arain, M., Haque, M., Johal, L., Mathur, P., Nel, W., Rais, A., Sandhu, R., & Sharma, S. (2013). Maturation of the adolescent brain. *Neuropsychiatric Disease and Treatment*, 9, 449-461. <https://doi.org/10.2147/NDT.S39776>
- Arbes, V., Coulton, C., & Boekel, C. (2014). *Men's social connectedness*. Analysis and Policy Observatory, Beyond Blue. <https://www.mensgroup.melbourne/wp-content/uploads/bw0276-mens-social-connectedness-final.pdf>

- Argyle, M. (1999). Causes and Correlates of Happiness. In D. Kahneman, E. Diener & N. Schwarz (Eds.), *Well-being: the foundations of hedonic psychology* (pp. 353-373). New York: Sage.
- Argyle, M., & Henderson, M. (1984). The Rules of Friendship. *Journal of Social and Personal Relationships*, 1(2), 211–237.
<https://doi.org/10.1177/0265407584012005>
- Argyle, M., & Lu, L. (1990). The happiness of extraverts. *Personality and Individual Differences*, 11(10), 1011–1017. [https://doi.org/10.1016/0191-8869\(90\)90128-E](https://doi.org/10.1016/0191-8869(90)90128-E)
- Arriaga, X. B., Capezza, N. M., Goodfriend, W., Rayl, E. S., & Sands, K. J. (2013). Individual well-being and relationship maintenance at odds: The unexpected perils of maintaining a relationship with an aggressive partner. *Social Psychological and Personality Science*, 4(6), 676–684. <https://doi.org/10.1177/1948550613480822>
- Arslan, G. (2019). Mediating role of the self-esteem and resilience in the association between social exclusion and life satisfaction among adolescents. *Personality and Individual Differences*, 151, 109514. <https://doi.org/10.1016/j.paid.2019.109514>
- Asendorpf, J. B., & Wilpers, S. (1998). Personality effects on social relationships. *Journal of Personality and Social Psychology*, 74(6), 1531–1544. <https://doi.org/10.1037/0022-3514.74.6.1531>
- Ashton, M. C., Lee, K., & Paunonen, S. V. (2002). What is the central feature of extraversion? Social attention versus reward sensitivity. *Journal of Personality and Social Psychology*, 83(1), 245–252. <https://doi.org/10.1037/0022-3514.83.1.245>
- Assad, K. K., Donnellan, M. B., & Conger, R. D. (2007). Optimism: An enduring resource for romantic relationships. *Journal of Personality and Social Psychology*, 93, 285-297.

REFERENCES

- Ayduk, Ö., Gyurak, A., & Luerssen, A. (2008). Individual differences in the rejection–aggression link in the hot sauce paradigm: the case of rejection sensitivity. *Journal of Experimental Social Psychology, 44*(3), 775–782.
<https://doi.org/10.1016/j.jesp.2007.07.004>
- Bach, B., Lee, C., Mortensen, E. L., & Simonsen, E. (2016). How do DSM-5 personality traits align with schema therapy constructs? *Journal of Personality Disorders, 30*(4), 502–29. https://doi.org/10.1521/pedi_2015_29_212
- Backes, S., Brandstatter, V., Kuster, M., Nussbeck, F. W., Bradbury, T. N., Bodenmann, G., & Sutter-Stickel, D. (2017). *Journal of Social and Personal Relationships, 34*(6), 894–914. <https://doi.org/10.1177/0265407516661045>
- Bagwell, C. L., Bender, S. E., Andreassi, C. L., Kinoshita, T. L., Montarello, S. A., & Muller, J. G. (2005). Friendship quality and perceived relationship changes predict psychosocial adjustment in early adulthood. *Journal of Social and Personal Relationships, 22*(2), 235–254. <https://doi.org/10.1177/0265407505050945>
- Baker, L. R., Cobb, R. A., McNulty, J. K., Lambert, N. M., & Fincham, F. D. (2016). Remaining in a situationally aggressive relationship: The role of relationship self-efficacy. *Personal Relationships, 23*(3), 591–604. <https://doi.org/10.1111/pere.12145>
- Baker, L. R., & McNulty, J. K. (2011). Self-compassion and relationship maintenance: The moderating roles of conscientiousness and gender. *Journal of Personality and Social Psychology, 100*(5), 853–873. <https://doi.org/10.1037/a0021884>
- Baker, L. R., & McNulty, J. K. (2020). The Relationship Problem Solving (RePS) model: How partners influence one another to resolve relationship problems. *Personality and Social Psychology Review, 24*(1), 53–77.
<https://doi.org/10.1177/1088868319881243>

- Baker, L. R., McNulty, J. K., & Overall, N. C. (2014). When negative emotions benefit close relationships. In W. G. Parrott (Ed.), *The positive side of negative emotions* (pp. 101-125). Guilford Press.
- Baker, L. R., McNulty, J. K., Overall, N. C., Lambert, N. M., & Fincham, F. D. (2013). How do relationship maintenance behaviors affect individual well-being?: A contextual perspective. *Social Psychological and Personality Science*, 4(3), 282–289. <https://doi.org/10.1177/1948550612452891>
- Baker, L. R., McNulty, J. K., & VanderDrift, L. E. (2017). Expectations for future relationship satisfaction: Unique sources and critical implications for commitment. *Journal of Experimental Psychology: General*, 146(5), 700–721. <https://doi.org/10.1037/xge0000299>
- Barbara, A. M., & Dionm K. L. (2000). Breaking up is hard to do, especially for strongly “preoccupied” lovers”. *Journal of Personal and Interpersonal Loss*, 5(4), 315-342. <https://doi.org/10.1080/10811440008407850>
- Barnett, M. A., Vitaglione, G. D., Bartel, J. S., & Sanborn, F. W. (2000). Perceptions of self-oriented and other-oriented “everyday” helpers. *Current Psychology*, 19, 87-109. <https://doi.org/10.1007/s12144-000-1006-8>
- Barnes, S. M., Brown, K. W., Krusemark, E., Campbell, W. K., & Rogge, R D. (2007). The role of mindfulness in romantic relationship satisfaction and responses to relationship stress. *Journal of Marital and Family Therapy*, 33(4), 482-500. <https://doi.org/10.1111/j.1752-0606.2007.00033.x>
- Baron, J. (1992). The effect of normative beliefs on anticipated emotions. *Journal of Personality and Social Psychology*, 63, 320-330.
- Barrett, P. M., Sonderegger, R., & Xenos, S. (2003). Using FRIENDS to combat anxiety and adjustment problems among young migrants to Australia: A national

REFERENCES

- trial. *Clinical Child Psychology and Psychiatry*, 8(2), 241–260. <https://doi.org/10.1177/1359104503008002008>
- Barsukova, O. V. (2016). Psychological characteristics of ambitious person. *Journal of Process Management*, 4(2), 79-80. <https://doi.org/10.5937/JPMNT1602079B>
- Baxter, L. A., & Wilmot, W. W. (1984). "Secret tests": Social strategies for acquiring information about the state of the relationship. *Human Communication Research*, 11(2), 171–201. <https://doi.org/10.1111/j.1468-2958.1984.tb00044.x>
- Beeney, J. E., Franklin, R. G. Jr., Levy, K. N., & Adams, R. B. Jr. (2011). I feel your pain: Emotional closeness modulates neural responses to empathically experienced rejection. *Social Neuroscience*, 6(4), 369-376. <https://doi.org/10.1080/17470919.2011.557245>
- Beevers, C. G., Ellis, A. J., & Reid, R. M. (2011). Heart rate variability predicts cognitive reactivity to a sad mood provocation. *Cognitive Therapy and Research*, 35(5), 395–403. <https://doi.org/10.1007/s10608-010-9324-0>
- Bell, R. A., & Buerkel-Rothfuss, N. L. (1990). S(he) loves me, s(he) loves me not: Predictors of relational information-seeking in courtship and beyond. *Communication Quarterly*, 38(1), 64-82. <https://doi.org/10.1080/01463379009369742>
- Berger, C. R. (1986). Uncertain outcome values in predicted relationships: Uncertainty reduction theory then and now. *Human Communication Research*, 13, 34–38. <https://doi.org/10.1111/j.1468-2958.1986.tb00093.x>
- Berger, C. R. (2011). From explanation to application. *Journal of Applied Communication Research*, 39, 214–222. <https://doi.org/10.1080/00909882.2011.556141>
- Berscheid, E., Snyder, M., & Omoto, A. M. (1989). The Relationship Closeness Inventory: Assessing the closeness of interpersonal relationships. *Journal of*

- Personality and Social Psychology*, 57(5), 792–807. <https://doi.org/10.1037/0022-3514.57.5.792>
- Bhui, K., Silva, M. J., Harding, S., & Stansfeld, S. (2017). Bullying, social support, and psychological distress: Findings from RELACHS cohorts of East London's white British and Bangladeshi adolescents. *Journal of Adolescent Health*, 61(3), 317–328. <https://doi.org/10.1016/j.jadohealth.2017.03.009>
- Binder, J. F., Roberts, S. G. B., & Sutcliffe, A. G. (2012). Closeness, loneliness, support: Close ties and significant ties in personal communities. *Social Networks*, 34, 206–214. <https://doi.org/10.1016/j.socnet.2011.12.001>
- Bisson, M. A., & Levine, T. R. (2009). Negotiating a friends with benefits relationship. *Archives of Sexual Behavior*, 38(1), 66–73. <https://doi.org/10.1007/s10508-007-9211-2>
- Björkqvist, K., Lagerspetz, K. M., & Kaukiainen, A. (1992). Do girls manipulate and boys fight? Developmental trends in regard to direct and indirect aggression. *Aggressive Behavior*, 18(2), 117–127. [https://doi.org/10.1002/1098-2337\(1992\)18:2<117::AID-AB2480180205>3.0.CO;2-3](https://doi.org/10.1002/1098-2337(1992)18:2<117::AID-AB2480180205>3.0.CO;2-3)
- Blake, K. R., Hopkins, R. E., Sprunger, J. G., Eckhardt, C. I., & Denson, T. F. (2018). Relationship quality and cognitive reappraisal moderate the effects of negative urgency on behavioral inclinations toward aggression and intimate partner violence. *Psychology of Violence*, 8(2), 218–228. <https://doi.org/10.1037/vio0000121>
- Bleske-Rechek, A., Somers, E., Micke, C., Erickson, L., Matteson, L., Stocco, C., Schumacher, B., & Ritchie, L. (2012). Benefit or burden? Attraction in cross-sex friendship. *Journal of Social and Personal Relationships*, 29(5), 569–596. <https://doi.org/10.1177/0265407512443611>
- Blieszner, R., & Adams, R. G. (1992). *Adult friendship*. Newbury Park, CA: Sage.

REFERENCES

- Blieszner, R., & Roberto, K. A. (2004). Friendship across the Life Span: Reciprocity in Individual and Relationship Development. In F. R. Lang & K. L. Fingerman (Eds.), *Growing Together: Personal relationships across the Life span* (pp. 159-182). Cambridge: University Press.
- Bolino, M. C., & Turnley, W. H. (1999). Measuring impression management in organizations: A scale development based on the Jones and Pittman Taxonomy. *Organizational Research Methods*, 2(2), 187–206.
<https://doi.org/10.1177/109442819922005>
- Bolló, H., Böthe, B., Tóth-Király, I., & Orosz, G. (2018). Pride and social status. *Frontiers in Psychology*, 9, Article 1979.
<https://doi.org/10.3389/fpsyg.2018.01979>
- Bonanno, R. A. (2007). Bullied to the brink: An investigation of students at risk for depression and suicidal ideation. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 68(4-A), 1323.
- Boulton, M. J, Trueman, M., Chau, C., Whitehand, C., & Amatya, K. (1999). Concurrent and longitudinal links between friendship and peer victimization: Implications for befriending interventions. *Journal of Adolescence*, 22(4), 461-466.
<https://doi.org/10.1006/jado.1999.0240>
- Bourassa, K. J., Tackman, A. M., Mehl, M. R., & Sbarra, D. A. (2019). Psychological overinvolvement, emotional distress, and daily affect following marital dissolution. *Collabra Psychology*, 5(1), Article 8.
<https://doi.org/10.1525/collabra.184>
- Bowlby, J. (1969). *Attachment and loss, Vol. 1: Attachment*. Basic Books.
- Bradbury, T. N., & Fincham, F. D. (1990). Attributions in marriage: Review and critique. *Psychological Bulletin*, 107(1), 3–33. <https://doi.org/10.1037/0033-2909.107.1.3>

- Branje, S. T., Frijns, T., Finkenauer, C., Engels, R., & Meeus, W. (2007). You are my best friend: Commitment and stability in adolescents' same-sex friendships. *Personal Relationships*, 14(4), 587–603. <https://doi.org/10.1111/j.1475-6811.2007.00173.x>
- Brendgen, M., Girard, A., Vitaro, F., Dionne, G., & Boivin, M. (2015). The dark side of friends: A genetically informed study of victimization within early adolescents' friendships. *Journal of Clinical Child and Adolescent Psychology*, 44, 417–431. <https://doi.org/10.1080/15374416.2013.873984>
- Brown, S. L., & Brown, R. M. (2006). Selective Investment Theory: Recasting the Functional Significance of Close Relationships. *Psychological Inquiry*, 17(1), 1–29. https://doi.org/10.1207/s15327965pli1701_01
- Buckley, K. E., Winkel, R. E., & Leary, M. R. (2004). Reactions to acceptance and rejection: Effects of level and sequence of relational evaluation. *Journal of Experimental Social Psychology*, 40(1), 14–28. [https://doi.org/10.1016/S0022-1031\(03\)00064-7](https://doi.org/10.1016/S0022-1031(03)00064-7)
- Buelow, M. T. (2020). *Risky decision making in psychological disorders*. Elsevier,
- Bühler, J. L., Krauss, S., & Orth, U. (2021). Development of relationship satisfaction across the life span: A systematic review and meta-analysis. *Psychological Bulletin*, 147(10), 1012–1053. <http://dx.doi.org/10.1037/bul0000342>
- Bukowski, W. M., Hoza, B., & Boivin, M. (1994). Measuring friendship quality during pre- and early adolescence: The development and psychometric properties of the Friendship Qualities Scale. *Journal of Social and Personal Relationships*, 11(3), 471–484. <https://doi.org/10.1177/0265407594113011>
- Bullock, M., Hackathorn, J., Clark, E. M., & Mattingly, B. A. (2011). Can we be (and stay) friends? Remaining friends after dissolution of a romantic relationship. *The*

REFERENCES

- Journal of Social Psychology*, 151(5), 662–666.
<https://doi.org/10.1080/00224545.2010.522624>
- Burnette, J. L., Davis, D. E., Green, J. D., Worthington, E. L., Jr., & Bradfield, E. (2009). Insecure attachment and depressive symptoms: The mediating role of rumination, empathy, and forgiveness. *Personality and Individual Differences*, 46(3), 276–280. <https://doi.org/10.1016/j.paid.2008.10.016>
- Burt, R. S., (2000). Decay functions. *Social networks*, 22(1), 1-28.
[https://doi.org/10.1016/S0378-8733\(99\)00015-5](https://doi.org/10.1016/S0378-8733(99)00015-5)
- Burton-Chellow, M., & Dunbar, R. (2011). Are affines treated as biological kin? A test of Hughes's hypothesis. *Current Anthropology*, 52(5), 741-746.
<http://doi.org/10.1086/661288>
- Busboom, A. L., Collins, D. M., Givertz, M. D., & Levin, L. A. (2002). Can we still be friends? Resources and barriers to friendship quality after romantic relationship dissolution. *Personal Relationships*, 9(2), 215-223. <https://doi.org/10.1111/1475-6811.00014>
- Buyukcan-Tetik, A., Campbell, L., Finkenauer, C., Karremans, J. C., & Kappen, G. (2017). Ideal standards, acceptance, and relationship satisfaction: Latitudes of differential effects. *Personality and Social Psychology*, 8, Article 1691.
<https://doi.org/10.3389/fpsyg.2017.01691>
- Butler, E. A., & Randall, A. K. (2013). Emotional coregulation in close relationships. *Emotion Review*, 5(2), 202–210. <https://doi.org/10.1177/1754073912451630>
- Buunk, B. P., & Prins, K. S. (1998). Loneliness, exchange orientation, and reciprocity in friendships. *Personal Relationships*, 5(1), 1–14. <https://doi.org/10.1111/j.1475-6811.1998.tb00156.x>
- Byant, F. B., & Harrison, P. R. (2015). Measures of hope and optimism: Assessing positive expectations of the future. In G. J. Boyle, D. H. Saklofske, & G.

- Matthews (Eds.), *Measure of Personality and social psychological constructs* (pp. 47-73). <https://doi.org/10.1016/B978-0-12-386915-9.00003-6>
- Callaci, M., Peloquin, K., Barry, R. A., & Tremblay, N. (2020). A dyadic analysis of attachment insecurities and romantic disengagement among couples seeking relationship therapy. *Journal of Marital and Family Therapy*, 46(3), 399-412. <https://doi.org/10.1111/jmft.12422>
- Callaci, M., Vaillancourt-Morel, M.-P., Labonté, T., Brassard, A., Tremblay, N., & Pélouquin, K. (2021). Attachment insecurities predicting romantic disengagement over the course of couple therapy in a naturalistic setting. *Couple and Family Psychology: Research and Practice*, 10(1), 54–69. <https://doi.org/10.1037/cfp0000158>
- Camirand, E., & Poulin, F. (2019). Changes in best friendship quality between adolescence and emerging adulthood: Considering the role of romantic involvement. *International Journal of Behavioural Development*, 43(3). <https://doi.org/10.1177/0165025418824995>
- Campbell, W. K., Bonacci, A. M., Shelton, J., Exline, J. J., & Bushman, B. J. (2004). Psychological entitlement: Interpersonal consequences and validation of a self-report measure. *Journal of Personality Assessment*, 83(1), 29-45. https://doi.org/10.1207/s15327752jpa8301_04
- Canary, D. J., Stafford, L., Hause, K. S., & Wallace, L. A. (1993). An inductive analysis of relational maintenance strategies: Comparisons among lovers, relatives, friends, and others. *Communication Research Reports*, 10(1), 5–14. <https://doi.org/10.1080/08824099309359913>
- Candel, O., & Turliuc, M. N. (2019). Insecure attachment and relationship satisfaction: A meta-analysis of actor and partner association. *Personality and Individual Differences*, 147, 190-199. <https://doi.org/10.1016/j.paid.2019.04.037>

REFERENCES

- Carlile, B. (2012). That wasn't me. On *Bear creek* [Audio file].
<https://open.spotify.com/track/6iqAJh3X8bf94eo4reme5L?si=48ef61397c314237>
- Mac Carron, P., Kaski, K., & Dunbar, R. (2016). Calling Dunbar's numbers. *Social Networks*, 47, 151-155. <https://doi.org/10.1016/j.socnet.2016.06.003>
- Carswell, K. L., & Finkel, E. J. (2018a). Can you get the magic back? The moderating effect of passion decay beliefs on relationship commitment. *Journal of Personality and Social Psychology*, 115(6), 1002–1033.
<https://doi.org/10.1037/pspi0000147>
- Carswell, K. L., & Finkel, E. J. (2018b). Can you get the magic back? The moderating effect of passion decay beliefs on relationship commitment. *Journal of Personality and Social Psychology*, 115(6, Suppl.), S1-62.
<https://doi.org/10.1037/pspi0000147>
- Casper, D. M & Card, N. A. (2017). Overt and relational victimization: A meta-analytic review of their overlap and associations with social-psychological adjustment. *Child Development*, 88, 466-483. <https://doi.org/10.1111/cdev.12621>
- Catling, J. C., Bayley, A., Begum, Z., & Wood, A. (2022). Effects of the COVID-19 lockdown on mental health in a UK student sample. *BMC Psychology*, 10(1), 118.
<https://doi.org/10.1186/s40359-022-00732-9>
- Chang, L. W., & Cikara, M. (2018). Social decoys: Leveraging choice architecture to alter social preferences. *Journal of Personality and Social Psychology*, 115(2), 206–223. <https://doi.org/10.1037/pspa0000117>
- Chen, Z., DeWall, C. N., Poon, K.-T., & Chen, E.-W. (2012). When destiny hurts: Implicit theories of relationships moderate aggressive responses to ostracism. *Journal of Experimental Social Psychology*, 48(5), 1029–1036.
<https://doi.org/10.1016/j.jesp.2012.04.002>

- Chen, S., & van Ours, J. C. (2018). Subjective well-being and partnership dynamics: Are same-sex relationships different? *Demography*, 55, 2299-2320.
<https://doi.org/10.1007/s13524-018-0725-0>
- Cheung, F., & Lucas, R. E. (2014). Assessing the validity of single-item life satisfaction measures: Result from three large sample, *Quality of Life Research*, 23(10), 2809-2818. <https://doi.org/10.1007/s11136-014-0726-4>
- Chopik, W. J. (2017). Associations among relational values, support, health, and well-being across the adult lifespan. *Personal Relationships*, 24(2), 408–422.
<https://doi.org/10.1111/pere.12187>
- Chopik, W. J., Edelstein, R. S., & Fraley, R. C. (2013). From the cradle to the grave: Age differences in attachment from early adulthood to old age. *Journal of Personality*, 81(2), 171-183. <https://doi.org/10.1111/j.1467-6494.2012.00793.x>
- Chow, C. M., & Tan, C. C. (2013). Attachment and commitment in dyadic friendships: Mediating roles of satisfaction, quality of alternatives, and investment size. *Journal of Relationships Research*, 4. <https://doi.org/10.1017/jrr.2013.4>
- Chu, C., Zuromski, K. L., Bernecker, S. L., Gutierrez, P. M., Joiner, T. E., Liu, H., Naifeh, J. A., Steain, M. B., Ursano, R. J., & Nock, M. K. (2020). A test of the interpersonal theory of suicide in a large, representative, retrospective and prospective study: Results from the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS). *Behaviour Research and Therapy*, 132, 103688. <https://doi.org/10.1016/j.brat.2020.103688>
- Chung, M. C., Farmer, S., Grant, K., Newton, R., Payne, S., Perry, M., Saunders, J., Smith, C., & Stone, N. (2002). Self-esteem, personality and post traumatic stress symptoms following the dissolution of a dating relationship. *Stress and Health: Journal of the International Society for the Investigation of Stress*, 18(2), 83–90. <https://doi.org/10.1002/smi.929>

REFERENCES

- Civilotti, C., Dennis, J. L., Maran, D. A., & Margola, D. (2021). When love just ends: An investigation of the relationship between dysfunctional behaviours, attachment styles, gender, and education shortly after a relationship dissolution. *Frontiers in Psychology, 12*, 1-14. <https://doi.org/10.3389/fpsyg.2021.662237>
- Clark, M. S., Von Culin, K. R., Clark-Polner, E., & Lemay, E. P., Jr. (2017). Accuracy and projection in perceptions of partners' recent emotional experiences: Both minds matter. *Emotion, 17*(2), 196–207. <https://doi.org/10.1037/emo0000173>
- Clark, E. M., Votaw, K. L. B., Harris, A. L., Hasan, M., & Fernandez, P. (2020). Unrequited love: The role of prior commitment, motivation to remain friends, and friendship maintenance. *The Journal of Social Psychology, 160*(3), 293-309. <https://doi.org/10.1080/00224545.2019.1648234>
- Closson, L. M., Hart, N. C., & Hogg, L. D. (2017). Does the desire to conform to peers moderate links between popularity and indirect victimization in early adolescence? *Social Development, 26*(3), 489–502. <https://doi.org/10.1111/sode.12223>
- Clucas, C. (2020). Understanding self-respect and its relationship to self-esteem. *Personality and Social Psychology Bulletin, 46*(6), 839-855. <https://doi.org/10.1177/0146167219879115>
- Cohen, J. W. (1988). *Statistical power analysis for behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Coldplay. (2019). Old friends. *On Everyday life* [Audio file]. <https://open.spotify.com/track/3E3zYgQul8EaJioNvD2tv9?si=76ff015221804822>
- Collins. (n.d.). Friendship. In *Collinsdictionary.com*. Retrieved May 5, 2022, from <https://www.collinsdictionary.com/dictionary/english/friendship>
- Collins. (n.d.). Definition of 'silly'. In *Collinsdictionary.com*. Retrieved January 23, 2023, from <https://www.collinsdictionary.com/dictionary/english/silly>

- Cone, J., & Ferguson, M. J. (2015). He did what? The role of diagnosticity in revising implicit evaluations. *Journal of Personality and Social Psychology*, 108(1), 37–57. <https://doi.org/10.1037/pspa0000014>
- Connolly, J., Furman, W., & Konarski, R. (2000). The role of peers in the emergence of heterosexual romantic relationships in adolescence. *Child Development*, 71(5), 1395-1408. <https://doi.org/10.1111/1467-8624.00235>
- Cook, E. C. (2020). Affective and physiological synchrony in friendships during late adolescence. *Journal of Social and Personal Relationships*, 37(4), 1296-1316. <https://doi.org/10.1177/0265407519895106>
- Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development*, 66(3), 710–722. <https://doi.org/10.2307/1131945>
- Crocker, J., Canevello, A., & Brown, A. A. (2017). Social motivation: Costs and benefits of selfishness and otherishness. *Annual Review of Psychology*, 68, 299-325. <https://doi.org/10.1146/annurev-psych-010416-044145>
- Cuperman, R., & Ickes, W. (2009). Big Five predictors of behavior and perceptions in initial dyadic interactions: Personality similarity helps extraverts and introverts, but hurts “disagreeables”. *Journal of Personality and Social Psychology*, 97(4), 667–684. <https://doi.org/10.1037/a0015741>
- Curtis, D. S., Epstein, N. B., & Wheeler, B. (2017). Relationship satisfaction mediates the link between partner aggression and relationship dissolution: The importance of considering severity. *Journal of Interpersonal Violence*, 32(8), 1187-1208. <https://doi.org/10.1177/0886260515588524>
- Dahms, A. M. (1972). *Emotional intimacy; overlooked requirement for survival*. Pruett Publishing Company.

REFERENCES

- Dainton, M. (2000). Maintenance behaviors, expectations for maintenance, and satisfaction: Linking comparison levels to relational maintenance strategies. *Journal of Social and Personal Relationships, 17*(6), 827–842.
<https://doi.org/10.1177/0265407500176007>
- Dainton, M., & Aylor, B. (2002). Routine and strategic maintenance efforts: Behavioral patterns, variations associated with relational length, and the prediction of relational characteristics. *Communication Monographs, 69*(1), 52–66.
<https://doi.org/10.1080/03637750216533>
- Dainton, M., & Stafford, L. (1993). Routine maintenance behaviors: A comparison of relationship type, partner similarity and sex differences. *Journal of Social and Personal Relationships, 10*(2), 255–271.
<https://doi.org/10.1177/026540759301000206>
- Damian, R. I., Spengler, M., Sutu, A., & Roberts, B. W. (2019). Sixteen going on sixty-six: A longitudinal study of personality stability and change across 50 years. *Journal of Personality and Social Psychology, 117*(3), 674–695.
<https://doi.org/10.1037/pspp0000210>
- Dane, A. V. (2001). A multimethod examination of the friendships of overtly aggressive and relationally aggressive children. *Dissertation Abstracts International Section A: Humanities and Social Sciences, 62*(4-A), 1323.
- Davila, J., & Cobb, R. J. (2003). Predicting change in self-reported and interviewer-assessed adult attachment: Tests of the individual difference and life stress models of attachment change. *Personality and Social Psychology Bulletin, 29*(7), 859–870. <https://doi.org/10.1177/0146167203029007005>
- Davidson, L. M., & Demaray, M. K. (2007). Social support as a moderator between victimization and internalizing-externalizing distress from bullying. *School*

- Psychology Review*, 36(3), 383-405.
<https://doi.org/10.1080/02796015.2007.12087930>
- Davis, B. A., & Weigel, D. J. (2020). Cognitive interdependence and the everyday expression of commitment. *Journal of Social and Personal Relationships*, 37(3), 1008–1029. <https://doi.org/10.1177/0265407519884640>
- Davis, D., Shaver, P. R., Vernon, M. L. (2003). Physical, emotional, and behavioral reactions to breaking up: The roles of gender, age, emotional involvement, and attachment style. *Personality and Social Psychology Bulletin*, 29(7), 871-884.
<https://doi.org/10.1177/0146167203029007006>
- de Montjoye, Y. A., Stopczynski, A., Shmueli, E., Pentland, A., & Lehmann, S. (2014). The strength of the strongest ties in collaborative problem solving. *Scientific reports*, 4, 5277. <https://doi.org/10.1038/srep05277>
- Degged-White, S., & Kepic, M. (2020). Friendships, subjective age, and life satisfaction of women in midlife. *Adultspan Journal*, 19(1), 39-53.
<https://doi.org/10.1002/adsp.12086>
- Demir, M., Ozdemir, M., & Marum, K. P. (2011). Perceived autonomy support, friendship maintenance, and happiness. *Journal of Psychology*, 145(6), 537– 571.
<https://doi.org/10.1080/00223980.2011.607866>
- Diamond, L. M. (2000). Passionate friendships among adolescent sexual-minority women. *Journal of Research on Adolescence*, 10(2), 191–209.
https://doi.org/10.1207/SJRA1002_4
- Diamond, L. (2002). Having a girlfriend without knowing it: Intimate friendships among adolescent sexual minority women. *Journal of Lesbian Studies*, 6(1), 5-16.
https://doi.org/10.1300/J155v06n01_02

REFERENCES

Dodie (2017). Secret for the mad. On *You* [Audio file].

<https://open.spotify.com/track/2Uk0aFqYCtecHL5MCq2we0?si=165d6411fe894e39>

Doenyas, C. (2017). Self versus other oriented social motivation, not lack of empathy or moral ability, explains behavioral outcomes in children with high theory of mind abilities. *Motivation & Emotion*, 41(6), 683-697. <https://doi.org/10.1007/s11031-017-9636-4>

Doyle, S., Francis, S. E. & Joy, R. (2020). Treatment integrity and social validity of the FRIENDS for life programme in a Northeastern Canadian school system. *Behaviour Change*, 37(2), 74-92. <https://doi.org/10.1017/bec.2020.4>

Drouvelis, M., & Powdthavee, N. (2015). Are happier people less judgmental of other people's selfish behaviors? Experimental survey evidence from trust and gift exchange games. *Journal of Behavioral and Experimental Economics*, 58, 111-123. <https://doi.org/10.1016/j.socec.2015.07.007>

Drigotas, S. M., & Rusbult, C. E. (1992). Should I stay or should I go? A dependence model of breakups. *Journal of Personality and Social Psychology*, 62(1), 62-87. <https://doi.org/10.1037/0022-3514.62.1.62>

Du, X., Xu, M., Ding, C., Yuan, S., Zhang, L., & Yang, D. (2020). Social exclusion increases the visual working memory capacity of social stimuli. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues*, 39(4), 1149-1160. <https://doi.org/10.1007/s12144-019-00274-1>

Dunbar, R. I. M. (1992). Neocortex Size as a Constraint on Group Size in Primates. *Journal of Human Evolution*, 22, 469-493. [https://doi.org/10.1016/0047-2484\(92\)90081-J](https://doi.org/10.1016/0047-2484(92)90081-J)

- Dunbar, R. I. M. (1993). Coevolution of neocortical size, group size and language in humans. *Behavioral and Brain Sciences*, 16(4), 681-735. <https://doi.org/10.1017/S0140525X00032325>
- Dunbar, R. I. M. (1998). The social brain hypothesis. *Evolutionary Anthropology Issue News and Review*, 6(5), 178-190. [https://doi.org/10.1002/\(SICI\)1520-6505\(1998\)6:5<178::AID-EVAN5>3.0.CO;2-8](https://doi.org/10.1002/(SICI)1520-6505(1998)6:5<178::AID-EVAN5>3.0.CO;2-8)
- Dunbar, R. I. M. (2020). Structure and function in human and primate social networks: implications for diffusion, network stability and health. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 476(2240), 20200446. <https://doi.org/10.1098/rspa.2020.0446>
- Dunbar, R. (2021). *Friends: Understanding the power of our most important relationships*. Little, Brown.
- Dunbar, R., & Machin, A. (2014). Sex differences in relationship conflict and reconciliation. *Journal of Evolutionary Psychology*, 12(2-4), 109-133. <https://doi.org/10.1556/jep-d-13-00024>
- Durtschi, J. A., Fincham, F. D., Cui, M., Lorenz, F. O., & Conger, R. D. (2011). Dyadic processes in early marriage: Attributions, behavior, and marital quality. *Family Relations: An Interdisciplinary Journal of Applied Family Studies*, 60(4), 421–434. <https://doi.org/10.1111/j.1741-3729.2011.00655.x>
- Dylan, B. (1965). Positively 4th street – single version. On *The essentials of Bob Dylan 2014* [Audio file]. <https://open.spotify.com/track/4heMx0OAwfILu13Lf0VbBM?si=83f5e436a6b84ae7>
- Eisenberger, N., & Lieberman, M. D. (2004). Why rejection hurts: A common neural alarm system for physical and social pain. *Trends in Cognitive Sciences*, 8(7), 294-300. <https://doi.org/10.1016/j.tics.2004.05.010>

REFERENCES

- Eagle, N., & Pentland, A. (2006). Reality mining: Sensing complex social systems. *Personal and ubiquitous computing*, 10(4), 255-268.
<https://doi.org/10.1007/s00779-005-0046-3>
- Eastwick, P. W., Finkel, E. J., Krishnamurti, T., & Loewenstein, G. (2008). Mispredicting distress following romantic breakup: Revealing the time course of the affective forecasting error. *Journal of Experimental Social Psychology*, 44(3), 800–807. <https://doi.org/10.1016/j.jesp.2007.07.001>
- Echols, L., & Ivanich, J. (2021). From "fast friends" to true friends: Can a contact intervention promote friendships in middle school? *Journal of Research on Adolescence*, 31(4), 1152-1171. <https://doi.org/10.1111/jora.12622>
- Erdley, C. A., & Day, H. J. (2017). Friendship in childhood and adolescence. In M. Hojjat & A. Moyer (Eds.), *The psychology of friendship* (pp. 3–19). Oxford University Press.
- Erol, R. Y., & Orth, U. (2016). Self-esteem and the quality of romantic relationships. *European Psychologist*, 21(4), 274–283. <https://doi.org/10.1027/1016-9040/a000259>
- Ethridge, P., Sandre, A., Dirks, M. A. & Weinberg, A. (2018). Past-year relational victimization is associated with a blunted neural response to rewards in emerging adults. *Social Cognitive and Affective Neuroscience*, 13, 1259-1267.
<https://doi.org/10.1093/scan/nsy091>
- Evans, R., Chiu, K., Clark, D. M., Waite, P., & Leigh, E. (2021). Safety behaviours in social anxiety: An examination across adolescence. *Behaviour Research and Therapy*, 144. <https://doi.org/10.1016/j.brat.2021.103931>
- Eyal, T., Steffel, M., & Epley, N. (2018). Perspective mistaking: Accurately understanding the mind of another requires getting perspective, not taking

- perspective. *Journal of Personality and Social Psychology*, 114(4), 547–571.
<https://doi.org/10.1037/pspa0000115>
- Farmer, M. M., & Ferraro, K. F. (1997). Distress and perceived health: Mechanisms of health decline. *Journal of Health and Social Behavior*, 38(3), 298–311.
<https://doi.org/10.2307/2955372>
- Fehr, B. (2000). The Life Cycle of Friendship. In C. Hendrick & S. S. Hendrick (Eds.), *Close Relationships* (pp. 71–82). Thousand Oaks, CA: Sage.
- Ferguson, M. J., Mann, T. C., Cone, J., & Shen, X. (2019). When and how implicit first impressions can be updated. *Current Directions in Psychological Science*, 28(4), 331–336. <https://doi.org/10.1177/0963721419835206>
- Ferris, L. J., Jetten, J., Hornsey, M. J., & Bastian, B. (2019). Feeling hurt: Revisiting the relationship between social and physical pain. *Review of General Psychology*, 23(3), 320–335. <https://doi.org/10.1177/1089268019857936>
- Field, T. (2017). Romantic breakup distress, betrayal and heartbreak: A review. *International Journal of Psychological Research and Reviews*, 5(2), 217–225.
<http://dx.doi.org/10.19070/2332-3000-1700038>
- Field, T., Diego, M., Pelaez, M., Deeds, O., & Delgado, J. (2009). Breakup distress in university students. *Adolescence*, 44(176), 705–727.
- Field, T., Diego, M., Pelaez, M., Deeds, O., & Delgado, J. (2011). Breakup distress in university students: A review. *College Student Journal*, 45(3), 461–480.
- Fine, M. A., & Harvey, J. H. (Eds.). (2006). *Handbook of divorce and relationship dissolution*. Lawrence Erlbaum Associates Publishers.
- Finkel, E. J., Burnette, J. L., & Scissors, L. E. (2007). Vengefully ever after: Destiny beliefs, state attachment anxiety, and forgiveness. *Journal of Personality and Social Psychology*, 92(5), 871–886. <https://doi.org/10.1037/0022-3514.92.5.871>

REFERENCES

- Finneas. (2019). I lost a friend. On *Blood harmony* [Audio file].
<https://open.spotify.com/track/5v1sPD1lu2wiPzi07tW8zm?si=b5a35727ae294bda>
- Fisak, B., Gallegos-Guajardo, J., Verreynne, M., & Barrett, P. (2018). The results of a targeted open trial of the Fun FRIENDS combined with a concurrent parent-based intervention. *Mental Health and Prevention, 10*, 35-41.
<https://doi.org/10.1016/j.mhp.2018.03.001>
- Fleming, C. B., White, H. R., Oesterle, S., Haggerty, K. P., & Catalano, R. F. (2010). Romantic relationship status changes and substance use among 18-20-year-olds. *Journal of studies on Alcohol and Drugs, 71*(6), 847-856.
<https://doi.org/10.15288/jsad.2010.71.847>
- Fletcher, G. J. O., Simpson, J. A., & Thomas, G. (2000). The measurement of perceived relationship quality components: A confirmatory factor analytic approach. *Personality and Social Psychology Bulletin, 26*, 340 – 354.
<http://dx.doi.org/10.1177/0146167200265007>
- Flores, L. E., & Berenbaum, H. (2012). Desire for emotional closeness moderates the effectiveness of the social regulation of emotion. *Personality and Individual Differences, 53*(8), 952-957 <https://doi.org/10.1016/j.paid.2012.07.009>
- Folds, B. (1997). Smoke. On *Whatever and Ever Amen* [Audio file].
<https://open.spotify.com/track/56Wmtbg2eMihs1aLNegG81?si=77135b9847324118>
- Forbes, M. K., Magson, N. R., & Rapee, R. M. (2020). Evidence that different types of peer victimization have equivalent associations with transdiagnostic psychopathology in adolescence. *Journal of Youth and Adolescence, 49*(3), 590–604. <https://doi.org/10.1007/s10964-020-01202-4>

- Ford, H. (2016). *Predicting relationship satisfaction in same- and cross-sex friendships* [Unpublished doctoral thesis]. University of Maine.
<https://digitalcommons.library.umaine.edu/etd/2475>
- Foster, S. L., & Bussman, J. R. (2008). Evidence-based approaches to social skills training with children and adolescents. In R. G. Steele, T. D. Elkin, & M. C. Roberts (Eds.), *Handbook of evidence-based therapies for children and adolescents: Bridging science and practice* (pp. 409–427). Issues in Clinical Child Psychology. New York, NY: Springer.
- Fraley, R. C., Hudson, N. W., Heffernan, M. E., & Segal, N. (2015). Are adult attachment styles categorical or dimensional? A taxometric analysis of general and relationship-specific attachment orientations. *Journal of Personality and Social Psychology*, 109(2), 354–368. <https://doi.org/10.1037/pspp0000027>
- Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, 78(2), 350–365. <https://doi.org/10.1037/0022-3514.78.2.350>
- Freitas, M., Santos, A. J., Ribeiro, O., Daniel, J. R., & Rubin, K. H. (2019). Prosocial behavior and friendship quality as moderators of the association between anxious withdrawal and peer experiences in Portuguese young adolescents. *Frontiers in Psychology*, 9, Article 2783.. <https://doi.org/10.3389/fpsyg.2018.02783>
- Frijda, N. H., Kuipers, P., & ter Schure, E. (1989). Relations among emotion, appraisal, and emotional action readiness. *Journal of Personality and Social Psychology*, 57(2), 212–228. <https://doi.org/10.1037/0022-3514.57.2.212>
- Fülöp, F., Böthe, B., Gál, É., Cachia, J. Y. A., Demetrovics, Z., & Gabor, O. (2020). A two-study validation of a single-item measure of relationship satisfaction: RAS-1. *Current Psychology*. <https://doi.org/10.1007/s12144-020-00727-y>

REFERENCES

- Fung, H. H., Carstensen, L. L., & Lang, F. R. (2001). Age-related patterns in social networks among European Americans and African Americans: Implications for socioemotional selectivity across the life span. *The International Journal of Aging & Human Development*, 52(3), 185–206. <https://doi.org/10.2190/1ABL-9BE5-M0X2-LR9V>
- Fung, H. H., Yeung, D. Y., Li, K., & Lang, F. R. (2009). Benefits of negative social exchanges for emotional closeness. *The Journals of Gerontology: Series B*, 64B(5), 612-621, <https://doi.org/10.1093/geronb/gbp065>
- Furman, W., Berger, L., & Hohmann, L. (n.d.). Friendship. In *Encyclopedia Britannica*. Retrieved May 5, 2022, from <https://www.britannica.com/topic/friendship>
- Furukawa, T., Sarason, I. G., & Sarason, B. R. (1998). Social support and adjustment to a novel social environment. *International Journal of Social Psychiatry*, 44(1), 56-70. <https://doi.org/10.1177/002076409804400106>
- Gayer-Anderson, C., & Morgan, C. (2013). Social networks, support and early psychosis: A systematic review. *Epidemiology and Psychiatric Sciences*, 22(2), 131-146. <http://doi.org/10.1017/S2045796012000406>
- George, D., Shanhong, L., Webb, J., Pugh, J., Martinez, A., & Foulston, J. (2015). Couple similarity on stimulus characteristics and marital satisfaction. *Personality and Individual Differences*, 86, 126-131. <https://doi.org/10.1016/j.paid.2015.06.005>
- Gerich, J., & Lehner, R. (2006). Collection of ego-centered network data with computer-assisted interviews. *Methodology: European Journal of Research Methods for the Behavioral and Social Sciences*, 2(1), 7–15. <https://doi.org/10.1027/1614-2241.2.1.7>

- Glover, T. D., & Parry, D. C. (2008). Friendship developed subsequent to a stressful life event: The interplay of leisure, social capital, and health. *Journal of Leisure Research*, 42(2), 208-230. <https://doi.org/10.1080/00222216.2008.11950138>
- Goncalves, B., Perra N., & Vespignani, A. (2011). Validation of Dunbar's number in Twitter conversations. *PLos One*, 6(8), e22656. <https://doi.org/10.1371/journal.pone.0022656>
- Gold, A. (1997). Thank you for being a friend. On *Thank you for being a friend* [Audio file]. <https://open.spotify.com/track/2LvVGWNSVvxmIH2GE9Byyl?si=98ce898746ee425b>
- Gosselin, A. (2013). Nursing Simulation Experience: Self-Efficacy, State Anxiety, Locus of Control, and Simulation Effectiveness. *Honors Theses and Capstones*, 137. <https://scholars.unh.edu/honors/137>
- Grabill, C. M., & Kerns, K. A. (2000). Attachment style and intimacy in friendship. *Personal Relationships*, 7(4), 363–378. <https://doi.org/10.1111/j.1475-6811.2000.tb00022.x>
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(S2), 109-122. <https://doi.org/10.1002/smj.4250171110>
- Grau, I., & Doll, J. (2003). Effects of attachment styles on the experience of equity in heterosexual couples relationships. *Experimental Psychology*, 50(4), 298–310. <https://doi.org/10.1026/1618-3169.50.4.298>
- Green, J. S., & King, A. R. (2009). Domestic violence and parental divorce as predictors of best friendship qualities among college students. *Journal of Divorce and Remarriage*, 50, 100– 118. <https://doi.org/10.1080/10502550802365805>
- Greenaway, K. H. (2015). Measures of coping for psychological well-being. In D. J. Terry (Ed.), *Measures of personality and social psychological constructs* (pp. 322-351). <https://doi.org/10.1016/B978-0-12-386915-9.00012-7>

REFERENCES

- Gunther Moor, B., Crone, E. A., & van der Molen, M. W. (2010). The heartbrake of social rejection: Heart rate deceleration in response to unexpected peer rejection. *Psychological Science, 21*, 1326–1333.
<https://doi.org/10.1177/0956797610379236>
- Guerrero, L. K., & Chavez, A. M. (2005). Relational maintenance in cross-sex friendships characterized by different types of romantic intent: An exploratory study. *Western Journal of Communication, 69*(4), 339–358.
<https://doi.org/10.1080/10570310500305471>
- Guerrero, L. K., & Chavez, A. M. (2007). Relational maintenance in cross-sex friendships characterizes by different types of romantic intent: An exploratory study. *Western Journal of Communication, 69*(4), 339–358.
<https://doi.org/10.1080/10570310500305471>
- Guschlbauer, A., Smith, N. G., DeStefano, J., & Soltis, D. E. (2017). Minority stress and emotional intimacy among individuals in lesbian and gay couples: Implications for relationship satisfaction and health. *Journal of Social and Personal Relationships, 36*(3), 855–878. <https://doi.org/10.1177/0265407517746787>
- Gustavson, K., Røysamb, E., von Soest, T., Helland, M. J., & Mathiesen, K. S. (2012). Longitudinal associations between relationship problems, divorce, and life satisfaction: Findings from a 15-year population-based study. *The Journal of Positive Psychology, 7*(3), 188–197.
<https://doi.org/10.1080/17439760.2012.671346>
- Haerter, J. O., Jamtveit, B., & Mathiesen, J. (2012). Communication dynamics in finite capacity social networks. *Physical Review Letters, 109*(16), 168701.
<https://doi.org/10.1103/PhysRevLett.109.168701>
- Hales, A. H, Wesselmann, E. D, & Williams, K. D. (2020). Social ostracism, religion, and existential concerns. In K. E. Vail (Ed.), *The science of religion, spirituality,*

- and existentialism* (pp. 153-166). Elsevier Academic Press.
- <https://doi.org/10.1016/B978-0-12-817204-9.00012-3>
- Hales, A., Kassner, M. P., Williams, K. D., & Graziano, W. (2016). Disagreeableness as a cause and consequence of ostracism. *Personality and Social Psychology Bulletin*, 42(6), 782-797. <https://doi.org/10.1177/0146167216643933>
- Hall, J. A. (2019). How many hours does it take to make a friend? *Journal of Social and Personal Relationships*, 36(4). <https://doi.org/10.1177/0265407518761225>
- Hall, J. A., Larson, K. A., & Watts, A. (2011). Satisfying friendship maintenance expectations: The role of friendship standards and biological sex. *Human Communication Research*, 37(4), 529–552. <https://doi.org/10.1111/j.1468-2958.2011.01411.x>
- Harasymchuk, C., & Fehr, B. (2012). Development of a prototype-based measure of relational boredom. *Personal Relationships*, 19(1), 162 –181.
- <https://doi.org/10.1111/j.1475-6811.2011.01346.x>
- Harasymchuk, C., & Fehr, B. (2019). Responses to dissatisfaction in friendships and relationships: An interpersonal script analysis. *Journal of Social and Personal Relationships*, 36(6), 1651-1670. <https://doi.org/10.1177/0265407518769451>
- Hartup, W. W., & Stevens, N. (1997). Friendships and adaptation in the life course. *Psychological Bulletin*, 121, 355-370. <https://doi.org/10.1037/0033-2909.121.3.355>
- Hatfield, E., Utne, M. K., & Traupmann, J. (1979). Equity theory and intimate relationships. In R. Burgess & T. L. Huston (Eds.), *Social Exchange in Developing Relationships*. Springer-Verlag.
- Hays, R. B. (1985). A longitudinal study of friendship development. *Journal of Personality and Social Psychology*, 48(4), 909–924. <https://doi.org/10.1037/0022-3514.48.4.909>

REFERENCES

- Hazlett, C. J., & Berinsky, A. J. (2018). Stress-testing the affect misattribution procedure: Heterogeneous control of affect misattribution procedure effects under incentives. *British Journal of Social Psychology*, 57(1), 61–74.
<https://doi.org/10.1111/bjso.12217>
- Hebert, S., & Popadiuk, N. (2008). University students' experiences of nonmarital breakups: A grounded theory. *Journal of College Student Development*, 49(1), 1–14. <https://doi.org/10.1353/csd.2008.0008>
- Helgeson, V. S. (1994). Long-distance romantic relationships: Sex differences in adjustment and breakup. *Personality and Social Psychology Bulletin*, 20(3), 254–265. <https://doi.org/10.1177/0146167294203003>
- Helgeson, V. S. (1994). Relation of agency and communion to well-being: Evidence and potential explanations. *Psychological Bulletin*, 116(3), 412–428.
<https://doi.org/10.1037/0033-2909.116.3.412>
- Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology*, 74, 797–816. <http://dx.doi.org/10.1037/0022-006X.74.5.797>
- Henning, K., & Klesges, L. M. (2003). Prevalence and characteristics of psychological abuse reported by court-involved battered women. *Journal of Interpersonal Violence*, 18(8), 857–871. <https://doi.org/10.1177/0886260503253878>
- Hess, T. M., Osowski, N. L., & Leclerc, C. M. (2005). Age and Experience Influences on the Complexity of Social Inferences. *Psychology and Aging*, 20(3), 447–459.
<https://doi.org/10.1037/0882-7974.20.3.447>
- Hesse, M. (2006). The readiness ruler as a measure of readiness to change in poly-drug use in drug abusers. *Harm Reduction Journal*, 3(3), 3.
<https://doi.org/10.1186/1477-7517-3-3>

- Higgins, C. A., & Judge, T. A. (2004). The Effect of Applicant Influence Tactics on Recruiter Perceptions of Fit and Hiring Recommendations: A Field Study. *Journal of Applied Psychology*, 89(4), 622–632. <https://doi.org/10.1037/0021-9010.89.4.622>
- Higgins, C. A., Judge, T. A., & Ferris, G. R. (2003). Influence tactics and work outcomes: A meta-analysis. *Journal of Organizational Behavior*, 24(1), 89–106. <https://doi.org/10.1002/job.181>
- Hill, R. A., & Dunbar, R. I. M. (2003). Social network size in humans. *Human Nature*, 14(1), 53–72. <https://doi.org/10.1007/s12110-003-1016-y>
- Hill, C. T., Rubin, Z., & Peplau, L. A. (1976). Breakups before marriage: The end of 103 affairs. *Journal of Social Issues*, 32(1), 147–168. <https://doi.org/10.1111/j.1540-4560.1976.tb02485.x>
- Hiller, M. L., Narevic, E., Webster, J. M., Rosen, P., Staton, M., Leukefeld, C., Garrity, T. F., & Kayo, R. (2009). Problem severity and motivation for treatment in incarcerated substance abusers. *Substance Use and Misuse*, 44(1), 28–41. <https://doi.org/10.1080/10826080802523301>
- Hisli Şahin, N., Basim, H. N., & Çetin, F. (2009). Kişilerarası çatışma çözme yaklaşımlarında kendilik algısı ve kontrol odağı [Locus of control and self-concept in interpersonal conflict resolution approaches]. *Türk Psikiyatri Dergisi*, 20(2), 153–163.
- Hofmann, W., Brandt, M. J., Wisneski, D. C., Rockenbach, B., & Skitka, L. J. (2018). Moral punishment in everyday life. *Personality and Social Psychology Bulletin*, 44(12), 1697–1711. <https://doi.org/10.1177/0146167218775075>
- Homans, G. C. (1961). *Social behavior: Its elementary forms*. Harcourt, Brace.

REFERENCES

- Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLOS Medicine*, 7(7).
<https://doi.org/10.1371/journal.pmed.1000316>
- Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science*, 10(2), 227–237.
<https://doi.org/10.1177/1745691614568352>
- Hopmeyer Gorman, A., Kim, J., & Schimmelbusch, A. (2002). The attributes adolescents associate with peer popularity and teacher preference. *Journal of School Psychology*, 40(2), 143–165. [https://doi.org/10.1016/S0022-4405\(02\)00092-4](https://doi.org/10.1016/S0022-4405(02)00092-4)
- Horton, P. (2011). School bullying and social and moral orders. *Children & Society*, 25(4), 268–277. <https://doi.org/10.1111/j.1099-0860.2011.00377.x>
- Hosmer Jr., D.W., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied Logistic Regression*. (3rd ed.), John Wiley & Sons.
<https://doi.org/10.1002/9781118548387>
- Hudson, N. W., Chopik, W. J., & Briley, D. A. (2020). Volitional change in adult attachment: Can people who want to become less anxious and avoidant move closer towards realizing those goals? *European Journal of Personality*, 34(1), 93–114. <https://doi.org/10.1002/per.2226>
- Hull, C. L. (1943). *Principles of behavior*. Appleton-Century-Crofts.
- Huelsnitz, C. O., Neel, R., & Human, L. J. (2020). Accuracy in perceptions of fundamental social motives: Comparisons to perceptions of big five traits and associations with friendship quality. *Personality and Social Psychology Bulletin*, 46(1), 3–19. <https://doi.org/10.1177/0146167219838546>
- Hwang, H. G., Suh, J., Balbona, J., Sodhi, S., & Markon, L. (2020). The crude ostracism detection system: Pupils react to minimal cues of exclusion. *Journal of Social and*

- Personal Relationships*, 37(4), 1225-1244.
<https://doi.org/10.1177/0265407519891242>
- Iffland, B., Sansen, L. M., Catani, C., & Neuner, F. (2014). Rapid heartbeat, but dry palms: Reactions of heart rate and skin conductance levels to social rejection. *Frontiers in Psychology*, 5, 956. <https://doi.org/10.3389/fpsyg.2014.00956>
- Iredale, W., van Vugt, Dunbar, R. (2008). Showing off in humans: Male generosity as a mating signal. *Evolutionary Psychology*, 6(3), 386-392.
<https://doi.org/10.1177/147470490800600302>
- Jacklin, J. (2022). End of a friendship. On *Pre pleasure* [Audio file].
<https://open.spotify.com/track/4TKLdOkxJQ5QzBJVZqncc5?si=f8573e0d7fe441a4>
- Jaubert, T., Chekroun, P., Legal, J., & Gosling, P. (2022). You are not alone! Sharing ostracism fosters group identification but does not improve well-being. *Social Psychology*, 53, 163-177. <https://doi.org/10.1027/1864-9335/a000488>
- Joel, S., Eastwick, P. W., Allison, C. J., Arriaga, X. B., Baker, Z. G., Bar-Kalifa, E., Bergeron, S., Birnbaum, G. E., Brock, R. L., Brumbaugh, C. C., Carmichael, C. L., Chen, S., Clarke, J., Cobb, R. J., Coolsen, M. K., Davis, J., de Jong, D. C., Debrot, A., DeHaas, E. C., & Wolf, S. (2020). Machine learning uncovers the most robust self-report predictors of relationship quality across 43 longitudinal couples studies. *Proceedings of the National Academy of Sciences of the United States of America*, 117(32), 19061–19071.
<https://doi.org/10.1073/pnas.1917036117>
- John, O. P., Donahue, E. M., & Kentle, L. K. (1991). *The Big Five inventory-version 4a and 54*. Technical report, Institute of Personality and Social Research, University of Berkeley, CA.

REFERENCES

- Jones, S. E., & Rutland, A. (2020). Children's social appraisal of exclusion in friendship groups. *International Journal of Bullying Prevention*, 2, 129–138.
<https://doi.org/10.1007/s42380-019-00022-w>
- Kacmar, K. M., Harris, K. J., & Nagy, B. G. (2007). Further validation of the Bolino and Turnley impression management scale. *Journal of Behavioral and Applied Management*, 9(1), 16–32. <https://doi.org/10.21818/001c.16777>
- Kalemi, G., Michopoulos, I., Efstathiou, V., Konstantopoulou, F., Tsaklakidou, D., Gournellis, R., & Douzenis, A. (2019). Narcissism but not criminality is associated with aggression in women: A study among female prisoners and women without a criminal record. *Frontiers in Psychiatry*, 10, Article 21.
<https://doi.org/10.3389/fpsy.2019.00021>
- Kamali, Z., Allahyar, N., & Ostovar, S. (2020). Factors that influence marital intimacy: A qualitative analysis of Iranian married couples. *Cogent Psychology*, 7(1),
<https://doi.org/10.1080/23311908.2020.1771118>
- Kammrath, L. K., & Dweck, C. (2006). Voicing conflict: Preferred conflict strategies among incremental and entity theorists. *Personality and Social Psychology Bulletin*, 32(11), 1497–1508. <https://doi.org/10.1177/0146167206291476>
- Kansky, J., & Allen, J. P. (2018). Long-term risks and possible benefits associated with late adolescent romantic relationship quality. *Journal of Youth and Adolescence* 47(7), 1531–1544. <https://doi.org/10.1007/s10964-018-0813-x>
- Karney, B. R., & Bradbury, T. N. (1995). Assessing longitudinal change in marriage: An introduction to the analysis of growth curves. *Journal of Marriage and Family*, 57(4), 1091–1108. <https://doi.org/10.2307/353425>
- Karney, B. R., & Bradbury, T. N. (2020). Research on marital satisfaction and stability in the 2010s: Challenging conventional wisdom. *Journal of Marriage and Family*, 82(1), 100-116. <https://doi.org/10.1111/jomf.12635>

- Karremans, J. C., & Van Lange, P. A. M. (2008). Forgiveness in personal relationships: Its malleability and powerful consequences. *European Review of Social Psychology*, 19, 202–241. <https://doi.org/10.1080/10463280802402609>
- Kaur, R. (2017). *The Sun and Her Flowers*. Andrews McMeel Publishing.
- Kays, S. (2021). Backseat rider. On *Backseat rider* [Audio file].
<https://open.spotify.com/track/0nWhWuaLLCcJS0D19np9Cb?si=c825b2121af14faa>
- Keaveny, M., & Mahmut, M. K. (2021). Love stinks: The association between body odors and romantic relationship commitment. *Brain Sciences*, 11(11), 1522.
<https://doi.org/10.3390/brainsci11111522>
- Kell, H. J., McCabe, K. O., Lubinski, D., & Benbow, C. P. (2022). Wrecked by success? Not to worry. *Perspectives on Psychological Science*, 17(5), 1291–1321.
<https://doi.org/10.1177/17456916211055637>
- Kelly, J. B., & Johnson, M. P. (2008). Differentiation among types of intimate partner violence: Research update and implications for interventions. *Family Court Review*, 46(3), 476–499. <https://doi.org/10.1111/j.1744-1617.2008.00215.x>
- Kelly, M., McDonald, S., & Rushby, J. (2012). All alone with sweaty palms - Physiological arousal and ostracism. *International Journal of Psychophysiology*, 83, 309–314. <http://dx.doi.org/10.1016/j.ijpsycho.2011.11.008>
- Kelley, H. H., Berscheid, E., Christensen, A., Harvey, J. H., Huston, T. L., Levinger, G., McClintock, E., Peplau, L. A., & Peterson, D. R. (1983). *Close relationships*. Freeman.
- Kelley, H. H., Holmes, J. G., Kerr, N. L., Reis, H. T., Rusbult, C. E., & Van Lange, P. A. M. (2003). *An Atlas of Interpersonal Situations*. Cambridge.
- Kemp, E., Strelan, P., Roberts, R. M., Burns, N. R., & Mulvey, K. L. (2021). The Children’s Forgiveness Card Set: Development of a brief pictorial card-sorting

REFERENCES

- measure of children's emotional forgiveness, *Frontiers in Psychology*, 12, 628152. <https://doi.org/10.3389/fpsyg.2021.628152>
- Killworth, P. D., Bernard, H. R., & McCarty, C. (1984). Measuring patterns of acquaintanceship. *Current Anthropology*, 25(4), 381–397. <https://doi.org/10.1086/203158>
- King, A. R., Russell, T., & Veith, A. C. (2016). Friendship and Mental Health Functioning. *Psychology Faculty Publications*, 21, 249-266. <https://commons.und.edu/psych-fac/21>
- Kito, M. (2016). Shared and unique prototype features of relationship quality concepts. *Personal Relationships*, 23(4), 759-786. <https://doi.org/10.1111/pere.12156>
- Knee, C. R. (1998). Implicit theories of relationships: Assessment and prediction of romantic relationship initiation, coping, and longevity. *Journal of Personality and Social Psychology*, 74(2), 360–370. <https://doi.org/10.1037/0022-3514.74.2.360>
- Knobloch, L. K., & Solomon, D. H. (2002). Information seeking beyond initial interaction: Negotiating relational uncertainty within close relationships. *Human Communication Research*, 28(2), 243–257. <https://doi.org/10.1093/hcr/28.2.243>
- Kochendorfer, L. B., & Kerns, K. A. (2020). A meta-analysis of friendship qualities and romantic relationship outcomes in adolescence. *Journal of Research on Adolescence*, 30(1), 4-25. <https://doi.org/10.1111/jora.12505>
- Kochenderfer, B. J., & Ladd, G. W. (1996). Peer victimization: Manifestations and relations to school adjustment in kindergarten. *Journal of School Psychology*, 34(3), 267–283. [https://doi.org/10.1016/0022-4405\(96\)00015-5](https://doi.org/10.1016/0022-4405(96)00015-5)
- Kole, C. (2021). Ex best friend. *On Queen* [Audio file]. <https://open.spotify.com/track/3CG51lwWkrpjQDfS6QRG7i?si=2aba75ce6fe04154>

- Korrel, H. (2020). *How to break up with friends. From friendshit to friendsplit: a guide to ditching crappy connections*. Impact Press.
- Kotler, M., Iancu, I., Efroni, R., & Amir, M. (2001). Anger, impulsivity, social support, and suicide risk in patients with posttraumatic stress disorder. *Journal of Nervous and Mental Disease*, 189(3), 162–167. <https://doi.org/10.1097/00005053-200103000-00004>
- Kovaleva, A. (2012). *The IE-4: construction and validation of a short scale for the assessment of locus of control* (GESIS-Schriftenreihe 9). Köln: GESIS.
- Kranta, G., & Vung, N. D. (2009). The role of controlling behaviour in intimate partner violence and its health effects: A population based study from rural Vietnam. *BMC Public Health*, 9(1), 143. <https://doi.org/10.1186/1471-2458-9-143>
- Ksenofontov, I., & Becker, J. C. (2020). The harmful side of thanks: Thankful responses to high-power group help undermine low-power groups' protest. *Personality and Social Psychology Bulletin*, 46(5), 794–807. <https://doi.org/10.1177/0146167219879125>
- Kudo, H., & Dunbar, R. I. M. (2001). Neocortex size and social network size in primates. *Animal Behaviour*, 62(4), 711–722. <https://doi.org/10.1006/anbe.2001.1808>
- Kurtz, L. E., & Algoe, S. B. (2015). Putting laughter in context: Shared laughter as behavioral indicator of relationship well-being. *Personal Relationships*, 22(4), 573-590. <https://doi.org/10.1111/pere.12095>
- Ladd, G. W., & Kochenderfer-Ladd, B. (2002). Identifying victims of peer aggression from early to middle childhood: Analysis of cross-informant data for concordance, estimation of relational adjustment, prevalence of victimization, and characteristics of identified victims. *Psychological Assessment*, 14(1), 74–96. <https://doi.org/10.1037/1040-3590.14.1.74>

REFERENCES

- Ladd, G. W., Kochenderfer, B. J., & Coleman, C. C. (1996). Friendship quality as a predictor of young children's early school adjustment. *Child Development*, 67(3), 1103–1118. <https://doi.org/10.2307/1131882>
- Ladd, G. W., & Troop-Gordon, W. (2003). The role of chronic peer difficulties in the development of children's psychological adjustment problems. *Child Development*, 74(5), 1344–1367. <https://doi.org/10.1111/1467-8624.00611>
- Lang, F. R., & Carstensen, L. L. (1994). Close emotional relationships in late life: Further support for proactive aging in the social domain. *Psychology and Aging*, 9(2), 315–324. <https://doi.org/10.1037/0882-7974.9.2.315>
- Langeslag, S. J. E., & Sanchez, M. E. (2018). Down-regulation of love feelings after a romantic break-up: Self-report and electrophysiological data. *Journal of Experimental Psychology: General*, 147(5), 720–733. <https://doi.org/10.1037/xge0000360>
- Laninga-Wijnen, L., van den Berg, Y. H. M., Mainhard, T., & Cillessen, A. H. N. (2021). The Role of Defending Norms in Victims' Classroom Climate Perceptions and Psychosocial Maladjustment in Secondary School. *Research on Child Adolescent Psychopathology*, 49, 169–184. <https://doi.org/10.1007/s10802-020-00738-0>
- Laufey. (2021). Best friend. On *Best Friend* [Audio file]. <https://open.spotify.com/track/2ZcypumvYcLBctMpN3Q4NB?si=0e0e7dea8cb842f7>
- Laursen, B. (1993). Conflict management among close peers. In B. Laursen (Ed.), *Close friendships in adolescence* (pp. 39–54). Jossey-Bass.
- Laursen, B., & Bukowski, W. M. (1997). A developmental guide to the organisation of close relationships. *International Journal of Behavioral Development*, 21(4), 747–770. <https://doi.org/10.1080/016502597384659>

- Lavner, J. A., & Clark, M. A. (2017). Workload and marital satisfaction over time: Testing lagged spillover and crossover effects during the newlywed years. *Journal of Vocational Behavior, 101*, 67-76. <https://doi.org/10.1016/j.jvb.2017.05.002>
- Le, B., & Agnew, C. R. (2003). Commitment and its theorized determinants: A meta-analysis of the investment model. *Personal Relationships, 10*(1), 37–57. <https://doi.org/10.1111/1475-6811.00035>
- Le, B., Dove, N. L., Agnew, C. R., Korn, M. S., & Mutso, A. A. (2010). Predicting nonmarital romantic relationship dissolution: A meta-analytic synthesis. *Personal Relationships, 17*(3), 377–390. <https://doi.org/10.1111/j.1475-6811.2010.01285.x>
- Leary, M. R., & Acosta, J. (2018). Acceptance, rejection, and the quest for relational value. In A. L. Vangelisti & D. Perlman (Eds.), *The Cambridge handbook of personal relationships* (pp. 378–390). Cambridge University Press. <https://doi.org/10.1017/9781316417867.030>
- Leary, M. R., Jongman-Sereno, K. P., & Diebels, K. J. (2015). Measures of concerns with public image and social evaluation. In G. J. Boyle, D. H. Saklofske, & G. Matthews (Eds.), *Measures of personality and social psychological constructs* (pp. 448–473). Elsevier Academic Press. <https://doi.org/10.1016/B978-0-12-386915-9.00016-4>
- Ledbetter, A. M., Griffin, E., & Sparks, G. G. (2007). Forecasting “friends forever”: A longitudinal investigation of sustained closeness between best friends. *Personal Relationships, 14*(2), 343-350. <https://doi.org/10.1080/00224545.2014.914883>
- Legate, N., Weinstein, N., & Ryan, R. M. (2021). Ostracism in real life: Evidence that ostracizing others has costs, even when it feels justified. *Basic and Applied Social Psychology, 43*(4), 226-238. <https://doi.org/10.1080/01973533.2021.1927038>
- Lehmann, V., Tuinman, M., Braeken, J., Vingerhoeats, A. J. J. M., Sanderman, R., & Hagedoorn, M. (2015). Satisfaction with relationship status: Development of a

REFERENCES

- new scale and the role in predicting well-being. *Journal of Happiness Studies*, 16, 169-184. <http://doi.org/10.1007/S10902-014-9503-X>
- Lehmiller, J. J., VanderDrift, L. E., & Kelly, J. R. (2011). Sex differences in approaching friends with benefits relationships. *Journal of Sex Research*, 48(2-3), 275–284. <https://doi.org/10.1080/00224491003721694>
- Leikas, S., Ilmarinen, V.-J., Verkasalo, M., Vartiainen, H.-L., & Lönnqvist, J.-E. (2018). Relationship satisfaction and similarity of personality traits, personal values, and attitudes. *Personality and Individual Differences*, 123, 191–198. <https://doi.org/10.1016/j.paid.2017.11.024>
- Lekman, J. (2017). How can I tell him. On *Life will see you now* [Audio file]. <https://open.spotify.com/track/1DuDSd3xaSl2oR3yXyTNVH?si=0e082a262e8449bc>
- Lekman, J., & LaMotte, L. (2017). Evening prayer. On *Life will see you know* [Audio file]. <https://open.spotify.com/track/1BDoKwhZO1yQAReJubsw33?si=9bb14f011b6a4c2b>
- Lemay, E. P., Jr. (2016). The forecast model of relationship commitment. *Journal of Personality and Social Psychology*, 111(1), 34–52. <https://doi.org/10.1037/pspi0000052>
- Lemay, E. P., & Clark, M. (2009). Self-esteem and communal responsiveness toward a flawed partner: The fair-weather care of low-self-esteem individuals. *Personality and Social Psychology Bulletin*, 35(6), 698-712. <https://doi.org/10.1177/0146167209332964>
- Lemay, E. P. Jr, & Clark, M. S. (2008). How the head liberates the heart: Projection of communal responsiveness guides relationship promotion. *Journal of Personality*

- and Social Psychology*, 94(4), 647-671. <https://doi.org/10.1037/0022-3514.94.4.647>
- Lemay, E. P. Jr., Lin, J. L., & Muir, H. J. (2015). Daily affective and behavioral forecasts in romantic relationships: Seeing tomorrow through the lens of today. *Personality and Social Psychology Bulletin*, 41(7), 1005-1019. <https://doi.org/10.1177/0146167215588756>
- Lemay, E. P., Jr., & Spongberg, K. (2015). Perceiving and wanting to be valued by others: Implications for cognition, motivation, and behavior in romantic relationships. *Journal of Personality*, 83(4), 464-478. <https://doi.org/10.1111/jopy.12122>
- Lemay, E. P. Jr., & Wolf, N. R. (2016). Human mate poaching tactics are effective: Evidence from a dyadic prospective study on opposite-sex “friendships”. *Social Psychology and Personality Science*, 7(4), 374-380. <https://doi.org/10.1177/1948550615623843>
- Levine, E. E., Bitterly, T. B., Cohen, T. R., & Schweitzer, M. E. (2018). Who is trustworthy? Predicting trustworthy intentions and behavior. *Journal of Personality and Social Psychology*, 115(3), 468-494. <https://doi.org/10.1037/pspi0000136>
- Lewandowski, G. W., Jr., Aron, A., Bassis, S., & Kunak, J. (2006). Losing a self-expanding relationship: Implications for the self-concept. *Personal Relationships*, 13(3), 317-331. <https://doi.org/10.1111/j.1475-6811.2006.00120.x>
- Lewandowski, G. W., Jr., & Bizzoco, N. M. (2007). Addition through subtraction: Growth following the dissolution of a low quality relationship. *The Journal of Positive Psychology*, 2(1), 40-54. <https://doi.org/10.1080/17439760601069234>

REFERENCES

- Li, T., & Chan, D. K-S. (2012). How anxious and avoidant attachment affect romantic relationship quality differently: A meta-analytic review. *European Journal of Social Psychology*, 42(4), 406–419. <https://doi.org/10.1002/ejsp.1842>
- Little, T. D., Jones, S. M., Henrich, C. C., & Hawley, P. H. (2003). Disentangling the "whys" from the "whats" of aggressive behaviour. *International Journal of Behavioral Development*, 27(2), 122–133. <https://doi.org/10.1080/01650250244000128>
- Liu, C., Yang, J., & Gu, X. (2021). Antecedents of workplace ostracism. In C. Liu & J. Ma (Eds.), *Workplace ostracism: Its nature, antecedents, and consequences* (pp. 65-99). Palgrave Macmillan/Springer Nature. https://doi.org/10.1007/978-3-030-54379-2_3
- Lieberman, M. D., & Rosenthal, R. (2001). Why introverts can't always tell who likes them: Multitasking and nonverbal decoding. *Journal of Personality and Social Psychology*, 80(2), 294–310. <https://doi.org/10.1037/0022-3514.80.2.294>
- Lo Presti, A., Pappone, P., & Landolfi, A. (2019). The associations between workplace bullying and physical or psychological negative symptoms: Anxiety and depression as mediators. *European Journal of Psychology*, 15(4), 808-822. <https://doi.org/10.5964/ejop.v15i4.1733>
- Locker, L. R., McIntosh, W. D., Hackney, A. A., Wilson, J. H., & Wiegand, K. (2010). The breakup of romantic relationships: Situational predictors of perception of recovery. *North American Journal of Psychology*, 12(3), 565-578. <http://digitalcommons.georgiasouthern.edu/psych-facpubs/97>
- Long, M. V., & Martin, P. (2000). Personality, relationship closeness, and loneliness of oldest old adults and their children. *The Journals of Gerontology: Series B: Psychological Sciences and Social Sciences*, 55(5), 311–319. <https://doi.org/10.1093/geronb/55.5.P311>

- Long, Y., Zhou, H. & Li, Y. (2020). Relational victimization and internalizing problems: Moderation of popularity and mediation of popularity status insecurity. *Journal of Youth and Adolescence*, 49, 724-734. <https://doi.org/10.1007/s10964-019-01177-x>
- Lord, K. A., Harkness, K. L., Suvak, M. K. (2020). The affective dynamics of reassurance-seeking in real time interactions. *Journal of Social and Personal Relationships*, 37, 676-694. <https://doi.org/10.1177/0265407519876991>
- Lorenzo, J. M., Barry, R. A., & Khalifian, C. E. (2018). More or less: Newlyweds' preferred and received social support, affect, and relationship satisfaction. *Journal of Family Psychology*, 32(7), 860–872. <https://doi.org/10.1037/fam0000440>
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety & Stress Scales* (2nd Ed.). Sydney: Psychology Foundation.
- Lutz, S. (2022). Why don't you answer me?! Exploring the effects of (repeated exposure to) ostracism via messengers on users' fundamental needs, well-being, and coping motivation. *Media Psychology*, No Pagination Specified. <https://doi.org/10.1080/15213269.2022.2101008>
- Lyng, S. T. (2018). The social production of bullying: Expanding the repertoire of approaches to group dynamics. *Children & Society*, 32(6), 492–502. <https://doi.org/10.1111/chso.12281>
- Mackey, R. A., Diemer, M. A., & O'Brien, B. A. (2000). Psychological intimacy in the lasting relationships of heterosexual and same-gender couples. *Sex Roles: A Journal of Research*, 43(3-4), 201–227. <https://doi.org/10.1023/A:1007028930658>
- MacDonald, T. K., & Ross, M. (1999). Assessing the accuracy of predictions about dating relationships: How and why do lovers' predictions differ from those made by observers? *Personality and Social Psychology Bulletin*, 25(11), 1417–1429. <https://doi.org/10.1177/0146167299259007>

REFERENCES

- Maciel, S. C., Pereira, C. R., de Lima, T. J. S., de Souza, L. E. C., Camino, L., & Silva, G. L. S. (2019). Social exclusion of people who suffer from mental disorders: A proposal for an explanatory model. *Paidéia*, 29, e2915.
<https://doi.org/10.1590/1982-4327e2915>
- Madan, A., Cebrian, M., Moturu, S., Farrahi, K., & Pentland, A. (2012). Sensing the “health state” of a community. *IEEE Pervasive Computing*, 11(4), 36-45.
<https://doi.org/10.1109/MPRV.2011.79>
- Madison, J. K., & Madison, L. S. (2013). A review of research-based interventions on marriage preparation. *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, 31, 67– 74. <https://doi.org/10.1007/s10942-013-0160-5>
- Maier, S. F., & Seligman, M. E. (1976). Learned helplessness: Theory and evidence. *Journal of Experimental Psychology: General*, 105(1), 3–46.
<https://doi.org/10.1037/0096-3445.105.1.3>
- Mallory, A. B., Spencer, C. M., Kimmes, J. G., & Pollitt, A. M. (2018). Remembering the good times: The influence of relationship nostalgia on relationship satisfaction across time. *Journal of Marital and Family Therapy*, 44(4), 561-574.
<https://doi.org/10.1111/jmft.12311>
- Mallott, M. A., Maner, J. K., DeWall, N., & Schmidt, N. B. (2009). Compensatory deficits following rejection: The role of social anxiety in disrupting affiliative behavior. *Depression & Anxiety*, 26(5), 438-446. <https://doi.org/10.1002/da.20555>
- Maalouf, F. T., Alrojolah, L., Ghandour, L., Afifi, R., Dirani, L. A., Barrett, Pa., Nakkash, R., Shamseddeen, W., Tabaja, F., Yuen, C. M., & Becker, A. E. (2020). Building emotional resilience in youth in Lebanon: A school-based randomized controlled trial of the FRIENDS intervention. *Prevention Science*, 21(5), 650-660.
<https://doi.org/10.1007/s11121-020-01123-5>

- Malouff, J. M., Thorsteinsson, E. B., Schutte, N. S., Bhullar, N., & Rooke, S. E. (2010). Brief report: The Five-Factor Model of personality and relationship satisfaction of intimate partners: A meta-analysis. *Journal of Research in Personality*, 44, 124–127. <https://doi.org/10.1016/j.jrp.2009.09.004>
- Mann, T. C., Cone, J., Heggeseth, B., & Ferguson, M. J. (2019). Updating implicit impressions: New evidence on intentionality and the affect misattribution procedure. *Journal of Personality and Social Psychology*, 116(3), 349–374. <https://doi.org/10.1037/pspa0000146>
- Mann, T. C., & Ferguson, M. J. (2015). Can we undo our first impressions? The role of reinterpretation in reversing implicit evaluations. *Journal of Personality and Social Psychology*, 108(6), 823–849. <https://doi.org/10.1037/pspa0000021>
- Mann, T. C., & Ferguson, M. J. (2017). Reversing implicit first impressions through reinterpretation after a two-day delay. *Journal of Experimental Social Psychology*, 68, 122–127. <https://doi.org/10.1016/j.jesp.2016.06.004>
- Maples, J. L., Carter, N. T., Few, L. R., Crego, C., Gore, W. L., Samuel, D. B., Williamson, R. L., Lynam, D. R., Widiger, T. A., Markon, K. E., Krueger, R. F., & Miller, J. D. (2015). Testing whether the DSM-5 personality disorder trait model can be measured with a reduced set of items: An item response theory investigation of the Personality Inventory for DSM-5. *Psychological Assessment*, 27(4), 1195–1210. <https://doi.org/10.1037/pas0000120>
- Markon, K. E., Quilty, L. C., Bagby, R. M., & Krueger, R. F. (2013). The development and psychometric properties of an informant-report form of the Personality Inventory for DSM-5 (PID-5). *Assessment*, 20, 70–83. <https://doi.org/10.1177/1073191113486513>
- Marshall, T. C., Bejanyan, K., & Ferenczi, N. (2013). Attachment styles and personal growth following romantic breakups: The mediating roles of distress, rumination,

REFERENCES

- and tendency to rebound. *PLoS One*, 8(9), 1-11.
<https://doi.org/10.1371/journal.pone.0075161>
- Masi, C. M., Chen, H. Y., Hawkey, L. C., & Cacioppo, J. T. (2011). A meta-analysis of interventions to reduce loneliness. *Personality and Social Psychology Review*, 15(3), 219–267. <https://doi.org/10.1177/1088868310377394>
- Martina, C. M. S., Stevens, N. L., & Westerhof, G. J. (2018). Change and stability in loneliness and friendship after an intervention for older women. *Ageing & Society*, 38(3), 435-454. <https://doi.org/10.1017/S0144686X16001008>
- Mathieson, L. C., Klimes-Dougan, B., & Crick, N. R. (2014). Dwelling on it may make it worse: The links between relational victimization, relational aggression, rumination, and depressive symptoms in adolescents. *Development and Psychopathology*, 26(3), 735-747. <https://doi.org/10.1017/S0954579414000352>
- Mattingly, B. A., Oswald, D. L., & Clark, E. M. (2015). *Routine and strategic friendship maintenance and friendship quality: A dyadic examination* [Unpublished doctoral dissertation]. Marquette University.
- McAdams, D. P., & Pals, J. L. (2006). A new Big Five: Fundamental principles for an integrative science of personality. *American Psychologist*, 61(3), 204–217.
<https://doi.org/10.1037/0003-066X.61.3.204>
- McCaul, K. D., Branstetter, A. D., O'Donnell, S. M., Jacobson, K., & Quinlan, K. B. (1998). A descriptive study of breast cancer worry. *Journal of Behavioral Medicine*, 21(6), 565–579. <https://doi.org/10.1023/A:1018748712987>
- McCullough M. E. (2008). *Beyond revenge: The evolution of the forgiveness instinct*. Jossey-Bass.
- McCoy, A., Rauer, A., & Sabey, A. (2017). The meta marriage: Links between older couples' relationship narratives and marital satisfaction. *Family Process*, 56(4), 900–914. <https://doi.org/10.1111/famp.12217>

- McEwan, B., & Guerrero, L. K. (2012). Maintenance behavior and relationship quality as predictors of perceived availability of resources in newly formed college friendship networks. *Communication Studies*, 63(4), 421–440.
<https://doi.org/10.1080/10510974.2011.639433>
- McIver, T. A., Bosma, R. L., Sandre, A., Goegan, S., Klassen, J. A., Chiarella, J., Booij, L., & Craig, W. (2018). Peer victimization is associated with neural response to social exclusion. *Merrill-Palmer Quarterly*, 64(1), 135-161.
<https://doi.org/10.13110/merrpalmquar1982.64.1.0135>
- McNelis, M., & Segrin, C. (2019). Insecure attachment predicts history of divorce, marriage, and current relationship status. *Journal of Divorce & Remarriage*, 60(5), 404–417. <https://doi.org/10.1080/10502556.2018.1558856>
- McNulty, J. K. (2011). The dark side of forgiveness: The tendency to forgive predicts continued psychological and physical aggression in marriage. *Personality and Social Psychology Bulletin*, 37(6), 770-783.
<https://doi.org/10.1177/0146167211407077>
- McNulty, J. K. (2016). Highlighting the contextual nature of interpersonal relationships. In J. M. Olson & M. P. Zanna (Eds.), *Advances in experimental social psychology* (pp. 247–315). Elsevier Academic Press.
<https://doi.org/10.1016/bs.aesp.2016.02.003>
- McNulty, J. K., & Dugas, A. (2019). A dyadic perspective on gratitude sheds light on both its benefits and its costs: Evidence that low gratitude acts as a “weak link”. *Journal of Family Psychology*, 33(7), 876–881.
<https://doi.org/10.1037/fam0000533>
- McNulty, J. K., Olson, M. A., Jones, R. E., & Acosta, L. M. (2017). Automatic associations between one’s partner and one’s affect as the proximal mechanism of change in relationship satisfaction: Evidence from evaluative conditioning.

REFERENCES

- Psychological Science*, 28(8), 1031–1040.
<https://doi.org/10.1177/0956797617702014>
- McNulty, J. K., Olson, M. A., Meltzer, A. L., & Shaffer, M. J. (2013). Though they may be unaware, newlyweds implicitly know whether their marriage will be satisfying. *Science*, 342(6162), 1119–1120. <https://doi.org/10.1126/science.1243140>
- McNulty, J. K., Meltzer, A. L., Neff, L. A., & Karney, B. R. (2021). How both partners' individual differences, stress, and behaviour predict change in relationship satisfaction: Extending the VSA model. *Proceedings of the National Academy of Sciences of the United States of America*, 118(27), e2101402118. <https://doi.org/10.1073/pnas.2101402118>
- McNulty, J. K., & Russell, V. M. (2010). When “negative” behaviors are positive: A contextual analysis of the long-term effects of problem-solving behaviors on changes in relationship satisfaction. *Journal of Personality and Social Psychology*, 98(4), 587–604. <https://doi.org/10.1037/a0017479>
- McShall, J. R., & Johnson, M. D. (2015). The association between relationship quality and physical health across racial and ethnic groups. *Journal of Cross-Cultural Psychology*, 46(6), 789–804. <https://doi.org/10.1177/0022022115587026>
- Meerum Terwogt, M., & Mol, A. (2005). Dealing with heartbreak. *Clinical Developmental Psychology*, 26, 292–304. <https://doi.org/10.1007/BF03060955>
- Mendelson, M. J., & Kay, A. C. (2003). Positive feelings in friendship: Does imbalance in the relationship matter? *Journal of Social and Personal Relationships*, 20(1), 101–116. <https://doi.org/10.1177/02654075030201005>
- Messman, S. J., Canary, D. J., & Hause, K. S. (2000). Motives to remain platonic, equity, and the use of maintenance strategies in opposite-sex friendships. *Journal of Social and Personal Relationships*, 17(1), 67–94. <https://doi.org/10.1177/0265407500171004>

- Meyer, M. L., Berkman, E. T., Karremans, J. C., & Lieberman, M. D. (2011). Incidental regulation of attraction: The neural basis of the derogation of attractive alternatives in romantic relationships. *Cognition and Emotion*, 25(3), 490-505. <https://doi.org/10.1080/02699931.2010.527494>
- Meyer, M. L., Williams, K. D., & Eisenberger, N. I. (2015). Why social pain can live on: Different neural mechanisms are associated with reliving social and physical pain. *PLoS*, 10(6), e0128294. <https://doi.org/10.1371/journal.pone.0128294>
- Micic, C., Richardson, C., Cain, N., Reynolds, C., Bartel, K., Maddock, B., & Gradisar, M. (2019). Readiness to chance and commitment as predictors of therapy compliance in adolescents with delayed sleep-wake phase disorder. *Sleep Medicine*, 64(1), S254-S255. <https://doi.org/10.1016/j.sleep.2019.11.711>
- Mirzanezhad, B. (2020). The effect of problem-solving based family therapy on emotional intimacy and marital quality of cultural couples in Tabriz. *American Journal of Family Therapy*, 48(5), 405–430. <https://doi.org/10.1080/01926187.2020.1765894>
- Mirsu-Paun, A., & Oliver, J. A. (2017). How much does love really hurt? A meta-analysis of the association between romantic relationship quality, breakups and mental health outcomes in adolescents and young adults. *Journal of Relationships Research*, 8, E5. <https://doi.org/10.1017/jrr.2017.6>
- Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review*, 102(2), 246–268. <https://doi.org/10.1037/0033-295X.102.2.246>
- Mishna, F., Wiener, J., & Pepler, D. (2008). Some of my best friends—Experiences of bullying within friendships. *School Psychology International*, 29(5), 549–573. <https://doi.org/10.1177/0143034308099201>

REFERENCES

- Mlawer, F., Hubbard, J. A., Bookhout, M. K., Moore, C. C., Docimo, M. A., Lauren, E. S., & Grassetti, S. N. (2019). Bidirectional relations between internalizing symptoms and peer victimization in late childhood. *Social Development, 28*(4), 942–959. <https://doi.org/10.1111/sode.12371>
- Molero, F., Shaver, P. R., Fernández, I., & Recio, P. (2017). Attachment insecurities, life satisfaction, and relationship satisfaction from a dyadic perspective: The role of positive and negative affect. *European Journal of Social Psychology, 47*(3), 337–347. <https://doi.org/10.1002/ejsp.2276>
- Monroe, S. M., Rohde, P., Seeley, J. R., & Lewinsohn, P. M. (1999). Life events and depression in adolescence: Relationship loss as a prospective risk factor for first onset of major depressive disorder. *Journal of Abnormal Psychology, 108*(4), 606–614. <https://doi.org/10.1037/0021-843X.108.4.606>
- Monsour, M. (2002). *Women and men as friends: Relationships across the life span in the 21st century*. Lawrence Erlbaum Associates Publishers.
- Montal-Rosenberg, R., & Moran, S. (2022). Envy and help giving. *Journal of Personality and Social Psychology, 122*(2), 222–243. <https://doi.org/10.1037/pspi0000340>
- Morf, C. C., & Rhodewalt, F. (2001). Unravelling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological Inquiry, 12*(4), 177–196. https://doi.org/10.1207/S15327965PLI1204_1
- Morgan, P., Love, H. A., Durtschi, J., & May, S. (2018). Dyadic causal sequencing of depressive symptoms and relationship satisfaction in romantic partners across four years. *American Journal of Family Therapy, 46*(5), 486–504. <https://doi.org/10.1080/01926187.2018.1563004>
- Mucci, C. (2018). *Beyond Individual and Collective Trauma*. New York, NY: Routledge.
- Mueller, N. E & Cougle, J. R. (2023). Building closer friendships in social anxiety disorder: A randomized control trial of an internet-based intervention. *Journal of*

- Behavior Therapy and Experimental Psychiatry*, 78, 1-8.
<https://doi.org/10.1016/j.jbtep.2022.101799>
- Mund, M. & Johnson, M. D. (2021). Lonely me, lonely you: Loneliness and the longitudinal course of relationship satisfaction. *Journal of Happiness Studies*, 22, 575-597. <https://doi.org/10.1007/s10902-020-00241-9>
- Murase, Y., Jo, H.-H., Török, J., Kertész, J., Kaski, K. (2015). Modelling the role of relationship fading and breakup in social network formation. *PLoS ONE* 10(7): e0133005. <https://doi.org/10.1371/journal.pone.0133005>
- Murphy, A. M., & Russell, G. (2018). Rejection sensitivity, jealousy, and the relationship to interpersonal aggression. *Journal of Interpersonal Violence*, 33(13), 2118-2129. <https://doi.org/10.1177/0886260515622572>
- Murray, S. L., & Holmes, J. G. (1997). A leap of faith? Positive illusions in romantic relationships. *Personality and Social Psychology Bulletin*, 23(6), 586–604.
<https://doi.org/10.1177/0146167297236003>
- Murray, S. L., Holmes, J. G., Griffin, D. W., & Derrick, J. L. (2015). The equilibrium model of relationship maintenance. *Journal of Personality and Social Psychology*, 108(1), 93–113. <https://doi.org/10.1037/pspi0000004>
- Murstein, B. I. (1970) Stimulus-value-role: A theory of marital choice. *Journal of Marriage and the Family*, 32(3), 465-81. <https://doi.org/10.2307/350113>
- Nauman, S., Malik, S. Z., & Jalil, F. (2019). How workplace bullying jeopardizes employees' life satisfaction: The roles of job anxiety and insomnia. *Frontiers in Psychology*, 10, Article 2292. <https://doi.org/10.3389/fpsyg.2019.02292>
- Neal, A. M., & Lemay, E. P., Jr. (2014). How partners' temptation leads to their heightened commitment: The interpersonal regulation of infidelity threats. *Journal of Social and Personal Relationships*, 31(7), 938–957.
<https://doi.org/10.1177/0265407513512745>

REFERENCES

- Nesse, R. M., & Ellsworth, P. C. (2009). Evolution, emotions, and emotional disorders. *American Psychologist*, 64(2), 129–139. <https://doi.org/10.1037/a0013503>
- Nezlek, J. B. (1993). The stability of social interaction. *Journal of Personality and Social Psychology*, 65(5), 930–941. <https://doi.org/10.1037/0022-3514.65.5.930>
- Nezlek, J. B., & Allen, M. R. (2006). Social support as a moderator of day-to-day relationships between daily negative events and daily psychological well-being. *European Journal of Personality*, 20(1), 53–68. <https://doi.org/10.1002/per.566>
- Nezlek, J. B., Imbrie, M., & Shean, G. D. (1994). Depression and everyday social interaction. *Journal of Personality and Social Psychology*, 67(6), 1101–1111. <https://doi.org/10.1037/0022-3514.67.6.1101>
- Nezlek, J. B., Wesselmann, E. D., Wheeler, L., & Williams, K. D. (2015). Ostracism in everyday life: The effect of ostracism on those who ostracize. *The Journal of Social Psychology*, 155(5), 432–451. <https://doi.org/10.1080/00224545.2015.1062351>
- Ng, Y. T., Huo, M., Gleason, M. E., Neff, L. A., Charles, S. T., & Fingerman, K. L. (2021). Friendships in old age: Daily encounters and emotional well-being. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 76(3), 551–562. <https://doi.org/10.1093/geronb/gbaa007>
- Ng, T. W. H., Sorensen, K. L., & Eby, L. T. (2006). Locus of control at work: A meta-analysis, *Journal of Organizational Behavior*, 27(8), 1057–1087. <https://doi.org/10.1002/job.416>
- Norman, R. M., Malla, A. K., Manchanda, R., Harricharan, R., Takhar, J., & Northcott, S. (2005). Social support and three-year symptom and admission outcomes for first episode psychosis. *Schizophrenia Research*, 80, 227–234. <https://doi.org/10.1016/j.schres.2005.05.006>

- Norton, R. (1983). Measuring marital quality: A critical look at the dependent variable. *Journal of Marriage and the Family*, 45(1), 141–151.
<https://doi.org/10.2307/351302>
- Obegi, J. H. (2008). The development of the client-therapist bond through the lens of attachment theory. *Psychotherapy: Theory, Research, Practice, Training*, 45(4), 431–446. <https://doi.org/10.1037/a0014330>
- Ogolsky, B. G., & Bowers, J. R. (2013). A meta-analytic review of relationship maintenance and its correlates. *Journal of Social and Personal Relationships*, 30, 343–367. <https://doi.org/10.1177/0265407512463338>
- Ogolsky, B. G., Monk, J. K., Rice, T. M., Theisen, J. C., & Maniotes, C. R. (2017). Relationship maintenance: A review of research on romantic relationships. *Journal of Family Theory & Review*, 9(3), 275–306.
<https://doi.org/10.1111/jftr.12205>
- O'Meara, J. D. (1989). Cross-sex friendship: Four basic challenges of an ignored relationship. *Sex Roles: A Journal of Research*, 21(7-8), 525–543.
<https://doi.org/10.1007/BF00289102>
- Oswald, D. L., & Clark, E. M. (2006). How do friendship maintenance behaviors and problem-solving styles function at the individual and dyadic levels? *Personal Relationships*, 13(3), 333–348. <https://doi.org/10.1111/j.1475-6811.2006.00121.x>
- Oswald, D. L., Clark, E. M., & Kelly, C. M. (2004). Friendship maintenance: An analysis of individual and dyad behaviors. *Journal of Social and Clinical Psychology*, 23(3), 413–441. <https://doi.org/10.1521/jscp.23.3.413.35460>
- Overall, N. C., Girme, Y. U., Lemay, E. P., Jr., & Hammond, M. D. (2014). Attachment anxiety and reactions to relationship threat: The benefits and costs of inducing guilt in romantic partners. *Journal of Personality and Social Psychology*, 106(2), 235–256. <https://doi.org/10.1037/a0034371>

REFERENCES

- Overall, N. C., Hammond, M. D., McNulty, J. K., & Finkel, E. J. (2016). When power shapes interpersonal behavior: Low relationship power predicts men's aggressive responses to low situational power. *Journal of Personality and Social Psychology*, *111*(2), 195–217. <https://doi.org/10.1037/pspi0000059>
- Overall, N. C., & McNulty, J. K. (2017). What type of communication during conflict is beneficial for intimate relationships? *Current Opinion in Psychology*, *13*, 1-5. <https://doi.org/10.1016/j.copsyc.2016.03.002>
- Owen, J., Rhoades, G. K., Stanley, S. M., & Markman, H. J. (2011). The revised commitment inventory: Psychometrics and use with unmarried couples. *Journal of Family Issues*, *32*(6), 820-841. <https://doi.org/10.1177/0192513X10385788>
- Öztürk, N., & Atli, A. (2021). Reasons for resentment of high school teenagers with friends. *Personal Relationships*, *28*(3), 667-682. <https://doi.org/10.1111/per.12371>
- PACER's National Bullying Prevention Center (n.d.). *How is "direct bullying" different from "indirect bullying"?* <https://www.pacer.org/bullying/info/questions-answered/direct-vs-indirect.asp>
- Paolini, D., Alparone, F. R., Cardone, D., van Beest, I., & Merla, A. (2016). "The face of ostracism": The impact of the social categorization on the thermal facial responses of the target and the observer. *Acta Psychologica*, *163*, 65–73. <https://doi.org/10.1016/j.actpsy.2015.11.001>
- Pape, K. T., & Arias, I. (2000). The role of perceptions and attributions in battered women's intentions to permanently end their violent relationships. *Cognitive Therapy and Research*, *24*(2), 201–214. <https://doi.org/10.1023/A:1005498109271>
- Park, Y., & Park, S. W. (2021). Partner commitment moderates the association between commitment and interest in romantic alternatives. *Current Psychology: A Journal*

- for Diverse Perspectives on Diverse Psychological Issues*, 40(3), 1439–1447. <https://doi.org/10.1007/s12144-018-0079-1>
- Parks, M. R., Stan, C. M., & Eggert, L. L. (1983). Romantic involvement and social network involvement. *Social Psychology Quarterly*, 46, 116–131. <https://doi.org/10.2307/3033848>
- Parmley, M., & Zhang, F. (2015). Your face says it all: Closeness and perception of emotional expressions among females. *The Journal of Social Psychology*, 155(2), 127–142. <https://doi.org/10.1080/00224545.2014.972313>
- Payne, B. K., Cheng, C. M., Govorun, O., & Stewart, B. D. (2005). An inkblot for attitudes: Affect misattribution as implicit measurement. *Journal of Personality and Social Psychology*, 89(3), 277–293. <https://doi.org/10.1037/0022-3514.89.3.277>
- Peets, K., & Hodges, E. V. E. (2016). Authenticity in friendships and well-being in adolescence. *Social Development*, 27(1), 140–153. <https://doi.org/10.1111/sode.12254>
- Palomares, N. A., & Derman, D. (2016). Topic avoidance, goal understanding, and relational perceptions: Experimental evidence. *Communication Research*, 46(6), 735–756. <https://doi.org/10.1177/0093650216644649>
- Pawlowski, B., Atwal, R., & Dunbar, R. I. M. (2008). Sex differences in everyday risk-taking behavior in humans. *Evolutionary Psychology*, 6(1), 29–42. <https://doi.org/10.1177/147470490800600104>
- Pfundmair, M., & Wetherell, G. (2019). Ostracism drives group moralization and extreme group behavior. *The Journal of Social Psychology*, 159(5), 518–530. <https://doi.org/10.1080/00224545.2018.1512947>

REFERENCES

- Plamondon, A., & Lachance-Grzela, M. (2018). What if they are right? Network approval, expectations, and relationship maintenance behaviors. *Personal Relationships*, 25(2), 190-204. <https://doi.org/10.1111/pere.12236>
- Plowman, D. A., & Smith, A. D. (2011). The gendering of organizational research methods: Evidence of gendered patterns in qualitative research. *Qualitative Research in Organizations and Management: An International Journal*, 6(1), 64-82. <https://doi.org/10.1108/17465641111129399>
- Pollet, T. V., Roberts, S. G. B., & Dunbar, R. I. M. (2011). Extraverts have larger social network layers: But do not feel emotionally closer to individuals at any layer. *Journal of Individual Differences*, 32(3), 161–169. <https://doi.org/10.1027/1614-0001/a000048>
- Poteat, V. P., Mereish, E. H., Liu, M. L. (2011). Can friendships be bipartisan? The effects of political ideology on peer relationships. *Group Processes and intergroup relations*, 14(6), 819-834. <https://doi.org/10.1177/1368430211401048>
- Pretenders. (1994). I'll stand by you. On *Last of the independents* [Audio file]. <https://open.spotify.com/track/3Nf8oGn1okobzjDcFCvT6n?si=921e6989dd5c4cc7>
- Prigerson, H. G., Maciejewski, P. K., Reynolds III, C. F., Bierhals, A. J., Newsom, J. T., Fasiczka, A., Frank, E., Doman, J., & Miller, M. (1995). Inventory of complicated grief: A scale to measure maladaptive symptoms of loss. *Psychiatry Research*, 59(1-2), 65-79. [https://doi.org/10.1016/0165-1781\(95\)02757-2](https://doi.org/10.1016/0165-1781(95)02757-2)
- Procsal, A. D., Demir, M., Doğan, A., Özen, A., & Sümer, N. (2015). Cross-sex friendship and happiness. In M. Demir (Ed.), *Friendship and happiness: Across the life-span and cultures* (pp. 171–185). Springer Science + Business Media.

- Pronk, J., Olthof, T., Goossens, F. A., & Krabbendam, L. (2019). Differences in adolescents' motivations for indirect, direct, and hybrid peer defending. *Social Development*, 28(2), 414-429. <https://doi.org/10.1111/sode.12348>
- Proulx, C. M., Helms, H. M., & Buehler, C. (2007). Marital quality and personal well-being: A meta-analysis. *Journal of Marriage and the Family*, 69, 576–593. <http://dx.doi.org/10.1111/j.1741-3737.2007.00393.x>
- Puig-Perez, S., Pulopulos, M. M., hidalgo, V., & Salvador, A. (2018). Being an optimistic or a pessimist and its relationship with morning cortisol release and past life review in healthy older people. *Psychology & Health*, 33(6), 783-799. <https://doi.org/10.1080/08870446.2017.1408807>
- Pybis, J., Saxon, D., Hill, A., & Barkham (2017). The comparative effectiveness and efficiency of cognitive behaviour therapy and generic counselling in the treatment of depression: Evidence from the 2nd UK National Audit of psychological therapies. *BMC Psychiatry*, 17, Article 215. <https://doi.org/10.1186/s12888-017-1370-7>
- Ramezani S. G., & Gholtash A. (2015). The relationship between happiness, self-control and locus of control. *International Journal of Educational Psychology*, 1(2), 100-104. <https://www.ijeprjournal.org/text.asp?2015/1/2/100/152222>
- Read, D. L., Clark, G. I., Rock, A. J., & Coventry, W. L. (2018). Adult attachment and social anxiety: The mediating role of emotion regulation strategies. *PLoS One*, 13(12), e0207514. <https://doi.org/10.1371/journal.pone.0207514>
- Rector, B. (2018). Old friends. On *Magic* [Audio file]. <https://open.spotify.com/track/4MZQ3IHA1TYO6yyedtmBYg?si=c1343547dea440d3>

REFERENCES

- Reeder, H. M. (2000). 'I like you...as a friend': The role of attraction in cross-sex friendship. *Journal of Social and Personal Relationships*, 17(3), 329–348.
<https://doi.org/10.1177/0265407500173002>
- Reis, H. T., Clark, M. S., & Holmes, J. G. (2004). Perceived partner responsiveness as an organizing construct in the study of intimacy and closeness. In D. J. Mashek & A. P. Aron (Eds.), *Handbook of closeness and intimacy* (pp. 201–225). Lawrence Erlbaum Associates Publishers.
- Reis, H. T., & Patrick, B. C. (1996). Attachment and intimacy: Component processes. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 523–563). The Guilford Press.
- Reis, H. T., & Shaver, P. (1988). Intimacy as an interpersonal process. In S. Duck, D. F. Hay, S. E. Hobfoll, W. Ickes, & B. M. Montgomery (Eds.), *Handbook of personal relationships: Theory, research and interventions* (pp. 367–389). John Wiley & Sons.
- Reknes, I., Visockaite, G., Liefoghe, A., Lovakov, A., & Einarsen, S. V. (2019). Locus of control moderates the relationship between exposure to bullying behaviors and psychological strain. *Frontiers in Psychology*, 10, 1323.
<https://doi.org/10.3389/fpsyg.2019.01323>
- Ren, D., Wesselmann, E., & Williams, K. D. (2016). Evidence for another response to ostracism: Solitude seeking. *Social Psychological and Personality Science*, 7(3), 204–212. <https://doi.org/10.1177/1948550615616169>
- Rheinberg, F., & Vollmeyer, R. (2018). *Motivation*. 9th ed. Kohlhammer.
- Rhoades, G. K., Kamp Dush, C. M., Atkins, D. C., Stanley, S. M., & Markman, H. J. (2011). Breaking up is hard to do: The impact of unmarried relationship dissolution on mental health and life satisfaction. *Journal of Family Psychology*, 25(3), 366–374. <https://doi.org/10.1037/a0023627>

- Roberts, S. G. B., & Dunbar, R. (2010). Communication in social networks: Effects of kinship, network size, and emotional closeness. *Personal Relationships*, 18(3), 439-452. <https://doi.org/10.1111/j.1475-6811.2010.01310.x>
- Roberts, S. G. B., & Dunbar, R. I. M. (2011). The costs of family and friends: An 18-month longitudinal study of relationship maintenance and decay. *Evolution and Human Behavior*, 32(3), 186– 197.
<https://doi.org/10.1016/j.evolhumbehav.2010.08.005>
- Roberts, S. B. G., & Dunbar, R. I. M. (2015). Managing relationship decay: Network, gender, and contextual effects. *Human Nature*, 26(4), 426–450.
<https://doi.org/10.1007/s12110-015-9242-7>
- Robin, R., Hendin, H. M., & Trzesniewski, K., H. (2001). Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg self-esteem scale. *Personality and Social Psychology Bulletin*, 27(2), 151–161.
<https://doi.org/10.1177/0146167201272002>
- Robinson, S. L., O'Reilly, J., Wang, W. (2013). Invisible at work: An integrated model of workplace ostracism. *Journal of Management*, 39, 203-231.
<https://doi.org/10.1177/0149206312466141>
- Robles, T. F., Slatcher, R. B., Trombello, J. M., & McGinn, M. M. (2014). Marital quality and health: A meta-analytic review. *Psychological Bulletin*, 140(1), 140–187. <http://dx.doi.org/10.1037/a0031859>
- Rose, A. J., Smith, R. L., Glick, G. C., & Schwartz-Mette, R. A. (2016). Girls' and boys' problem talk: Implications for emotional closeness in friendships. *Developmental Psychology*, 52(4), 629–639. <https://doi.org/10.1037/dev0000096>
- Rosenberger, L. A., Naef, M., Eisenegger, C., & Lamm, C. (2020). Interpersonal distance adjustments after interactions with a generous and selfish trustee during a repeated

REFERENCES

- trust game. *Journal of Experimental Social Psychology*, 90, Article 104001.
<https://doi.org/10.1016/j.jesp.2020.104001>
- Rousseau, A., Frison, E., & Eggermont, S. (2019). The reciprocal relations between Facebook relationship maintenance behaviors and adolescents' closeness to friends. *Journal of Adolescence*, 76, 173–184.
<https://doi.org/10.1016/j.adolescence.2019.09.001>
- Rudert, S. C., Janke, S., & Greifeneder, R. (2020). The experience of ostracism over the adult life span. *Developmental Psychology*, 56(10), 1999–2012. <https://doi.org/10.1037/dev0001096>
- Rudert, S. C., Ruf, S., & Greifeneder, R. (2019). Whom to punish? How observers sanction norm-violating behavior in ostracism situations. *European Journal of Social Psychology*, 50(2), 376–391. <https://doi.org/10.1002/ejsp.2606>
- Rudert, S. C., Sutter, D., Corrodi, V. C., & Greifeneder, R. (2018). Who's to blame? Dissimilarity as a cue in moral judgments of observed ostracism episodes. *Journal of Personality and Social Psychology*, 115(1), 31–53.
<https://doi.org/10.1037/pspa0000122>
- Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology*, 45(1), 101–117.
<https://doi.org/10.1037/0022-3514.45.1.101>
- Rusbult, C. E., & Buunk, B. P. (1993). Commitment processes in close relationships: An interdependence analysis. *Journal of Social and Personal Relationships*, 10(2), 175–204. <https://doi.org/10.1177/026540759301000202>
- Rusbult, C. E., & Martz, J. (1995). Remaining in an abusive relationship: An investment model analysis of non-voluntary commitment. *Personality and Social Psychology Bulletin*, 21(6), 558–571. <https://doi.org/10.1177/0146167295216002>

- Rusbult, C. E., & Van Lange, P. A. M. (2003). Interdependence, interaction and relationships. *Annual Review of Psychology*, 54, 351–375.
<https://doi.org/10.1146/annurev.psych.54.101601.145059>
- Sadikaj, G., Moskowitz, D. S., & Zuroff, D. C. (2017). Negative affective reaction to partner's dominant behavior influences satisfaction with romantic relationship. *Journal of Social and Personal Relationships*, 34(8), 1324–1346.
<https://doi.org/10.1177/0265407516677060>
- Salamon, S. D., & Robinson, S. L. (2008). Trust that binds: The impact of collective felt trust on organizational performance. *Journal of Applied Psychology*, 93(3), 593–601. <https://doi.org/10.1037/0021-9010.93.3.593>
- Salvas, M., Vitaro, F., Brendgen, M., & Cantin, S. C. (2016). Prospective links between friendship and early physical aggression: Preliminary evidence supporting the role of friendship quality through a dyadic intervention. *Merrill-Palmer Quarterly*, 62(3), 285–305. <https://doi.org/10.13110/merrpalmquar1982.62.3.0285>
- Saramäki, J., Leicht, E.A., López, E., Roberts, S.G.B., Reed-Tsochas, F., Dunbar, R. I. M. (2014). Persistence of social signatures in human communication. *Proceedings of the National Academy of Sciences of the United States of America*, 111(3), 942–947. <https://doi.org/10.1073/pnas.1308540110>
- Sbarra, D. A., & Emery, R. E. (2005). The emotional sequelae of nonmarital relationship dissolution: Analysis of change and intraindividual variability over time. *Personal Relationships*, 12(2), 213–232. <https://doi.org/10.1111/j.1350-4126.2005.00112.x>
- Scharfen, J., Jansen, K., & Holling, H. (2018). Retest effects in working memory capacity tests: A meta-analysis. *Psychonomic Bulletin & Review*, 25(1), 2175–2199.
<https://doi.org/10.3758/s13423-018-1461-6>
- Schwartz, D., Gorman, A. H., Nakamoto, J., & McKay, T. (2006). Popularity, social acceptance, and aggression in adolescent peer groups: Links with academic

REFERENCES

- performance and school attendance. *Developmental Psychology*, 42(6), 1116–1127. <https://doi.org/10.1037/0012-1649.42.6.1116>
- Selfhout, M., Burk, W., Branje, S., Denissen, J., van Aken, M., & Meeus, W. (2010). Emerging late adolescent friendship networks and Big Five personality traits: A social network approach. *Journal of Personality*, 78(2), 509-538. <https://doi.org/10.1111/j.1467-6494.2010.00625.x>
- Sened, H., Lavidor, M., Lazarus, G., Bar-Kalifa, E., Rafaeli, E., & Ickes, W. (2017). Empathic accuracy and relationship satisfaction: A meta-analytic review. *Journal of Family Psychology*, 31(6), 742–752. <https://doi.org/10.1037/fam0000320>
- Serota, K. B., Levine, T. R., & Docan-Morgan-T. (2021). Unpacking variation in lie prevalence: Prolific liars, bad lie days, or both? *Communication Monographs*, 89(5). <https://doi.org/10.1080/03637751.2021.1985153>
- Shackman, A. J., Weinstein, J., Hudja, S. N., Bloomer, C., Barstead, M. G., Fox, A. S., & Lemay, E. P., Jr. (2018). Dispositional negativity in the wild: Social context governs momentary emotional experience. *Emotion*, 18(5), 707-724. <https://doi.org/10.1037/emo0000339>
- Shrout, P. E., Stadler, G., Lane, S. P., McClure, M. J., Jackson, G. L., Clavel, F. D., Iida, M., Gleason, M. E. J., Xu, J. H., & Bolger, N. (2018). Initial elevation bias in subjective reports. *Proceedings of the National Academy of Sciences of the United States of America*, 115(1), 15-23. <https://doi.org/10.1073/pnas.1712277115>
- Sias, P.M., & Bartoo, H. (2007). Friendship, social support, and health. In L. L'Abate (Ed.), *Low-cost approaches to promote physical and mental health: Theory, research, and practice*. Springer Science.
- Silk, J. B. (2003). Cooperation without Counting: The Puzzle of Friendship. In P. Hammerstein (Ed.). *Genetic and Cultural Evolution of Cooperation* (pp. 37-54). The MIT Press.

- Silk, J. S., Stroud, L. R., Siegle, G. J., Dahl, R. E., Lee, K. H., & Nelson, E. E. (2012). Peer acceptance and rejection through the eyes of youth: Pupillary, eyetracking and ecological data from the chatroom interact task. *Social Cognitive and Affective Neuroscience*, 7, 93–105. <https://doi.org/10.1093/scan/nsr044>
- Skelly, K. (2020). *Would you go to couples counselling to save a friendship?* The Latch. <https://thelatch.com.au/couples-counselling-for-friends/>
- Smith, M. C. (1995). A preliminary description of nonschool-based friendship in young high-risk children. *Child Abuse & Neglect*, 19(12), 1497-1511. [https://doi.org/10.1016/0145-2134\(95\)00108-6](https://doi.org/10.1016/0145-2134(95)00108-6)
- Smith & Thell (2019). Forgive me friend – acoustic version. On *Forgive me friend (acoustic version)* [Audio file]. <https://open.spotify.com/track/4eQWC9bpUAQT88QNBS2Z7C?si=e0afd858775142b1>
- Sommer, K. L., & Baumeister, R. F. (2002). Self-evaluation, persistence, and performance following implicit rejection. The role of trait self-esteem. *Personality and Social Psychology Bulletin*, 28(7), 926-938. <https://doi.org/10.1177/014616720202800706>
- Sona Systems (n.d.). *Sona Systems: Cloud-based Participant Management Software*. <https://www.sona-systems.com>
- Spörrle, M., & Bekk, M. (2014). Meta-analytic guidelines for evaluating single-item reliabilities of personality instruments. *Assessment*, 21(3), 272–285. <https://doi.org/10.1177/1073191113498267>
- Sprecher, S., Felmlee, D., Metts, S., Fehr, B., & Vanni, D. (1998). Factors associated with distress following the breakup of a close relationship. *Journal of Social and Personal Relationships*, 15(6), 791–809. <https://doi.org/10.1177/0265407598156005>

REFERENCES

- Sprecher, S., & Hendrick, S. S. (2004). Self-disclosure in intimate relationships: Associations with individual and relationship characteristics over time. *Journal of Social and Clinical Psychology, 23*(6), 857–877.
<https://doi.org/10.1521/jscp.23.6.857.54803>
- Srivastava, S., McGonigal, K. M., Richards, J. M., Butler, E. A., & Gross, J. J. (2006). Optimism in close relationships: How seeing things in a positive light makes them so. *Journal of Personality and Social Psychology, 91*, 143–153.
- Stanley, S. M., & Markman, H. J. (1992). Assessing commitment in personal relationships. *Journal of Marriage and the Family, 54*(3), 595–608.
<https://doi.org/10.2307/353245>
- Steinberg, L., & Monahan, K. C. (2007). Age differences in resistance to peer influence. *Developmental Psychology, 43*(6), 1531–1543. <https://doi.org/10.1037/0012-1649.43.6.1531>
- Step toe, A., Shankar, A., Demakakos, P., & Wardle, J. (2013). Social isolation, loneliness, and all-cause mortality in older men and women. *Proceedings of the National Academy of Sciences of the United States of America, 110*(15), 5797–5801. <https://doi.org/10.1073/pnas.1219686110>
- Stiller, J., & Dunbar, R. I. M. (2007). Perspective-taking and memory capacity predict social network size. *Social Networks, 29*(1), 93–104.
<https://doi.org/10.1016/j.socnet.2006.04.001>
- Stinson, D. A., Cameron, J. J., & Hoplock, L. B. (2021). The friends-to-lovers pathway to romance: Prevalent, preferred, and overlooked by science. *Social Psychological and Personality Science. https://doi.org/10.1177/19485506211026992*
- Storaasli, R. D., & Markman, H. J. (1990). Relationship problems in the early stages of marriage: A longitudinal investigation. *Journal of Family Psychology, 4*, 80–98.
<http://dx.doi.org/10.1037/0893-3200.4.1.80>

- Strelan, P. (2018). Justice and forgiveness in interpersonal relationships. *Current Directions in Psychological Science*, 27(1), 20-24.
<https://doi.org/10.1177/0963721417734311>
- Sutor, J. J., Pillemer, K., & Keeton, S. (1995). When Experience Counts: The Effects of Experiential and Structural Similarity on Patterns of Support and Interpersonal Stress. *Social Forces*, 73(4), 1573-1588. <https://doi.org/10.2307/2580459>
- Sutcliffe, A., Dunbar, R., Binder, J., & Arrow, H. (2012). Relationships and the social brain: Integrating psychological and evolutionary perspectives. *British Journal of Psychology*, 103(2), 149-168. <https://doi.org/10.1111/j.2044-8295.2011.02061.x>
- Sutin, A. R., Stephan, Y., Luchetti, M., & Terracciano, A. (2020). Loneliness and risk of dementia. *The Journals of Gerontology Series B Psychological Sciences and Social Sciences*, 75(7), 1414-1422. <https://doi.org/10.1093/geronb/gby112>
- Sweeney, M. M. (2002). Remarriage and the nature of divorce: Does it matter which spouse chose to leave? *Journal of Family Issues*, 23(3), 410-440.
<https://doi.org/10.1177/0192513X02023003005>
- Swickert, R. J., Hittner, J. B., Harris, J. L., & Herring, J. A. (2002). Relationships among Internet use, personality, and social support. *Computers in Human Behavior*, 18(4), 437-451. [https://doi.org/10.1016/S0747-5632\(01\)00054-1](https://doi.org/10.1016/S0747-5632(01)00054-1)
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Boston, MA: Allyn and Bacon.
- Taggart, T. C., Bannon, S. M., & Hammett, J. F. (2019). Personality traits moderate the association between conflict resolution and subsequent relationship satisfaction in dating couples. *Personality and Individual Differences*, 139, 281-289.
<https://doi.org/10.1016/j.paid.2018.11.036>
- Tan, K., Agnew, C. R., VanderDrift, L. E., & Harvey, S. M. (2015). Committed to us: Predicting relationship closeness following nonmarital romantic relationship

REFERENCES

- breakup. *Journal of Social and Personal Relationships*, 32(4), 456–471.
<https://doi.org/10.1177/0265407514536293>
- Tan, K., Arriaga, X. B., & Agnew, C. (2018). Running on empty: Measuring psychological dependence in close relationships lacking satisfaction. *Journal of Social and Personal Relationships*, 35(7), 977-998.
<https://doi.org/10.1177/0265407517702010>
- Tanha, M., Beck, C. J. A., Figueredo, A. J., & Raghavan, C. (2010). Sex differences in intimate partner violence and the use of coercive control as a motivational factor for intimate partner violence. *Journal of Interpersonal Violence*, 25(10), 1836–1854. <https://doi.org/10.1177/0886260509354501>
- Tashiro, T., & Frazier, P. (2003). "I'll never be in a relationship like that again": Personal growth following romantic relationship breakups. *Personal Relationships*, 10(1), 113–128. <https://doi.org/10.1111/1475-6811.00039>
- Tatar, Z. B., & Yüksel, S. (2019). Mobbing at workplace – Psychological trauma and documentation of psychiatric symptoms. *Archives of Neuropsychiatry*, 56(1), 57-62. <https://doi.org/10.29399/npa.22924>
- Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9, 455–471. <https://doi.org/10.1007/BF02103658>
- Tedeschi, J. T., & Melburg, V. (1984). Impression management and influence in the organization. *Research in the Sociology of Organisations*, 3, 31-58.
- Teräsahjo, T., & Salmivalli, C. (2003). “She is not actually bullied.” The discourse of harassment in student groups. *Aggressive Behavior*, 29(2), 134–154.
<https://doi.org/10.1002/ab.10045>
- The Knot. (2021). *The Knot 2019 real weddings survey*.
<https://www.wedinsights.com/report/the-knot-real-weddings>

- Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups*. John Wiley.
- Thimm, J. C., Jordan, S., & Bach, B. (2016). The Personality Inventory for DSM-5 Short Form (PID-5-SF): Psychometric properties and association with big five traits and pathological beliefs in a Norwegian population. *BMC Psychology*, 4, Article 61. <https://doi.org/10.1186/s40359-016-0169-5>
- Tholander, M. (2019). The making and unmaking of a bullying victim. *Interchange*, 50(1), 1–23. <https://doi.org/10.1007/s10780-019-09349-1>
- Thornberg, R. (2015). School bullying as a collective action: Stigma processes and identity struggling. *Children & Society*, 29(4), 310–320. <https://doi.org/10.1111/chso.12058>
- Thornberg, R. (2017). School bullying and fitting into the peer landscape: A grounded theory field study. *British Journal of Sociology of Education*, 39(1), 144–158. <https://doi.org/10.1080/01425692.2017.1330680>
- Till, B., Tran, U. S., & Niederkrotenthaler, T. (2017). Relationship satisfaction and risk factors for suicide. *Crisis – The Journal of Crisis Intervention and Suicide Prevention*, 38(1), 7-16. <https://doi.org/10.1027/0227-5910/a000407>
- Tisdall, O. (2021). Broke up with my best friend. On *Broke up with my best friend* [Audio file]. <https://open.spotify.com/track/3c05dPXDlvtIHvRjeWroPH?si=a7d024044b6144e9>
- Titus, S. L. (1980). Social comparisons as a frame of reference for marriage. *Human Relations*, 33, 409-431. <https://doi.org/10.1177/001872678003300605>
- Tooby, J., & Cosmides, L. (2008). The evolutionary psychology of the emotions and their relationship to internal regulatory variables. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 114-137). New York, NY: Guilford Press.

REFERENCES

- Totterdell, P., Parkinson, B., Briner, R. B., & Reynolds, S. (1997). Forecasting feelings: The accuracy and effects of self-predictions of mood. *Journal of Social Behavior and Personality*, 12, 631-650.
- Trade Promotion Lottery Permits for Competitions, TPAL. (2022, April 28). *Generate random numbers*. <https://www.randomdraws.com/au/random-number-generator/?count=1&lower=1&upper=827&unique=false&group=false&sort=0&dir=1>
- Troop-Gordon, W., MacDonald, A. P., & Corbitt-Hall, D. J. (2019). Children's peer beliefs, friendlessness, and friendship quality: Reciprocal influences and contributions to internalizing symptoms. *Developmental Psychology*, 55(11), 2428–2439. <https://doi.org/10.1037/dev0000812>
- Troop-Gordon, W., & Ladd, G. W. (2005). Trajectories of Peer Victimization and Perceptions of the Self and Schoolmates: Precursors to Internalizing and Externalizing Problems. *Child Development*, 76(5), 1072–1091. <https://doi.org/10.1111/j.1467-8624.2005.00898.x>
- Tsai, M (2021) That friend. On *That friend* [Audio file]. <https://open.spotify.com/track/0jI7t8dSBRQU8EOlicWTmL?si=67e85e48344d4198>
- Turon, H., Carey, M., Boyes, A., Hobden, B., Dilworth, S., & Sanson-Fisher, R. (2019). Agreement between a single-item measure of anxiety and depression and the Hospital Anxiety and Depression Scale: A cross-sectional study. *PLoS One*, 14(1), e0210111. <https://doi.org/10.1371/journal.pone.0210111>
- Turner, R. J., & Brown, R. L. (2010). *Social support and mental health: A handbook for the study of mental health; Social contexts, theories, and systems* (2nd ed). Cambridge University Press.

- Twenge, J. M., & Campbell, W. K. (2003). "Isn't it fun to get the respect that we're going to deserve?" Narcissism, social rejection, and aggression. *Personality & Social Psychology Bulletin*, 29(2), 261-272. <https://doi.org/10.1177/0146167202239051>
- Vaquera, E. & Kao, G. (2008). Do you like me as much as I like you? Friendship reciprocity and its effects on school outcomes among adolescents. *Social Science Research*, 37(1), 55-72. <https://doi.org/10.1016/j.ssresearch.2006.11.002>
- Van den Brande, W., Baillien, E., Vander Elst, T., De Witte, H., Van den Broeck, A., & Godderis, L. (2017). Exposure to Workplace Bullying: The Role of Coping Strategies in Dealing with Work Stressors. *BioMed research international*, 1019529. <https://doi.org/10.1155/2017/1019529>
- Van Lange, P. A. M., Rusbult, C. E., Drigotas, S. M., Arriaga, X. B., Witcher, B. S., & Cox, C. L. (1997). Willingness to sacrifice in close relationships. *Journal of Personality and Social Psychology*, 72(6), 1373-1395. <https://doi.org/10.1037/0022-3514.72.6.1373>
- Van Niekerk, L. M., Schubert, E., & Matthewson, M. (2021). Emotional intimacy, empathic concern, and relationship satisfaction in women with endometriosis and their partners. *Journal of Psychosomatic Obstetrics & Gynaecology*, 42(1), 81-87. <https://doi.org/10.1080/0167482X.2020.1774547>
- Van Zalk, N. (2020). The development of internalizing behaviors in early adolescence: Introduction to the special issue. *The Journal of Early Adolescence*, 40(9), 1281-1290. <https://doi.org/10.1177/0272431620919174>
- VanderDrift, L. E., Lehmiller, J. J., & Kelly, J. R. (2012). Commitment in friends with benefits relationships: Implications for relational and safe-sex outcomes. *Personal Relationships*, 19(1), 1-13. <https://doi.org/10.1111/j.1475-6811.2010.01324.x>

REFERENCES

- VanderDrift, L. E., Wilson, J. E., & Agnew, C. R. (2013). On the benefits of valuing being friends for nonmarital romantic partners. *Journal of Social and Personal Relationships, 30*(1), 115–131. <https://doi.org/10.1177/0265407512453009>
- Vanderhasselt, M. A., Remue, J., Ng, K. K., Mueller, S. C., & De Raedt, R. (2015). The regulation of positive and negative social feedback: A psychophysiological study. *Cognitive, Affective, and Behavioral Neuroscience, 15*, 553–563. <https://doi.org/10.3758/s13415-015-0345-8>
- Verheijen, G. P., Burk, W. J., Stoltz, S. E. M. J., van den Berg, Y. H. M., & Cillessen, A. H. N. (2020). Associations between different aspects of video game play behavior and adolescent adjustment. *Journal of Media Psychology: Theories, Methods, and Applications, 32*(1), 27–39. <https://doi.org/10.1027/1864-1105/a000253>
- Vollmann, M., Sprang, S., & van den Brink, F. (2019). Adult attachment and relationship satisfaction: The mediating role of gratitude toward the partner. *Journal of Social and Personal Relationships, 36*(11-12). <https://doi.org/10.1177/0265407519841712>
- Vveinhardt, J., & Fominiene, V, B. (2020). Bullying trends inside sport: When organized sport does not attract but intimidates. *Movement Science & Sport Psychology, 11*, 2037. <https://doi.org/10.3389/fpsyg.2020.02037>
- Wafia. (2020). How to lose a friend. On *Good things* [Audio file]. <https://open.spotify.com/track/4hBK4mj2SRoiJKXGfCR0TQ?si=ac23165f46cd4394>
- Walasek, L., Juanchich, M., & Sirota, M. (2019). Adaptive cooperation in the face of social exclusion. *Journal of Experimental Social Psychology, 82*, 35–46. <https://doi.org/10.1016/j.jesp.2018.11.005>
- Walster, E., Walster, G. W., & Bercheid, E. (1978). *Equity: Theory and Research*. Allyn & Bacon.

- Wang, Y. (2022). The impact mechanism of constructive deviance on workplace ostracism: The roles of political skill and workplace friendship. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues*, No Pagination Specified. <https://doi.org/10.1007/s12144-022-03419-x>
- Watts, H. E., & Holekamp, K. E. (2007). Hyena societies. *Current Biology*, 17(16), 657-660. <https://doi.org/10.1016/j.cub.2007.06.002>
- Weger, H., Cole, M., & Akbulut, V. (2019). Relationship maintenance across platonic and non-platonic cross-sex friendships in emerging adults. *The Journal of Social Psychology*, 159(1), 15-29. <https://doi.org/10.1080/00224545.2018.1439876>
- Weger, H. Jr., & Emmett, M. C. (2009). Romantic intent, relationship uncertainty, and relationship maintenance in young adults' cross-sex friendships. *Journal of Social and Personal Relationships*, 26(6-7), 964-988. <https://doi.org/10.1177/0265407509347937>
- Wolke & Lereya (2015). Long-term effects of bullying. *British Medical Journal: Archives of Disease in Childhood*, 100(9), 879-885. <http://dx.doi.org/10.1136/archdischild-2014-306667>
- Wei, Hsi-Sheng & Jonson-Reid, M. (2011). Friends can hurt you: Examining the coexistence of friendship and bullying among early adolescents. *School Psychology International*, 32, 244-262. <https://doi.org/10.1177/0143034311402310>
- Weidmann, R., Schönbrodt, F. D., Ledermann, T., & Grob, A. (2017). Concurrent and longitudinal dyadic polynomial regression analyses of Big Five traits and relationship satisfaction: Does similarity matter? *Journal of Research in Personality*, 70, 6–15. <https://doi.org/10.1016/j.jrp.2017.04.003>

REFERENCES

- Weiss, A., & Burgmer, P. (2021). Other-serving double standards: People show moral hypercrisis in close relationships. *Journal of Social and Personal Relationships*, 38(11), 3198-3218. <https://doi.org/10.1177/02654075211022836>
- Werking, K. (1997). *We're just good friends: Women and men in nonromantic relationships*. Guilford Press.
- Wesselmann, E. D., & Butler, F. A., Williams, K. D., & Pickett, C. L. (2010). Adding injury to insult: Unexpected rejection leads to more aggressive responses. *Aggressive Behaviour*, 36(4), 232-237. <https://doi.org/10.1002/ab.20347>
- Wesselmann, E. D., & Williams, K. D. (2017). Social life and social death: Inclusion, ostracism, and rejection in groups. *Group Processes & Intergroup Relations*, 20(5), 693–706. <https://doi.org/10.1177/1368430217708861>
- Westbrook, A., & Braver, T. S. (2015). Cognitive effort: A neuroeconomic approach. *Cognitive Affective & Behavioural Neuroscience*, 15, 395–415. <https://doi.org/10.3758/s13415-015-0334-y>
- Wetherall, K., Robb, K., & O'Connor, R. (2019). Social rank theory of depression: A systematic review of self-perceptions of social rank and their relationship with depressive symptoms and suicide risk. *Journal of Affective Disorders*, 246, 300-319. <https://doi.org/10.1016/j.jad.2018.12.045>
- Wieselquist, J. (2007). Commitment and trust in young adult friendships. *Interpersona*, 1(2), 209-220. <https://doi.org/10.5964/ijpr.v1i2.14>
- Williams, K. D. (2007). Ostracism. *Annual Review of Psychology*, 58(1), 425-452. <https://doi.org/10.1146/annurev.psych.58.110405.085641>
- Williams, K. D. (2009). Ostracism: Effects of being excluded and ignored. In M. Zanna (Ed.), *Advances in experimental social psychology* (pp. 275–314). New York, NY: Academic Press.

- Williams, K. D., & Govan, C. L. (2005). Reacting to Ostracism: Retaliation or Reconciliation? In D. Abrams, M. A. Hogg, & J. M. Marques (Eds.), *The social psychology of inclusion and exclusion* (pp. 47–62). Psychology Press.
- Wise, R. A., & King, A. R. (2008). Family environment as a predictor of the quality of college students' friendships. *Journal of Family Issues*, 29, 828–848.
<https://doi.org/10.1177/0192513X07309461>
- Wiseman, J. P. (1986). Friendship: Bonds and Binds in a Voluntary Relationship. *Journal of Social and Personal Relationships*, 3(2), 191–211.
<https://doi.org/10.1177/0265407586032005>
- Wojcik, M., & Flak, W. (2021). Frenemy: A new addition to the bullying circle. *Journal of Interpersonal Violence*, 36, 19-20. <https://doi.org/10.1177/0886260519880168>
- Wójcik, M., & Mondry, M. (2020). “The game of bullying”: Shared beliefs and behavioral labels in bullying among middle schoolers. *Group Dynamics: Theory, Research, and Practice*, 24(4), 276–293. <http://doi.org/10.1037/gdn0000125>
- Wójcik, M., & Rzeńca, K. (2021). Disclosing or hiding bullying victimization: A grounded theory study from former victims' point of view. *School Mental Health: A Multidisciplinary Research and Practice Journal*, 13(4), 808–818.
<https://doi.org/10.1007/s12310-021-09447-5>
- Wójcik, M., Thronberg, R., Flak, W., & Lesniewski, J. (2021). Downward spiral of bullying: Victimization timeline from former victims' perspective. *Journal of Interpersonal Violence*, 1-24. <https://doi.org/10.1177/0886260521990835>
- Woods, S. A., & Hampson, S. E. (2005). Measuring the Big Five with single items using a bipolar response scale. *European Journal of Personality*, 19(5), 373-390.
<https://doi.org/10.1002/per.542>
- Worthington E. L. Jr. (2001). *Five steps to forgiveness: The art and science of forgiving*. Crown.

REFERENCES

- Worthington, E. L. Jr., Witvliet, C. V. O., Pietrini, P., & Miller, A. J. (2007). Forgiveness, health, and well-being: a review of evidence for emotional versus decisional forgiveness, dispositional forgivingness, and reduced unforgiveness. *Journal of Behavioral Medicine*, 30(4), 291–302. <https://doi.org/10.1007/s10865-007-9105-8>
- Wright, A. G. C., Pincus, A. L., Hopwood, C. J., Thomas, K. M., Markon, K. E., & Krueger, R. F. (2012). An interpersonal analysis of pathological personality traits in DSM-5. *Assessment*, 19(3), 263-275. <https://doi.org/10.1177/1073191112446657>
- Wróbel, M. (2018). I can see that you're happy but you're not my friend: Relationship closeness and affect contagion. *Journal of Social and Personal Relationships*, 35(10), 1301–1318. <https://doi.org/10.1177/0265407517710820>
- Wrzus, C. (2008), *Similarity in personal relationships: Associations with relationship regulation between and within individuals*. ResearchGate. https://www.researchgate.net/publication/37368103_Similarity_in_personal_relationships_associations_with_relationship_regulation_between_and_within_individuals
- Wrzus, C., Zimmerman, J., Mund, M., & Neyer, F. J. (2016). Friendships in young and middle adulthood. In M. Hojjat & A. Moyer (Eds.), *The psychology of friendship* (pp. 21-38). London, UK: Oxford University Press. <http://doi.org/10.1093/acprof:oso/9780190222024.003.0002>
- Wu, P., Hoven, C. W., Cohen, P., Liu, X., Moore, R. E., Tiet, Q., Okezie, N., Wicks, J., & Bird, H. R. (2001). Factors associated with use of mental health services for depression by children and adolescents. *Psychiatric Services*, 52, 189-195. <https://doi.org/10.1176/appi.ps.52.2.189>

- Yan, M., Xie, Y., Zhao, J., Zhang, Y., Bashir, M., & Liu, Y. (2020). How ingratiation links to counterproductive work behaviors: The roles of emotional exhaustion and power distance orientation. *Frontiers in Psychology, 11*, 2238. <https://doi.org/10.3389/fpsyg.2020.02238>
- Yip, J. A., & Schweitzer, M. E. (2015). Trust promotes unethical behavior: Excessive trust, opportunistic exploitation, and strategic exploitation. *Current Opinion in Psychology, 6*, 216-220. <https://doi.org/10.1016/j.copsyc.2015.09.017>
- Yokopenic, P. A., Clark, V. A., & Aneshensel, C. S. (1983). Depression, problem recognition, and professional consultation. *The Journal of Nervous and Mental Disease, 171*(1), 15-23. <https://doi.org/10.1097/00005053-198301000-00004>
- Yu, S., Greer, L. L., Halevy, N., & van Bunderen, L. (2019). On ladders and pyramids: Hierarchy's shape determines relationships and performance in groups. *Personality and Social Psychology Bulletin, 45*(12), 1717–1733. <https://doi.org/10.1177/0146167219842867>
- Zhou, W.-X., Sournette, D., Hill, R. A., & Dunbar, R. I. M. (2005). Discrete hierarchical organization of social group sizes. *Proceedings of the Royal Society B: Biological Sciences, 272*(1561), 439-44. <https://doi.org/10.1098/rspb.2004.2970>
- Zhou, W., Wang, K., Chen, L., & Cao, A., Chen, Q., Li, J., & Qiu, J. (2018). Together means more happiness: Relationship status moderates the association between brain structure and life satisfaction. *Neuroscience, 384*, 406-416. <https://doi.org/10.1016/j.neuroscience.2018.05.018>
- Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica, 67*(6), 361–70. <https://doi.org/10.1111/j.1600-0447.1983.tb09716.x>

REFERENCES

- Zoppolat, G., Faure, R., Alonso-Ferres, M., & Righetti, F. (2022). Mixed and conflicted: The role of ambivalence in romantic relationships in light of attractive alternatives. *Emotion*, 22(1), 81–99. <https://doi.org/10.1037/emo0001055>

Appendix A: Publication submission

Statement of authorship

Title of paper	Dissolution, restoration, and intervention willingness in close friendships in adulthood
Publication status	Submitted

Principal author

Name of principal author	Sarah Elizabeth Williams
Contribution to the paper	Conceptualisation, lead researcher, and writing
Overall percentage	85%
Certification	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.
Signature	
Date	21/09/2023

Co-author contributions

By signing the Statement of Authorship, each author certifies that:

- i. the candidate's stated contribution to the publication is accurate (as detailed above);
- ii. permission is granted for the candidate to include the publication in the thesis; and
- iii. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of co-author	Rachel Roberts
Contribution to the paper	Supervision 5%
Signature	
Date	20/09/2023

Name of co-author	Michael Proeve
Contribution to the paper	Supervision 5%
Signature	
Date	21/09/2023

Name of co-author	Barbara Toson
Contribution to the paper	Statistical support 5%
Signature	
Date	26/09/2023

Dissolution, restoration, and intervention willingness in close friendships in adulthood

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Rachel Roberts

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Barbara Toson

KEYWORDS: FRIENDSHIP, ADULT, DISSOLUTION,
RESTORATION, INTERVENTION

Abstract

In this paper, the aim was to determine the ability of relationship quality measures to predict dissolution and restoration of close friendships in adulthood. The second aim was to determine willingness to engage in interventions targeting maintenance and restoration of close friendships in the general population. Data were collected in two waves over a six-month period. The sample comprised an international sample of fluent English speakers ranging from younger to older adulthood. Logistic regression analyses found that expected future satisfaction uniquely predicted both dissolution and restoration of close friendships, with lower expected future satisfaction predicting dissolution and higher levels predicting restoration. Higher emotional closeness predicted restoration. Substantial contemplation of engagement in intervention programs targeting maintenance and restoration of close friendships was demonstrated in the sample. Clinical and research implications of these findings are discussed, including the development of friendship interventions for both the clinical and general population.

Clinicians and researchers have long been aware of the inter-relationship between friendships and mental health (e.g., Binder et al., 2012; Chopik, 2017; Forbes et al., 2020; Holt-Lundstand et al., 2015; King et al., 2016; Nezlek et al., 1994; Sutin et al., 2020; Troop-Gordon & Ladd, 2005). There are a wide variety of therapy programs developed for use with romantic couples (Barnes et al., 2007; Madison & Madison, 2013), making new friendships, and basic social skill development (Foster & Bussman, 2008; Masi et al., 2011). However, there are relatively few programs and strategies that are specific to maintaining and restoring friendships, especially adult friendships, and ways to manage adult friendships within peer group and couple settings (e.g., Erdley & Day, 2017). There is also a lack of clarity in the literature regarding willingness to engage in friendship therapy. This reflects a limited focus on adults in the friendship literature, and especially on predictors of close friendship quality and longevity or therapies targeting friendship maintenance or restoration. The purpose of this paper was to determine how willing people in the general public are to engage in friendship interventions targeting maintenance or restoration of close friendships, and to determine which short-item measures of relationship quality commonly found in the romantic relationship literature best predict future dissolution and restoration of close friendships.

Friendship development and maintenance

Friendship is a voluntary interpersonal connection between two people that is characterised by mutual affection or liking (Collins, 2022, Furman et al., n.d.), and where acquired resources (i.e., self-benefits) from the friendship are a by-product of, but not the reason for, the current connection (Allan, 2003; Glover & Parry, 2008). Over time, friendships may remain stable, experience fluctuations in closeness, dissolve completely, or transform into other forms of connection, such as romantic relationships (Roberts & Dunbar, 2011; Stinson et al., 2021). Longitudinal research of adult friendships has found that length of sustained close/best friend status at baseline is predictive of friendship closeness two decades later (Ledbetter, 2007).

Friendship development and maintenance involves first impressions (Chang & Cikara, 2018; Rudert et al., 2020), taking time to get to know one another (Hall, 2019), considering any new information about each other (Cone & Ferguson, 2015; Mann & Ferguson, 2015, 2017), selecting and re-evaluating where and if each other fits within one's social network, and adjustment of

committed behaviours to maintain desired level of friendship (e.g., best friend; Rusbult, 1983). Interdependence theory asserts that stability within relationships is influenced by whether the number of positive outcomes received from each dyad member exceeds or falls short of the recipient's own expectations (which increases or decreases current satisfaction) and also the accessibility of alternative people for either dyad member who are deemed to have more attractive qualities than their dyad member. When outcomes exceed expectations, even if attractive alternatives are available, relationship dependence and stability tend to be higher, and less attention is typically directed toward alternatives (Thibaut & Kelley, 1959).

Rusbult's investment model extends interdependence theory and proposes that dyadic commitment occurs when both principles of interdependence theory are met, and people feel that they have invested more heavily in that relationship (e.g., time, energy, creating shared history, or financially; Rusbult, 1983). This model is widely used by researchers at present because it considers a broader range of factors than earlier models and evidence for the model has been found in many studies (e.g., Branje et al., 2007; Chow & Tan, 2013; Le & Agnew, 2003). The interrelationship of factors within the investment model was examined in a large meta-analysis of romantic relationships by Le and Agnew (2003). The researchers found that current satisfaction, quality of alternatives, and level of investment predict level of relationship commitment. Le and Agnew's findings were replicated in a study of adult friendship dyads by Chow and Tan (2013). In their study, Chow and Tan also examined the impact of friendship attachment styles on the investment model and found that attachment avoidance is predictive of lower current satisfaction, investment, and commitment in both members of friendship dyads; and higher attachment anxiety is predictive of higher investment and commitment. Branje et al. (2007) also examined the ability of the investment model to predict same sex best friendship commitment and sustainability in early and middle adolescence. The researchers found that the investment model also predicted current commitment level and the continuation of best friend status longitudinally, and that commitment mediated the relationships between the sustainability of best friend status to each of the other model factors: current satisfaction, investment, and alternatives, especially in females. Alternative friends were found to have a higher impact on best friend sustainability in older adolescents than early adolescents. The development of romantic relationships has

also been found to impact the friendship quality of best friends in late adolescence and early adulthood (Camirand & Poulin, 2019).

Relational uncertainty and status

While relational devaluation, or the perception that one's value has decreased within an interpersonal relationship, may occur in friendships, romantic, and kin relationships (Leary & Acosta, 2018), it is possible to change classifications within or between friendships and romantic relationships, whereas kin relationships are typically fixed. It is also possible for friends and romantic partners to disagree on the status classification of the connection and may experience relational uncertainty, or a lowering in the "degree of confidence people have in their perceptions of involvement within [their] interpersonal relationship" (Knobloch & Solomon, 2002, p. 245). Relational uncertainty is defined as "the degree of confidence people have in their perceptions of involvement within interpersonal relationships" (Knobloch & Solomon, 2002, p. 245) and may involve uncertainty about one's own or partner's desire, value or future goals for the connection, or relationship factors such as the agreed acceptability of specific behaviours within the relationship, reciprocity of status, emotional closeness, or future goals for the relationship. In romantic relationships, unresolved relational uncertainty is associated with "increased jealousy, negative emotions, excitement, romance and relationship termination...decreased liking, attraction and boredom" (Knobloch & Solomon, 2002, p. 247). Status and maintenance reciprocity are based on a range of factors including the level of emotional closeness of each member (Hill & Dunbar, 2003), individual differences in selection, and individual differences in cognitive limits of dyad members (Le & Agnew, 2003). Research into the level of observed or mutual agreement in the "friend" status between individuals has found rates of friendship reciprocity range between 34% and 53% in young adults (Aharony et al., 2011; Almaatouq et al., 2016; de Montjoye, 2014; Eagle & Pentland, 2006; Madan et al., 2012). Regarding "best friend" reciprocity, a study found that 64% of adolescent best friendships were reciprocated within a school setting (Vaquera & Kao, 2008).

Status classification systems for friendships typically reflect the nuanced changes in friendship closeness by including a range of graded levels of classification (e.g., Hall, 2019; Tan et al., 2015) and do this more comprehensively than status classification systems for romantic relationships,

which typically use a two-level status system: “current meaningful romantic relationship” or “broken up” (e.g., divorced, separated, dissolved (Agnew & VanderDrift, 2015; Tan et al., 2015)). In reality, there are potential difficulties in two-level status classification systems in both friendships and romantic relationships, such as when “broken up” romantic couples continue to engage in romantic behaviours, or there is a lack of clarity about the reciprocity of status in romantically involved couples (e.g., Akbulut & Weger, 2015). There may also be varying levels of commitment and friendship post-breakup for previous romantic couples, as well as romantic encounters between friends (Agnew & VanderDrift, 2015; Tan et al., 2015). Never-the-less, as in romantic relationships, the change between the closest levels of friendship (i.e., best and close) to a non-close friendship classification level (i.e., casual, acquaintance, or no friendship) reflects the movement of a friend from an inner circle position in the social network to an outer layer which has significant differences in impact on mental health, wellbeing and support (e.g., Bukowski et al., 1994; Hill & Dunbar, 2003; King et al., 2016; Turner & Brown 2010). In addition, research has found significant differences between higher and lower quality friendships, with higher quality friendships and relationships having positive benefits to wellbeing and strained or poorer quality friendships being detrimental to mental health, long term physical health and mortality (e.g., Chopik, 2017; Nezlek et al., 1994; Holt-Lunstad et al., 2015; Lehmann et al., 2015; Till et al., 2017; Wetherall et al., 2019). Thus, the change from an inner layer friendship category to an outer layer (e.g., using a two-level-system) may be particularly beneficial from a clinical perspective in detecting individuals at higher risk for declines in mental health and wellbeing.

Predicting friendship longevity

Little is known in the literature about why some close adult friendships remain stable over time, some dissolve and are restorable, and others dissolve completely. Oswald and Clark (2006) suggested that friendship dyads jointly create the maintenance expectations and patterns for their friendship and that “although each person may bring to the relationship certain personal styles and social skills...it takes two people, working together, to maintain a friendship” (p. 346). It is likely that close adult friendship longevity is predicted by similar factors to romantic relationship longevity. VanderDrift et al. (2012) argued that “romantic relationships are, at their core, friendships” (p. 115), and found that higher quality friendships (i.e., the friendship aspects) within romantic

relationships predicted higher commitment and relationship longevity, whereas relationship aspects (e.g., sexual activity) did not predict these outcomes. Le et al.'s (2010) meta-analysis of romantic relationships found that relationship factors (relationship quality, communication, emotions, and cognitions about the relationship itself) are more predictive of dissolution than internal factors (personality, adult attachment style and self-esteem) or external factors. Key predictors of longevity and outcomes in the romantic relationship literature include current satisfaction, expected future satisfaction, emotional closeness, commitment, readiness to change, current contact, and dissolution distress. It is possible that these measures may also predict outcomes in close adult friendships, however, it is unclear which is the best measure to use with this population.

Many inter-relationships exist between these key predictors of longevity. For example, current satisfaction has been associated with both emotional closeness (Guschlbauer et al., 2017) and emotional intimacy (van Niekerk et al., 2021) in romantic relationships. Whereas dissatisfaction and lower expected future satisfaction are predictive of lower levels of commitment (e.g., Baker et al., 2017; Lemay et al., 2015; Rusbult, 1983), of within-dyad ostracism (Closson et al., 2017; Rudert et al., 2020; Williams, 2007), and of the development of strategies to exit romantic relationships (Curtis et al., 2017). Regarding adult friendships, a large online survey of men in Australia found that 37% of men aged 30-65 years of age were dissatisfied by the quality of their friendships, most of whom felt they were not emotionally close to, or supported by, their current friends (Arbes et al., 2014). Roberts and Dunbar (2015) found that the formation of new social contacts in young adults reduces emotional closeness with both existing friends and family members. These findings mimic the negative impact of available attractive alternatives on relationship quality in romantic relationships (Rusbult & Buunk, 1993). Decreases in proximity (i.e., moving away from the family hometown) also reduces emotional closeness with friends (Roberts & Dunbar, 2015). Commitment has also been found to predict future dissolution of romantic relationships and best friendships in adolescents (Branje et al., 2007; Drigotas & Rusbult, 1992; Rusbult, 1983; Rusbult & Buunk, 1993; Rusbult & Martz, 1995; Van Lange et al., 1997), and that the level of commitment a person has to their partner during their romantic relationship predicts the level of emotional closeness and friendship status level between the dyad post dissolution,

with higher commitment predicting higher friendship status post dissolution (i.e., best, close, casual, acquaintance, or no friendship at all; Tan et al., 2015).

While these inter-relationships exist, research has found that expected future satisfaction mediates the association between current satisfaction and commitment in romantic relationships, and to be a better predictor of both maintenance behaviours (e.g., constructive conflict resolutions skills and degradation of attractive alternatives) and relationship longevity than current satisfaction (Baker et al., 2017; Lemay, 2016). Similarly, expected future satisfaction has been found to predict increased commitment in romantic relationships across a 12-month period independently of current satisfaction, level of relationship investment to date, and the quality of alternatives (Lemay et al., 2015). Expected future satisfaction has also been found to predict future dissolution of romantic relationships and likelihood of future divorce over the course of the first 5 years of marriage, and to mediate the effect of current satisfaction on dissolution (Baker et al., 2017). This suggests that certain concepts are better at predicting certain outcomes than others. However, it is unclear which of these concepts predict close friendship dissolution and restoration in adulthood. Further, a meta-analysis by Kochendorfer and Kerns (2020) found that the discrepant definitions of friendship quality in the literature rendered comparisons between studies difficult and that analyses were underpowered. Thus, it is important for different types of quality concepts to be compared in the same sample so that differences in their underlying factors and ability to predict future relationship states and related factors can be compared.

Dunbar and Machin (2014) found that significant conflicts are common within adult social networks (on average one major conflict per 7.2 months with members of the entire network, including friendships, romantic relationships, and kin), but that the majority of these are resolved quickly. Of these conflicts, 73% occurred with non-kin but it was rare for people to have conflict with their five closest friends. Males and females were found to have similar numbers of conflicts, but females were more likely to have conflicts with people in their inner social network than males, especially with other females. However, females were also more likely to make efforts to reconcile these conflicts once they occurred than males. Of the conflicts that were resolved within a 12-month period, almost all were resolved within the first month, with dramatic decline in reconciliation after that time. After 12 months, approximately 40% of significant conflicts were

not reconciled and the friends were considered to have experienced an unreconciled dissolution. Apologies were found to be the most common and effective facilitator of reconciliation (as opposed to physical (e.g., hugging) or non-physical (e.g., gifts) methods), and that while apologies were typically accepted and successful (66.5%) in restoring closeness, a subset of people, primarily females, refused to accept offered apologies and restore closeness. For close friends who did restore, many reported that the level of emotional closeness did not restore to the previous level within the first 12 months, especially for females; it is unclear whether further improvements in emotional closeness occur after that time. In addition, while best friendships experienced less frequent conflicts than other social network members, the decrease in emotional closeness was higher for unrestored best friendships than for unrestored relationships with other social network members. The researchers estimated that individuals are likely to experience one unreconciled interpersonal dissolution per 2.33 years. Apologies facilitate the process of forgiveness for transgressions and the restoration of shared values in interpersonal relationships (Burnette et al., 2009; McCullough, 2008; Strelan, 2018; Worthington, 2001).

To restore, or not to restore?

Deciding whether to restore a friendship following conflict or other reasons for dissolution (i.e., decreased proximity) is dependent on many factors, such as consideration of the friendship intentions and desires of both dyad members, which may be clear or may be uncertain (i.e., relational uncertainty; Knobloch & Solomon, 2002; Weger & Emmett, 2009). People who feel more secure in their friendships and relationships (i.e., high emotional closeness/intimacy or an equal or higher level of interpersonal power or influence over their partner), and those who believe they are more likely to receive desirable feedback of information from the exchange, are more likely to use direct information seeking behaviours rather than indirect information seeking strategies. Indirect information seeking strategies serve to reduce risks associated with attempts to reduce relational uncertainty or restore connections (e.g., further risk of rejection; Knobloch & Solomon, 2002). When relational uncertainty is present, people may employ strategies (i.e., secret tests) to better understand their friend's mindset as occurs in romantic relationships, such as direct or indirect questioning of the other person or the social network about their perceptions of the relationship and using the desired status label in their presence to gauge the

other person's response (e.g., Baxter & Wilmot; 1984; Bell & Buerkel-Rothfuss, 1990; Knobloch & Solomon, 2002). This process may lead to repair or further strain and decay within the friendship (Weger & Emmett, 2009). Being able to better predict the likelihood of restoration may help reduce the risk of chronic rejection from failed restoration attempts.

Intervention

A range of friendship-based interventions, predominantly cognitive behaviour based, have been found to be effective in assisting the development of friendships, and reducing symptoms, such as loneliness, anxiety, and depression, in child populations (e.g., Barrett et al., 2003; Doyle et al., 2020; Echols & Ivanich, 2021; Fisak et al., 2018; Maalouf et al. 2020), adolescent populations (e.g., Barrett et al., 2003; Echols & Ivanich, 2021; Maalouf et al. 2020), younger adult populations (Mueller & Cogle, 2023), and older adult populations (Martina et al., 2018). Such interventions have also been found to be effective in adult populations with mental health diagnoses, including social anxiety disorder (Mueller & Cogle, 2023). Less interventions have been developed for assist in the maintenance and restoration of friendships, especially close or best friendships. One study examined the benefits of a 12-week dyadic intervention program (i.e., involving both friends) on reducing physical aggression within best friend dyads in children, and found that, compared to a no-treatment control condition, the intervention indirectly reduced levels of physical aggression via the improvement of conflict resolution skills (Salvas et al., 2016). It is also unclear whether people in the general or clinical adult populations would be willing to engage in maintenance or restoration interventions for established friendships if they existed. Once this willingness is determined, future research may focus on developing interventions that specifically target the needs of close friend dyads.

Research aims

In the current research, the first aim was to analyse the frequency of dissolution and restoration of close friendship in an adult sample over a 6-month period. The second aim was to determine which relationship quality measures best predict dissolution and restoration. The third aim was to determine how willing adults are in engaging in intervention targeting maintenance of restoration of close friendships.

Method

Transparency and openness

We report all methods used in the current research in detail, including determination of sample size, eligibility for study inclusion, sample characteristics, study design, materials, and programs used, specific wording and coding of measures used, and all analyses conducted for the current research for replication purposes. Strengths and limitations of the current research and opportunities for further research are discussed to highlight ways so future research can extend the current research. This study's design and its analysis were not pre-registered.

Procedure

Approval for current research was provided by the University of Adelaide Human Research Ethics Committee. Participation was voluntary and recruitment occurred via a range of mediums: an online psychology survey website (Social Psychology network), community notice boards, the University of Adelaide research participation system (Sona Systems, n. d.) and intranet, and social media sites (Facebook, Twitter, and Reddit).

Each participant was asked to report on one current close friendship (CCF; close or best friend status) and one previous close friendship (PCF; currently casual friend, acquaintance, or no friendship at all status). Participants were asked to select friends with whom they had never had a sexual relationship, who are living, who were not immediate family members, and who were aged 16 years or older. Participants were asked to rate themselves, their CCF and their PCF on a series of measures in a large online survey on Qualtrics. The current analysis focuses on a subset of the dataset.

A decrease from CCF status to PCF between T1 and T2 was considered a “dissolution” of close friendship status, and an increase from PCF to CCF status between T1 and T2 was considered a “restoration” of close friendship status.

Participants

There were 318 participants who began survey 2 (243 female, 68 male, 5 non-binary, 2 other/decline to state), resulting in attrition rates of 50%-56% for T1 CCF ($n = 639$) and PCF ($n = 639$) subsection completers. Wave 2 participants were 90% Australian residents, and 10% residents from Austria, Canada, China, Czech Republic, Hong Kong, India, Indonesia, Macau, Malaysia, Mauritius, New

Zealand, Sweden, United Kingdom, United States of America, and Zimbabwe. Participants identified as 74.3% “White”, 19% “Asian”, 6% “Other”, 0.3% “Aboriginal/Pacific Islander”, 0.3% “Hispanic/Latino”, and 0.3% “Black/African American”. Participants were able to identify as more than one ethnicity in the survey.

Dissolution study

Participants were 290 survey responders who answered the question “Do you currently class this person as a close or best friend?” at wave 2 (6-month follow-up) and had previously completed the relevant quality measure items at wave 1. Participants were aged: 18-24 years (61.4%), 25-34 (11.4%), 35-44 (13.8%), 45-54 (4.5%), 55-64 (5.5%), 65-74 (2.4%), 75-84 (1.0%), and 85+ (0%). The final number of participants for this analysis consisted of 32 people (11%) in the dissolution group (23 females and 9 males) and 258 people (89%) in the maintained CCF group (198 females, 54 males, 4 non-binary, 1 “other”, and 1 “decline to state”). Participants in the dissolution group were aged: 18-24 years (75%), 25-34 (12.5%), 35-44 (9.4%), and 55-64 (3.1%). Participants in the maintained group were aged: 18-24 years (59.7%), 25-34 (11.2%), 35-44 (14.3%), 45-54 (5%), 55-64 (5.8%), 65-74 (2.7%), and 75-84 (1.2%). The dissolution group comprised 46.9% former best friends and 53.1% former close friends, whereas the maintained CCF group comprised 47.7% current best friends and 51.9% current close friends. Dissolution initiation was 53.1% initiated by the participant and 46.9% by a wave 1 CCF.

Restoration study

Participants were 241 survey responders who answered the question “Do you currently class this person as a close or best friend?” at wave 2 (6-month follow-up) and had previously completed the relevant quality measure items at wave 1. Participants were aged: 18-24 years (60.6%), 25-34 (11.2%), 35-44 (13.3%), 45-54 (5%), 55-64 (6.2%), 65-74 (2.5%), 75-84 (1.2%), and 85+ (0%). The sample contained 35 people in the restored group (26 females and 9 males) and 206 people in the unresolved group (160 females, 42 males, 3 non-binary, 1 “other”, and 1 “decline to state”). Participants in the restoration group were aged: 18-24 years (51.4%), 25-34 (11.4%), 35-44 (14.3%), 45-54 (5.7%), 55-64 (14.3%), 65-74 (2.9%). Participants in the unresolved group were aged: 18-24 years (62.1%), 25-34 (11.2%), 35-44 (13.1%), 45-54 (4.9%), 55-64 (4.9%), 65-74 (2.4%), and 75-84 (1.5%).

Measures and factors

Status

Based on the 5-level friendship classification scale in Tan et al. (2015), participants were asked to report on two friendships at T1 and T2, a current close friend at T1 (CCF; best or close friend status) and a previous close friend at T1 (PCF; previous best or close friend status which had dissolved to a casual friend, acquaintance, or no friendship status). In the dissolution study, dissolution initiation was measured using a forced choice question: “Who do you believe initiated changing your close/best friend status to a lower status (i.e., casual friends, acquaintance, not friends)?” (0 = “Myself”, 1 = “This person”). This reflected the forced choice dissolution initiation questions used in romantic relationship research (e.g., Field et al., 2009; Tan et al., 2015).

Relationship quality measures

Quality measures in the dissolution study were emotional closeness, commitment, expected future satisfaction, and current satisfaction. Quality measures in the restoration study were emotional closeness, commitment, current contact, expected future satisfaction, dissolution distress, and readiness to change (restore).

Emotional closeness

The feeling of emotional closeness was measured by a single item measure of emotional closeness previously used to assess emotional closeness to social network members in the adult population (Roberts & Dunbar, 2015). “How emotionally close to you feel to this person currently?” (1 = “I never see or hear from” to 10 = “We have a deeply emotional friendship; and are likely to go to each other for advice or comfort in times of major emotional trauma or crisis”). Roberts and Dunbar (2015) found that this item correlated strongly with a larger well-established measure of emotional closeness, the Subjective Closeness Index (Berscheid et al. 1989; $r = 0.90$, $p < 0.001$), and that the strength of this relationship meant that the item was able to be used alone.

Commitment

Commitment was measured using a single item measure. For CCFs (the wording of the commitment item was: “How committed are you to maintaining closeness in this friendship?” (1 = “Not at all” to 10 “Extremely”). For PCFs the wording of the commitment item was: “How committed are you to restoring closeness in this friendship?”. The wording was modified from the original item “How committed are you to make/maintain good friendships” (Carswell & Finkel, 2018b).

Expected future satisfaction

The Expected future satisfaction scale (Baker et al., 2017), an adapted version of the Quality of Marriage Index (Norton, 1983) was used to assess expected future satisfaction. This 5-item scale has been found to have high internal consistency when assessing relationships in the adult population ($\alpha = .97$; Baker et al., 2017). In this study, the word “relationship” was replaced with “friendship” to be appropriate for the current population (e.g., “Thinking about my [CCF/PCF], in 6-months-time we will have a good friendship”). Items were summed for a total score (range from 6 to 45). This scale had good internal consistency for CCFs ($\alpha = .95$) and PCFs ($\alpha = .96$).

Current satisfaction

Current satisfaction was measured using the Relationship Assessment Scale – single-item measure (RAS-1; Fülöp et al., 2020). The RAS-1 has been found to be both valid and reliable in assessing relationship satisfaction in adults, and to be related to theoretically relevant concepts in the literature (Fülöp et al., 2020). The original word “relationship” was replaced with “friendship currently” so that participants were asked: “In general, how satisfied are you with this friendship currently?” (1 = “Not satisfied” to 5 = “Very satisfied”).

Current contact

Current contact was measured using the item “Currently, do you have any contact with this person? (Contact might include seeing the person, talking on the phone or exchanging emails)” (Tan et al., 2015). The item was rated on a 5-point response scale (0 = “No contact at all”, 1 = “Yes, but less than once a month”, 2 =

“Yes, about once a month”, 3 = “Yes, about once a week”, 4 = “Yes, about once a day”, 5 = “Yes, more than once a day”).

Readiness to change and intervention willingness

Readiness to change was measured with a Readiness Ruler, which is a commonly used clinical measure of readiness to change (Hesse, 2006). The wording of the readiness ruler was modified to be appropriate for the current population: “Currently, how ready are you to work on restoring closeness with your Previous Close Friend?” (Range 1-100). Score ranges represent different levels of readiness to change: not ready (scores 1-30), uncertainty (scores 31-60), readiness (61-80), ongoing attempts to change (scores 81-100) that align with other readiness rulers (Hesse, 2006).

To assess whether participants were willing to engage in friend based intervention programs targeting the development of maintenance or restoration skills, participants were asked: “Regarding your friendships, how willing are you to participate in an intervention (either online or face-to-face) 1) to learn about how to maintain closeness with your CCF, 2) if your CCF let it be known that they want to be involved also?, 3) to learn about how to maintain closeness in any of your other close friendships?”. For PCFs, the word “maintain” was replaced with “restore”. Items were measured on a 3-point Likert scale (1 = “Would never consider” to 3 = “Would absolutely consider”).

Dissolution distress

To assess breakup distress participants were asked to fill in the Breakup Distress Scale (BDS; Field et al., 2009). The BDS is a 16-item scale used to assess distress in adult relationship and friendships and demonstrated good scale reliability (Cronbach’s $\alpha = 0.93$; Clark et al., 2020). The wording was modified to read “no longer close friends” rather than “the breakup” in the original scale to best capture the language adults may use to describe a close friend dissolution (e.g., “I feel lonely a great deal of the time since no longer being close friends with this person”). Items were rated 1 = “Not at all” to 4 = “Very much so” and are summed for a total score (range 16-64). The BDS in the current research had good scale reliability ($\alpha = .94$) and the overall dissolution distress level of the PCF sample was low ($M = 23.29$; range = 16 to 64).

Data analysis

In each of the studies, descriptive analyses, frequency analyses, and a series of univariate and multivariate linear regression analyses were conducted using IBM SPSS Statistics (Version 27). There were no missing data for participants who met selection criteria for either study.

Univariate logistic regression was undertaken for each predictor and a cut-off point of $p < .20$ was subsequently used for inclusion in the multivariate regression analysis (Hosmer et al., 2013). Logistic regression assumptions including independence of errors, linearity in the logit for continuous variables, absence of multicollinearity, and lack of strongly influential outliers were assessed. Multicollinearity was assessed using both a correlation matrix between continuous non-normally distributed predictors and assessment of VIF and tolerance values. Linearity of the logit was ascertained both visually (using scatterplots between the logit and predictors) and using the Box-Tidwell Transformation test. Each of the quality measure scores were entered as dependent variables in the analysis. Dissolution and restoration were entered as independent variables in their respective analyses.

Results

Predictors of future dissolution and restoration

Dissolution

Quality measures that met the selection criteria for inclusion in the multivariate model variable selection process were expected future satisfaction, emotional closeness, commitment, and current satisfaction. At the univariate level, negative predictors of future dissolution were commitment, emotional closeness, and expected future satisfaction. The univariate models for each factor are presented in table 1. Expected future satisfaction showed the largest magnitude at univariate level (OR = .90; 95% CI = .85-.95).

Table 1

Univariate logistic regressions predicting likelihood of close friendship dissolution in 6-months-time

Measure	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Expected future satisfaction	-.11	.03	15.23	1	<.001	.90	.85	.95	.106
Commitment	-.30	.10	10.13	1	.001	.74	.62	.89	.063
Emotional closeness	-.27	.10	6.99	1	.008	.76	.62	.93	.046
Current satisfaction	-.41	.21	3.77	1	.052	.66	.44	1.00	.024

No multicollinearity was evident when the factors were entered together in a linear model, so all of the variables were considered as potential multivariate predictors on the odds that people would have decreased their current close friendship to a no longer close status level 6 months later. Models including emotional closeness and current satisfaction were not significant, so these two variables were removed one at a time in order of least significant contribution. The final model was reduced to a model with two predictors and included expected future satisfaction and commitment (see table 2). The model predicted 11.3% of variance in dissolution, $\chi^2(1, N = 290) = 16.85, p < .001$. Expected future satisfaction uniquely predicted dissolution, recording an odds ratio of .91. This indicates that for each unit decrease in expected future satisfaction there was a .91 times higher chance of the close friendship dissolving 6-months later.

Table 2

Multivariate logistic regression predicting likelihood of close friendship dissolution in 6-months-time

Measure	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Expected future satisfaction	-.09	.03	7.62	1	.006	.91	.85	.97	.113
Commitment	-.13	.12	1.15	1	.284	.88	.70	1.11	

Restoration

Quality measures explored were: emotional closeness, expected future satisfaction, current contact, commitment, dissolution distress, and readiness to change (restore). Current contact was recoded with the highest three frequency groups being combined into a single group (“at least once a week”) to avoid quasi separation in logistic regression. All predictors except distress were associated with friendship restoration in the univariate analysis using the cut-off point of $p < .20$ (Hosmer et al., 2013) outlined above (see Table 3). Emotional closeness showed the largest magnitude at univariate level (OR = 1.671; 95% CI = 1.395-2.001).

Table 3

Univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time (cut-off point of $p < .20$)

Measure	B	SE	Wald	df	p	Odds Ratio	95% CI for odds Ratio		Nagelkerke R^2
							Lower	Upper	
Emotional closeness	.51	.09	31.16	1	<.001	1.67	1.40	2.00	.258
Commitment	.39	.07	29.28	1	<.001	1.48	1.29	1.71	.241
Expected future satisfaction	.11	.02	26.84	1	<.001	1.12	1.07	1.17	.240
Current contact									.218
No contact at all	2.09	.59	12.42	1	<.001	8.05	2.52	25.67	
Yes, but less than once a month	2.61	.67	15.33	1	<.001	13.53	3.67	49.83	
Yes, about once a month	2.49	.66	14.25	1	<.001	12.11	3.32	44.18	
Readiness to change	.03	.01	23.90	1	<.001	1.03	1.02	1.05	.185

Distress failed to meet the selection criteria for inclusion in the multivariate model variable selection process, while Commitment was omitted to eliminate multicollinearity. Emotional closeness, expected future satisfaction, readiness to change, and current contact were considered as potential multivariate predictors on the odds that people would have restored their previous close friendship to a close or best status level 6 months later.

As shown in Table 4, emotional closeness and expected future satisfaction predicted future restoration, $\chi^2 (2, N = 239) = 42.83, p < .001$. The model predicted 29.4% of variance in future restoration. Emotional closeness was the best predictor of future restoration, recording an odds ratio of 1.40, followed by expected future satisfaction, recording an odds ratio of 1.07. This indicates that the odds that a person would restore close or best friendship status with a previous

close friend in 6-months-time was 1.39 times higher for every unit increase of emotional closeness, and 1.07 higher per unit increase of expected future satisfaction, when controlling for one another in the model.

Table 4

Multivariate logistic regressions predicting likelihood of friendship restoration in 6-months-time

Measure	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
									.294
Emotional closeness	.33	.11	8.75	1	.003	1.39	1.12	1.74	
Expected future satisfaction	.06	.03	5.72	1	.017	1.07	1.01	1.12	

Intervention willingness

An analysis was conducted to determine whether individuals in the current sample were willing to engage in intervention programs to maintain (i.e., dissolution prevention) or restore closeness with their current/previous close friend, or about their other current/previous close friends (either online or face-to-face). Descriptive statistics were run to determine frequencies of people willing to engage in intervention programs. Regarding willingness to engage in close friendship maintenance interventions, the majority of participants were to some degree willing to consider engaging in intervention themselves (71.1%) or with their current close friend (82.2%) or regarding another current close friend (75.4%; see table 5). Regarding willingness to engage in close friendship restoration interventions, approximately half of the sample were to some degree willing to consider engaging in intervention themselves (45.8%) or with their current close friend (54.2%) or regarding another current close friend (51.7%; see table 5).

Table 5

Willingness to engage in intervention programs (face-to-face or online) targeting maintenance of current close friendships and restoration of dissolved close friendships

		Maintenance		Restoration	
		<i>N</i>	%	<i>N</i>	%
About discussed friend (Individual-intervention)	No	181	28.3	308	54.2
	Maybe	332	52	215	37.9
	Yes	126	19.7	45	7.9
	Total consider	458	71.7	260	45.8
With discussed friend (Dyad-intervention)	No	114	17.8	260	45.8
	Maybe	295	46.2	214	37.7
	Yes	230	36	94	16.5
	Total consider	525	82.2	308	54.2

Discussion

Clinicians, concerned with the mental health of their clients, may assess their support networks and relationships using established measures of relationship quality. These tools may be used during the initial assessment phase of therapy or in subsequent sessions as additional information arises over the course of therapy. These tools assist in a range of areas such as goal development and evaluating the quality of people's social networks. The current research focused on determining which relationship quality measures best predicted future dissolution and restoration of close friendships in adulthood, a relatively understudied population. The research also extended understanding about the interest of the general adult population in engaging in interventions targeting maintenance and restoration of close friendships.

Predicting dissolution

This paper first evaluated frequency and predictors of dissolution of close/best friendships status over a 6-month period. Although this was a short period in relation to the longevity of close friendships it was hoped that predictors of near future dissolution may be better detected at baseline, and warning signs of

impending dissolution made clearer. Dissolution occurred in 11% of close friendships in the current sample. The ability of relationship quality measures to predict dissolution was compared. Current satisfaction was negatively correlated with dissolution but did not significantly predict dissolution, whereas expected future satisfaction, commitment, and emotional closeness negatively predicted dissolution. In isolation, expected future satisfaction was the strongest predictor. When combined into a model, the combination of low expected future satisfaction and low commitment was best at predicting future dissolution, although only expected future satisfaction uniquely contributed to the model.

The current results are similar to those found in the romantic relationship literatures. For example, expected future satisfaction was found to be a better predictor of divorce over the course of the first 5 years of marriage than current satisfaction (Baker et al., 2017). Commitment has also been found to be predictive of future dissolution of romantic relationships in the literature (Drigotas & Rusbult, 1992; Rusbult, 1983; Rusbult & Buunk, 1993; Rusbult & Martz, 1995; Van Lange et al., 1997). Branje et al. (2007) also found that commitment mediated the association between best friend longevity and each the three factors in the investment model (current satisfaction, investments, and alternatives) in adolescents. Thus, it is unsurprising that commitment is also predictive of future dissolution at the univariate level in the current sample. In addition, expected future satisfaction was found in the literature to predict commitment in adult romantic relationships (Baker et al., 2017), which is consistent with expected future satisfaction being the only unique contributor of close friendship dissolution when put in the same model as commitment.

Social network circles are by definition measured by emotional closeness (Almaatouq et al., 2016; Hill & Dunbar, 2003), so it makes sense that a decrease in emotional closeness is related to a simultaneous decrease in status, but interestingly it appears that a decrease in emotional closeness also precipitates the cognitive change in status classification, as do changes in commitment and expected future satisfaction, because each factor was predictive of future dissolution at the univariate model.

Predicting restoration

The paper also evaluated the frequency and predictors of restoration of close/best friendship status in 6-months. At follow-up 14.5% of previously close friendships had restored to either close or best friend status. Wave 1 casual friends were the most likely of the status groups to have restored 6-months later. Former

close friends were more likely to restore to a close or best friendship level than former best friends. These findings are unsurprising given that casual and close friends sit on either side of the close-not close friendship line. Thus, movement between the two groups required the least amount of change in the current research.

The ability of relationship quality measures to predict restoration was compared. Emotional closeness was the strongest predictor of future restoration. Commitment, expected future satisfaction, readiness to change, and current contact also positively predicted future restoration, whereas breakup distress did not. When put in a model together, the combination of emotional closeness and expected future satisfaction was best at predicting future restoration, with both measures uniquely predicting restoration. Of the two measures, emotional closeness was the strongest contributor to the model. As noted earlier, social network circles are by definition measured by emotional closeness (Almaatouq et al., 2016; Hill & Dunbar, 2003), so it is unsurprising that an increase in emotional closeness is related to a simultaneous increase in status, but interestingly it appears that an increase in emotional closeness also precipitates the cognitive change in status classification, as does an increase in expected future satisfaction. The ability of emotional closeness to predict restoration is discussed more below.

Taken together, expected future satisfaction was the only factor found to uniquely predict both dissolution and restoration when combined with other measures in multivariate regression analyses, although in the restoration model emotional closeness was a stronger contributor. This is consistent with Baker et al.'s (2017) finding that expected future satisfaction predicts future dissolution in romantic relationships. This suggests that expected future satisfaction may also be a useful tool in predicting change between close and not close friendship status, and that considering expected future satisfaction and emotional closeness together may increase accuracy in predicting future restoration of close/best friendship status. However, the R^2 for the model in the current study was only .113 (11.3%) which suggests that the model is reasonably weak at predicting future restoration, but when considered alongside other predictors of restoration, this may assist in identifying friendships where restoration is more likely to be successful in the near future.

Considerations

It is worth noting that restoration may not always be the optimal goal for dissolved friendships. While good quality close friendships tend to increase

mental health and wellbeing (e.g., Binder et al., 2012; Holt-Lundstand et al., 2015), close friendships that are strained or characterised by bullying or other frenemy behaviours (e.g., ostracism, verbal victimisation, pro-antagonist or remaining neutral rather than supporting one's friend when witnessing bullying from peers) are detrimental to mental health and wellbeing (e.g., Chopik, 2017; Forbes et al., 2020; Nezlek et al., 1994; Sutin et al., 2020; Troop-Gordon & Ladd, 2005). Close friendships characterised by bullying or frenemy behaviours have also been found to exacerbate peer ostracism and bullying of the target friend (Boulton et al., 1999; Wojcik & Flak, 2021).

Consequently, successful restoration of close friendships may require personal insight, behaviour change, and maintenance on the behalf of both dyad members, which may be expressed via apologies for one's own role in the dissolution, forgiveness, and continued attempts to positively modify own behaviours and responses to the friend (e.g., Dunbar & Machin, 2014; Kemp et al., 2021; Strelan, 2018). Where forgiveness and positive behaviour change is not sustained, restoration may lead to further harm to mental health and wellbeing, especially when abusive behaviours are present (e.g., Pape & Arias, 2000).

Researchers have found that following romantic relationship breakups a small subset of people experience increased wellbeing and mental health, an increased understanding of oneself in the role of the dissolution, and an increased ability to identify and form personal goals to change specific behaviours in future to reduce future dissolution (e.g., Helgeson et al., 2006; Hebert & Popadiuk, 2008; Kansky & Allen, 2018; Lewandowski & Bizzoco, 2007; Tedeschi & Calhoun, 1996;). This experience is called post-traumatic growth (Tedeschi & Calhoun, 1996). Thus, it is important to assess the benefits and costs of restoration on a case-by-case basis (Kansky & Allen, 2018; Pape & Arias, 2000), and to understand that benefits and costs may change over time as dyad members reflect on their role in, and response to, the dissolution. Thus, while restoration may not be suitable in the short-term, under certain circumstances it may still be possible further in the future.

Intervention willingness

The third section of the paper focused on willingness of participants to engage in interventions (either face-to face or online) that target maintenance or restoration. In addition, the willingness of participants to engage in such interventions alone or with discussed dyad members was evaluated, as was willingness to engage in interventions regarding other close friends in general.

Approximately three quarters of the sample were willing to contemplate engaging in maintenance interventions, and half of the sample were willing to contemplate engaging in restoration interventions. Interestingly, the frequency of willingness was slightly higher for dyad-based interventions than individual-based interventions, which may reflect an understanding that both dyad members are involved in the maintenance and restoration process. As stated by Oswald and Clark's (2006): "although each person may bring to the relationship certain personal styles and social skills...it takes two people, working together, to maintain a friendship" (p. 346), as well as to restore a friendship.

Study strengths and limitations

A strength of the current research is that at wave 1 participants provided responses to their current experience of their friendship, therefore reducing issues associated with responding in hindsight, such as the impact of time, possible changes in memories or interpretations of events etc. In addition, the study was longitudinal, which allowed for the analysis of the change in close friendship to have occurred within the timeframe of the current study. Another strength was that the study incorporated different genders, ages, breakup-initiation status, and included a wide range of nationalities, thereby somewhat decreasing the chance of a homogenous sample.

The current research had several limitations that could be addressed in future research. First, the full surveys were very large and detailed, allowing for many factors to be tested in the same sample, but also increasing the chances of respondent fatigue and the deterioration of quality of the answers given in the later sections of the survey. Another limitation is that while there are a reasonable number of participants who were involved at follow-up, there was only a comparatively small number in the dissolution and restoration groups. It would be ideal for future research to have higher numbers in each of the comparison groups for better replicability of results. The research is further limited by the restriction of including only fluent English-speaking participants, a high frequency of wave 1 participants residing in Australia (75%) or the United States of America (14.3%), a high frequency of participants who identified as "White" (67.1%) or "Asian" (21.2%), higher frequencies of adults in the 18-24 year age group (63.6%) than other age groups, an overrepresentation of females (73.4%), and an overrepresentation of female-female current close friend dyads (65.8%) and previous close friend dyads (64.9%).

Future research opportunities

Future research could pre-request that people begin their participation when they form new friendships and track the fluctuations of friendship status and quality at multiple timepoints across the proceeding decades. This would provide a better understanding of patterns in status of adult friendships over time and its predictability. From a clinical perspective, this may assist in identifying friendships at risk. It may also assist in the differentiation between friendships that are likely to restore versus those that are not, thereby allowing them to provide guidance to individuals about likelihood of restoration success and chronic rejection, which has been found to be predictive of lifelong mental health issues and suicide (Williams, 2009). In addition, since relatively few programs and strategies exist that target maintaining and restoring friendships, especially adult friendships (e.g., Erdley & Day, 2017), future research could focus on developing intervention programs for close adult friendships, which include options for general learning and development, individual therapy, therapy for dyads, and/or group therapy.

Summary

In this paper, the aim was to better predict future dissolution and restoration of close friendships in adulthood and to determine intervention willingness in the general population. Expected future satisfaction was found to uniquely predict future dissolution and restoration of close friendships in adulthood, and emotional closeness uniquely predicted restoration. Future research could explore additional predictors of dissolution and maintenance to better identify close friendships at risk of dissolution and to better distinguish between friendships that are likely to restore in the future and those that are not. The current research demonstrated substantial willingness in the general population to engage in intervention programs targeting maintenance and restoration of close friendships, especially dyad based interventions. Future research may also focus on developing friendship interventions for both the clinical and general population.

References

- Agnew, C. R., & VanderDrift, L. E. (2015). Relationship maintenance and dissolution. In M. Mikulincer, P. R. Shaver, J. A. Simpson, & J. F. Dovidio (Eds.), *APA handbook of personality and social psychology, Vol. 3. Interpersonal relations* (pp. 581–604). American Psychological Association.
<https://doi.org/10.1037/14344-021>
- Aharony, N. Pan, W., Ip, C., Khayal, I., & Pentland, A. (2011). Social fMRI: Investigating and shaping social mechanisms in the real world. *Pervasive and Mobile Computing*, 7(6), 643-659. <https://doi.org/10.1016/j.pmcj.2011.09.004>
- Akbulut, V., Jr., & Weger, H., Jr. (2016). Predicting responses to bids for sexual and romantic escalation in cross-sex friendships. *The Journal of Social Psychology*, 156(1), 98–114. <https://doi.org/10.1080/00224545.2015.1066296>
- Almaatouq, A., Radaelli, L., Pentland, A., & Shmueli, E. (2016). Are you your friends' friend? Poor perception of friendship ties limits the ability to promote behavioral change. *PLoS ONE*, 11(3), e0151588.
<https://doi.org/10.1371/journal.pone.0151588>
- Arbes, V., Coulton, C., & Boekel, C. (2014). *Men's social connectedness*. Analysis and Policy Observatory, Beyond Blue. <https://www.mensgroup.melbourne/wp-content/uploads/bw0276-mens-social-connectedness-final.pdf>
- Baker, L. R., McNulty, J. K., & VanderDrift, L. E. (2017). Expectations for future relationship satisfaction: Unique sources and critical implications for commitment. *Journal of Experimental Psychology: General*, 146(5), 700–721.
<https://doi.org/10.1037/xge0000299>
- Barnes, S. M., Brown, K. W., Krusemark, E., Campbell, W. K., & Rogge, R. D. (2007). The role of mindfulness in romantic relationship satisfaction and responses to relationship stress. *Journal of Marital and Family Therapy*, 33(4), 482-500.
<https://doi.org/10.1111/j.1752-0606.2007.00033.x>

- Barrett, P. M., Sonderegger, R., & Xenos, S. (2003). Using FRIENDS to combat anxiety and adjustment problems among young migrants to Australia: A national trial. *Clinical Child Psychology and Psychiatry*, 8(2), 241–260. <https://doi.org/10.1177/1359104503008002008>
- Baxter, L. A., & Wilmot, W. W. (1984). "Secret tests": Social strategies for acquiring information about the state of the relationship. *Human Communication Research*, 11(2), 171–201. <https://doi.org/10.1111/j.1468-2958.1984.tb00044.x>
- Bell, R. A., & Buerkel-Rothfuss, N. L. (1990). S(he) loves me, s(he) loves me not: Predictors of relational information-seeking in courtship and beyond. *Communication Quarterly*, 38(1), 64-82. <https://doi.org/10.1080/014633790009369742>
- Berscheid, E., Snyder, M., & Omoto, A. M. (1989). The Relationship Closeness Inventory: Assessing the closeness of interpersonal relationships. *Journal of Personality and Social Psychology*, 57(5), 792–807. <https://doi.org/10.1037/0022-3514.57.5.792>
- Binder, J. F., Roberts, S. G. B., & Sutcliffe, A. G. (2012). Closeness, loneliness, support: Close ties and significant ties in personal communities. *Social Networks*, 34, 206–214. <https://doi.org/10.1016/j.socnet.2011.12.001>
- Boulton, Michael J, Trueman, Mark, Chau, Cam, Whitehand, Caroline & Amatya, Kishori. (1999). Concurrent and longitudinal links between friendship and peer victimization: Implications for befriending interventions. *Journal of Adolescence*, 22(4), 461-466. <https://doi.org/10.1006/jado.1999.0240>
- Branje, S. T., Frijns, T., Finkenauer, C., Engels, R., & Meeus, W. (2007). You are my best friend: Commitment and stability in adolescents' same-sex friendships. *Personal Relationships*, 14(4), 587–603. <https://doi.org/10.1111/j.1475-6811.2007.00173.x>

- Bukowski, W. M., Hoza, B., & Boivin, M. (1994). Measuring friendship quality during pre- and early adolescence: The development and psychometric properties of the Friendship Qualities Scale. *Journal of Social and Personal Relationships*, 11(3), 471–484. <https://doi.org/10.1177/0265407594113011>
- Burnette, J. L., Davis, D. E., Green, J. D., Worthington, E. L., Jr., & Bradfield, E. (2009). Insecure attachment and depressive symptoms: The mediating role of rumination, empathy, and forgiveness. *Personality and Individual Differences*, 46(3), 276–280. <https://doi.org/10.1016/j.paid.2008.10.016>
- Carswell, K. L., & Finkel, E. J. (2018b). Can you get the magic back? The moderating effect of passion decay beliefs on relationship commitment. *Journal of Personality and Social Psychology*, 115(6, Suppl.), S1-62. <https://doi.org/10.1037/pspi0000147>
- Chang, L. W., & Cikara, M. (2018). Social decoys: Leveraging choice architecture to alter social preferences. *Journal of Personality and Social Psychology*, 115(2), 206–223. <https://doi.org/10.1037/pspa0000117>
- Chopik, W. J. (2017). Associations among relational values, support, health, and well-being across the adult lifespan. *Personal Relationships*, 24(2), 408–422. <https://doi.org/10.1111/pere.12187>
- Chopik, W. J., Edelstein, R. S., & Fraley, R. C. (2013). From the cradle to the grave: Age differences in attachment from early adulthood to old age. *Journal of Personality*, 81(2), 171-183. <https://doi.org/10.1111/j.1467-6494.2012.00793.x>
- Clark, E. M., Votaw, K. L. B., Harris, A. L., Hasan, M., & Fernandez, P. (2020). Unrequited love: The role of prior commitment, motivation to remain friends, and friendship maintenance. *The Journal of Social Psychology*, 160(3), 293-309. <https://doi.org/10.1080/00224545.2019.1648234>
- Closson, L. M., Hart, N. C., & Hogg, L. D. (2017). Does the desire to conform to peers moderate links between popularity and indirect victimization in early

- adolescence? *Social Development*, 26(3), 489–502. <https://doi.org/10.1111/sode.12223>
- Cone, J., & Ferguson, M. J. (2015). He did what? The role of diagnosticity in revising implicit evaluations. *Journal of Personality and Social Psychology*, 108(1), 37–57. <https://doi.org/10.1037/pspa0000014>
- Curtis, D. S., Epstein, N. B., & Wheeler, B. (2017). Relationship satisfaction mediates the link between partner aggression and relationship dissolution: The importance of considering severity. *Journal of Interpersonal Violence*, 32(8), 1187-1208. <https://doi.org/10.1177/0886260515588524>
- de Montjoye, Y. A., Stopczynski, A., Shmueli, E., Pentland, A., & Lehmann, S. (2014). The strength of the strongest ties in collaborative problem solving. *Scientific reports*, 4, 5277. <https://doi.org/10.1038/srep05277>
- Doyle, S., Francis, S. E. & Joy, R. (2020). Treatment integrity and social validity of the FRIENDS for life programme in a Northeastern Canadian school system. *Behaviour Change*, 37(2), 74-92. <https://doi.org/10.1017/bec.2020.4>
- Drigotas, S. M., & Rusbult, C. E. (1992). Should I stay or should I go? A dependence model of breakups. *Journal of Personality and Social Psychology*, 62(1), 62–87. <https://doi.org/10.1037/0022-3514.62.1.62>
- Dunbar, R., & Machin, A. (2014). Sex differences in relationship conflict and reconciliation. *Journal of Evolutionary Psychology*, 12(2-4), 109-133. <https://doi.org/10.1556/jep-d-13-00024>
- Eagle, N., & Pentland, A. (2006). Reality mining: Sensing complex social systems. *Personal and ubiquitous computing*, 10(4), 255-268. <https://doi.org/10.1007/s00779-005-0046-3>
- Echols, L., & Ivanich, J. (2021). From "fast friends" to true friends: Can a contact intervention promote friendships in middle school? *Journal of Research on Adolescence*, 31(4), 1152-1171. <https://doi.org/10.1111/jora.12622>

- Erdley, C. A., & Day, H. J. (2017). Friendship in childhood and adolescence. In M. Hojjat & A. Moyer (Eds.), *The psychology of friendship* (pp. 3–19). Oxford University Press.
- Field, T., Diego, M., Pelaez, M., Deeds, O., & Delgado, J. (2009). Breakup distress in university students. *Adolescence*, 44(176), 705-727.
- Fisak, B., Gallegos-Guajardo, J., Verreynne, M., & Barrett, P. (2018). The results of a targeted open trial of the Fun FRIENDS combined with a concurrent parent-based intervention. *Mental Health and Prevention*, 10, 35-41.
<https://doi.org/10.1016/j.mhp.2018.03.001>
- Forbes, M. K., Magson, N. R., & Rapee, R. M. (2020). Evidence that different types of peer victimization have equivalent associations with transdiagnostic psychopathology in adolescence. *Journal of Youth and Adolescence*, 49(3), 590–604. <https://doi.org/10.1007/s10964-020-01202-4>
- Foster, S. L., & Bussman, J. R. (2008). Evidence-based approaches to social skills training with children and adolescents. In R. G. Steele, T. D. Elkin, & M. C. Roberts (Eds.), *Handbook of evidence-based therapies for children and adolescents: Bridging science and practice* (pp. 409–427). Issues in Clinical Child Psychology. New York, NY: Springer.
- Fülöp, F., Böthe, B., Gál, É., Cachia, J. Y. A., Demetrovics, Z., & Gabor, O. (2020). A two-study validation of a single-item measure of relationship satisfaction: RAS-1. *Current Psychology*. <https://doi.org/10.1007/s12144-020-00727-y>
- Guschlbauer, A., Smith, N. G., DeStefano, J., & Soltis, D. E. (2017). Minority stress and emotional intimacy among individuals in lesbian and gay couples: Implications for relationship satisfaction and health. *Journal of Social and Personal Relationships*, 36(3), 855-878. <https://doi.org/10.1177/0265407517746787>
- Hall, J. A. (2019). How many hours does it take to make a friend? *Journal of Social and Personal Relationships*, 36(4). <https://doi.org/10.1177/0265407518761225>

- Hebert, S., & Popadiuk, N. (2008). University students' experiences of nonmarital breakups: A grounded theory. *Journal of College Student Development*, 49(1), 1–14. <https://doi.org/10.1353/csd.2008.0008>
- Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology*, 74, 797-816. <http://dx.doi.org/10.1037/0022-006X.74.5.797>
- Hesse, M. (2006). The readiness ruler as a measure of readiness to change in poly-drug use in drug abusers. *Harm Reduction Journal*, 3(3), 3. <https://doi.org/10.1186/1477-7517-3-3>
- Hill, R. A., & Dunbar, R. I. M. (2003). Social network size in humans. *Human Nature*, 14(1), 53-72. <https://doi.org/10.1007/s12110-003-1016-y>
- Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science*, 10(2), 227–237. <https://doi.org/10.1177/1745691614568352>
- Hosmer Jr., D.W., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied Logistic Regression*. (3rd ed.), John Wiley & Sons. <https://doi.org/10.1002/9781118548387>
- Kansky, J., & Allen, J. P. (2018). Long-Term Risks and Possible Benefits Associated with Late Adolescent Romantic Relationship Quality. *Journal of Youth and Adolescence* 47(7), 1531–1544. <https://doi.org/10.1007/s10964-018-0813-x>
- Kemp, E., Strelan, P., Roberts, R. M., Burns, N. R., & Mulvey, K. L. (2021). The Children’s Forgiveness Card Set: Development of a brief pictorial card-sorting measure of children’s emotional forgiveness, *Frontiers in Psychology*, 12, 628152. <https://doi.org/10.3389/fpsyg.2021.628152>

- King, A. R., Russell, T., & Veith, A. C. (2016). Friendship and Mental Health Functioning. *Psychology Faculty Publications*, 21, 249-266.
<https://commons.und.edu/psych-fac/21>
- Knobloch, L. K., & Solomon, D. H. (2002). Information seeking beyond initial interaction: Negotiating relational uncertainty within close relationships. *Human Communication Research*, 28(2), 243–257. <https://doi.org/10.1093/hcr/28.2.243>
- Kochendorfer, L. B., & Kerns, K. A. (2020). A meta-analysis of friendship qualities and romantic relationship outcomes in adolescence. *Journal of Research on Adolescence*, 30(1), 4-25. <https://doi.org/10.1111/jora.12505>
- Le, B., & Agnew, C. R. (2003). Commitment and its theorized determinants: A meta-analysis of the investment model. *Personal Relationships*, 10(1), 37–57.
<https://doi.org/10.1111/1475-6811.00035>
- Le, B., Dove, N. L., Agnew, C. R., Korn, M. S., & Mutso, A. A. (2010). Predicting nonmarital romantic relationship dissolution: A meta-analytic synthesis. *Personal Relationships*, 17(3), 377–390. <https://doi.org/10.1111/j.1475-6811.2010.01285.x>
- Lehmann, V., Tuinman, M., Braeken, J., Vingerhoeats, A. J. J. M., Sanderman, R., & Hagedoorn, M. (2015). Satisfaction with relationship status: Development of a new scale and the role in predicting well-being. *Journal of Happiness Studies*, 16, 169-184. <http://doi.org/10.1007/S10902-014-9503-X>
- Lemay, E. P., Jr. (2016). The forecast model of relationship commitment. *Journal of Personality and Social Psychology*, 111(1), 34–52.
<https://doi.org/10.1037/pspi0000052>
- Lemay, E. P. Jr., Lin, J. L., & Muir, H. J. (2015). Daily affective and behavioral forecasts in romantic relationships: Seeing tomorrow through the lens of today. *Personality and Social Psychology Bulletin*, 41(7), 1005-1019.
<https://doi.org/10.1177/0146167215588756>

- Lewandowski, G. W., Jr., & Bizzoco, N. M. (2007). Addition through subtraction: Growth following the dissolution of a low quality relationship. *The Journal of Positive Psychology*, 2(1), 40–54. <https://doi.org/10.1080/17439760601069234>
- Maalouf, F. T., Alrojolah, L., Ghandour, L., Afifi, R., Dirani, L. A., Barrett, Pa., Nakkash, R., Shamseddeen, W., Tabaja, F., Yuen, C. M., & Becker, A. E. (2020). Building emotional resilience in youth in Lebanon: A school-based randomized controlled trial of the FRIENDS intervention. *Prevention Science*, 21(5), 650-660. <https://doi.org/10.1007/s11121-020-01123-5>
- Madan, A., Cebrian, M., Moturu, S., Farrahi, K., & Pentland, A. (2012). Sensing the “health state” of a community. *IEEE Pervasive Computing*, 11(4), 36-45. <https://doi.org/10.1109/MPRV.2011.79>
- Madison, J. K., & Madison, L. S. (2013). A review of research-based interventions on marriage preparation. *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, 31, 67– 74. <https://doi.org/10.1007/s10942-013-0160-5>
- Mann, T. C., & Ferguson, M. J. (2015). Can we undo our first impressions? The role of reinterpretation in reversing implicit evaluations. *Journal of Personality and Social Psychology*, 108(6), 823–849. <https://doi.org/10.1037/pspa0000021>
- Mann, T. C., & Ferguson, M. J. (2017). Reversing implicit first impressions through reinterpretation after a two-day delay. *Journal of Experimental Social Psychology*, 68, 122-127. <https://doi.org/10.1016/j.jesp.2016.06.004>
- Martina, C. M. S, Stevens, N. L., & Westerhof, G. J. (2018). Change and stability in loneliness and friendship after an intervention for older women. *Ageing & Society*, 38(3), 435-454. <https://doi.org/10.1017/S0144686X16001008>
- Masi, C. M., Chen, H. Y., Hawkey, L. C., & Cacioppo, J. T. (2011). A meta-analysis of interventions to reduce loneliness. *Personality and Social Psychology Review*, 15 (3). 219– 267. <https://doi.org/10.1177/1088868310377394>

- McCullough M. E. (2008). *Beyond revenge: The evolution of the forgiveness instinct*. Jossey-Bass.
- Mueller, N. E, & Coughle, J. R. (2023). Building closer friendships in social anxiety disorder: A randomized control trial of an internet-based intervention. *Journal of Behavior Therapy and Experimental Psychiatry*, 78, 1-8.
<https://doi.org/10.1016/j.jbtep.2022.101799>
- Nezlek, J. B., Imbrie, M., & Shean, G. D. (1994). Depression and everyday social interaction. *Journal of Personality and Social Psychology*, 67(6), 1101–1111. <https://doi.org/10.1037/0022-3514.67.6.1101>
- Norton, R. (1983). Measuring marital quality: A critical look at the dependent variable. *Journal of Marriage and the Family*, 45(1), 141–151.
<https://doi.org/10.2307/351302>
- Oswald, D. L., & Clark, E. M. (2006). How do friendship maintenance behaviors and problem-solving styles function at the individual and dyadic levels? *Personal Relationships*, 13(3), 333–348. <https://doi.org/10.1111/j.1475-6811.2006.00121.x>
- Pape, K. T., & Arias, I. (2000). The role of perceptions and attributions in battered women's intentions to permanently end their violent relationships. *Cognitive Therapy and Research*, 24(2), 201–214.
<https://doi.org/10.1023/A:1005498109271>
- Prigerson, H. G., Maciejewski, P. K., Reynolds III, C. F., Bierhals, A. J., Newsom, J. T., Fasiczka, A., Frank, E., Doman, J., & Miller, M. (1995). Inventory of complicated grief: A scale to measure maladaptive symptoms of loss. *Psychiatry Research*, 59(1-2), 65-79. [https://doi.org/10.1016/0165-1781\(95\)02757-2](https://doi.org/10.1016/0165-1781(95)02757-2)
- Roberts, S. B. G., & Dunbar, R. I. M. (2015). Managing relationship decay: Network, gender, and contextual effects. *Human Nature*, 26(4), 426–450.
<https://doi.org/10.1007/s12110-015-9242-7>

- Rudert, S. C., Janke, S., & Greifeneder, R. (2020). The experience of ostracism over the adult life span. *Developmental Psychology*, 56(10), 1999–2012. <https://doi.org/10.1037/dev0001096>
- Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology*, 45(1), 101–117. <https://doi.org/10.1037/0022-3514.45.1.101>
- Rusbult, C. E., & Buunk, B. P. (1993). Commitment processes in close relationships: An interdependence analysis. *Journal of Social and Personal Relationships*, 10(2), 175–204. <https://doi.org/10.1177/026540759301000202>
- Rusbult, C. E., & Martz, J. (1995). Remaining in an abusive relationship: An investment model analysis of non-voluntary commitment. *Personality and Social Psychology Bulletin*, 21(6), 558-571. <https://doi.org/10.1177/0146167295216002>
- Salvas, M., Vitaro, F., Brendgen, M., & Cantin, S. C. (2016). Prospective links between friendship and early physical aggression: Preliminary evidence supporting the role of friendship quality through a dyadic intervention. *Merrill-Palmer Quarterly*, 62(3), 285-305. <https://doi.org/10.13110/merrpalmquar1982.62.3.0285>
- Sona Systems (n.d.). *Sona Systems: Cloud-based Participant Management Software*. <https://www.sona-systems.com>
- Strelan, P. (2018). Justice and forgiveness in interpersonal relationships. *Current Directions in Psychological Science*, 27(1), 20-24. <https://doi.org/10.1177/0963721417734311>
- Sutin, A. R., Stephan, Y., Luchetti, M., & Terracciano, A. (2020). Loneliness and risk of dementia. *The Journals of Gerontology Series B Psychological Sciences and Social Sciences*, 75(7), 1414-1422. <https://doi.org/10.1093/geronb/gby112>
- Tan, K., Agnew, C. R., VanderDrift, L. E., & Harvey, S. M. (2015). Committed to us: Predicting relationship closeness following nonmarital romantic relationship

- breakup. *Journal of Social and Personal Relationships*, 32(4), 456–471.
<https://doi.org/10.1177/0265407514536293>
- Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9, 455–471. <https://doi.org/10.1007/BF02103658>
- Till, B., Tran, U. S., & Niederkrotenthaler, T. (2017). Relationship satisfaction and risk factors for suicide. *Crisis – The Journal of Crisis Intervention and Suicide Prevention*, 38(1), 7-16. <https://doi.org/10.1027/0227-5910/a000407>
- Trade Promotion Lottery Permits for Competitions, TPAL. (2022, April 28). *Generate random numbers*. <https://www.randomdraws.com/au/random-number-generator/?count=1&lower=1&upper=827&unique=false&group=false&sort=0&dir=1>
- Troop-Gordon, W., & Ladd, G. W. (2005). Trajectories of Peer Victimization and Perceptions of the Self and Schoolmates: Precursors to Internalizing and Externalizing Problems. *Child Development*, 76(5), 1072–1091.
<https://doi.org/10.1111/j.1467-8624.2005.00898.x>
- Turner, R. J., & Brown, R. L. (2010). *Social support and mental health: A handbook for the study of mental health; Social contexts, theories, and systems* (2nd ed). Cambridge University Press.
- Vaquera, E. & Kao, G. (2008). Do you like me as much as I like you? Friendship reciprocity and its effects on school outcomes among adolescents. *Social Science Research*, 37(1), 55-72. <https://doi.org/10.1016/j.ssresearch.2006.11.002>
- Van Lange, P. A. M., Rusbult, C. E., Drigotas, S. M., Arriaga, X. B., Witcher, B. S., & Cox, C. L. (1997). Willingness to sacrifice in close relationships. *Journal of Personality and Social Psychology*, 72(6), 1373-1395.
<https://doi.org/10.1037/0022-3514.72.6.1373>

- Van Niekerk, L. M., Schubert, E., & Matthewson, M. (2021). Emotional intimacy, empathic concern, and relationship satisfaction in women with endometriosis and their partners. *Journal of Psychosomatic Obstetrics & Gynaecology*, 42(1), 81-87. <https://doi.org/10.1080/0167482X.2020.1774547>
- VanderDrift, L. E., Lehmiller, J. J., & Kelly, J. R. (2012). Commitment in friends with benefits relationships: Implications for relational and safe-sex outcomes. *Personal Relationships*, 19(1), 1–13. <https://doi.org/10.1111/j.1475-6811.2010.01324.x>
- Weger, H. Jr., & Emmett, M. C. (2009). Romantic intent, relationship uncertainty, and relationship maintenance in young adults' cross-sex friendships. *Journal of Social and Personal Relationships*, 26(6-7), 964-988. <https://doi.org/10.1177/0265407509347937>
- Wetherall, K., Robb, K., & O'Connor, R. (2019). Social rank theory of depression: A systematic review of self-perceptions of social rank and their relationship with depressive symptoms and suicide risk. *Journal of Affective Disorders*, 246, 300-319. <https://doi.org/10.1016/j.jad.2018.12.045>
- Williams, K. D. (2007). Ostracism. *Annual Review of Psychology*, 58(1), 425-452. <https://doi.org/10.1146/annurev.psych.58.110405.085641>
- Williams, K. D. (2009). Ostracism: Effects of being excluded and ignored. In M. Zanna (Ed.), *Advances in experimental social psychology* (pp. 275–314). New York, NY: Academic Press.
- Wojcik, M., & Flak, W. (2021). Frenemy: A new addition to the bullying circle. *Journal of Interpersonal Violence*, 36, 19-20. <https://doi.org/10.1177/0886260519880168>
- Worthington E. L. Jr. (2001). *Five steps to forgiveness: The art and science of forgiving*. Crown.

Appendix B: Publication submission

Statement of authorship

Title of paper	Identifying the role of sexual interest and bullying behaviours on ostracism of close friends and dissolution distress in adulthood
Publication status	Submitted

Principal author

Name of principal author	Sarah Elizabeth Williams
Contribution to the paper	Conceptualisation, lead researcher, and writing
Overall percentage	90%
Certification	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.
Signature	
Date	21/09/2023

Co-author contributions

By signing the Statement of Authorship, each author certifies that:

- iv. the candidate's stated contribution to the publication is accurate (as detailed above);
- v. permission is granted for the candidate to include the publication in the thesis; and
- vi. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of co-author	Rachel Roberts
Contribution to the paper	Supervision
Signature	
Date	20/09/2023

Name of co-author	Michael Proeve
Contribution to the paper	Supervision
Signature	
Date	21/09/2023

Identifying the role of sexual interest and bullying behaviours on ostracism of close friends and dissolution distress in adulthood

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Keywords

FRIENDSHIP, ADULTHOOD, OSTRACISM, DISTRESS, DISSOLUTION, SEXUAL, BULLYING

Abstract

The current research explored the main predictors of ostracism of close friends and distress following the dissolution of close friendship. The sample comprised fluent English speakers ranging from younger to older adulthood and spanned 28 countries of residence. A series of linear regression analyses identified two major themes of predictors across both outcomes: bullying behaviours within peer groups and dyads (ostracism and verbal victimisation), and sexual interest between romantic couples and friend dyads. Practical and research implications include the importance of identifying sexual interest factors (within-dyads or romantic-partner) and bullying behaviours in the therapy context and incorporating these themes in the development of friendship-based intervention programs for adults.

Friendships in adulthood have the capacity to significantly impact mental and physical health in both the short- and long-term. Good quality friendships tend to increase physical and mental health, and lower mortality rates (Holt-Lundstand et al., 2015), whereas strained friendships, such as those impacted by conflict, ostracism, or verbal victimisation, have been found to be detrimental to mental and physical health (e.g., Boulton et al., 1999; Chopik, 2017; Forbes et al., 2020; Mathieson et al., 2014; Nezlek et al., 1994; Sutin et al., 2020; Troop-Gordon & Ladd, 2005; Williams, 2009). Little is known about how often and why people ostracise and verbally victimise their close adult friends, or what impacts the level of distress people feel when close friendships dissolve. Since close adult friendships are rarely focused on in the interpersonal relationship literature, it is particularly difficult to determine how to best address issues of ostracism and distress within this population.

Ostracism involves excluding or ignoring another person, either in person or when they are not present (Wesselmann et al., 2017). Williams and Govan (2005) stated that “without exception, the consequences of exclusion on the targeted individual are negative” (p.47). Ostracism threatens one’s fundamental needs being met now or in the future (i.e., sense of control, self-esteem, belonging, and meaningful existence) and has been shown to negatively impact wellbeing, and to increase desire to restore interpersonal connections (Jaubert et al., 2022; Lutz, 2022; Williams, 2007; 2009). Unresolved chronic ostracism can result in lifelong struggles with depression, the development of core beliefs such as not being worthy of inclusion, helplessness, and lack of confidence to develop new friendships, and/or suicide if intervention is not sought and fundamental needs continue to be unfulfilled (Williams, 2009).

Ostracism has received attention in the literature as a method of terminating or reducing the status of interpersonal connection with other people, and often occurs within the context of social groups (Closson et al., 2017; Rudert, 2020; Williams, 2007). Existing studies tend to focus on peer ostracism in childhood and adolescents (e.g., Arslan, 2019; Boulton et al., 1999; Wójcik & Rzeńca, 2021), workplace ostracism (e.g., Liu et al., 2021), and ostracism in simulated online gaming experiences (e.g., Wójcik & Rzeńca, 2021). Ostracism has been found to occur across the lifespan, with a decrease in being ostracised after 65 years of age, which may partially be the result of people reducing workplace activities (Rudert, 2020). While demonstrated aggression is higher in younger adults (e.g., in the female population; Kalemi et al., 2019), the desire to

punish others for “immoral” rule violations in daily life has been found to be higher in older adults, adults with more conservative political beliefs, people who identify themselves as more morally superior, and the degree to which the person feels socially closer to the perpetrator than the victim (Hofmann et al., 2018). In the workplace, even constructive deviance from organisational rules, such as deviating from rules with the positive intention to improve processes and innovation, has been found to be punished with ostracism by actors (Wang, 2022).

Ostracism within romantic relationships has been found to be predicted by a range of factors. For example, adults with lower self-esteem have been found to be more likely to ostracise or create distance from romantic partners who are considered socially disadvantaged if they believe that the partner’s social position will reflect poorly on them and potentially affect their own social position (Lemay & Clark, 2009). Mate defending and regulatory behaviours to prevent romantic interactions have also been found to increase chances of forms of verbal victimisation (e.g., derogation) and ostracising (e.g., distancing behaviours) towards perceived attractive alternatives (e.g., Akbulut & Weger, 2016; Bleske-Recheck et al., 2012; Guerrero & Chavez, 2005; Meyer et al., 2011; Weger & Emmett, 2009). These behaviours may last until intentions are made clear, and boundaries are set and agreed upon, in order to reduce potential threat and relational uncertainty (i.e., Weger & Emmett, 2009). It is possible that verbal victimisation and ostracism may also be used to create boundaries and set future expectations in close friendships in adulthood if sexual interest or the chance of romantic escalation is perceived between any of the other people involved (self, friend, one another’s romantic partners).

Several limitations exist in the ostracism literature. First, ostracism predominantly focuses on ostracism from social groups rather than within close friendships. Second, it regularly focuses on the target’s perspective only. Third, while real world ostracism is examined in children via observation and cluster analysis, ostracism in adulthood is often studied retrospectively, once a friendship is terminated, or via simulated ostracism experiences using game situations. Thus, the reasons for personally ostracising close friends in adulthood, and effects of this on the friendship prior to termination are not well understood. It is also uncertain whether the reasons people give for ostracising close friends retrospectively (i.e., reported after friendship termination) are similar to the reasons people give when excluding current close friends.

Distress is a common response to rejection, inequality, conflict, or antagonism in adult friendships (Bagwell, 2015). Similar to romantic relationships, some friendships, especially close and best friendships, can last for decades (Ng et al., 2021). In addition, similar to friendships, some romantic relationships only last weeks or months (e.g., Field et al., 2009; 2011; Marshall et al., 2013). Thus, it is possible that distress may vary in intensity following the dissolution of friendships, as it does following the dissolution of a romantic relationship (Field et al., 2009).

One form of distress is social pain or hurt (Ferris et al., 2019). Hwang et al. (2020) described social pain as the acute physical reactivity to social rejection, activated by an arousal response that is “quick and crude”, and acts as a highly sensitive detector of ostracism that may be triggered by minor events and even produce false alarms because of the high mental and physical health risks associated with not being alerted to actual instances of rejection. Research has found that similar physiological responses and areas of the brain (i.e., the anterior cingulate cortex) are activated during ostracism to other forms of physical pain (Eisenberger & Lieberman, 2004).

Research has found that people have higher neural activity in affective pain related areas of the brain when recalling social pain events than physical pain events, and that the level of social pain experienced is not impacted by the length of time since the event (Meyer et al., 2015). The researchers suggested that recalling previous social pain events may trigger thoughts about anticipated future social pain events. This differs from physical events because most of these events do not have subsequent associated painful events (i.e., the injury typically heals without continued pain). Thus, pain appears to be enhanced when recalling social pain events more than physical events. It is possible that people who habitually ruminate may “re-experience” their social pain on a regular basis if ruminating about past painful social events. Bourassa et al. (2019) also found in a longitudinal study that rumination was associated with higher current distress and daily sadness, and negatively associated with daily happiness, in dissolved marital relationships. In addition, rumination predicted distress and daily sadness, but not happiness, five months later.

It would be helpful for research to explore the ability of a wide range of factors found to impact romantic relationship and child/adolescent friendship outcomes to predict ostracism and dissolution distress in a single sample of close adult friendships to determine if similar factors impact this population and to what

extent. Factors could include individual characteristics (e.g., personality, attachment style), behaviours (e.g., kindness, ostracism), and contextual influences of both dyad members (e.g., romantic partner sexual interest in friend, peer ostracism), and friendship dynamics (e.g., altercations)

Overview

In the current research, the first aim is to analyse the frequency of ostracism in close friendships and peer groups. The second aim is to determine the best predictors of actor administered ostracism of close adult friends and actor dissolution distress based on the plethora of factors that significantly impact outcomes in the existing friendship and adult romantic relationships literature. The third aim is to assess the ability of various relationship quality measures to predict people at risk of future distress.

Method

Transparency and openness

We report all methods used in the current research in detail, including determination of sample size, eligibility for study inclusion, sample characteristics, study design, materials, and programs used, specific wording and coding of measures used, all analyses conducted for the current research in the article or Supplementary Materials for replication purposes. Strengths and limitations of the current research and opportunities for further research are discussed to highlight ways so future research can extend the current research. This study's design and its analysis were not pre-registered.

Procedure

Ethics approval (H-20/76) was granted for the administration of the current research by the School of Psychology subcommittee of the University of Adelaide Human Research Ethics Committee.

Participants were recruited from the University of Adelaide intranet, the University of Adelaide research participation system (Sona Systems, n. d.), community notice boards, an online psychology survey website (Social Psychology network), and social media sites (Facebook, Twitter, and Reddit). First year Psychology students at the University of Adelaide were offered course credit for completion of survey sections completed within their first year. A prize draw consisting of two \$50 online gift cards were offered for the completion of each survey (baseline and follow up surveys) for Australian residents not claiming course credits. A random number generator was used to select prize winners after each wave of data collection (TPAL, 2022).

Participants were provided with information about the study and were required to fill in an online informed consent sheet. Wave 1 survey took approximately 1.25 hours to complete. Follow-up surveys took approximately 40 minutes to complete each.

Each participant was asked to a) select a current close friend (CCF) to report on, and b) select a previous close friend (PCF) who they used to consider to be a close friend but would now class as a casual friend, acquaintance or not to be a friend at all. Participants were asked to select friends with whom they had never had a sexual relationship, who are living, who are not immediate family members, and who are aged 16 years or older. Participants were asked to rate themselves, their CCF and their PCF on a series of short measures, single-item measures, and an exploratory list of face-valid items. The current analysis focuses on a subset of the data.

Participants

The 827 participants who began Survey 1 were aged 18-24 years (73.4%), 25-34 years (13.7%), 35-44 years (12.7%), 45-54 years (4.8%), 55-64 years (3.6%), 65-74 years (1.2%), and 75-84 years (0.4%). The sample was 73.4% female, 25.3% male, 1.1% non-binary, and 2.4% other/decline to state. Sexual orientation of the sample was 78.2% heterosexual, 11.4% bisexual, 3.6% homosexual, 3.0% “other”, and 3.7% “prefer not to say”. The sample was 53.6% in a romantic relationship at wave 1 and 46.4% not.

All participants identified as being fluent English speakers. Participants primarily resided in Australia (75%) or the USA (14.3%), with the remaining 10.7% of participants resided across 28 other countries. Multiple ethnicities/racial groups could be selected by participants and 562 participants identified as “White”, 7 as “Aboriginal/Pacific Islander”, 27 as “Hispanic/Latino”, 175 as “Asian”, 31 as Black/African American”, and 54 as “Other”.

Current close friend group: Participants included 827 participants who started the current close friend (CCF) section of the wave 1 survey. Participants reported on a same-gender friendship 85.7% of the time. Best friendships accounted for 48.6% of friendships discussed, and close friendships accounted for 51.4%.

Previous close friend group: Participants included 610 participants who started the previous close friend (PCF) section of the wave 1 survey. Participants reported on an unresolved (broken-up) close same-gender friendship 86% of the time, and an other-gender friendship 13.8% of the time. Broken-up best

friendships accounted for 50.7% of friendships reported and broken-up close friendships accounted for 49.3%. Current status of friendships was 41.3 % “casual friends”, 22.3% “acquaintances”, and 36.4% “no friendship at all”.

Outcome and exploratory factors

Outcome factors were actor ostracism of close friend (current friend and previous friend), and dissolution distress. Exploratory factors from the survey were grouped into 13 subgroups across three theoretical groups for the analysis of both CCF and PCFs based on McNulty’s (2016) contextual model of relationship maintenance. The factor groupings for the current and previous close friend subgroups were distal factors (actor group; friend group), intrapersonal factors (actor; friend); interpersonal factors: positive behaviours (actor; friend), oppositional behaviours (actor; friend), other negative behaviours (actor; friend); contextual factors (actor; friend; friendship dynamics)). A range of short item, single item scales, and face-valid items were used to explore these factors, with similar numbers of factors in each group (see Table 1 for predictors in each group and Supplementary Material for details of literature sources, method and materials used).

Table 1

Thirteen groups for analysis

Group	Factors
Distal (actor; friend)	Extroversion, agreeableness, neuroticism, conscientiousness, openness, antagonism, self esteem, attachment to friend, perceived intelligence, age, gender, destiny beliefs (actor only), growth beliefs (actor only), decay beliefs (actor only), destiny beliefs (actor only), locus of control (actor only), trait attachment style (actor only)
Intrapersonal (actor; friend)	Liking, hurt, desire, expected future satisfaction (actor only), self-efficacy (actor only), plans to improve (actor only), commitment (actor only), positive illusory belief (actor only), emotional closeness (actor only), positive emotions (actor only), negative emotions (actor only),

	death devastation (actor only), distress (actor only; PCF only)
Interpersonal: positive behaviours (actor; friend)	Gratitude, kindness, altruism, hygiene, empathy, communication ability, considerate, loyalty, trust, trustworthiness, confidence, optimism, compromising, forgiving, taking responsibility for actions, authenticity (actor only), maintenance behaviours, reciprocation, reliance on one another for emotional or practical needs
Interpersonal: oppositional behaviours (actor; friend)	Controlling behaviours, passive aggressiveness, defensiveness, stonewalling, within-dyad ostracism and verbal victimisation, judgementalism, arrogance, self-righteousness, persistence, self- and other-oriented perfectionism, entitlement, selfishness
Interpersonal: other negative behaviours (actor; friend)	Ingratiation, jealousy, boredom, unavailability, eccentricity, showing off, competitive, silliness, peer conformity goals, pessimism, hypocrisy, reassurance seeking, within-dyad and between-romantic couple sexual interest, coercion, ambition
Contextual factors (actor; friend)	Peer-group ostracism and verbal victimisation, peer-approval, negative affect, stress, anxiety, depressed mood, makes friends easily, keeps friends easily, alternative friends, likeability, popularity, life satisfaction (actor only), commitment to maintaining other close friendships (actor only)
Contextual factors: friendship dynamics	Life events, initiation, altercations, common interests, current activities, current contact, changes in time spent together, bothersome discrepancies in values, morals, political or religious/spiritual beliefs

Data analysis

In each of the studies, descriptive analyses, frequency analyses, and a series of univariate and multivariate linear regression analyses were conducted using IBM SPSS Statistics (Version 27). The 13 groups of factors (see Table 1) were explored in the analysis and the final model factors for each group were included in a final analysis. For each group, univariate linear regressions were undertaken for each predictor and a cut-off point of $p < .20$ (Hosmer et al., 2013)

was used for inclusion in each multivariate analysis. Linear regressions were run for each of the 13 models. Linear regression assumptions including independence of errors, linearity in the logit for continuous variables, absence of multicollinearity, and lack of strongly influential outliers were assessed. Data were assessed for multivariate outliers and multivariate outliers removed.

Results

Frequency of ostracism and verbal victimisation in current close friendships

Ostracism of current close friends was uncommon, with 81.3% of participants stating that they never ostracise their close friend, 8.8% stating they occasionally ostracise their close friend, 6.5% indicating they sometimes ostracise their close friend, 1.7% stating they regularly ostracise them, and 1.7% indicating they always ostracise them. This indicates that only 3.4% of participants frequently ostracised their close friend. Similarly, participants indicated that it was uncommon to experience ostracism from their close friend, with 77.1% stating that their close friend never ostracises them, 9.8% indicating this occurs occasionally, 8.8% indicating this occurs some of the time, 2.8% stating this occurs regularly, and 1.5% indicating that their close friend always ostracises them. Thus, only 4.3% of participants were frequently ostracised by their close friend. This indicates that 18.7% to 22.9% of participants of close friendships experiences some level of within-dyad ostracism, but that higher levels of ostracism were rare, with ostracism typically being infrequent or non-existent. Comparing this with within-dyad verbal victimisation, 18% of participants indicated they verbally victimise their close friend to some degree, but that this is typically infrequent with only 2.5% of participants engaging in this behaviour frequently, and 18% of participants indicated that their friend verbally victimises them, but again this behaviour is typically infrequent, with only of 3.8% of people reporting being frequently verbally victimised by their close friend.

In contrast, peer ostracism of each dyad member was reported as being more frequent than within-dyad ostracism. Participants believed that they were more frequently ostracised by mutual peers than their close friends, with 49.1% indicating that they are ostracised by peers to some degree, and 29.3% indicating that their close friend is ostracised by their peers to some degree. Again, higher levels of peer ostracism were rare for both dyad members, with most peer ostracism being considered infrequent or occurring sometimes. Compared to peer verbal victimisation, 30.1% of participants indicated they are verbally victimised by mutual peers to some degree, but that this typically occurs infrequently, with

only 5% of participants believing this occurs frequently, and 26.8% of participants indicated that their friend is verbally victimised by mutual peers, but typically infrequently, with only 4.1% of participants indicating that their friend was verbally victimised by their peers.

Frequency of ostracism and verbal victimisation in previous close friendships: retrospective analysis

Ostracism of close friends in the few months prior to dissolution was reasonably common, with 51.9% of participants stating that they never ostracised their close friend (compared with 81.3% in the current close friend analysis above), 13.9% stating they occasionally ostracised their close friend, 17.1% indicating they sometimes ostracised their close friend, 11.4% stating they regularly ostracised them, and 5.6% indicating they always ostracise them. This indicates that 17% of participants indicated they frequently ostracised their close friend in the months leading up to dissolution (compared to 3.4% in the current close friend analysis). This suggests a possible increase in actor ostracism during the final dissolution phase for many close friendships.

Similarly, participants indicated that it was common to experience ostracism from their close friend in the few months prior to the dissolution of the close friendship, with 36.4% stating that their close friend never ostracised them (compared with 77.1% of current close friends stating that their close friend never ostracises them), 10.7% indicating this occurred occasionally, 21.8% indicating this occurred some of the time, 18.3% stating this occurred regularly, and 12.7% indicating that their close friend always ostracised them prior to dissolution. Thus, 31% of participants reported being frequently ostracised by their close friend prior to dissolution (compared with 4.3% of current close friends). This indicates that 48.1% to 63.6% of friendships experienced some level of within-dyad ostracism leading up to dissolution (compared to 18.7% to 22.9% of currently close friendships) and that higher levels of ostracism were much more frequent prior to dissolution than in current close friendships (31% versus 4.1%).

Comparing this with within-dyad verbal victimisation, 37% of participants indicated they verbally victimised their close friend to some degree in the months prior to dissolution (compared with 18% of current close friend), but that this was still typically infrequent with 6.3% of participants engaging in this behaviour frequently (compared with 2.5% of current close friends), and 49.5% of participants indicated that their close friend verbally victimised them in the months leading up to dissolution (compared with 18% of current close friends),

and this behaviour was believed to occur more frequently, with only of 17.3% of people reporting being frequently verbally victimised by their close friend (compared with 3.8% of current close friends).

The frequency of peer ostracism and verbal victimisation in the few months prior to dissolution were also analysed. Regarding peer ostracism in the lead up to dissolution, 45.7% of participants reported experiencing some level of ostracism from peers (compared to 49% in the current close friend analysis). High levels of peer ostracism of actor were more frequent in the retrospective analysis (15.5%) than the current perspective analysis (7.9%). Some level of peer-ostracism of close friends was reported to be higher in the retrospective analysis than the current perspective analysis (41.4% compared to 29.3%), and higher levels of peer ostracism toward one's friend was also more frequent in the retrospective analysis (13.4%) than the current perspective analysis (5.1%). Regarding peer verbal victimisation, 36.8% of participants indicated they were verbally victimised by mutual peers to some degree in the months prior to the dissolution of their close friendship (as opposed to 30.1% in the current close friend analysis), and regular verbal victimisation from peers occurred slightly more frequently in the retrospective analysis (10.9%) than the current perspective analysis (5%). Regarding peer verbal victimisation of close friends in the months prior to dissolution, 37.3% of participants indicated that their friend was verbally victimised by mutual peers (as opposed to 26.8% in current close friendships), and 7.1% of participants reported this occurred frequently (as opposed to 4.1% in current close friendships).

Predictors of ostracism and dissolution distress

A summary of the univariate models predicting ostracism of close friend (current), ostracism of close friend (restrospective analysis), and dissolution distress are provided in the Supplemental Material. Most of the univariate models explored were predictive of ostracism and/or distress, suggesting that factors found in the literature to impact outcomes in child/adolescent friendships and romantic relationships also impact outcomes in close adult friendships.

Actor ostracism of current close friend

The five strongest univariate models at explaining variance in actor ostracism of current close friends in adulthood were 62% actor verbally victimises friend, 58% friend verbally victimises actor, 44% friend ostracises actor, 43% peers verbally victimise friend, and 37% peers verbally victimise actor. All five factors positively predicted actor ostracism.

The strongest to weakest multivariate models at explaining variance in actor ostracism of current close friend and their strongest contributor were: 63% actor oppositional behaviours (actor verbally victimises friend, $sr = .75, p < .001$), 45% friend oppositional behaviours (friend ostracises actor, $sr = .57, p < .001$), 41% actor contextual factors (peers verbally victimise actor, $sr = .31, p < .001$), 40% friend contextual factors (peers ostracise friend, $sr = .34, p < .001$), 35% friend intrapersonal factors (friend hurt, $sr = .29, p < .001$), 34% actor intrapersonal factors (actor likes friend, $sr = -.31, p < .001$), 34% contextual factors: friendship dynamics (actor bothered by friend's religious/spiritual beliefs, $sr = .33, p < .001$), 33% actor negative behaviours (actor sexually interested in friend's romantic partner, $sr = .24, p < .001$), 29% friend negative behaviours (friend sexually interested in actor's romantic partner, $sr = .18, p < .001$), 26% actor positive behaviours (actor authentic, $sr = -.19, p < .001$), 17% actor distal factors (actor avoidant attachment to friend, $sr = .33, p < .001$), 15% friend distal factors (friend antagonism, $sr = .24, p < .001$), 13% friend positive behaviours (friend reciprocation, $sr = -.17, p < .001$) (see Table 2).

Table 2

Summary of multivariate linear regression models predicting actor ostracism of current close friend

Model	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Distal factors: actor								.17
Avoidant attachment to friend	.25	.03	.34	.33	<.001	.19	.30	
Decay belief	.06	.02	.11	.11	.002	.02	.10	
Anxious attachment to friend	.04	.02	.09	.08	.021	.01	.01	
Intelligence	-.08	.04	-.08	-.08	.032	-.16	-.01	
Distal factors: friend								.15
Antagonism	.07	.02	.01	.24	<.001	.05	.09	
Intelligence	-.15	.03	-.16	-.16	<.001	-.22	-.08	
Anxious attachment to actor	.06	.02	.13	.13	.001	.03	.10	
Openness	-.03	.01	-.08	-.08	.032	.05	.09	
Intrapersonal processes: actor								.34
Likes	-.42	.05	-.35	-.31	<.001	-.51	-.33	
Negative emotions	.09	.02	.20	.18	<.001	.06	.12	
Positive illusory belief	-.15	.04	-.14	-.13	<.001	-.22	-.07	
Death devastation	-.07	.03	-.10	-.09	.011	-.13	-.02	
Intrapersonal processes: friend								.35
Current hurt	.29	.03	.31	.29	<.001	.23	.36	

Likes	-.36	.04	-.34	-.28	<.001	-.44	-.28
Expected future motivation (desire to restore)	-.07	.02	-.11	-.10	.004	-.11	-.02
Positive behaviours: actor							.26
Authentic	-.26	.05	-.21	-.19	<.001	-.36	-.17
Empathic	-.18	.04	-.17	-.16	<.001	-.26	-.10
Relies on friend for practical needs	.11	.03	.15	.15	<.001	.06	.17
Loyal	-.12	.04	-.13	-.12	.001	-.19	-.05
Trusting	-.09	.04	-.11	-.10	.005	-.18	-.03
Reciprocation	-.09	.04	-.09	-.07	.035	-.17	-.01
Positive behaviours: friend							.13
Reciprocation	-.18	.04	-.19	-.17	<.001	-.26	-.10
Trustworthy	-.24	.05	-.19	-.17	<.001	-.34	-.13
Hygienic	-.08	.03	-.09	-.09	.017	-.14	-.01
Relies on actor for practical needs	.06	.03	.08	.08	.029	.01	.12
Oppositional behaviours: actor							.63
Verbal victimisation of friend	.88	.03	.77	.75	<.001	.83	.94
Selfish	.06	.02	.08	.07	.002	.00	.02
Oppositional behaviours: friend							.45
Ostracises actor	.58	.03	.61	.57	<.001	.52	.64
Controlling	.06	.02	.08	.07	.021	.01	.10
Entitled	.05	.02	.07	.06	.032	.00	.10
Negative behaviours: actor							.33
Sexual interest in friend's partner	.38	.05	.32	.24	<.001	.28	.48
Sexual interest in friend	.23	.04	.24	.19	<.001	.15	.31
Ambitious	-.07	.03	-.10	-.10	.004	-.12	-.02
Shows off	.07	.03	.10	.09	.006	.02	.12
Silly	-.05	.02	-.08	-.08	.021	-.10	-.01
Hypocritical	.06	.03	.08	.07	.024	.01	.11
Negative behaviours: friend							.29
Sexual interest in actor's partner	.24	.05	.22	.18	<.001	.15	.33
Sexual interest in actor	.21	.04	.22	.18	<.001	.13	.29
Boring	.16	.03	.18	.17	<.001	.10	.22
Low peer conformity goals	.07	.03	.11	.10	.003	.12	.24
High peer conformity goals	.07	.02	.10	.09	.003	.02	.12
Ingratiation	-.02	.01	-.08	-.08	.024	-.03	-.00
Contextual factors: actor							.41
Peers verbally victimise actor	.40	.04	.41	.31	<.001	.32	.47
Actor's partner sexual interest in friend	.17	.04	.16	.14	<.001	.10	.25
Peers ostracise actor	.10	.03	.13	.10	.001	.04	.15
Commitment to maintain other close friendships	-.04	.01	-.10	-.10	.001	-.07	-.22
Alternative friends	.07	.02	.10	.10	.002	.03	.11

Stress	-.17	.07	-.08	-.08	.013	-.30	-.04	
Popularity	-.07	.03	-.08	-.07	.017	-.13	-.01	
Contextual factors: friend								.40
Peers ostracise friend	.32	.03	.38	.34	<.001	.27	.39	
Friend's partner sexually interested in actor	.32	.04	.30	.27	<.001	.25	.40	
Likeability	-.15	.03	-.16	-.15	<.001	-.21	-.09	
Alternative friends	.06	.02	.09	.09	.004	.02	.10	
Contextual factors: friendship dynamics								.34
Friend- religious/spiritual beliefs bother actor	.42	.04	.41	.33	<.001	.33	.50	
Friend-values bother actor	.16	.04	.19	.15	<.001	.09	.24	
Common interests	-.10	.03	-.11	-.10	.002	-.16	-.04	
Current activities	.05	.02	.10	.09	.006	.02	.08	

Actor ostracism of previous close friend (pre-dissolution)

The five strongest univariate models at explaining variance in actor ostracism of previous close friend (pre-dissolution) were 37% actor verbally victimised friend, 28% peers ostracised friend, 25% peers verbally victimised actor, 15% friend hurt, and 14% friend verbally victimised actor. Each factor positively predicted actor ostracism.

The strongest to weakest multivariate models at explaining variance in actor ostracism of previous close friend (pre-dissolution) and their strongest contributor were: actor 35% oppositional behaviours (actor verbally victimised friend pre-dissolution, $sr = .52, p < .001$), 29% friend contextual factors (peers ostracised friend pre-dissolution, $sr = .48, p < .001$), 16% friend oppositional behaviours (friend verbally victimised actor pre-dissolution, $sr = .32, p < .001$), 16% friend intrapersonal factors (friend hurt pre-dissolution, $sr = .38, p < .001$), 15% contextual factors: friendship dynamics (altercations, $sr = .14, p = .001$), 14% actor intrapersonal factors (actor liked friend pre-dissolution, $sr = -.33, p < .001$), 14% friend negative behaviours (friend sexually interested in actor's romantic partner pre-dissolution, $sr = .13, p < .001$), 12% actor positive behaviours (actor loyal pre-dissolution, $sr = -.15, p < .001$), 11% actor contextual factors (actor's romantic partner sexually interested in friend pre-dissolution, $sr = .21, p < .001$), 11% actor negative behaviours (actor sexually interested in friend's romantic partner pre-dissolution, $sr = .21, p < .001$), 9% friend positive behaviours (friend good hygiene, $sr = -.17, p < .001$), 9% actor distal factors (actor sexually interested in friend's romantic partner pre-dissolution, $sr = .21, p < .001$).

.001), 8% friend distal factors (friend antagonistic, $sr = .18$, $p < .001$) (see Table 3).

Table 3

Summary of multivariate linear regression models predicting actor ostracism of previous close friend (pre-dissolution)

Model	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Distal factors:								.09
actor								
Antagonism	.09	.02	.18	.18	<.001	.05	.13	
Anxious attachment to friend (pre-dissolution)	-.08	.03	-.14	-.14	.001	-.17	-.04	
Conscientiousness	-.06	.03	-.10	-.10	.017	-.11	-.01	
Avoidant attachment to friend (pre-dissolution)	.07	.03	.10	.10	.020	.01	.12	
Locus of control (internal)	-.08	.04	.10	.10	.026	-.15	-.01	
Neuroticism	.06	.03	.09	.08	.037	.00	.11	
Distal factors:								.08
friend								
Antagonism	.06	.01	.18	.18	<.001	.03	.08	
Avoidant attachment to actor (pre-dissolution)	-.09	.03	-.13	-.13	.001	-.15	-.04	
Conscientiousness	.06	.02	.12	.12	.005	.02	.10	
Intrapersonal processes: actor								.14
Liked friend (pre-dissolution)	-.40	.05	-.33	-.33	<.001	-.50	-.31	
Dissolution distress (current)	.03	.01	.19	.19	<.001	.02	.04	
Intrapersonal processes: friend								.16
Hurt (pre-dissolution)	.45	.05	.38	.38	<.001	.36	.53	
Liked actor (pre-dissolution)	-.12	.05	-.09	-.09	.020	-.22	-.20	
Positive behaviours (pre-dissolution): actor								.12
Loyal	-.19	.05	-.16	-.15	<.001	-.29	-.09	
Grateful	-.15	.06	-.11	-.10	.011	-.27	-.02	
Authentic	-.15	.06	-.13	-.11	.008	-.26	-.04	
Reciprocation	-.14	.06	-.11	-.10	.017	-.26	-.03	
Positive behaviours (pre-dissolution): friend								.09
Hygienic	-.21	.05	-.18	-.17	<.001	-.31	-.12	
Trusting	-.18	.05	-.17	-.17	<.001	-.27	-.10	
Relied on actor for practical needs	.14	.05	.13	.12	.002	.05	.23	

Oppositional behaviours (pre-dissolution): actor								.35
Verbally victimised friend	.77	.05	.54	.52	<.001	.67	.87	
Defensive	.14	.04	.14	.13	<.001	.07	.21	
Oppositional behaviours (pre-dissolution): friend								.16
Verbally victimised actor	.34	.04	.33	.32	<.001	.26	.43	
Self-righteousness	.17	.04	.16	.15	<.001	.08	.25	
Negative behaviours (pre-dissolution): actor								.11
Sexual interest in friend's partner	.36	.07	.21	.21	<.001	.22	.50	
Hypocritical	.19	.05	.16	.16	<.001	.10	.28	
Unavailable	.12	.04	.11	.11	.006	.04	.21	
Negative behaviours (pre-dissolution): friend								.14
Sexual interest in actor's partner	.22	.06	.16	.13	.001	.09	.35	
Sexual interest in actor	.23	.07	.15	.13	.001	.09	.36	
Pessimistic	.12	.05	.12	.11	.008	.03	.21	
Reassurance seeking	.10	.04	.10	.09	.021	.02	.19	
Jealous of actor's interactions	.09	.04	.10	.09	.027	.01	.17	
Contextual factors: actor								.11
Actor's partner sexually interested in friend (pre-dissolution)	.37	.07	.21	.21	<.001	.23	.51	
Alternative friends (pre-dissolution)	.17	.04	.17	.17	<.001	.09	.26	
Peers ostracised actor (pre-dissolution)	.14	.04	.14	.14	.001	.06	.22	
Life satisfaction (current)	-.07	.04	-.08	-.08	.045	-.14	-.00	
Contextual factors: friend								.29
Peers ostracised friend (pre-dissolution)	.55	.04	.51	.48	<.001	.47	.63	
Friend's partner sexually interested in actor	.12	.06	.08	.08	.029	.01	.23	
Contextual factors: friendship dynamics								.15
Altercations	.21	.06	.15	.14	.001	.09	.33	
Friend-morals bothered actor	.16	.05	.17	.13	.001	.07	.26	
Friend-religious/spiritual beliefs bothered actor	.13	.06	.10	.09	.029	.01	.24	

Actor-values							
bothered friend	.15	.07	.13	.09	.021	.02	.28

Current dissolution distress

The five strongest univariate models at explaining variance in current dissolution distress were 21% actor-sexual interest in friend (pre-dissolution), 17% friend sexual interest in actor (pre-dissolution), 12% actor's romantic partner sexually interested in friend (pre-dissolution), 12% actor sexual interest in friend's romantic partner (pre-dissolution), and 12% desire to restore (current). Each factor positively predicted dissolution distress.

The strongest to weakest multivariate models at explaining variance in current dissolution distress and their strongest contributor were: 27% actor intrapersonal factors (current desire to restore, $sr = .47, p < .001$), 25% actor contextual factors (pre-dissolution actor's romantic partner sexually interested in friend, $sr = .24, p < .001$), 24% actor negative behaviours (pre-dissolution sexual interest in friend, $sr = .22, p < .001$), 20% friend negative behaviours (pre-dissolution sexual interest in actor, $sr = .32, p < .001$), 11% contextual factors: friendship dynamics (current activities, $sr = .21, p < .001$), 11% actor distal factors (decay belief, $sr = .22, p < .001$), 10% friend contextual factors (friend's partner sexually interested in actor pre-dissolution, $sr = .26, p < .001$), 10% actor oppositional behaviours (actor verbally victimised friend pre-dissolution, $sr = .23, p < .001$), 9% actor positive behaviours (pre-dissolution maintenance behaviours, $sr = .18, p < .001$), 4% friend oppositional behaviours (friend verbally victimised actor pre-dissolution, $sr = .20, p < .001$), 3% friend intrapersonal factors (friend hurt pre-dissolution, $sr = .18, p < .001$), 1% friend positive behaviours (friend considerate, $sr = .09, p = .025$) (see Table 4).

Table 4

Summary of multivariate linear regression models predicting current dissolution distress

Model	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Distal factors: actor								.11
Decay belief	1.39	.26	.22	.22	<.001	.88	1.89	
Locus of control (external)	1.14	.27	.18	.17	<.001	.61	1.67	
Locus of control (internal)	-.66	.25	-.11	-.10	.010	-1.15	-.16	

Distal factors:								NA
friend								
NA								
Intrapersonal processes: actor								.27
Motivation (desire to restore)	1.86	.15	.49	.47	<.001	1.56	2.16	
Negative emotions	1.03	.16	.28	.24	<.001	.72	1.33	
Hurt (pre-dissolution)	1.65	.32	.23	.19	<.001	1.03	2.27	
Intrapersonal processes: Friend								.03
Hurt (pre-dissolution)	1.50	.35	.18	.18	<.001	.81	2.20	
Positive behaviours (pre-dissolution): actor								.09
Maintenance behaviours	1.72	.39	.20	.18	<.001	.97	2.48	
Optimistic	-1.48	.37	-.16	.16	<.001	-2.21	-.74	
Relied on friend (practical needs)	.82	.34	.11	.10	.016	.16	1.49	
Hygienic	-.96	.44	-.09	-.09	.030	-1.82	-.09	
Positive behaviours (pre-dissolution): friend								.01
Considerate	.79	.35	.10	.09	.025	.10	1.49	
Hygienic	-.74	.38	-.08	-.08	.051	-1.48	.00	
Oppositional behaviours (pre-dissolution): actor								.10
Verbally victimised friend	2.49	.44	.24	.23	<.001	1.64	3.35	
Controlling	1.34	.35	.16	.16	<.001	.66	2.02	
Oppositional behaviours (pre-dissolution): friend								.04
Verbally victimised actor	1.51	.32	.20	.20	<.001	.89	2.13	
Negative behaviours (pre-dissolution): actor								.24
Sexual interest in friend	3.00	.50	.30	.22	<.001	.44	.25	
Sexual interest in friend's partner	1.53	.58	.13	.10	.009	.38	2.67	
Seeks reassurance	.71	.30	.10	.09	.018	.12	1.30	
Jealous of friend's interactions	.71	.30	.10	.09	.018	.12	1.30	
Negative behaviours (pre-dissolution): friend								.20
Sexual interest in actor	4.31	.55	.37	.32	<.001	3.23	5.39	
Unavailable	.83	.30	.11	.11	.005	.26	1.41	
Sexual interest in actor's partner	1.09	.50	.10	.08	.030	.11	2.07	
Contextual factors: actor								.25
Actor's partner sexually interested in friend (pre-dissolution)	3.05	.47	.26	.24	<.001	2.13	3.97	
Peers verbally victimised actor (pre-dissolution)	1.80	.34	.21	.20	<.001	1.14	2.64	

Depressed mood (current)	2.68	.72	.14	.14	<.001	1.27	4.09	
Likeability (current)	-1.61	.48	-.13	-.12	.001	-2.55	-.67	
Stress (pre-dissolution)	.79	.30	.10	.10	.008	.20	1.38	
Alternative friends (pre-dissolution)	-.65	.29	-.09	-.08	.026	-1.23	-.08	
Contextual factors: friend								.10
Friend's partner sexually interested in actor (pre-dissolution)	2.78	.44	.27	.26	<.001	1.93	3.64	
Popularity (pre-dissolution)	.79	.34	.10	.09	.020	.12	1.45	
Peers ostracised friend (pre-dissolution)	.73	.34	.09	.09	.029	.08	1.39	
Contextual factors: Friendship dynamics								.11
Activities (current)	1.32	.26	.22	.21	<.001	.82	1.82	
Friend's religious/spiritual beliefs bothered actor (pre-dissolution)	1.81	.39	.19	.19	<.001	1.04	2.58	
Altercations (pre-dissolution)	1.43	.43	.14	.14	.001	.59	2.28	
Common interests (pre-dissolution)	.89	.40	.10	.09	.025	.11	1.66	

Predictors of ostracism and dissolution distress: sexual interest and bullying models

Based on the results, two further groups were considered: sexual interest items and bullying behaviours (ostracism and verbal victimisation items). Sexual interest items were actor sexually interest in friend, actor sexually interested in friend's romantic partner, actor's romantic partner sexually interested in friend, friend sexually interest in actor, friend sexually interested in actor's romantic partner, friend's romantic partner sexually interested in actor. Bullying behaviour items were actor ostracism of friend, friend ostracism of actor, peer ostracism of actor, peer ostracism of friend, actor verbal victimisation of friend, friend verbal victimisation of actor, peer verbal victimisation of actor, peer verbal victimisation of friend. The groups were used to determine the strength of each model to predict close friend ostracism and dissolution distress. Multicollinearity was considered and items removed where necessary. Multivariate models of sexual interest and bullying behaviours predicting actor ostracism of close friends and dissolution distress are provided in tables 5 and 6.

The bullying behaviours model explained more variance in actor ostracism of close friends (53%) than the sexual interest model (29%). Two predictors

uniquely contributed to the bullying behaviours model: friend ostracises actor ($sr = .39, p < .001$), and peers ostracise friend ($sr = .28, p < .001$). Both factors positively predicted actor ostracism (see Table 5).

Table 5

Multivariate linear regression models of bullying behaviours and sexual interest predicting actor ostracism of current close friend

Model	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Bullying behaviours								.53
Friend ostracises actor	.46	.03	.49	.39	<.001	.40	.52	
Peers ostracise friend	.29	.03	.33	.28	<.001	.23	.34	
Peers ostracise actor	.02	.03	.02	.02	.543	-.03	.07	
Sexual interest								.29
Actor sexually interested in friend's partner	.31	.05	.28	.20	<.001	.21	.41	
Actor sexual interest in friend	.19	.04	.21	.17	<.001	.12	.26	
Actor's partner sexually interested in friend	.13	.04	.13	.10	.003	.05	.21	

The sexual interest model explained more variance in dissolution distress (22%) than the bullying model (9%). Two predictors uniquely contributed to the sexual interest model: actor sexual interest in friend ($sr = .34, p < .001$), and friend sexually interested in actor's romantic partner ($sr = .09, p = .014$). Both factors positively predicted dissolution distress (see Table 6).

Table 6

Multivariate linear regression models of pre-dissolution bullying behaviours and sexual interest predicting current dissolution distress

Model	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Sexual interest								.22
Actor sexual interest in friend	3.74	.42	.39	.34	<.001	2.92	4.56	
Friend sexual interest in actor's partner	1.18	.48	.12	.09	.014	.24	2.11	
Friend's partner sexually interested in actor	.41	.51	.04	.03	.420	-.59	1.41	
Bullying behaviours								.09
Peers ostracised actor	1.36	.37	.19	.15	<.001	.64	2.07	
Peers ostracised friend	.58	.39	.07	.06	.140	-.19	1.35	
Friend ostracised actor	.48	.35	.07	.06	.168	-.20	1.16	
Actor ostracised friend	.22	.36	.03	.03	.540	-.49	.93	
Friend verbally victimised actor	.20	.41	.03	.02	.623	-.60	1.00	

Future distress: prospective analysis

Five independent variables were explored: emotional closeness, expected future satisfaction, commitment, dissolution distress, and readiness to change. All predictors except expected future satisfaction were associated with friendship distress in the univariate analysis using the cut-off point of $p < .20$ (Hosmer et al., 2013) outlined above. At the univariate level, dissolution distress at wave 1 was the best predictor of dissolution distress 6-months later, $F(1, 199) = 70.61, p < .001$, with an $R^2 = .26$.

Data were assessed for multivariate outliers and outliers were identified and removed. Expected future satisfaction failed to meet the selection criteria for inclusion in the multivariate model variable selection process, while readiness to change was omitted to eliminate multicollinearity. All other variables were considered as potential multivariate predictors of dissolution distress. Items that contributed the least to the model were removed one at a time and the model rerun after each item deletion. A final linear regression was calculated to predict future dissolution distress. Current distress and commitment positively predicted future dissolution distress, $F(2, 191) = 35.70, p < .001$, with an R^2 of .27 (see table 7). Higher scores on each variable predicted higher dissolution distress 6 months later. The amount of unique variance each factor explained in the model was: 22.1% dissolution distress and 2.3% commitment.

Table 7

Multivariate linear regression predicting future dissolution distress

Quality measure	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		R^2
						Lower	Upper	
								.27
Dissolution distress	.42	.06	.48	.47	<.001	.31	.52	
Commitment	.40	.17	.15	.15	.018	.07	.73	

Discussion

The current research extends the literature by exploring the ability of a wide range of factors to predict close friend ostracism and dissolution distress in adulthood using a single sample. Predictors of interpersonal relationship quality in the romantic relationship and child/adolescent friendship literature were combined

to explore whether close adult friendships experience similar challenges to these related populations. The findings of the current research are discussed in relation to the literature and possible implications for practice.

The first section of this paper focused on ostracism of close friends. The results showed that most close friendships did not experience within-dyad ostracism or verbal victimisation, and that high frequency ostracism and verbal victimisation was particularly uncommon. Peer-ostracism and verbal victimisation were more common, but high frequencies of these behaviours were also uncommon. However, analysis of these rates in close friendships immediately prior to dissolution found higher frequencies of these behaviours across all groups, including increased high frequency ostracism and verbal victimisation. This suggests that the presence and increase of these behaviours, especially high frequencies, is characteristic of the dissolution phase of close friendships. Unfortunately, this process may be difficult to reverse, in part because peers may also be involved in ostracising or verbally victimising one or both dyad members, creating a mobbing effect which can severely affect the target's mental and physical health (Tatar & Yüksel, 2019) and likely impede chances of restoration. This reflects findings in child, adolescent and workplace bullying literature (e.g., Tatar & Yüksel, 2019) and indicates that adult close friendships experience similar difficulties as these other populations.

A series of models were run to determine which variables predicted actor ostracism and identify key factors that contributed to the models. While current perspective models predicted more variance in actor ostracism than retrospective models, the order of strength of models from both perspectives and the reasons identified were very similar. This indicates that where current perspectives are not possible, retrospective reports are a valuable source of information.

Across the models, two key themes were identified. First, the results indicated that people who ostracise their close friends are more likely to verbally victimise them and to also have peers who ostracise and verbally victimise the friend, thereby threatening the friend's position in their social network, not just the close friendship. Further analysis found that while all bullying items were predictive of actor-ostracism at the univariate level, when considered together, friend-ostracism of the actor and peer-ostracism of the friend uniquely explained actor-ostracism, further demonstrating the existence of mobbing of close friends that may occur prior to dissolution, and within-dyad retaliation. It is unclear from the current study whether the ostracism was initially initiated by the actor, or by

the peer group, or whether it was a response to being ostracised by the the friend or peer group themselves. The second theme in the multivariate models related to sexual interest. The results remonstrated that higher sexual interest in any direction within dyads, or between each other's romantic partners resulted in higher ostracism of one's close friend, suggesting that dyads regulate sexual interest within-dyad as a method of setting boundaries, and to reduce the chances of romantic escalation and mate poaching. This is similar to strategies used to prevent romantic escalation in romantic relationships (e.g., Akbulut & Weger, 2016; Baker et al., 2017; Bleske-Recheck et al., 2012; Guerrero & Chavez, 2005; Meyer et al., 2011; Weger & Emmett, 2009). Further analysis found that while all sexual items were predictive of actor-ostracism of current close friends when considered in isolation, when considered together, actor-factors (sexual interest in friend, actor interest in friend's romantic partner, and actor's romantic partner sexually interested in friend) contributed to the model, but friend-factors did not. Thus overall, actor-ostracism of close friends for sexual interest reasons was best explained as a method of regulating one's own behaviours and deterring one's own romantic partner from attractive alternatives than as a response to unwanted sexual interest or mate poaching.

The results of the multivariate models also found that ostracism is higher when people like their friend less, when higher numbers of alternative close friends were available, and when discrepant morals, beliefs and value are perceived as bothersome. The results suggest that when the cost of friendships outweigh the benefits people use ostracising behaviours to signal disinterest in continuing the close friendship by actively reducing the amount of energy and effort spent on maintaining that friendship.

The second section of the paper focused on dissolution distress. The results highlight several important points regarding dissolution distress. First, dissolution distress appeared to reflect an untimely and unwanted lowering of friendship classification in individuals who wanted, and were committed, to restoring closeness but had not yet been able to. Second, higher pre-dissolution within-dyad sexual interest or sexual interest in or from one another's romantic partners was related to higher dissolution distress. This may reflect relational uncertainty and the reduction of fundamental needs being met by the friendship, whether temporary or permanent, as boundaries are set and enforced to reduce romantic escalation, as they are in the romantic literature (e.g., Akbulut & Weger, 2016; Bleske-Recheck et al., 2012; Guerrero & Chavez, 2005; Meyer et al., 2011;

Weger & Emmett, 2009). Further analysis found that actor sexual interest in friend pre-dissolution and friend sexual interest in the actor's romantic partner pre-dissolution uniquely contributed to the final model, indicating that unrequited love and perceptions of mate poaching threats may predict dissolution distress.

The multivariate models also demonstrated that higher verbal victimisation of one's close friend or from one's close friend prior to dissolution increased dissolution distress, and that peer ostracism of one's close friend pre-dissolution increased actor dissolution distress. This is similar to Meyer et al.'s (2015) finding that time did not reduce the level of pain felt when recalling socially painful events such as ostracism events and betrayal. In addition, distress seemed to be stronger for people who found it more difficult to fill the gap left from the friendship loss because distress was higher for people who rated themselves as less likeable and had fewer alternative close friends. When bullying items were combined into a single model, peer ostracism of the actor pre-dissolution uniquely predicted current actor distress.

Previous altercations, more common interests, engagement in a wider range of activities with one another over the past 12-months, were also predictive of higher dissolution distress. It is possible that engagement in a wider range of activities is indicative of higher integration in one another's lives and meeting one another's fundamental needs, so the loss of close friendship may be particularly distressing if these activities recently decreased. It is also possible that continued post-dissolution engagement in a wider range of activities post dissolution may occur when people have several mutual environments, such as hobbies, workplace, and social groups which both individuals may choose to remain a part of. This continuation of shared activities may result in continuation of previous bullying within the dyad or peer group, reminders of the loss of the friendship, reminders and consequences of past transgressions and hurts, or other other factors that result in a higher level of current distress. Further analysis found that distress was predictive of distress in 6-months time, especially when commitment to restore the close friendship was higher, indicating that high levels of distress may not resolve easily with time, especially when individuals continue to remain committed to actively restoring the friendship, putting them at risk of chronic rejection.

Practice implications

The current research identifies concepts (e.g., sexual interest and bullying) that may not naturally be disclosed by individuals in the therapy setting, or

routinely asked about by clinicians because they may not inherently appear to be relevant or may elicit discomfort for the individual (e.g., shame, regret, embarrassment, vindictiveness, guilt, denial, dismissiveness, and defensiveness). However, exploring these concepts carefully in the therapy setting, such as discussing responses to items selected on rating scale questionnaires, may allow people to recognise their own motivations, experiences, and contributions to friendship challenges more deeply, and assist in the development of therapy goals and intervention programs that maximise the chance of meaningful change for the individuals and dyads.

Strengths, limitations, and future research

The current research had several strengths. For example, the study included an extensive number of factors impacting outcomes in related areas of research: romantic relationships and child/adolescent friendships. This allowed the factors to be compared in a single sample of participants, eliminating potential problems with differences in study designs, analyses, and participants across studies. Grouping these factors by theme allowed smaller numbers of factors to be included in the multivariate regressions, increasing the replicability of the results in future samples. The research also incorporated different genders, ages, ethnicities, and nationalities, thereby decreasing the chance of a homogenous sample, and increasing the generalisability of results to other samples.

The research had several limitations that could be addressed in future research. First, the surveys were large and detailed which increased the chance of respondent fatigue and the deterioration of quality of the answers given in the later sections of the survey. Second, many items were face-valid items because of a lack of single or small-scale questionnaires available in the literature for these factors and because the study objective was to compare the full range of concepts within a single sample. This increased the risk that items may have been interpreted differently by different participants. An attempt was made to reduce this risk by providing thesaurus examples of the intended meaning of the concept based on the concept retrieved from the literature. Future research could use validated measures to replicate results or develop scales where needed.

The research is further limited by the overrepresentation of certain social and demographic characteristics in the sample. For example, the sample comprised only fluent English-speaking participants, and most participants resided in Australia (75%) or the United States of America (14.3%); there was a high frequency of participants who identified as “White” (67.1%) or “Asian” (21.2%);

there were higher frequencies of adults in the 18-24 year age group (63.6%) than other age groups; there was an overrepresentation of females (73.4%), and an overrepresentation of female-female friend dyads in both the current close friend subgroup (65.8%) and previous close friend subgroup (64.9%).

Future research could explore whether reducing actor-ostracism of close friends reduces associated negative effects on wellbeing in the short- and long-term. Research could also focus on developing an integrated intervention program for close adult friendships, which combines options for individual therapy, therapy for dyads, and options for involvement of peer group members or romantic partners where appropriate and beneficial.

Conclusion

In this paper, the aim was to investigate ostracism of close friends and dissolution distress in adulthood. Actor ostracism was found to be uncommon in close friendships, especially at higher frequencies. When it occurs, or when there is an increase in this behaviour, this may signal the final stages of the close friendship. In addition, when the behaviour occurs, it is likely that peers are involved who approve of the behaviour and engage in bullying behaviours (ostracism and verbal victimisation). It is also likely that the bullying behaviours are reciprocated by the close friend, resulting in a vicious cycle of behaviours that may prove difficult to reverse in the future. Being the recipient of bullying behaviours was also found to be predictive of higher distress following the dissolution of close friendships. Distress was also predicted by higher desire and commitment to restore the close friendship and likely more difficulties bridging the gap created by the loss of the friendship. Both actor-administered ostracism and dissolution distress were impacted by sexual interest (within-dyads and romantic-partners), with higher interest in any direction predicting higher levels of ostracism and distress. Practice implications and opportunities for future research are discussed, such as the importance of managing conflicts within-dyad rather than peer groups, and the importance of asking about actor ostracism events and the existence of any sexual interest factors (within-dyads or romantic-partner) when working with adult clients on friendship topics.

References

- Adams, J. S. (1965). Inequity in Social Exchange. *Advances in Experimental Social Psychology*, 2, 267-299. [https://doi.org/10.1016/S0065-2601\(08\)60108-2](https://doi.org/10.1016/S0065-2601(08)60108-2)
- Akbulut, V., Jr., & Weger, H., Jr. (2016). Predicting responses to bids for sexual and romantic escalation in cross-sex friendships. *The Journal of Social Psychology*, 156(1), 98–114. <https://doi.org/10.1080/00224545.2015.1066296>
- Allan, G. (2003). Friendship. In K. Christensen, & D. Levinson (Eds.). *Encyclopedia of community* (pp. 512-516). Sage.
- Allumbaugh, D. A. L. (2001). Relationship of interdependent self-construal to grief after the breakup of a romantic relationship: a test of a model. *Retrospective Theses and Dissertations*, 624. <https://lib.dr.iastate.edu/rtd/624>
- Arain, M., Haque, M., Johal, L., Mathur, P., Nel, W., Rais, A., Sandhu, R., & Sharma, S. (2013). Maturation of the adolescent brain. *Neuropsychiatric Disease and Treatment*, 9, 449-461. <https://doi.org/10.2147/NDT.S39776>
- Arslan, G. (2019). Mediating role of the self-esteem and resilience in the association between social exclusion and life satisfaction among adolescents. *Personality and Individual Differences*, 151, 109514. <https://doi.org/10.1016/j.paid.2019.109514>
- Ayduk, Ö., Gyurak, A., & Luerssen, A. (2008). Individual differences in the rejection–aggression link in the hot sauce paradigm: the case of rejection sensitivity. *Journal of Experimental Social Psychology*, 44(3), 775–782. <https://doi.org/10.1016/j.jesp.2007.07.004>
- Backes, S., Brandstatter, V., Kuster, M., Nussbeck, F. W., Bradbury, T. N., Bodenmann, G., & Sutter-Stickel, D. (2017). *Journal of Social and Personal Relationships*, 34(6), 894-914. <https://doi.org/10.1177/0265407516661045>

- Bagwell, C. L., Bender, S. E., Andreassi, C. L., Kinoshita, T. L., Montarello, S. A., & Muller, J. G. (2005). Friendship quality and perceived relationship changes predict psychosocial adjustment in early adulthood. *Journal of Social and Personal Relationships*, 22(2), 235–254. <https://doi.org/10.1177/0265407505050945>
- Baker, L. R., McNulty, J. K., & VanderDrift, L. E. (2017). Expectations for future relationship satisfaction: Unique sources and critical implications for commitment. *Journal of Experimental Psychology: General*, 146(5), 700–721. <https://doi.org/10.1037/xge0000299>
- Barnett, M. A., Vitaglione, G. D., Bartel, J. S., & Sanborn, F. W. (2000). Perceptions of self-oriented and other-oriented “everyday” helpers. *Current Psychology*, 19, 87–109. <https://doi.org/10.1007/s12144-000-1006-8>
- Barnes, S. M., Brown, K. W., Krusemark, E., Campbell, W. K., & Rogge, R. D. (2007). The role of mindfulness in romantic relationship satisfaction and responses to relationship stress. *Journal of Marital and Family Therapy*, 33(4), 482–500. <https://doi.org/10.1111/j.1752-0606.2007.00033.x>
- Beevers, C. G., Ellis, A. J., & Reid, R. M. (2011). Heart rate variability predicts cognitive reactivity to a sad mood provocation. *Cognitive Therapy and Research*, 35(5), 395–403. <https://doi.org/10.1007/s10608-010-9324-0>
- Binder, J. F., Roberts, S. G. B., & Sutcliffe, A. G. (2012). Closeness, loneliness, support: Close ties and significant ties in personal communities. *Social Networks*, 34, 206–214. <https://doi.org/10.1016/j.socnet.2011.12.001>
- Björkqvist, K., Lagerspetz, K. M., & Kaukiainen, A. (1992). Do girls manipulate and boys fight? Developmental trends in regard to direct and indirect aggression. *Aggressive Behavior*, 18(2), 117–127. [https://doi.org/10.1002/1098-2337\(1992\)18:2<117::AID-AB2480180205>3.0.CO;2-3](https://doi.org/10.1002/1098-2337(1992)18:2<117::AID-AB2480180205>3.0.CO;2-3)

- Bleske-Rechek, A., Somers, E., Micke, C., Erickson, L., Matteson, L., Stocco, C., Schumacher, B., & Ritchie, L. (2012). Benefit or burden? Attraction in cross-sex friendship. *Journal of Social and Personal Relationships*, 29(5), 569–596. <https://doi.org/10.1177/0265407512443611>
- Boulton, M., J. Trueman, M., Chau, C., Whitehand, C., & Amatya, K. (1999). Concurrent and longitudinal links between friendship and peer victimization: Implications for befriending interventions. *Journal of Adolescence*, 22(4), 461-466. <https://doi.org/10.1006/jado.1999.0240>
- Bourassa, K. J., Tackman, A. M., Mehl, M. R., & Sbarra, D. A. (2019). Psychological overinvolvement, emotional distress, and daily affect following marital dissolution. *Collabra Psychology*, 5(1), Article 8. <https://doi.org/10.1525/collabra.184>
- Bradbury, T. N., & Fincham, F. D. (1990). Attributions in marriage: Review and critique. *Psychological Bulletin*, 107(1), 3–33. <https://doi.org/10.1037/0033-2909.107.1.3>
- Bukowski, W. M., Hoza, B., & Boivin, M. (1994). Measuring friendship quality during pre- and early adolescence: The development and psychometric properties of the Friendship Qualities Scale. *Journal of Social and Personal Relationships*, 11(3), 471–484. <https://doi.org/10.1177/0265407594113011>
- Mac Carron, P., Kaski, K., & Dunbar, R. (2016). Calling Dunbar’s numbers. *Social Networks*, 47, 151-155. <https://doi.org/10.1016/j.socnet.2016.06.003>
- Carswell, K. L., & Finkel, E. J. (2018a). Can you get the magic back? The moderating effect of passion decay beliefs on relationship commitment. *Journal of Personality and Social Psychology*, 115(6), 1002–1033. <https://doi.org/10.1037/pspi0000147>
- Carswell, K. L., & Finkel, E. J. (2018b). Can you get the magic back? The moderating effect of passion decay beliefs on relationship commitment. *Journal of*

Personality and Social Psychology, 115(6, Suppl.), S1-62.

<https://doi.org/10.1037/pspi0000147>

Chen, Z., DeWall, C. N., Poon, K.-T., & Chen, E.-W. (2012). When destiny hurts: Implicit theories of relationships moderate aggressive responses to ostracism. *Journal of Experimental Social Psychology*, 48(5), 1029–1036.

<https://doi.org/10.1016/j.jesp.2012.04.002>

Chopik, W. J. (2017). Associations among relational values, support, health, and well-being across the adult lifespan. *Personal Relationships*, 24(2), 408–422.

<https://doi.org/10.1111/pere.12187>

Closson, L. M., Hart, N. C., & Hogg, L. D. (2017). Does the desire to conform to peers moderate links between popularity and indirect victimization in early adolescence? *Social Development*, 26(3), 489–

502. <https://doi.org/10.1111/sode.12223>

Collins. (n.d.). Friendship. In *Collinsdictionary.com*. Retrieved May 5, 2022, from

<https://www.collinsdictionary.com/dictionary/english/friendship>

Crocker, J., Canevello, A., & Brown, A. A. (2017). Social motivation: Costs and benefits of selfishness and otherishness. *Annual Review of Psychology*, 68, 299-325.

<https://doi.org/10.1146/annurev-psych-010416-044145>

Davis, D., Shaver, P. R., Vernon, M. L. (2003). Physical, emotional, and behavioral reactions to breaking up: The roles of gender, age, emotional involvement, and attachment style. *Personality and Social Psychology Bulletin*, 29(7), 871-884.

<https://doi.org/10.1177/0146167203029007006>

Doeniyas, C. (2017). Self versus other oriented social motivation, not lack of empathy or moral ability, explains behavioral outcomes in children with high theory of mind abilities. *Motivation & Emotion*, 41(6), 683-697. [https://doi.org/10.1007/s11031-](https://doi.org/10.1007/s11031-017-9636-4)

[017-9636-4](https://doi.org/10.1007/s11031-017-9636-4)

- Dunbar, R. I. M. (1993). Coevolution of neocortical size, group size and language in humans. *Behavioral and Brain Sciences*, 16(4), 681-735. <https://doi.org/10.1017/S0140525X00032325>
- Dunbar, R., & Machin, A. (2014). Sex differences in relationship conflict and reconciliation. *Journal of Evolutionary Psychology*, 12(2-4), 109-133. <https://doi.org/10.1556/jep-d-13-00024>
- Eisenberger, N., & Lieberman, M. D. (2004). Why rejection hurts: A common neural alarm system for physical and social pain. *Trends in Cognitive Sciences*, 8(7), 294-300. <https://doi.org/10.1016/j.tics.2004.05.010>
- Eastwick, P. W., Finkel, E. J., Krishnamurti, T., & Loewenstein, G. (2008). Mispredicting distress following romantic breakup: Revealing the time course of the affective forecasting error. *Journal of Experimental Social Psychology*, 44(3), 800–807. <https://doi.org/10.1016/j.jesp.2007.07.001>
- Erdley, C. A., & Day, H. J. (2017). Friendship in childhood and adolescence. In M. Hojjat & A. Moyer (Eds.), *The psychology of friendship* (pp. 3–19). Oxford University Press.
- Ferris, L. J., Jetten, J., Hornsey, M. J., & Bastian, B. (2019). Feeling hurt: Revisiting the relationship between social and physical pain. *Review of General Psychology*, 23(3), 320–335. <https://doi.org/10.1177/1089268019857936>
- Field, T., Diego, M., Pelaez, M., Deeds, O., & Delgado, J. (2009). Breakup distress in university students. *Adolescence*, 44(176), 705-727.
- Field, T., Diego, M., Pelaez, M., Deeds, O., & Delgado, J. (2011). Breakup distress in university students: A review. *College Student Journal*, 45(3), 461–480.
- Forbes, M. K., Magson, N. R., & Rapee, R. M. (2020). Evidence that different types of peer victimization have equivalent associations with transdiagnostic psychopathology in adolescence. *Journal of Youth and Adolescence*, 49(3), 590–604. <https://doi.org/10.1007/s10964-020-01202-4>

- Foster, S. L., & Bussman, J. R. (2008). Evidence-based approaches to social skills training with children and adolescents. In R. G. Steele, T. D. Elkin, & M. C. Roberts (Eds.), *Handbook of evidence-based therapies for children and adolescents: Bridging science and practice* (pp. 409–427). Issues in Clinical Child Psychology. New York, NY: Springer.
- Fung, H. H., Carstensen, L. L., & Lang, F. R. (2001). Age-related patterns in social networks among European Americans and African Americans: Implications for socioemotional selectivity across the life span. *The International Journal of Aging & Human Development*, 52(3), 185–206. <https://doi.org/10.2190/1ABL-9BE5-M0X2-LR9V>
- Fung, H. H., Yeung, D. Y., Li, K., & Lang, F. R. (2009). Benefits of negative social exchanges for emotional closeness. *The Journals of Gerontology: Series B*, 64B(5), 612–621, <https://doi.org/10.1093/geronb/gbp065>
- Furman, W., Berger, L., & Hohmann, L. (n.d.). Friendship. In *Encyclopedia Britannica*. Retrieved May 5, 2022, from <https://www.britannica.com/topic/friendship>
- Glover, T. D., & Parry, D. C. (2008). Friendship developed subsequent to a stressful life event: The interplay of leisure, social capital, and health. *Journal of Leisure Research*, 42(2), 208–230. <https://doi.org/10.1080/00222216.2008.11950138>
- Gunther Moor, B., Crone, E. A., & van der Molen, M. W. (2010). The heartbrake of social rejection: Heart rate deceleration in response to unexpected peer rejection. *Psychological Science*, 21, 1326–1333. <https://doi.org/10.1177/0956797610379236>
- Guerrero, L. K., & Chavez, A. M. (2005). Relational maintenance in cross-sex friendships characterized by different types of romantic intent: An exploratory study. *Western Journal of Communication*, 69(4), 339–358. <https://doi.org/10.1080/10570310500305471>

- Hales, A. H., Wesselmann, E. D., & Williams, K. D. (2020). Social ostracism, religion, and existential concerns. In K. E. Vail (Ed.), *The science of religion, spirituality, and existentialism* (pp. 153-166). Elsevier Academic Press.
<https://doi.org/10.1016/B978-0-12-817204-9.00012-3>
- Harasymchuk, C., & Fehr, B. (2019). Responses to dissatisfaction in friendships and relationships: An interpersonal script analysis. *Journal of Social and Personal Relationships*, 36(6), 1651-1670. <https://doi.org/10.1177/0265407518769451>
- Hebert, S., & Popadiuk, N. (2008). University students' experiences of nonmarital breakups: A grounded theory. *Journal of College Student Development*, 49(1), 1–14. <https://doi.org/10.1353/csd.2008.0008>
- Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology*, 74, 797-816. <http://dx.doi.org/10.1037/0022-006X.74.5.797>
- Hess, T. M., Osowski, N. L., & Leclerc, C. M. (2005). Age and Experience Influences on the Complexity of Social Inferences. *Psychology and Aging*, 20(3), 447–459.
<https://doi.org/10.1037/0882-7974.20.3.447>
- Hill, R. A., & Dunbar, R. I. M. (2003). Social network size in humans. *Human Nature*, 14(1), 53-72. <https://doi.org/10.1007/s12110-003-1016-y>
- Hill, C. T., Rubin, Z., & Peplau, L. A. (1976). Breakups before marriage: The end of 103 affairs. *Journal of Social Issues*, 32(1), 147–168. <https://doi.org/10.1111/j.1540-4560.1976.tb02485.x>
- Hofmann, W., Brandt, M. J., Wisneski, D. C., Rockenbach, B., & Skitka, L. J. (2018). Moral punishment in everyday life. *Personality and Social Psychology Bulletin*, 44(12), 1697-1711. <https://doi.org/10.1177/0146167218775075>
- Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic

review. *Perspectives on Psychological Science*, 10(2), 227–237.

<https://doi.org/10.1177/1745691614568352>

Hwang, H. G., Suh, J., Balbona, J., Sodhi, S., & Markon, L. (2020). The crude ostracism detection system: Pupils react to minimal cues of exclusion. *Journal of Social and Personal Relationships*, 37(4), 1225-1244.

<https://doi.org/10.1177/0265407519891242>

Iffland, B., Sansen, L. M., Catani, C., & Neuner, F. (2014). Rapid heartbeat, but dry palms: Reactions of heart rate and skin conductance levels to social rejection. *Frontiers in Psychology*, 5, 956. <https://doi.org/10.3389/fpsyg.2014.00956>

Jaubert, T., Chekroun, P., Legal, J., & Gosling, P. (2022). You are not alone! Sharing ostracism fosters group identification but does not improve well-being. *Social Psychology*, 53, 163-177. <https://doi.org/10.1027/1864-9335/a000488>

Jones, S. E., & Rutland, A. (2020). Children's social appraisal of exclusion in friendship groups. *International Journal of Bullying Prevention*, 2, 129–138.

<https://doi.org/10.1007/s42380-019-00022-w>

Kalemi, G., Michopoulos, I., Efstathiou, V., Konstantopoulou, F., Tsaklakidou, D., Gournellis, R., & Douzenis, A. (2019). Narcissism but not criminality is associated with aggression in women: A study among female prisoners and women without a criminal record. *Frontiers in Psychiatry*, 10, Article 21.

<https://doi.org/10.3389/fpsyg.2019.00021>

Kansky, J., & Allen, J. P. (2018). Long-Term Risks and Possible Benefits Associated with Late Adolescent Romantic Relationship Quality. *Journal of Youth and Adolescence* 47(7), 1531–1544. <https://doi.org/10.1007/s10964-018-0813-x>

Kelly, M., McDonald, S., & Rushby, J. (2012). All alone with sweaty palms - Physiological arousal and ostracism. *International Journal of Psychophysiology*, 83, 309–314. <http://dx.doi.org/10.1016/j.ijpsycho.2011.11.008>

- King, A. R., Russell, T., & Veith, A. C. (2016). Friendship and Mental Health Functioning. *Psychology Faculty Publications*, 21, 249-266.
<https://commons.und.edu/psych-fac/21>
- Ladd, G. W., & Kochenderfer-Ladd, B. (2002). Identifying victims of peer aggression from early to middle childhood: Analysis of cross-informant data for concordance, estimation of relational adjustment, prevalence of victimization, and characteristics of identified victims. *Psychological Assessment*, 14(1), 74–96.
<https://doi.org/10.1037/1040-3590.14.1.74>
- Lang, F. R., & Carstensen, L. L. (1994). Close emotional relationships in late life: Further support for proactive aging in the social domain. *Psychology and Aging*, 9(2), 315–324. <https://doi.org/10.1037/0882-7974.9.2.315>
- Langeslag, S. J. E., & Sanchez, M. E. (2018). Down-regulation of love feelings after a romantic break-up: Self-report and electrophysiological data. *Journal of Experimental Psychology: General*, 147(5), 720–733.
<https://doi.org/10.1037/xge0000360>
- Legate, N., Weinstein, N., & Ryan, R. M. (2021). Ostracism in real life: Evidence that ostracizing others has costs, even when it feels justified. *Basic and Applied Social Psychology*, 43(4), 226-238. <https://doi.org/10.1080/01973533.2021.1927038>
- Lehmann, V., Tuinman, M., Braeken, J., Vingerhoeats, A. J. J. M., Sanderman, R., & Hagedoorn, M. (2015). Satisfaction with relationship status: Development of a new scale and the role in predicting well-being. *Journal of Happiness Studies*, 16, 169-184. <http://doi.org/10.1007/S10902-014-9503-X>
- Lemay, E. P., Jr. (2016). The forecast model of relationship commitment. *Journal of Personality and Social Psychology*, 111(1), 34–52.
<https://doi.org/10.1037/pspi0000052>

- Lemay, E. P., & Clark, M. (2009). Self-esteem and communal responsiveness toward a flawed partner: The fair-weather care of low-self-esteem individuals. *Personality and Social Psychology Bulletin*, 35(6), 698-712.
<https://doi.org/10.1177/0146167209332964>
- Lewandowski, G. W., Jr., & Bizzoco, N. M. (2007). Addition through subtraction: Growth following the dissolution of a low quality relationship. *The Journal of Positive Psychology*, 2(1), 40–54. <https://doi.org/10.1080/17439760601069234>
- Little, T. D., Jones, S. M., Henrich, C. C., & Hawley, P. H. (2003). Disentangling the "whys" from the "whats" of aggressive behaviour. *International Journal of Behavioral Development*, 27(2), 122–133.
<https://doi.org/10.1080/01650250244000128>
- Liu, C., Yang, J., & Gu, X. (2021). Antecedents of workplace ostracism. In C. Liu & J. Ma (Eds.), *Workplace ostracism: Its nature, antecedents, and consequences* (pp. 65-99). Palgrave Macmillan/Springer Nature. https://doi.org/10.1007/978-3-030-54379-2_3
- Lo Presti, A., Pappone, P., & Landolfi, A. (2019). The associations between workplace bullying and physical or psychological negative symptoms: Anxiety and depression as mediators. *European Journal of Psychology*, 15(4), 808-822.
<https://doi.org/10.5964/ejop.v15i4.1733>
- Locker, L. R., McIntosh, W. D., Hackney, A. A., Wilson, J. H., & Wiegand, K. (2010). The breakup of romantic relationships: Situational predictors of perception of recovery. *North American Journal of Psychology*, 12(3), 565-578.
<http://digitalcommons.georgiasouthern.edu/psych-facpubs/97>
- Lutz, S. (2022). Why don't you answer me?! Exploring the effects of (repeated exposure to) ostracism via messengers on users' fundamental needs, well-being, and coping motivation. *Media Psychology*, No Pagination Specified.
<https://doi.org/10.1080/15213269.2022.2101008>

- Maciel, S. C., Pereira, C. R., de Lima, T. J. S., de Souza, L. E. C., Camino, L., & Silva, G. L. S. (2019). Social exclusion of people who suffer from mental disorders: A proposal for an explanatory model. *Paidéia*, 29, e2915.
<https://doi.org/10.1590/1982-4327e2915>
- Madison, J. K., & Madison, L. S. (2013). A review of research-based interventions on marriage preparation. *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, 31, 67– 74. <https://doi.org/10.1007/s10942-013-0160-5>
- Mallott, M. A., Maner, J. K., DeWall, N., & Schmidt, N. B. (2009). Compensatory deficits following rejection: The role of social anxiety in disrupting affiliative behavior. *Depression & Anxiety*, 26(5), 438-446. <https://doi.org/10.1002/da.20555>
- Marshall, T. C., Bejanyan, K., & Ferenczi, N. (2013). Attachment styles and personal growth following romantic breakups: The mediating roles of distress, rumination, and tendency to rebound. *PLoS One*, 8(9), 1-11.
<https://doi.org/10.1371/journal.pone.0075161>
- Masi, C. M., Chen, H. Y., Hawkley, L. C., & Cacioppo, J. T. (2011). A meta-analysis of interventions to reduce loneliness. *Personality and Social Psychology Review*, 15 (3). 219– 267. <https://doi.org/10.1177/1088868310377394>
- Mathieson, L. C., Klimes-Dougan, B., & Crick, N. R. (2014). Dwelling on it may make it worse: The links between relational victimization, relational aggression, rumination, and depressive symptoms in adolescents. *Development and Psychopathology*, 26(3), 735-747. <https://doi.org/10.1017/S0954579414000352>
- McIver, T. A., Bosma, R. L., Sandre, A., Goegan, S., Klassen, J. A., Chiarella, J., Booij, L., & Craig, W. (2018). Peer victimization is associated with neural response to social exclusion. *Merrill-Palmer Quarterly*, 64(1), 135-161.
<https://doi.org/10.13110/merrpalmquar1982.64.1.0135>
- McNulty, J. K. (2016). Highlighting the contextual nature of interpersonal relationships. In J. M. Olson & M. P. Zanna (Eds.), *Advances in experimental social psychology*

(pp. 247–315). Elsevier Academic Press.

<https://doi.org/10.1016/bs.aesp.2016.02.003>

McNulty, J. K., & Dugas, A. (2019). A dyadic perspective on gratitude sheds light on both its benefits and its costs: Evidence that low gratitude acts as a “weak link”.

Journal of Family Psychology, 33(7), 876–881.

<https://doi.org/10.1037/fam0000533>

Meyer, M. L., Berkman, E. T., Karremans, J. C., & Lieberman, M. D. (2011). Incidental regulation of attraction: The neural basis of the derogation of attractive alternatives in romantic relationships. *Cognition and Emotion*, 25(3), 490–505.

<https://doi.org/10.1080/02699931.2010.527494>

Meyer, M. L., Williams, K. D., & Eisenberger, N. I. (2015). Why social pain can live on: Different neural mechanisms are associated with reliving social and physical pain.

PLoS, 10(6), e0128294. <https://doi.org/10.1371/journal.pone.0128294>

Morf, C. C., & Rhodewalt, F. (2001). Unravelling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological Inquiry*, 12(4), 177–

196. https://doi.org/10.1207/S15327965PLI1204_1

Nauman, S., Malik, S. Z., & Jalil, F. (2019). How workplace bullying jeopardizes employees’ life satisfaction: The roles of job anxiety and insomnia. *Frontiers in Psychology*, 10, Article 2292.

<https://doi.org/10.3389/fpsyg.2019.02292>

Nezlek, J. B., Imbrie, M., & Shean, G. D. (1994). Depression and everyday social interaction. *Journal of Personality and Social Psychology*, 67(6), 1101–

1111. <https://doi.org/10.1037/0022-3514.67.6.1101>

Nezlek, J. B., Wesselmann, E. D., Wheeler, L., & Williams, K. D. (2015). Ostracism in everyday life: The effect of ostracism on those who ostracize. *The Journal of Social Psychology*, 155(5), 432–451.

<https://doi.org/10.1080/00224545.2015.1062351>

- Ng, Y. T., Huo, M., Gleason, M. E., Neff, L. A., Charles, S. T., & Fingerman, K. L. (2021). Friendships in old age: Daily encounters and emotional well-being. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 76(3), 551-562. <https://doi.org/10.1093/geronb/gbaa007>
- PACER's National Bullying Prevention Center (n.d.). *How is "direct bullying" different from "indirect bullying"?* <https://www.pacer.org/bullying/info/questions-answered/direct-vs-indirect.asp>
- Paolini, D., Alparone, F. R., Cardone, D., van Beest, I., & Merla, A. (2016). "The face of ostracism": The impact of the social categorization on the thermal facial responses of the target and the observer. *Acta Psychologica*, 163, 65–73. <https://doi.org/10.1016/j.actpsy.2015.11.001>
- Plamondon, A., & Lachance-Grzela, M. (2018). What if they are right? Network approval, expectations, and relationship maintenance behaviors. *Personal Relationships*, 25(2), 190-204. <https://doi.org/10.1111/pere.12236>
- Prigerson, H. G., Maciejewski, P. K., Reynolds III, C. F., Bierhals, A. J., Newsom, J. T., Fasiczka, A., Frank, E., Doman, J., & Miller, M. (1995). Inventory of complicated grief: A scale to measure maladaptive symptoms of loss. *Psychiatry Research*, 59(1-2), 65-79. [https://doi.org/10.1016/0165-1781\(95\)02757-2](https://doi.org/10.1016/0165-1781(95)02757-2)
- Reknes, I., Visockaite, G., Liefoghe, A., Lovakov, A., & Einarsen, S. V. (2019). Locus of control moderates the relationship between exposure to bullying behaviors and psychological strain. *Frontiers in Psychology*, 10, 1323. <https://doi.org/10.3389/fpsyg.2019.01323>
- Rudert, S. C., Janke, S., & Greifeneder, R. (2020). The experience of ostracism over the adult life span. *Developmental Psychology*, 56(10), 1999–2012. <https://doi.org/10.1037/dev0001096>
- Rudert, S. C., Sutter, D., Corrodi, V. C., & Greifeneder, R. (2018). Who's to blame? Dissimilarity as a cue in moral judgments of observed ostracism episodes. *Journal*

- of Personality and Social Psychology*, 115(1), 31–53.
<https://doi.org/10.1037/pspa0000122>
- Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology*, 45(1), 101–117.
<https://doi.org/10.1037/0022-3514.45.1.101>
- Silk, J. S., Stroud, L. R., Siegle, G. J., Dahl, R. E., Lee, K. H., & Nelson, E. E. (2012). Peer acceptance and rejection through the eyes of youth: Pupillary, eyetracking and ecological data from the chatroom interact task. *Social Cognitive and Affective Neuroscience*, 7, 93–105. <https://doi.org/10.1093/scan/nsr044>
- Sona Systems (n.d.). *Sona Systems: Cloud-based Participant Management Software*.
<https://www.sona-systems.com>
- Sprecher, S., Felmlee, D., Metts, S., Fehr, B., & Vanni, D. (1998). Factors associated with distress following the breakup of a close relationship. *Journal of Social and Personal Relationships*, 15(6), 791–809. <https://doi.org/10.1177/0265407598156005>
- Steinberg, L., & Monahan, K. C. (2007). Age differences in resistance to peer influence. *Developmental Psychology*, 43(6), 1531–1543. <https://doi.org/10.1037/0012-1649.43.6.1531>
- Sutin, A. R., Stephan, Y., Luchetti, M., & Terracciano, A. (2020). Loneliness and risk of dementia. *The Journals of Gerontology Series B Psychological Sciences and Social Sciences*, 75(7), 1414–1422. <https://doi.org/10.1093/geronb/gby112>
- Sweeney, M. M. (2002). Remarriage and the nature of divorce: Does it matter which spouse chose to leave? *Journal of Family Issues*, 23(3), 410–440.
<https://doi.org/10.1177/0192513X02023003005>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Boston, MA: Allyn and Bacon.

- Tan, K., Agnew, C. R., VanderDrift, L. E., & Harvey, S. M. (2015). Committed to us: Predicting relationship closeness following nonmarital romantic relationship breakup. *Journal of Social and Personal Relationships*, 32(4), 456–471.
<https://doi.org/10.1177/0265407514536293>
- Tatar, Z. B., & Yüksel, S. (2019). Mobbing at workplace – Psychological trauma and documentation of psychiatric symptoms. *Archives of Neuropsychiatry*, 56(1), 57-62. <https://doi.org/10.29399/npa.22924>
- Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9, 455–471. <https://doi.org/10.1007/BF02103658>
- Thornberg, R. (2017). School bullying and fitting into the peer landscape: A grounded theory field study. *British Journal of Sociology of Education*, 39(1), 144–158.
<https://doi.org/10.1080/01425692.2017.1330680>
- Till, B., Tran, U. S., & Niederkrotenthaler, T. (2017). Relationship satisfaction and risk factors for suicide. *Crisis – The Journal of Crisis Intervention and Suicide Prevention*, 38(1), 7-16. <https://doi.org/10.1027/0227-5910/a000407>
- Trade Promotion Lottery Permits for Competitions, TPAL. (2022, April 28). *Generate random numbers*. <https://www.randomdraws.com/au/random-number-generator/?count=1&lower=1&upper=827&unique=false&group=false&sort=0&dir=1>
- Troop-Gordon, W., MacDonald, A. P., & Corbitt-Hall, D. J. (2019). Children’s peer beliefs, friendlessness, and friendship quality: Reciprocal influences and contributions to internalizing symptoms. *Developmental Psychology*, 55(11), 2428–2439. <https://doi.org/10.1037/dev0000812>
- Troop-Gordon, W., & Ladd, G. W. (2005). Trajectories of Peer Victimization and Perceptions of the Self and Schoolmates: Precursors to Internalizing and

- Externalizing Problems. *Child Development*, 76(5), 1072–1091.
<https://doi.org/10.1111/j.1467-8624.2005.00898.x>
- Turner, R. J., & Brown, R. L. (2010). *Social support and mental health: A handbook for the study of mental health; Social contexts, theories, and systems* (2nd ed).
 Cambridge University Press.
- Twenge, J. M., & Campbell, W. K. (2003). “Isn't it fun to get the respect that we're going to deserve?” Narcissism, social rejection, and aggression. *Personality & Social Psychology Bulletin*, 29(2), 261-272. <https://doi.org/10.1177/0146167202239051>
- VanderDrift, L. E., Lehmiller, J. J., & Kelly, J. R. (2012). Commitment in friends with benefits relationships: Implications for relational and safe-sex outcomes. *Personal Relationships*, 19(1), 1–13. <https://doi.org/10.1111/j.1475-6811.2010.01324.x>
- Vanderhasselt, M. A., Remue, J., Ng, K. K., Mueller, S. C., & De Raedt, R. (2015). The regulation of positive and negative social feedback: A psychophysiological study. *Cognitive, Affective, and Behavioral Neuroscience*, 15, 553–563.
<https://doi.org/10.3758/s13415-015-0345-8>
- Vveinhardt, J., & Fominiene, V, B. (2020). Bullying trends inside sport: When organized sport does not attract but intimidates. *Movement Science & Sport Psychology*, 11, 2037. <https://doi.org/10.3389/fpsyg.2020.02037>
- Wang, Y. (2022). The impact mechanism of constructive deviance on workplace ostracism: The roles of political skill and workplace friendship. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues*, No Pagination Specified. <https://doi.org/10.1007/s12144-022-03419-x>
- Weger, H. Jr., & Emmett, M. C. (2009). Romantic intent, relationship uncertainty, and relationship maintenance in young adults' cross-sex friendships. *Journal of Social and Personal Relationships*, 26(6-7), 964-988.
<https://doi.org/10.1177/0265407509347937>

- Weiss, A., & Burgmer, P. (2021). Other-serving double standards: People show moral hypercrisis in close relationships. *Journal of Social and Personal Relationships*, 38(11), 3198-3218. <https://doi.org/10.1177/02654075211022836>
- Wesselmann, E. D., & Butler, F. A., Williams, K. D., & Pickett, C. L. (2010). Adding injury to insult: Unexpected rejection leads to more aggressive responses. *Aggressive Behaviour*, 36(4), 232-237. <https://doi.org/10.1002/ab.20347>
- Wesselmann, E. D., & Williams, K. D. (2017). Social life and social death: Inclusion, ostracism, and rejection in groups. *Group Processes & Intergroup Relations*, 20(5), 693–706. <https://doi.org/10.1177/1368430217708861>
- Wetherall, K., Robb, K., & O'Connor, R. (2019). Social rank theory of depression: A systematic review of self-perceptions of social rank and their relationship with depressive symptoms and suicide risk. *Journal of Affective Disorders*, 246, 300-319. <https://doi.org/10.1016/j.jad.2018.12.045>
- Williams, K. D. (2007). Ostracism. *Annual Review of Psychology*, 58(1), 425-452. <https://doi.org/10.1146/annurev.psych.58.110405.085641>
- Williams, K. D. (2009). Ostracism: Effects of being excluded and ignored. In M. Zanna (Ed.), *Advances in experimental social psychology* (pp. 275–314). New York, NY: Academic Press.
- Williams, K. D., & Govan, C. L. (2005). Reacting to Ostracism: Retaliation or Reconciliation? In D. Abrams, M. A. Hogg, & J. M. Marques (Eds.), *The social psychology of inclusion and exclusion* (pp. 47–62). Psychology Press.
- Wojcik, M., & Flak, W. (2021). Frenemy: A new addition to the bullying circle. *Journal of Interpersonal Violence*, 36, 19-20. <https://doi.org/10.1177/0886260519880168>
- Wójcik, M., & Rzeńca, K. (2021). Disclosing or hiding bullying victimization: A grounded theory study from former victims' point of view. *School Mental Health: A Multidisciplinary Research and Practice Journal*, 13(4), 808–818. <https://doi.org/10.1007/s12310-021-09447-5>

Wójcik, M., Thronberg, R., Flak, W., & Lesniewski, J. (2021). Downward spiral of bullying: Victimization timeline from former victims' perspective. *Journal of Interpersonal Violence*, 1-24. <https://doi.org/10.1177/0886260521990835>

Declaration

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Appendix C: Participation information sheet and consent form

General participant information sheet

Hello! You are invited to participate in our research project about adult friendships!

What is this project about?

Friendships are important in human lives. Although satisfaction in friendships is linked to better mental health outcomes, the likelihood of a close friendship lasting long term is tenuous. It is not well understood why some adult friendships last, and others do not, or what influences people to repair closeness in some friendships but not others. This makes it difficult for willing individuals or friends to access support or interventions that are focused on maintaining or repairing close friendships.

Eligibility?

18+ years and fluent English speaking

What are the potential benefits of this research project?

It is hoped that this study and its findings will:

- 1) Give participants an opportunity to reflect on the quality of their adult friendships and the future of their friendships;
- 2) Improve the sustainability and restoration of friendships; and
- 3) Lead to the development of targeted intervention programs for people wishing to maintain or restore friendships.

Important:

The survey needs to be **completed on the SAME DEVICE AND BROWSER**

A **COMPUTER** is **highly recommended** because it is much more user friendly.

To change to computer: please type <https://bit.ly/30e8eKI> into your computer browser now. You cannot change part way without contacting the researchers because of the nature of the program used (the program considers all new browser and devices as separate entries. Please switch to a computer now if you want to. Contact the researchers if you would like to change devices/browser part way through the survey and we will send you a link to the place you are up to.

If you are using a MOBILE PHONE please make sure to open the link in a **NEW browser** (i.e. rather than clicking on a link on Facebook otherwise you can't get back into the survey later on).

*****If you have been SENT BACK TO THIS PAGE** after completing some of the survey OR have completed some of the survey on a MOBILE PHONE and **wish to CHANGE TO A COMPUTER***** then please email the researcher: a1094809@adelaide.edu.au for a new link - you will be sent out a link to the exact place you were in the questionnaire - your previous responses WILL have been recorded on the program so you WON'T have to redo the questions you have done so far! You will then be able to continue on a computer if you choose.

What am I being invited to do?

- 1) You will be asked to fill in an online questionnaire.
- 2) You will be asked to select two people: one Current Close Friend and one Previous Close Friend (definitions are provided below) and fill in the questionnaire about your experience and views of being friends with each of them, as well as some answer some questions about yourself, such as your age and personality.
- 3) You will be invited to fill in a smaller version of the survey 6 and 12 months later to identify any changes in your closeness with both your Current Close Friend and Previous Close Friend.

How much time will my involvement in the project take?

Survey Part 1 will take approx. 75 minutes to complete.

Survey Part 2 and Part 3 (6 and 12 months later – follow ups) will take approx. 30 minutes each to complete.

Each survey can be completed over a *1 month period in smaller sections or in one sitting. The researchers may send you weekly reminder emails to complete over that period.

Are there any risks associated with participating in this project?

There is a small risk that some of the questions might make you feel uncomfortable, especially around the reasons for decay in the friendships discussed. You should talk to your psychologist, counsellor or consulting General Practitioner if you need help with any discomfort you might feel. You can also contact the study supervisors, A/Prof Rachel Roberts or Dr. Michael Proeve on the contact numbers below.

If taking part in this project leaves you with any thoughts or feelings you want to talk about to someone other than a Psychologist, Counsellor or General Practitioner, then you can also contact 000* (for emergencies only), Lifeline* (13 11 14 – non emergency), BeyondBlue* (1300 224 636 – non emergency), or speak to someone you trust (e.g. friends or family).

*Please note that these numbers are for Australian residents only. If you are not an current Australian resident you need to use the appropriate emergency service or mental health helplines available in the country.

Can I withdraw from the project?

Yes, participation in this project is completely voluntary. If you agree to participate, you can withdraw from the study at any time.

Consent form

1. I have read the attached Information Sheet and agree to take part in the following research project:

Title: Why some friendships last and others don't

2. I have had the project, so far as it affects me, and the potential risks and burdens fully explained to my satisfaction by the research worker. I have had the opportunity to ask any questions I may have about the project and my participation. My consent is given freely.

3. I have been given the opportunity to have a member of my family or a friend present while the project was explained to me.

4. Although I understand the purpose of the research project, it has also been explained that my involvement may not be of any benefit to me.

5. I agree to participate in the activities outlined in the participant information sheet.

6. I understand that I am free to withdraw from the project at any time.

- *University of Adelaide students (only): I understand that withdrawal from the project will not affect my study at the University now or in the future.

7. I have been informed that the information gained in the project may be published in a book/journal article/thesis/news article/conference presentations/website/report etc.

8. I have been informed that in the published materials I will not be identified and my personal results will not be divulged.

9. I understand my information will only be disclosed according to the consent provided, except where disclosure is required by law.

10. I am aware that I should keep a copy of this Consent Form, when completed, and the attached Information Sheet.

11. I understand that the data may be used in a further intervention study as part of this project, and that consent to participate will be sought via email by the researchers if an intervention is developed.

After reading the information sheet and consent form please tick the box below...

☐ Yes, I have read the participant information and consent form and consent to participate in the study

Appendix D: Factors associated with interpersonal relationship outcomes in the literature

An extensive review of the interpersonal relationship literature (e.g., child/adolescent friendship and adult romantic relationship literature) identified an enormous number of factors were associated with relationship outcomes.

Significant factors included:

- Age (e.g., Karney & Bradbury, 1995)
- Aggression and power imbalances (e.g., Ksenofontov & Becker, 2020; Laninga-Wijnen et al., 2021; Overall et al., 2016; Sadikaj et al., 2017)
- Alignment of political beliefs (e.g., Poteat et al., 2011)
- Alignment of religious beliefs (e.g., Maciel et al., 2019)
- Altercations (e.g., Kito, 2016)
- Alternatives (e.g., Camirand & Poulin, 2019; Ogolsky et al., 2017)
- Attachment style (e.g., Hudson et al., 2020; McNeilis & Segrin, 2019; Molero et al., 2017; Overall & Lemay, 2016)
- Authenticity (e.g., Peets & Hodges, 2016)
- Boredom (e.g., Harasymchuk & Fehr, 2012)
- Break-up (e.g., Eastwick et al., 2008; Tan et al., 2015)
- Busyness (e.g., Lavner & Clark, 2017)
- Caring (e.g., Lemay & Spongberg, 2015; Kito, 2016)
- Coercive and prosocial behaviours (e.g., Carswell & Finkel, 2018a; Laninga-Wijnen et al., 2020; McCoy et al., 2017; Pronk et al., 2019)
- Cognitive interdependence (e.g., Davis & Weigel, 2020)
- Commitment (e.g., Baker et al., 2017; Lemay et al., 2015; VanderDrift et al., 2012)
- Common interests (e.g., Kito, 2016)
- Communication ability (e.g., Baker & McNulty, 2011; Taggart et al., 2019)
- Conflict management (e.g., Agnew & VanderDrift, 2015; Ogolsky et al., 2017; Overall & McNulty, 2017; Taggart et al., 2019)
- Contact (e.g., Tan et al., 2015)
- Current satisfaction (e.g., Baker et al., 2017)
- Distress (e.g., Bhui et al., 2017)
- Eccentricity (e.g., Wright et al., 2012);
- Emotional and practical support (e.g., Lorenzo et al., 2018)
- Empathy (e.g., Sened et al., 2017)
- Entitlement (e.g., Campbell et al., 2004)
- Envy (e.g., Montal-Rosenberg & Moran, 2022)
- Expected future satisfaction (e.g., Baker et al., 2017)
- Forgiveness (e.g., McNulty, 2011)
- Gratitude (e.g., McNulty & Dugas, 2019; Ogolsky et al., 2017; Vollman et al., 2019)
- Hygiene/body odour (e.g., Keaveny & Mahmut, 2021)

- Hypocrisy and hypercrisy (e.g., Weiss & Burgmer, 2021)
- Implicit beliefs (e.g., Carswell & Finkel, 2018a; Kammrath & Dwerk, 2006)
- Ingratiation (e.g., Lemay & Spongberg, 2015)
- Intelligence (e.g., Kito, 2016; Ogolsky et al., 2017)
- Jealousy (e.g., Neal & Lemay, 2014)
- Judgementalism (e.g., Drouvelis & Powdthavee, 2015)
- Kindness (e.g., Kito, 2016)
- Life events (e.g., Roberts & Dunbar, 2015)
- Likeability (e.g., Closson et al., 2017; Van Zalk et al., 2020)
- Liking (e.g., Kito, 2016; Rudert et al., 2020)
- Locus of control (e.g., Hisli Sahin et al., 2009; Ramezani & Gholtash, 2015; Reknes et al., 2019)
- Popularity (e.g., Closson et al., 2017; Wetherall et al., 2019)
- Plans to improve (e.g., Baker et al., 2017)
- Love (e.g., Clark et al., 2020; Kito, 2016)
- Loyalty (e.g., Kito, 2016)
- Maintenance behaviours (e.g., Ogolsky et al., 2017; Palmondon & Lachance-Grzela, 2018; Rousseau et al., 2019)
- Mental health (e.g., Maciel et al., 2019; Mlawer et al., 2019; Morgan et al., 2019; Meerum Terwogt & Mol, 2005)
- Network approval (e.g., Busboom et al., 2002; Rudert et al., 2018)
- Optimism (e.g., Puig-Perez et al., 2018)
- Ostracism (e.g., Closson et al., 2017; Hales et al., 2016; Rudert et al., 2020)
- Peer conformity goals (e.g., Closson et al., 2017)
- Perfectionism (self or other; e.g., Kito, 2016)
- Persistence (e.g., Sommer & Baumeister, 2002)
- Personality (e.g., Malouff et al., 2010; Hales et al., 2016; Roberts & Dunbar, 2015)
- Pessimism (e.g., Shackman et al., 2018)
- Positive illusory beliefs (e.g., “ideal”; Buyukcan-Tetik et al., 2017; Ogolsky et al., 2017)
- Pride (e.g., Bollo et al., 2018)
- Readiness to change (e.g., Micic et al., 2009)
- Reassurance seeking (e.g., Lord et al., 2020)
- Reciprocation (e.g., Clark et al., 2017)
- Relationship duration (e.g., Buhler et al., 2021)
- Respect (e.g., Kito, 2016)
- Self-efficacy (e.g., Baker & McNulty, 2020)
- Self-respect and self-esteem (e.g., Clucas, 2020; Robin et al., 2001)
- Selfishness (e.g., Rosenberger et al., 2020)
- Sexual interest (e.g., Kito, 2016)
- Shared activities (e.g., Messman et al., 2000)

- Showing off (e.g., Iredale et al., 2008)
- Silliness, laughter and humour (e.g., Kurtz & Algoe, 2016)
- Similarity and conformity of morals (e.g., Pfundmair, 2019)
- Skill similarity (e.g., Wrzus, 2008)
- Trust (e.g., Levine et al., 2018; Wieselquist, 2007)
- Trustworthiness (e.g., Yip & Schweitzer, 2015)
- Truthfulness (e.g., Kito, 2016)
- Victimisation (e.g., Closson et al., 2017; Forbes et al., 2020)

Appendix E: Factor groupings

Distal factors

Self

Age, gender, sexual orientation, personality traits, implicit beliefs, locus of control, self-esteem, attachment, and perceived intelligence

Friend

Age, gender, sexual orientation, personality traits, self-esteem, attachment to Self, and perceived intelligence

Intrapersonal processes

Self

Negative emotions, positive emotions, emotional closeness across friendship, current emotional closeness, sympathy group, concern for welfare, current hurt, current like, positive illusory beliefs, plans to improve, expected future satisfaction, commitment, motivation items, current satisfaction, readiness to restore (PCF only), reunification desire (PCF only), reunification desire if PCF desires (PCF only), reunification likelihood (PCF only), blindsided (PCF only)

Friend

Current hurt, current like, motivation (desire)

Interpersonal factors

Self

a) Demonstrated positive behaviours

Grateful, kind, pro-social (altruistic), hygienic, empathic, good communication ability, considerate, loyal, trusting, trustworthy, confident, optimistic, compromises, forgiving, takes responsibility for actions, authentic, engages in maintenance behaviours, reciprocates, relies on friend for emotional or practical needs.

b) Demonstrated oppositional behaviours

Controlling, passive aggression, defensiveness, stonewalling, aggression, exclusion of friend, verbal victimisation of friend, judgementalism, arrogance, self-righteousness, persistence, other-oriented perfectionism, entitlement, selfishness

c) Other demonstrated negative behaviours

Ingratiation, jealousy, boring, unavailability, eccentricity, self-oriented perfectionism, showing off, competitive, silliness, high or low peer conformity goals, pessimism, hypocrisy, reassurance seeking, ambition, sexual interest in friend, prosocial (coercive)

Friend

a) Demonstrated positive behaviours

Grateful, kind, prosocial (altruistic), hygienic, empathic, good communication ability, considerate, loyal, trusting, trustworthy, confident, optimistic, compromises, forgiving, takes responsibility for actions, engages in maintenance behaviours, reciprocates, relies on friend for emotional or practical needs.

b) Demonstrated oppositional behaviours

Controlling, passive aggression, defensiveness, stonewalling, aggression, exclusion of friend, verbal victimisation of friend, judgementalism, arrogance, self-righteousness, persistence, other-oriented perfectionism, entitlement, selfishness

c) Other demonstrated negative behaviours

Ingratiation, jealousy, boring, unavailability, eccentricity, self-oriented perfectionism, showing off, competitive, silliness, high or low peer conformity goals, pessimism, hypocrisy, reassurance seeking, ambition, sexual interest in friend, prosocial (coercive)

Contextual factors

Self-oriented

Exclusion from peers, verbal victimisation from peers, peers approve of Self, life satisfaction, current anxiety, current stress, current depression, makes friends easily, ability to keep close friends, likeability, popularity, commitment to maintain close friends in general, alternative friends, current romantic relationship (not with friend)

Friend-oriented

Exclusion from peers, verbal victimisation from peers, peers approve of friend, anxiety, stress, depressed mood, likeability, popularity, alternative friends, current romantic relationship (not with Self), currently likes Self, current hurt, current satisfaction, motivation (desire), reunification desire

Friendship-oriented

Life events affecting closeness, anticipated events, interaction initiation, common interests, change in time spent together, altercations, activities, time since last contact, close/best friendship length, initiator of close/best friend status development, closest past status, previously restored gap in close/best friend status, religious beliefs bother one another, political beliefs bother one another, values bother one another, morals bother one another, level of current contact, current status, breakup suddenness (PCF only), breakup initiation (PCF only)

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Appendix G: Table. Sociodemographic characteristics of participants, dyad characteristics, and dyad status

Baseline	T1 All participants (<i>N</i> = 827)		T2 CCF						T2 PCF					
			CCF Sample (<i>n</i> = 317)		Dissolutio n Group (<i>n</i> = 35)		Maintained group (<i>n</i> = 282)		PCF Sample (<i>n</i> = 241)		Unresolved Group (<i>n</i> = 282)		Restored Group (<i>n</i> = 35)	
	<i>n</i> (sub sample size)	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Age (years)														
18-24	526	63.6	186	58.7	26	74.3	160	56.7	146	60.6	128	62.1	18	51.4
25-34	113	13.7	36	11.4	4	11.4	32	11.3	27	11.2	23	11.1	4	11.4
35-44	105	12.7	47	14.8	4	11.4	43	15.2	32	13.2	27	13.0	5	14.3
45-54	40	4.8	16	5.0	0	0.0	16	5.7	12	5.0	10	4.8	2	5.7
55-64	30	3.6	21	6.6	1	2.9	20	7.1	15	6.2	10	4.8	5	14.3
65-74	10	1.2	8	2.5	0	0.0	8	2.8	6	2.5	5	2.4	1	2.9
75-84	3	0.4	3	0.9	0	0.0	3	1.1	3	1.2	3	1.4	0	0.0
Sexual orientation														
Heterosexual	647	78.2	247	77.9	27	77.1	220	78	192	79.9	163	79.1	29	82.9
Homosexual	30	3.6	14	4.4	1	2.9	13	4.6	10	4.1	9	4.4	1	2.9
Bisexual	94	11.4	38	12.0	5	14.3	33	11.7	27	11.2	23	11.2	4	11.4
Other	25	3.0	9	2.8	2	5.7	7	2.5	4	1.7	4	1.9	0	0.0
Prefer not to say	31	3.7	9	2.8	0	0.0	9	3.2	8	3.3	7	3.4	1	2.9
Current romantic relationship														
No	384	46.4	139	43.8	20	57.1	119	42.2	104	43.2	93	44.9	11	31.4

Yes	443	53.8	178	56.2	15	42.9	163	57.8	137	56.8	114	55.1	24	68.6
Country of residence														
Australia	620	75.0	286	90.2	32	91.4	254	90.1	219	90.9	191	92.7	28	80.0
Austria	1	0.1	1	0.3	0	0.0	1	0.4	1	0.4	1	0.5	0	0.0
Bosnia and Herzegovina	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Canada	10	1.2	1	0.3	0	0.0	1	0.4	1	0.4	0	0.0	1	2.9
China	18	2.2	4	1.3	1	2.9	3	1.1	3	1.2	1	0.5	2	5.7
Columbia	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Czech Republic	1	0.1	1	0.3	1	2.9	0	0.0	1	0.4	1	0.5	0	0.0
Hong Kong	4	0.5	1	0.3	0	0.0	1	0.4	1	0.4	1	0.5	0	0.0
Hungary	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
India	6	0.7	1	0.3	0	0.0	1	0.4	1	0.4	1	0.5	0	0.0
Indonesia	5	0.6	3	0.9	0	0.0	3	1.1	2	0.8	1	0.5	1	2.9
Italy	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Japan	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Macau	1	0.1	1	0.3	0	0.0	1	0.4	1	0.4	0	0.0	1	2.9
Malaysia	7	0.8	3	0.9	0	0.0	3	1.1	3	1.2	2	1.0	1	2.9
Mauritius	4	0.5	1	0.3	0	0.0	1	0.4	1	0.4	0	0.0	1	2.9
Myanmar	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
New Zealand	4	0.5	1	0.3	0	0.0	1	0.4	0	0.0	0	0.0	0	0.0
Norway	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pakistan	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Qatar	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Republic of Cyprus	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Singapore	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sri-Lanka	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Sweden	1	0.1	1	0.3	0	0.0	1	0.4	1	0.4	1	0.5	0	0.0
United Kingdom	10	1.2	4	1.3	0	0.0	4	1.4	2	0.8	2	1.0	0	0.0
United States	118	14.3	8	2.5	1	2.9	7	2.5	2	0.8	4	1.9	0	0.0
Zimbabwe	1	0.1	0	0.0	0	0.0	0	0.0	4	1.7	0	0.0	0	0.0
Ethnicity														
Aboriginal/. Pacific Islander	7	0.8	1	0.3	0	0.0	1	3.0	1	0.4	1	0.4	0	0.0
Asian	175	21.2	61	19.0	7	20.0	54	19.0	47	19.5	34	16.5	13	37.1
Black/African American	31	3.7	1	0.3	0	0.0	1	3.0	1	0.4	1	0.5	0	0.0
Hispanic/Latino	27	3.3	1	0.3	0	0.0	1	3.0	0	0.0	0	0.0	0	0.0
White	555	67.1	240	74.3	26	74.3	214	74.3	179	76.3	157	76.2	22	62.9
Other	54	6.5	19	6.0	2	5.7	17	5.9	19	7.9	19	9.2	0	0.0
Gender														
Female	607	73.4	242	76.3	25	71.4	217	77.0	186	76.9	160	77.3	26	74.3
Male	209	25.3	68	21.5	9	25.7	59	20.9	51	21.1	42	20.3	9	25.7
Non-binary	9	1.1	5	1.6	1	2.9	4	1.4	3	1.2	3	1.4	0	0.0
Other	1	0.1	1	0.3	0	0.0	1	0.4	1	0.4	1	1	0	0.0
Declined to state	1	0.1	1	0.3	0	0.0	1	0.4	1	0.4	1	1	0	0.0
CCF Dyad gender combination														
Same - gender														
Female - female	536 (814)	65.8	217	69.3	21	60.0	196	70.5	NA	NA	NA	NA	NA	NA
Male - male	161 (814)	19.8	54	17.3	5	14.3	49	17.7	NA	NA	NA	NA	NA	NA

Non-binary - non-binary	1 (814)	0.1	1	0.3	0	0.0	1	0.4	NA	NA	NA	NA	NA	NA
Total	698 (814)	85.7												
Other-gender														
Female - male	94 (814)	11.5	35	11.2	7	20.0	28	10	NA	NA	NA	NA	NA	NA
Female - non-binary	14 (814)	1.7	7	2.2	2	5.8	5	1.8	NA	NA	NA	NA	NA	NA
Male - non-binary	4 (814)	4.9	1	0.3	0	0.0	1	0.4	NA	NA	NA	NA	NA	NA
Total	112 (814)	13.8												
PCF Dyad gender combination														
Same - gender														
Female - female	395 (609)	64.9	NA	NA	NA	NA	NA	NA	167	70.5	144	70.9	23	67.6
Male - male	128 (609)	21.0	NA	NA	NA	NA	NA	NA	38	16.0	76.2	37.5	6	17.6
Non-binary - non-binary	1 (609)	0.1	NA	NA	NA	NA	NA	NA	0	0.0	0	0.0	0	0.0
Total	524 (609)	86.0												
Other-gender														
Female - male	72 (609)	11.8	NA	NA	NA	NA	NA	NA	54	22.8	22	10.8	5	14.7
Female - non-binary	9 (609)	1.5	NA	NA	NA	NA	NA	NA	4	1.7	4	2.0	0	0.0
Male - non-binary	3 (609)	0.5	NA	NA	NA	NA	NA	NA	1	0.4	1	1.0	0	0.0
Total	84 (609)	13.8												
T1 CCF friendship status														
Best friends	393 (809)	48.6	147	46.8	16	45.7	131	46.5	NA	NA	NA	NA	NA	NA

Close friends	416 (809)	51.4	167	53.2	19	54.3	148	52.5	NA	NA	NA	NA	NA	NA
T1 PCF friendship status														
Casual friends	252 (610)	41.3	NA	NA	NA	NA	NA	NA	89 (239)	37.2	65	31.7	24	70.6
Acquaintance	136 (610)	22.3	NA	NA	NA	NA	NA	NA	63 (239)	26.4	56	27.3	7	20.6
No friendship at all	222 (610)	36.4	NA	NA	NA	NA	NA	NA	87 (239)	36.4	84	41.0	3	8.8

Appendix H. Table. Sociodemographic characteristics of participants, dyad characteristics, and dyad status – current close friend groups

Baseline	T1 All participants (<i>N</i> = 827)		T2 CCF						T3 CCF					
			CCF Sample (<i>n</i> = 317)		Dissolution Group (<i>n</i> = 35)		Maintained group (<i>n</i> = 282)		CCF Sample (<i>n</i> = 159)		Dissolution Group (<i>n</i> = 17)		Maintained group (<i>n</i> = 142)	
	<i>n</i> (sub sample size)	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Age (years)														
18-24	526	63.6	186	58.7	26	74.3	160	56.7	75	47.2	12	70.5	63	44.4
25-34	113	13.7	36	11.4	4	11.4	32	11.3	18	11.3	1	5.9	17	12.0
35-44	105	12.7	47	14.8	4	11.4	43	15.2	31	19.5	3	17.6	28	19.7
45-54	40	4.8	16	5.0	0	0.0	16	5.7	10	6.3	0	0	10	7.0
55-64	30	3.6	21	6.6	1	2.9	20	7.1	16	10.1	1	5.9	15	10.6
65-74	10	1.2	8	2.5	0	0.0	8	2.8	6	3.8	0	0	6	4.2
75-84	3	0.4	3	0.9	0	0.0	3	1.1	3	1.9	0	0	3	2.1
Sexual orientation														
Heterosexual	647	78.2	247	77.9	27	77.1	220	78	120	75.5	13	76.5	107	67.3
Homosexual	30	3.6	14	4.4	1	2.9	13	4.6	4	2.5	0	0.0	4	2.8
Bisexual	94	11.4	38	12.0	5	14.3	33	11.7	24	15.1	2	11.8	22	15.5
Other	25	3.0	9	2.8	2	5.7	7	2.5	7	4.4	2	11.8	5	3.5
Prefer not to say	31	3.7	9	2.8	0	0.0	9	3.2	4	2.5	0	0.0	4	2.8
Current romantic relationship														
No	384	46.4	139	43.8	20	57.1	119	42.2	62	39.0	9	52.9	53	37.3

Yes	443	53.8	178	56.2	15	42.9	163	57.8	97	61.0	8	47.1	89	62.7
Country of residence														
Australia	620	75.0	286	90.2	32	91.4	254	90.1	141	90.9	15	88.2	126	88.7
Austria	1	0.1	1	0.3	0	0.0	1	0.4	1	0.6	0	0.0	1	0.7
Bosnia and Herzegovina	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Canada	10	1.2	1	0.3	0	0.0	1	0.4	2	1.3	0	0.0	2	1.4
China	18	2.2	4	1.3	1	2.9	3	1.1	1	0.6	0	0.0	1	0.7
Columbia	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Czech Republic	1	0.1	1	0.3	1	2.9	0	0.0	1	0.6	0	0.0	1	0.7
Hong Kong	4	0.5	1	0.3	0	0.0	1	0.4	0	0.0	0	0.0	0	0.0
Hungary	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
India	6	0.7	1	0.3	0	0.0	1	0.4	0	0.0	0	0.0	0	0.0
Indonesia	5	0.6	3	0.9	0	0.0	3	1.1	1	0.6	0	0.0	1	0.7
Italy	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Japan	1	0.1	0	0.0	0	0.0	0	0.0	1	0.6	0	0.0	1	0.7
Macau	1	0.1	1	0.3	0	0.0	1	0.4	0	0.0	0	0.0	0	0.0
Malaysia	7	0.8	3	0.9	0	0.0	3	1.1	0	0.0	0	0.0	0	0.0
Mauritius	4	0.5	1	0.3	0	0.0	1	0.4	1	0.6	0	0.0	1	0.7
Myanmar	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
New Zealand	4	0.5	1	0.3	0	0.0	1	0.4	0	0.0	0	0.0	0	0.0
Norway	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pakistan	1	0.1	0	0.0	0	0.0	0	0.0	1	0.6	0	0.0	1	0.7
Qatar	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Republic of Cyprus	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Singapore	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sri-Lanka	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Sweden	1	0.1	1	0.3	0	0.0	1	0.4	1	0.6	0	0.0	1	0.7
United Kingdom	10	1.2	4	1.3	0	0.0	4	1.4	3	1.9	0	0.0	3	2.1
United States	118	14.3	8	2.5	1	2.9	7	2.5	6	3.8	2	11.8	4	2.8
Zimbabwe	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ethnicity														
Aboriginal/Pacific Islander	7	0.8	1	0.3	0	0.0	1	3.0	0	0.0	0	0.0	0	0.0
Asian	175	21.2	61	19.0	7	20.0	54	19.0	28	17.5	5	29.4	23	16.1
Black/African American	31	3.7	1	0.3	0	0.0	1	3.0	0	0.0	0	0.0	0	0.0
Hispanic/Latino	27	3.3	1	0.3	0	0.0	1	3.0	1	0.6	1	5.9	0	0.0
White	555	67.1	240	74.3	26	74.3	214	74.3	121	75.6	10	58.8	111	77.6
Other	54	6.5	19	6.0	2	5.7	17	5.9	10	6.3	1	5.9	9	6.3
Gender														
Female	607	73.4	242	76.3	25	71.4	217	77.0	125	78.6	13	76.5	112	78.9
Male	209	25.3	68	21.5	9	25.7	59	20.9	29	18.2	3	17.6	26	18.3
Non-binary	9	1.1	5	1.6	1	2.9	4	1.4	4	2.5	1	5.9	3	2.1
Other	1	0.1	1	0.3	0	0.0	1	0.4	0	0	0	0	0	0.0
Declined to state	1	0.1	1	0.3	0	0.0	1	0.4	1	0.6	0	0	1	0.7
CCF Dyad gender combination														
Same - gender														
Female - female	536 (814)	65.8	217 (315)	69.3	21	60.0	196	70.5	117 (156)	75.0	11	64.7	106	76.3
Male - male	161 (814)	19.8	54 (315)	17.3	5	14.3	49	17.7	22 (156)	14.1	0	0	22	15.8
Non-binary - non-binary	1 (814)	0.1	1 (315)	0.3	0	0.0	1	0.4	1 (156)	0.6	0	0	1	0.7

Total	698 (814)	85.7	272 (315)	86.9	26	74.3	246	88.6	140 (156)	89.7	11	64.7	129	92.8
Other-gender														
Female - male	94 (814)	11.5	35 (315)	11.2	7	20.0	28	10	12 (156)	7.7	4	23.5	8	5.8
Female - non- binary	14 (814)	1.7	7 (315)	2.2	2	5.8	5	1.8	3 (156)	1.9	1	5.9	2	1.4
Male - non- binary	4 (814)	4.9	1 (315)	0.3	0	0.0	1	0.4	1 (156)	0.6	1	5.9	0	0
Total	112 (814)	13.8	43 (315)	13.7	9	25.8	34	12.2	16 (156)	10.3	6	35.3	10	7.2
T1 CCF														
friendship status														
Best friends	393 (809)	48.6	147	46.8	16	45.7	131	46.5	65 (157)	41.4	6	35.3	59	42.1
Close friends	416 (809)	51.4	167	53.2	19	54.3	148	52.5	92 (157)	58.6	11	64.7	81	57.9

Appendix I: Table. Sociodemographic characteristics of participants, dyad characteristics, and dyad status_previous close friend groups

Baseline	T1 All participants (N = 827)		T2 PCF						T3 PCF					
			T2 PCF Sample (n = 241)		Unresolved Group (n = 282)		Restored Group (n = 35)		T3 PCF Sample (n = 102)		Unresolved Group (n = 84)		Restored Group (n = 18)	
	n (sub sample size)	%	n	%	n	%	n	%	n	%	n	%	n	%
Age (years)														
18-24	526	63.6	146	60.6	128	62.1	18	51.4	44	43.1	37	44	7	38.9
25-34	113	13.7	27	11.2	23	11.1	4	11.4	9	8.8	8	9.5	1	5.6
35-44	105	12.7	32	13.2	27	13	5	14.3	25	24.5	19	22.6	6	33.3
45-54	40	4.8	12	5	10	4.8	2	5.7	8	7.8	7	8.3	1	5.6
55-64	30	3.6	15	6.2	10	4.8	5	14.3	9	8.8	7	8.3	2	11.1
65-74	10	1.2	6	2.5	5	2.4	1	2.9	4	3.9	3	3.6	1	5.6
75-84	3	0.4	3	1.2	3	1.4	0	0	3	2.9	3	3.6	0	0
Sexual orientation														
Heterosexual	647	78.2	192	79.9	163	79.1	29	82.9	78	60	63	75	15	83.3
Homosexual	30	3.6	10	4.1	9	4.4	1	2.9	30	23.1	2	2.4	0	0
Bisexual	94	11.4	27	11.2	23	11.2	4	11.4	17	13.1	14	16.7	3	16.7
Other	25	3	4	1.7	4	1.9	0	0	3	2.3	3	3.6	0	0
Prefer not to say	31	3.7	8	3.3	7	3.4	1	2.9	2	1.5	2	2.4	0	0
Current romantic relationship														
No	384	46.4	104	43.2	93	44.9	11	31.4	84	82.4	34	40.5	3	16.7
Yes	443	53.8	137	56.8	114	55.1	24	68.6	18	17.6	50	59.5	15	83.3
Country of residence														
Australia	620	75	219	90.9	191	92.7	28	80	92	90.2	76	90.5	16	88.9
Austria	1	0.1	1	0.4	1	0.5	0	0	1	1	1	1.2	0	0

Bosnia and Herzegovina	1	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Canada	10	1.2	1	0.4	0	0	1	2.9	1	1	0	0	1	5.6
China	18	2.2	3	1.2	1	0.5	2	5.7	1	1	1	1.2	0	0
Columbia	1	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Czech Republic	1	0.1	1	0.4	1	0.5	0	0	1	1	1	1.2	0	0
Hong Kong	4	0.5	1	0.4	1	0.5	0	0	0	0	0	0	0	0
Hungary	1	0.1	0	0	0	0	0	0	0	0	0	0	0	0
India	6	0.7	1	0.4	1	0.5	0	0	0	0	0	0	0	0
Indonesia	5	0.6	2	0.8	1	0.5	1	2.9	0	0	0	0	0	0
Italy	1	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Japan	1	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Macau	1	0.1	1	0.4	0	0	1	2.9	0	0	0	0	0	0
Malaysia	7	0.8	3	1.2	2	1	1	2.9	0	0	0	0	0	0
Mauritius	4	0.5	1	0.4	0	0	1	2.9	0	0	0	0	0	0
Myanmar	1	0.1	0	0	0	0	0	0	0	0	0	0	0	0
New Zealand	4	0.5	0	0	0	0	0	0	0	0	0	0	0	0
Norway	1	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Pakistan	1	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Qatar	1	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Republic of Cyprus	2	0.2	0	0	0	0	0	0	0	0	0	0	0	0
Singapore	2	0.2	0	0	0	0	0	0	0	0	0	0	0	0
Sri-Lanka	1	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Sweden	1	0.1	1	0.4	1	0.5	0	0	0	0	0	0	0	0
United Kingdom	10	1.2	2	0.8	2	1	0	0	2	2	2	2.4	0	0
United States	118	14.3	2	0.8	4	1.9	0	0	4	3.9	3	3.6	1	5.6
Zimbabwe	1	0.1	4	1.7	0	0	0	0	0	0	0	0	0	0

Ethnicity														
Aboriginal/ Pacific Islander	7	0.8	1	0.4	1	0.4	0	0	0	0	0	0	0	0
Asian	175	21.2	47	19.5	34	16.5	13	37.1	15	14.6	12	14	3	1.7
Black/African American	31	3.7	1	0.4	1	0.5	0	0	0	0	1	1.2	0	0
Hispanic/Latino	27	3.3	0	0	0	0	0	0	1	1	0	0	1	5.6
White	555	67.1	179	76.3	157	76.2	22	62.9	78	75.7	64	74.4	14	77.8
Other	54	6.5	19	7.9	19	9.2	0	0	9	8.7	9	10.5	0	0
Gender														
Female	607	73.4	186	76.9	160	77.3	26	74.3	78	76.5	63	75	15	83.3
Male	209	25.3	51	21.1	42	20.3	9	25.7	21	20.6	18	21.4	3	16.7
Non-binary	9	1.1	3	1.2	3	1.4	0	0	2	2.4	2	2.4	0	0
Other	1	0.1	1	0.4	1	0.5	0	0	0	0	0	0	0	0
Declined to state	1	0.1	1	0.4	1	0.5	0	0	1	1.2	1	1.2	0	0
PCF Dyad gender combination														
Same - gender														
Female - female	395 (609)	64.9	167	70.5	144	70.9	23	67.6	73	73	60	73.1	13	72.2
Male - male	128 (609)	21	38	16	76.2	37.5	6	17.6	16	16	14	17.1	2	11.1
Non-binary - non-binary	1 (609)	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Total	524 (609)	86												
Other-gender														
Female - male	72 (609)	11.8	54	22.8	22	10.8	5	14.7	8	8	5	6.1	3	16.7

Female - non-binary	9 (609)	1.5	4	1.7	4	2	0	0	2	2	2	2.4	0	0
Male - non-binary	3 (609)	0.5	1	0.4	1	1	0	0	1	1	1	1.2	0	0
Total	84 (609)	13.8												
T1 PCF friendship status														
Casual friends	252 (610)	41.3	89 (239)	37.2	65	31.7	24	70.6	36 (101)	35.6	25	30.1	11	61.1
Acquaintances	136 (610)	22.3	63 (239)	26.4	56	27.3	7	20.6	23 (101)	22.8	21	25.3	2	11.1
No friendship at all	222 (610)	36.4	87 (239)	36.4	84	41	3	8.8	42 (101)	41.6	37	44.6	5	27.8

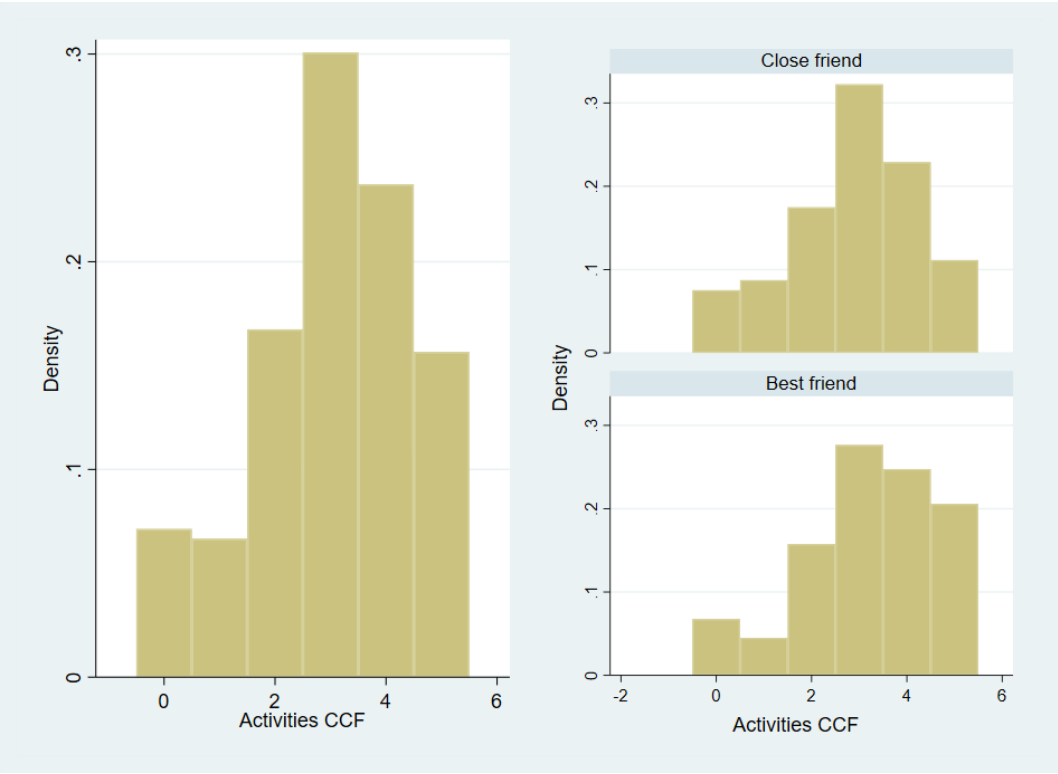
**Appendix J: Tables. Friendship status and quality within the current sample:
Measure validity and dyad reciprocation**

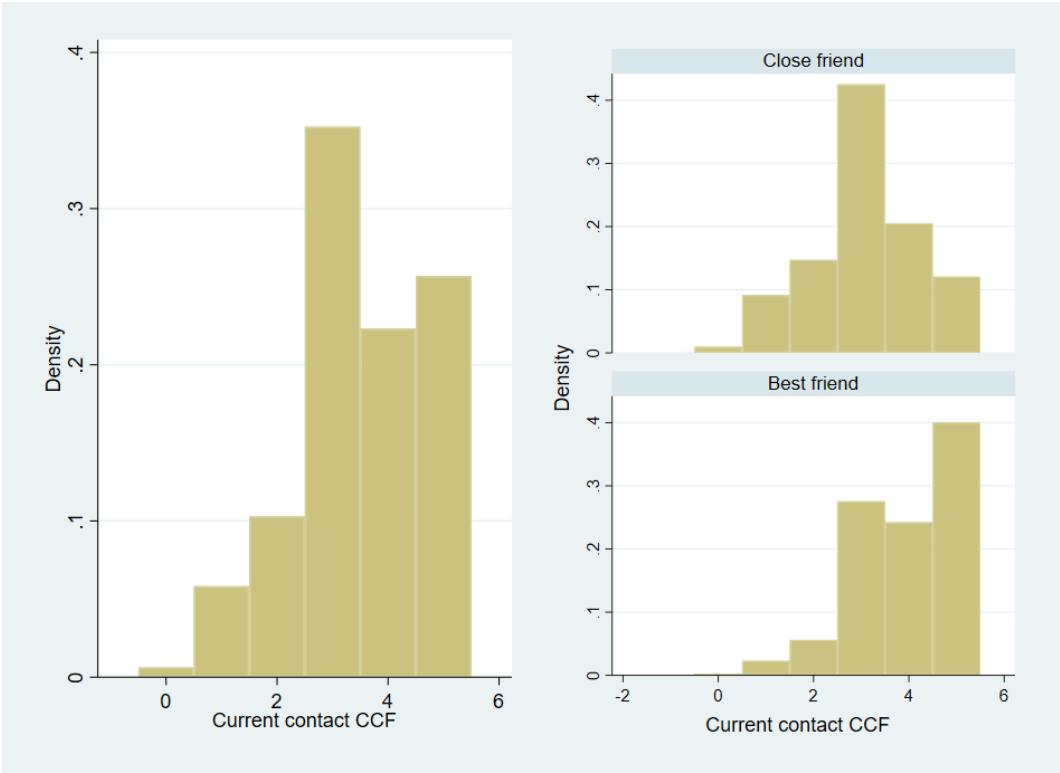
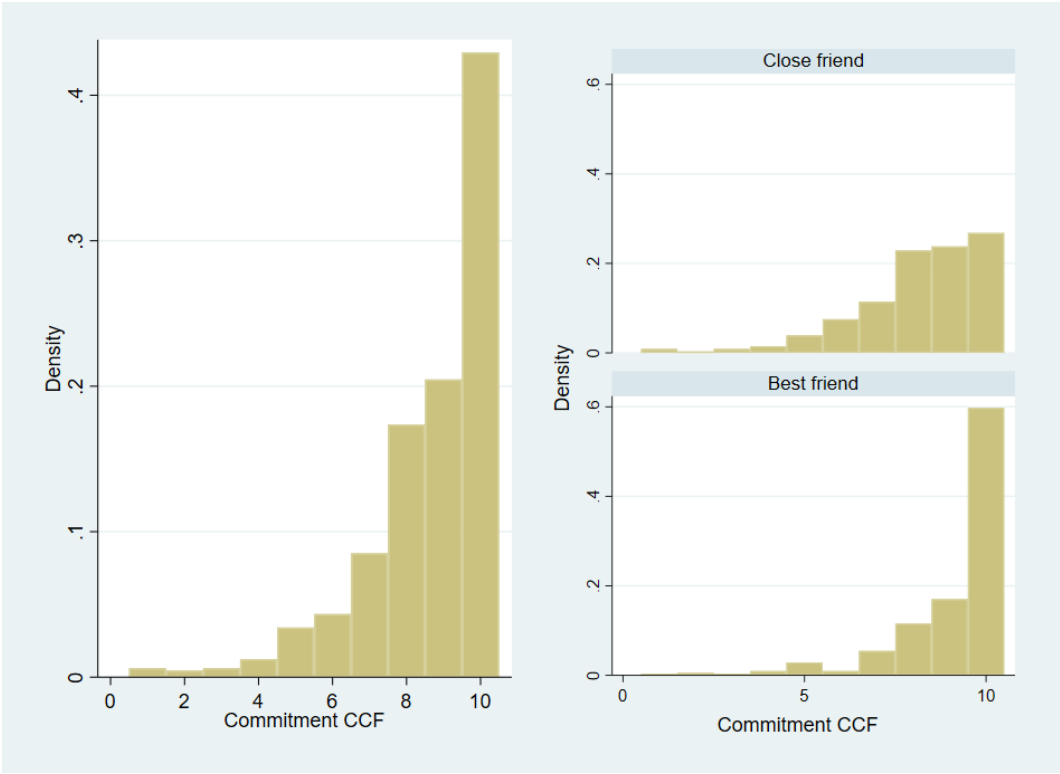
All analyses were performed using Stata v15 (College Station, TX, USA).

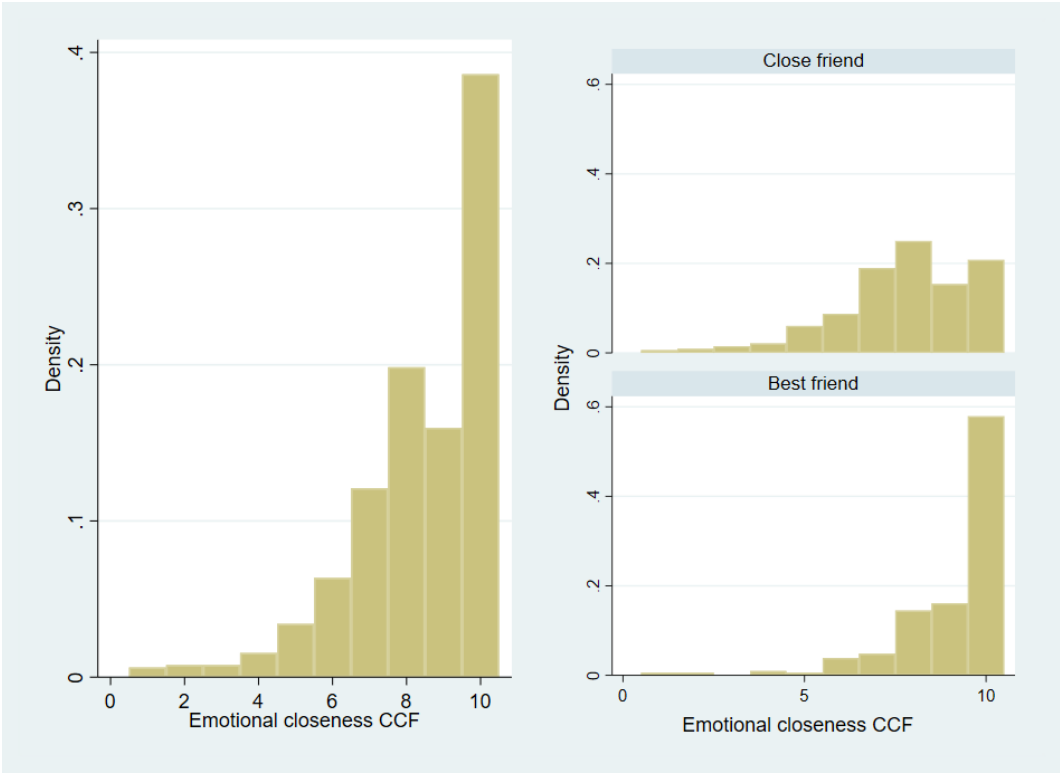
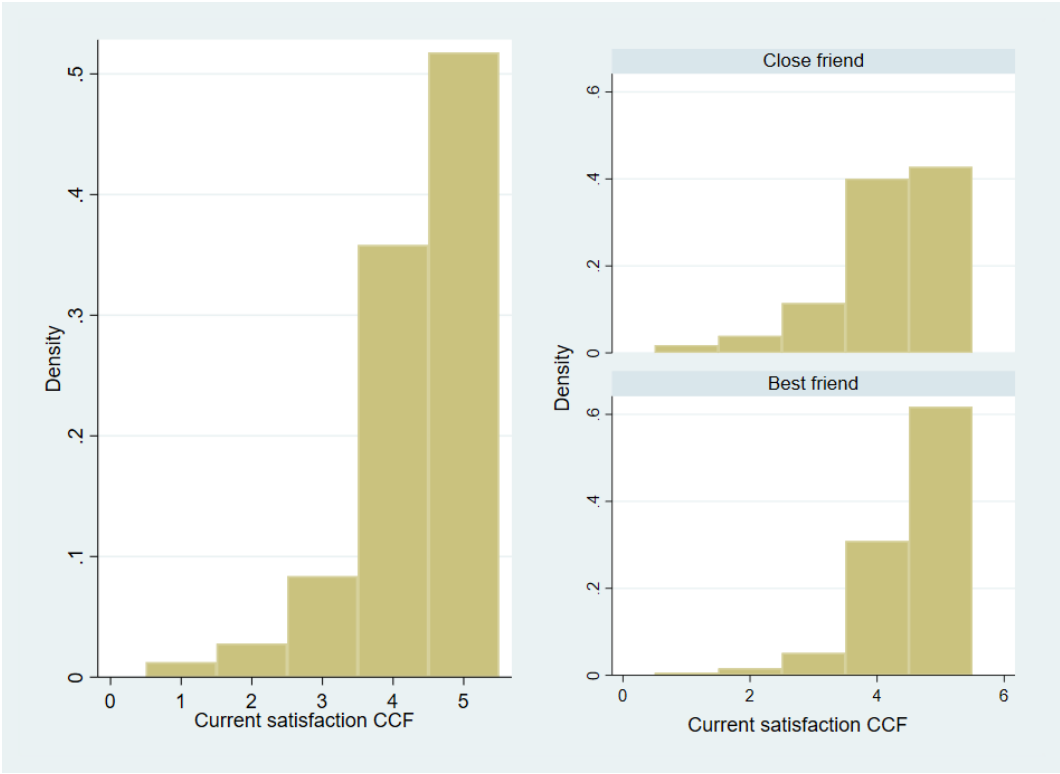
Part 1a. Friendship status and friendship quality

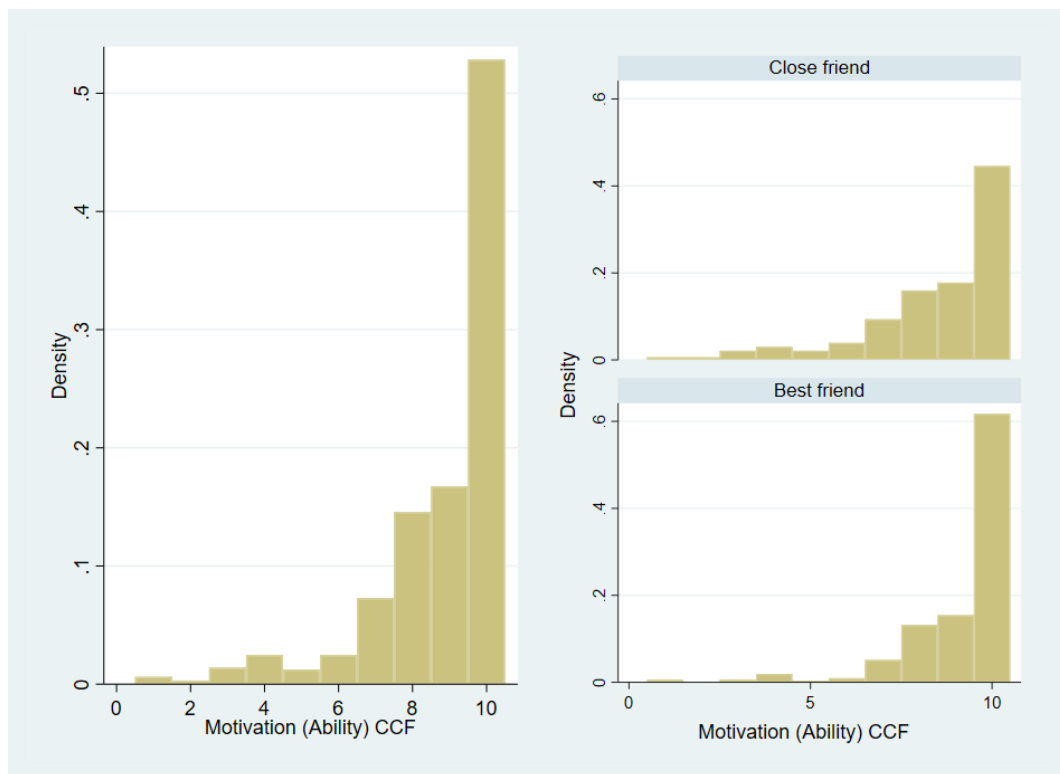
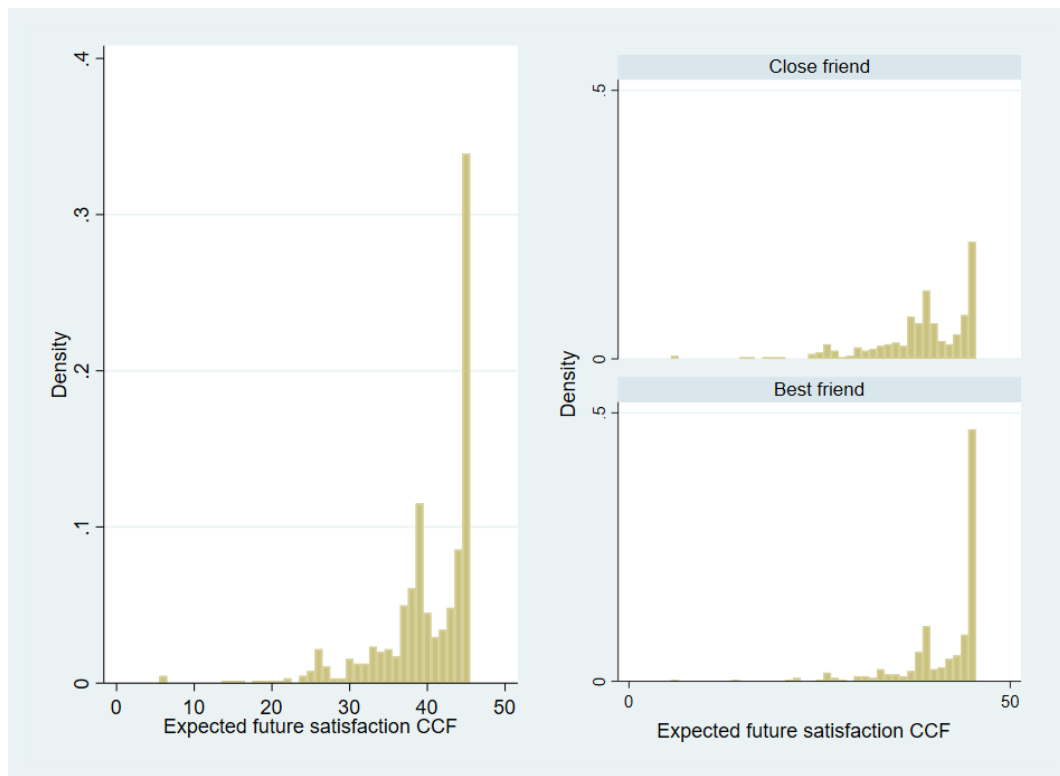
Table 1

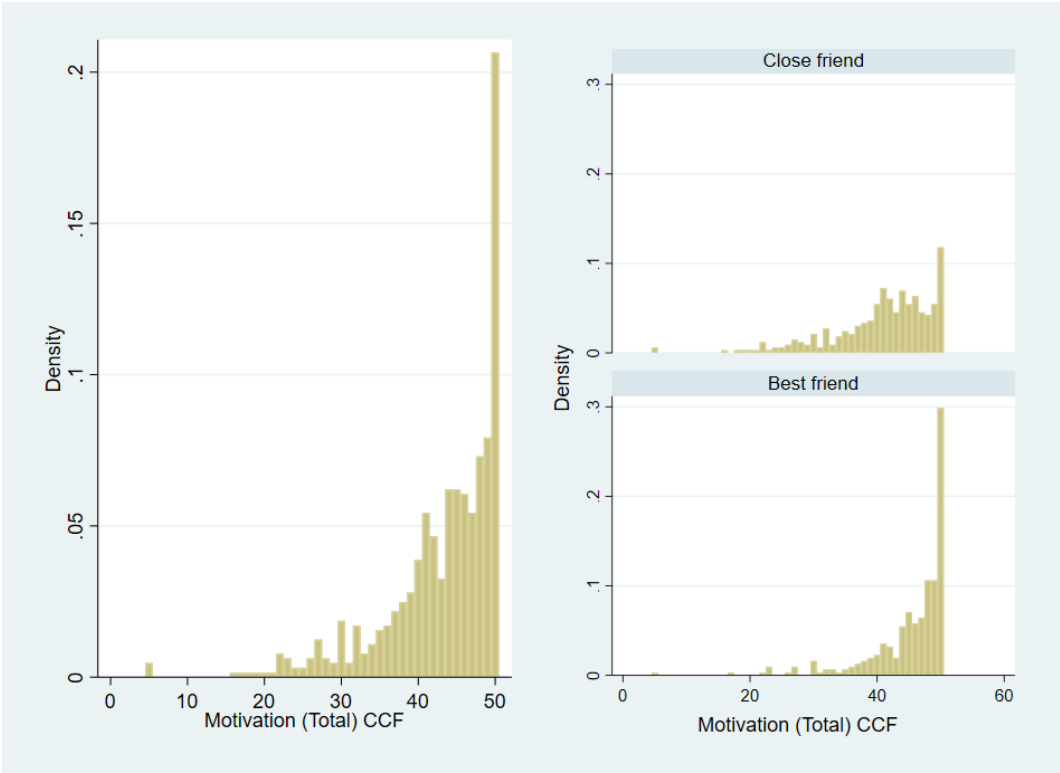
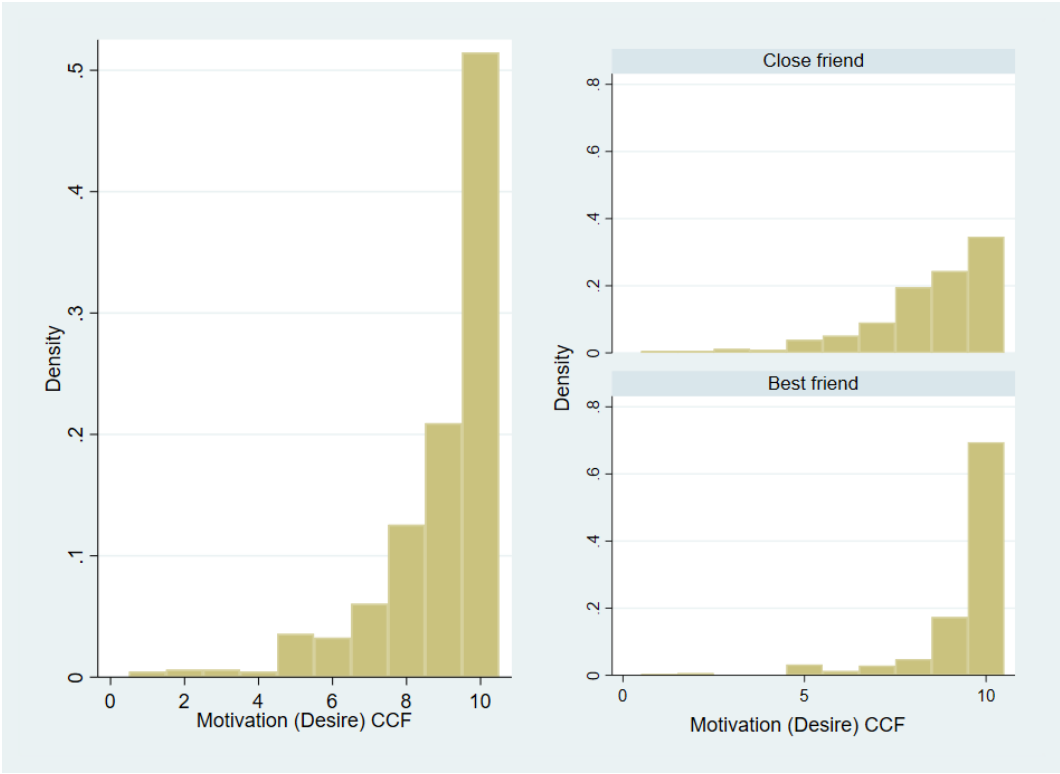
Histograms of distributions of ordinal and continuous variables demonstrating skewed (left) sample: Current close friend variables











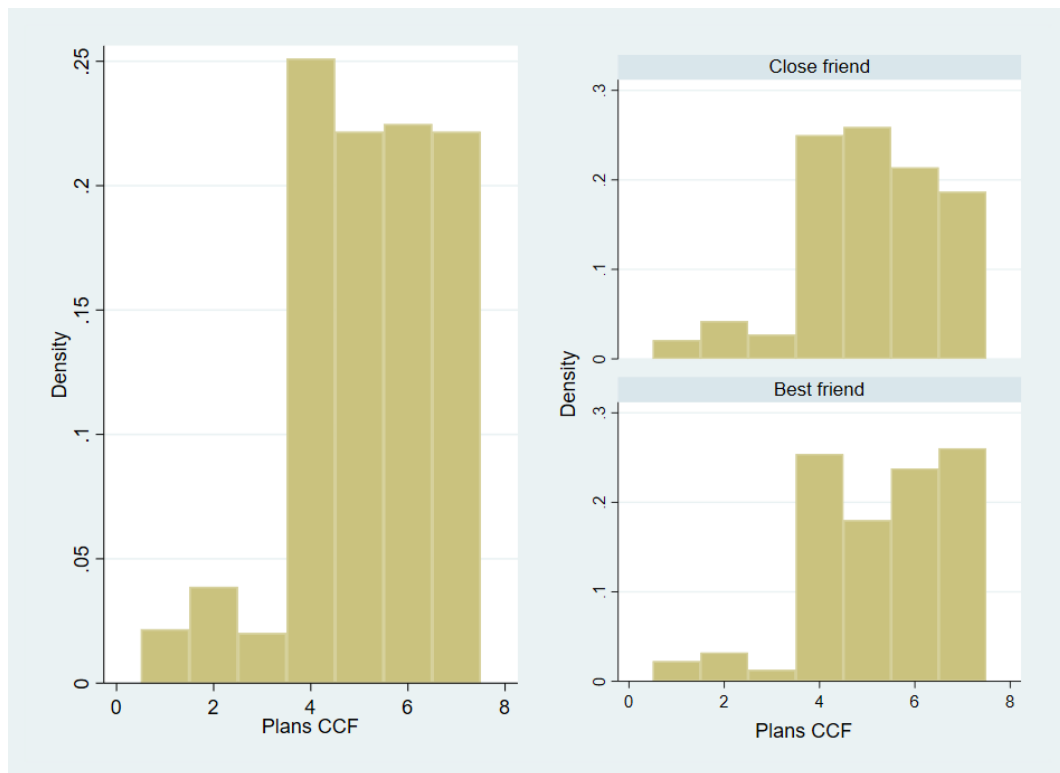
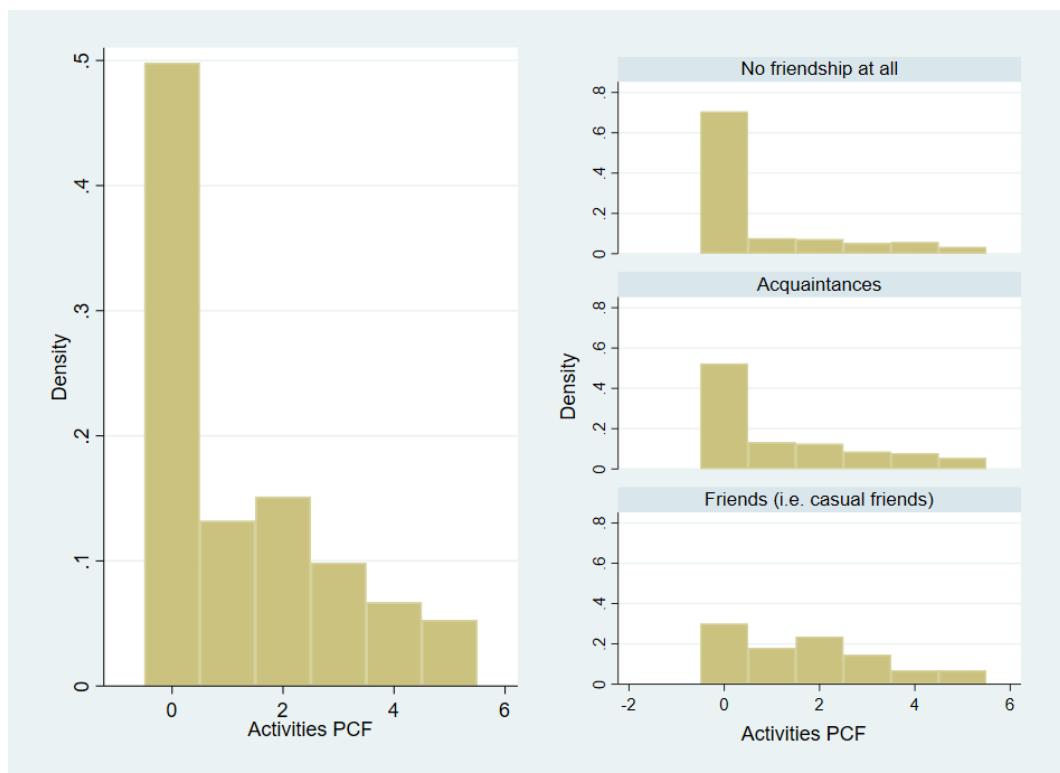
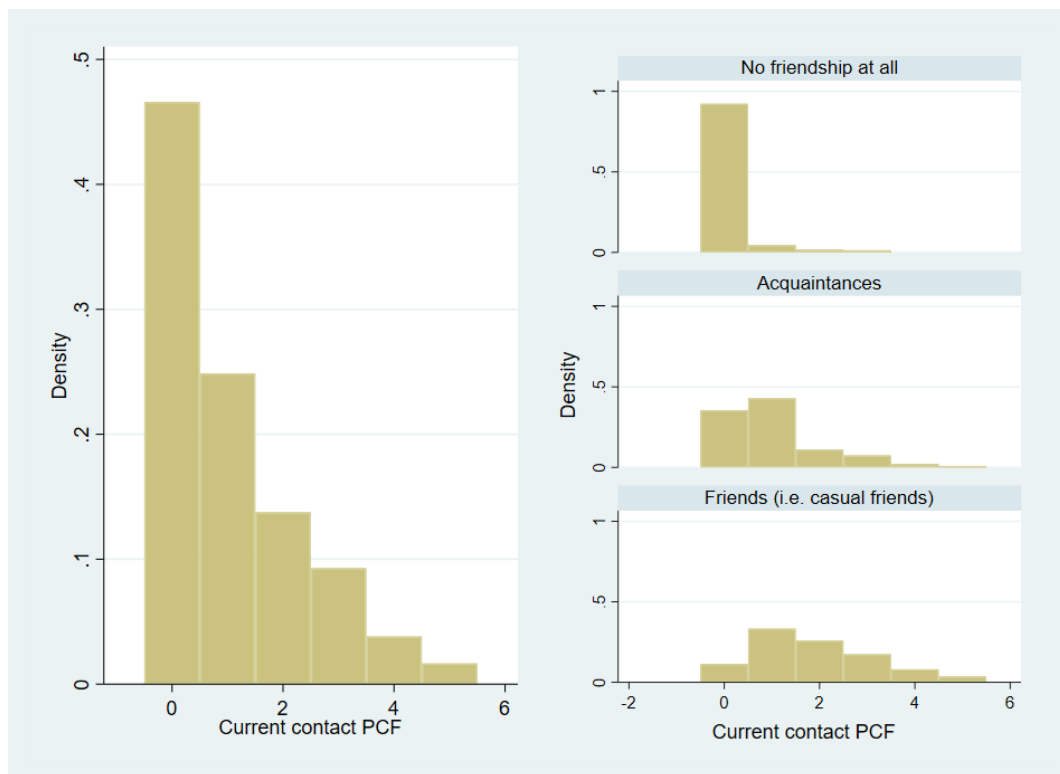
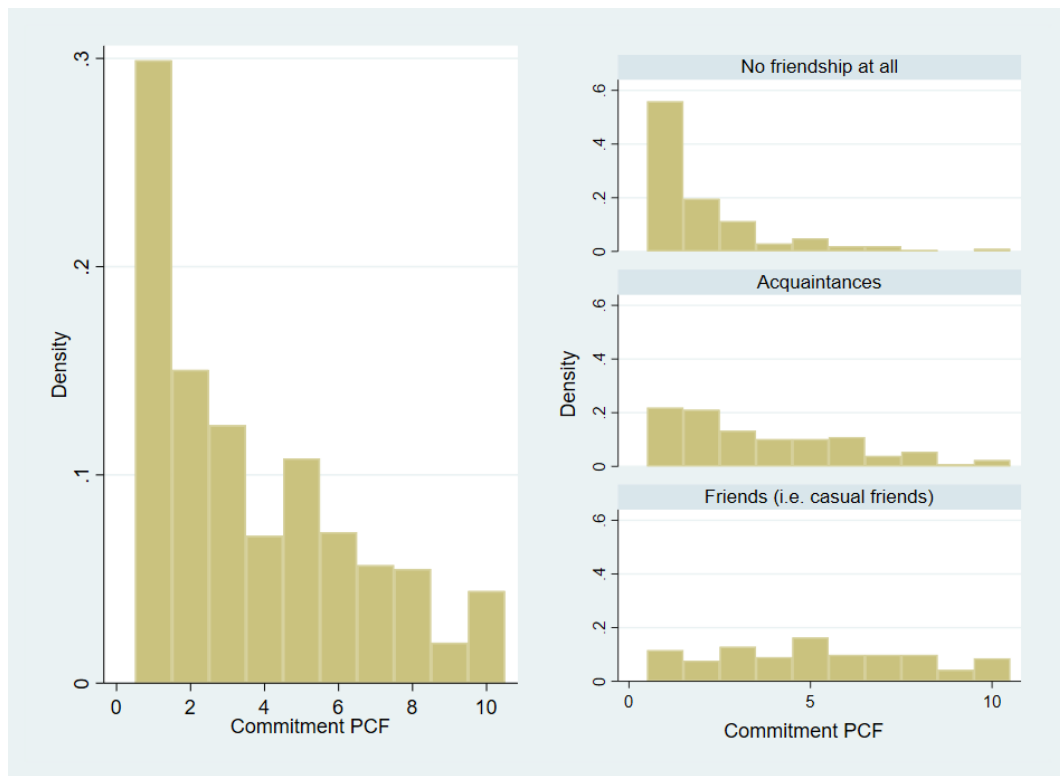
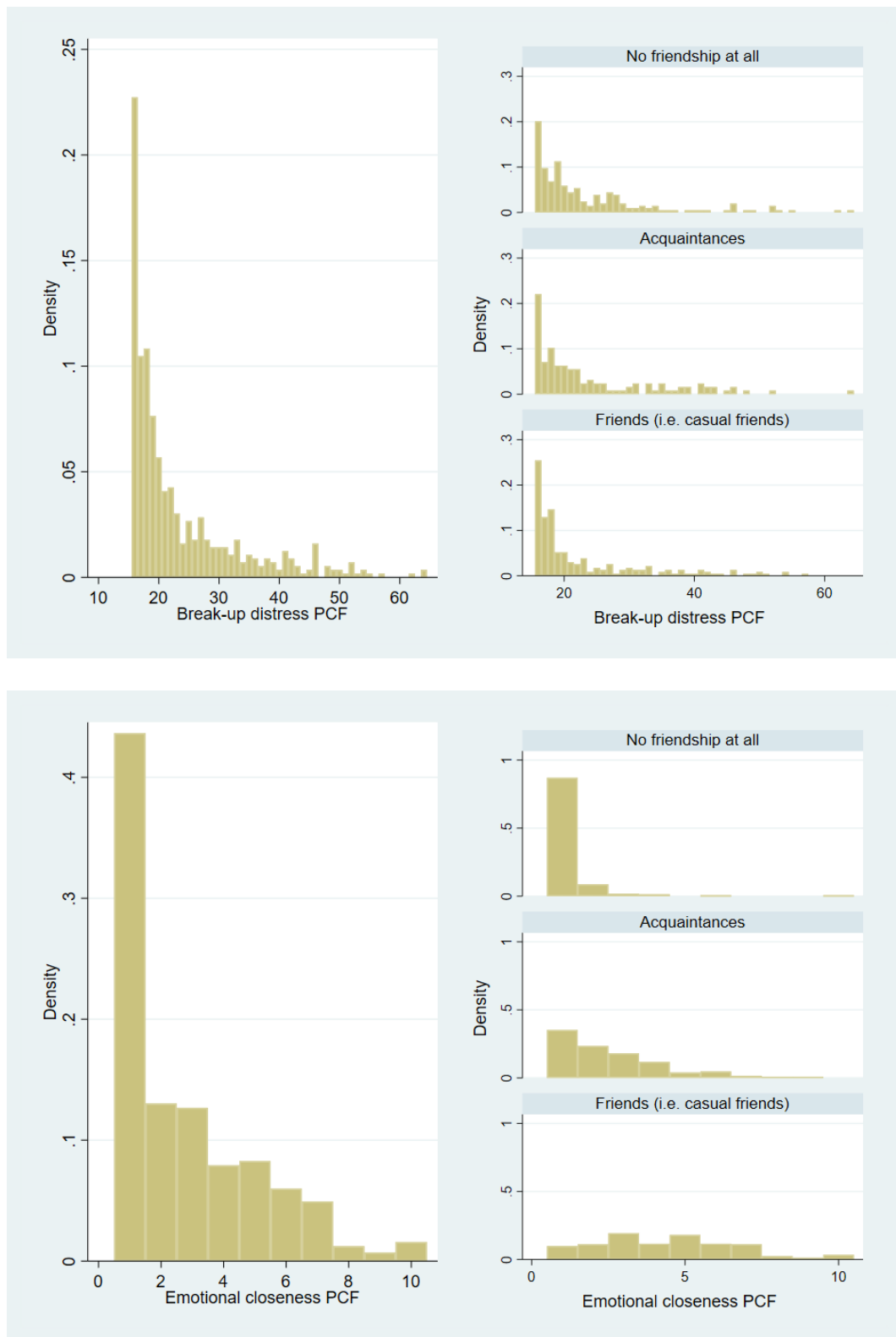


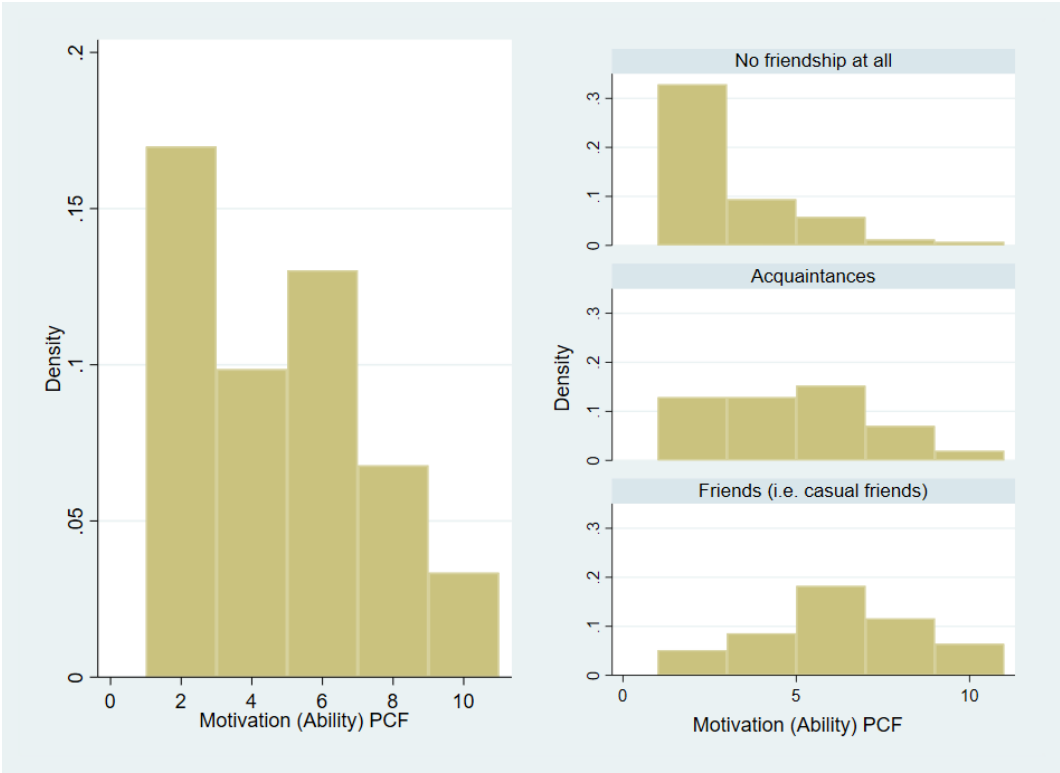
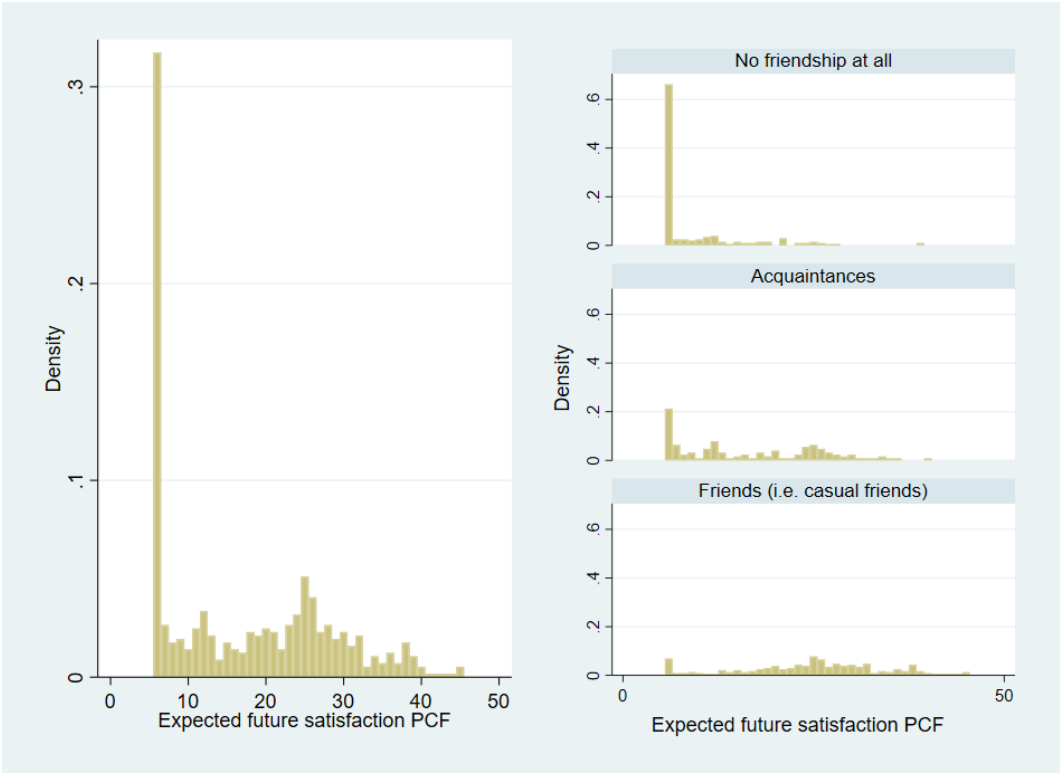
Table 2

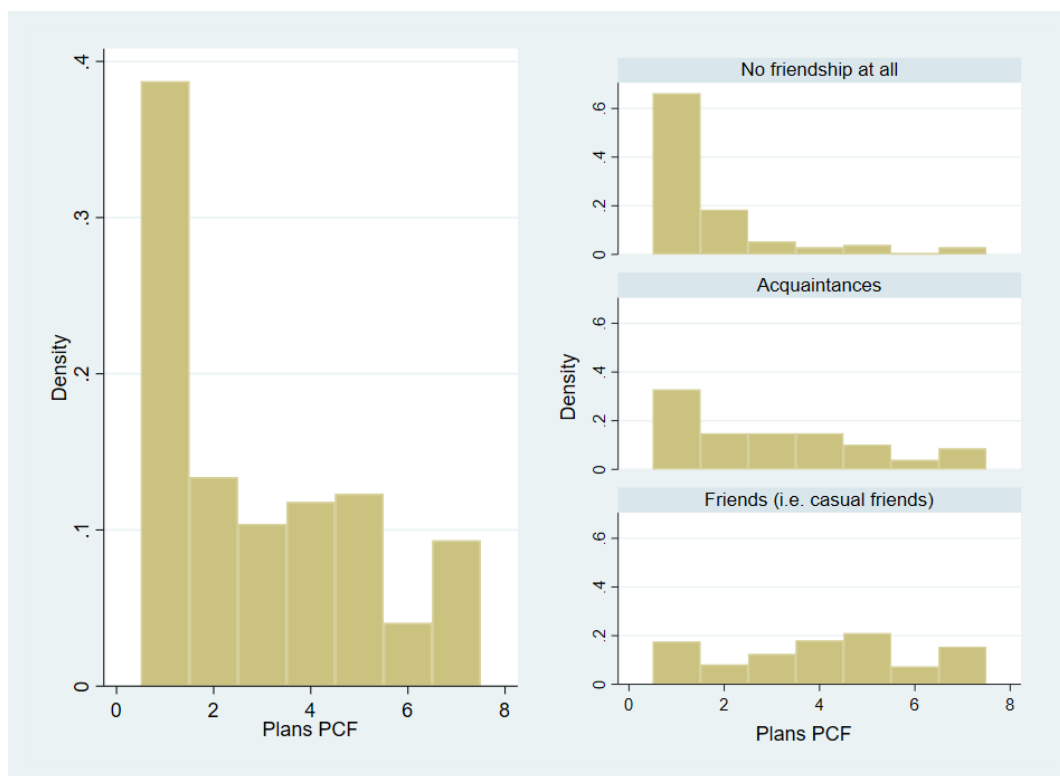
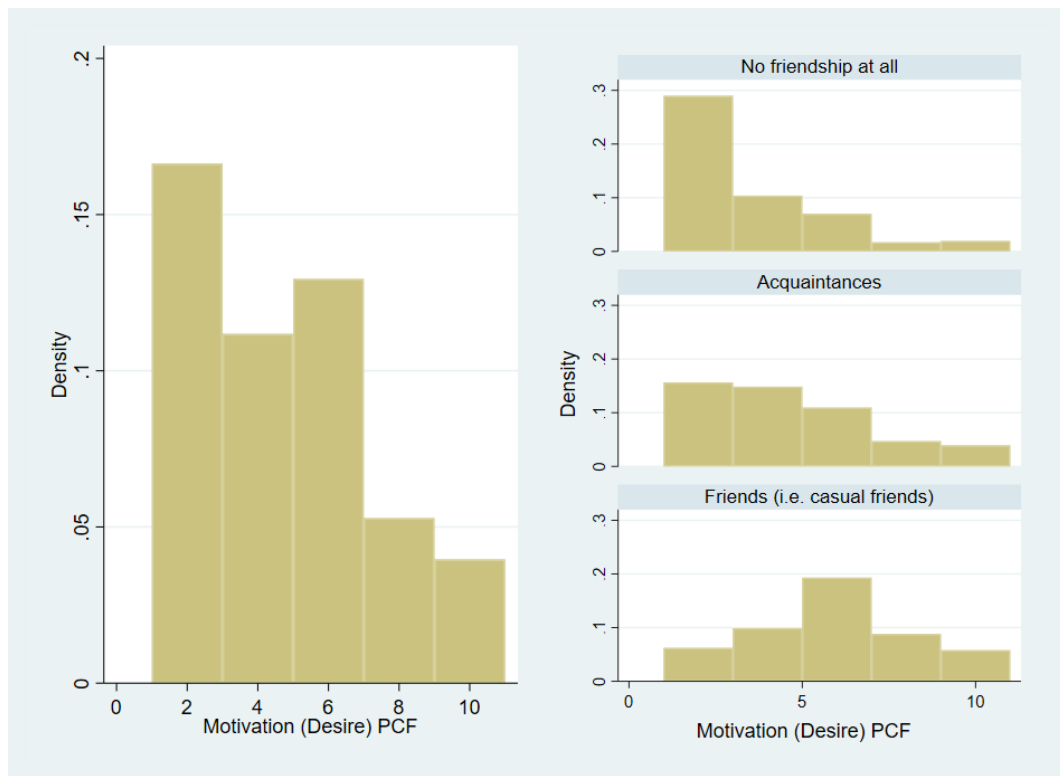
Histograms of distributions of ordinal and continuous variables demonstrating skewed (right) sample: Previous close friend variables











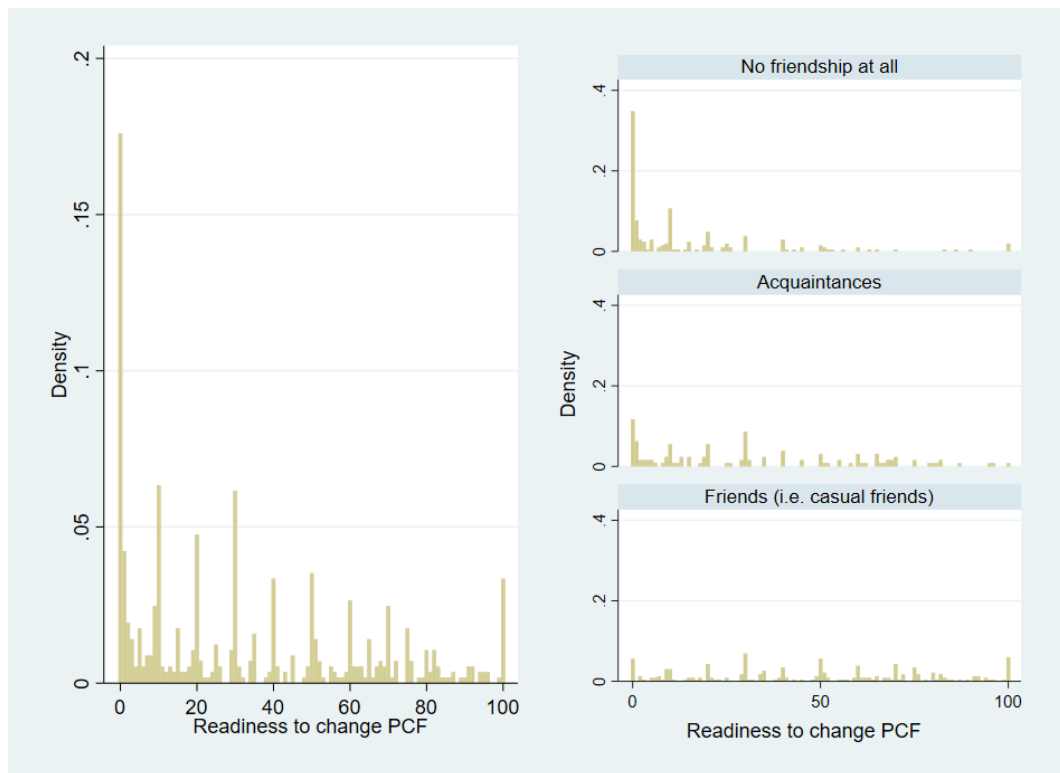


Table 3
Differences in friendship quality measures reported by respondents when thinking about a current close friend (CCF) compared with a previous close friend (PCF), as well as whether responses differed by the relationship described.

Table 3.a

Differences Between Best and Close Friend Scores on Quality Measures at Wave 1

Quality measure	Median [IQR] Missing	All CCF (n = 809)	Close Friend (n = 416)	Best Friend (n = 393)	p-value*	Effect size (95% CI)
Expected future satisfaction	Median [IQR] Missing	42 [38 – 45] 168 (20.8)	39 [36 – 44] 86 (20.7)	44 [39 – 45] 82 (20.9)	<0.001	0.28 (0.21, 0.35)
Emotional closeness	Median [IQR] Missing	9 [7 – 10] 166 (20.5)	8 [7 – 9] 84 (20.2)	10 [8 – 10] 82 (20.9)	<0.001	0.41 (0.34, 0.48)
Commitment	Median [IQR] Missing	9 [8 – 10] 166 (20.5)	9 [7 – 10] 84 (20.2)	10 [9 – 10] 82 (20.9)	<0.001	0.33 (0.26, 0.40)
Plans to improve	Median [IQR] Missing	5 [4 – 6] 166 (20.5)	5 [4 – 6] 84 (20.2)	5 [4 – 7] 82 (20.9)	<0.001	0.08 (0.01, 0.15)
Motivation (Desire)	Median [IQR] Missing	10 [8 – 10] 166 (20.5)	9 [8 – 10] 84 (20.2)	10 [9 – 10] 82 (20.9)	<0.001	0.35 (0.28, 0.42)
Motivation (Ability)	Median [IQR] Missing	10 [8 – 10] 166 (20.5)	9 [8 – 10] 84 (20.2)	10 [9 – 10] 82 (20.9)	<0.001	0.19 (0.12, 0.27)
Activities	Median [IQR] Missing	3 [2 – 4] 166 (20.5)	3 [2 – 4] 84 (20.2)	3 [2 – 4] 82 (20.9)	0.001	0.13 (0.05, 0.20)
Current contact	Median [IQR] Missing	3 [3 – 5] 3 (0.4)	3 [3 – 4] 2 (0.5)	4 [3 – 5] 1 (0.3)	<0.001	0.36 (0.31, 0.42)
Current satisfaction	Median [IQR] Missing	5 [4 – 5] 166 (20.5)	4 [4 – 5] 84 (20.2)	5 [4 – 5] 82 (20.9)	<0.001	0.20 (0.13, 0.28)
Motivation (Total)	Median [IQR] Missing	45 [40 – 49] 167 (20.6)	42 [37 – 47] 85 (20.4)	48 [44 – 50] 82 (20.9)	<0.001	0.34 (0.27, 0.41)

CCF = Current close friend; IQR = Interquartile range; CI = Confidence interval

*P-values based on Mann-Whitney U tests

Table 3.b*Differences Between Casual Friend, Acquaintance, and No Friendship Group Scores on Quality Measures at Wave 1*

Quality Measure	Median [IQR] Missing	All PCF (n = 613)	No friendship (n = 222)	Acquaintance (n = 137)	Casual Friend (n = 254)	p-value†	Effect size (95% CI)
Expected future satisfaction	Median [IQR] Missing	15 [6 – 26] 46 (7.5)	6 [6 – 10] 15 (6.8)	14 [7 – 25] 10 (7.3)	25 [19 – 31] 21 (8.3)	<0.001	0.39 (0.33, 0.46)
Emotional closeness	Median [IQR] Missing	2 [1 – 4] 45 (7.3)	1 [1 – 1] 15 (6.8)	2 [1 – 3] 9 (6.6)	4 [3 – 6] 21 (8.3)	<0.001	0.46 (0.40, 0.53)
Commitment	Median [IQR] Missing	3 [1 – 5] 48 (7.8)	1 [1 – 2] 18 (8.1)	3 [2 – 5] 9 (6.6)	5 [3 – 7] 21 (8.3)	<0.001	0.26 (0.20, 0.32)
Plans to improve	Median [IQR] Missing	2 [1 – 5] 45 (7.3)	1 [1 – 2] 15 (6.8)	3 [1 – 4] 9 (6.6)	4 [2 – 5] 21 (8.3)	<0.001	0.24 (0.18, 0.30)
Motivation (Desire)	Median [IQR] Missing	4 [2 – 6] 45 (7.3)	2 [2 – 4] 15 (6.8)	4 [2 – 6] 9 (6.6)	6 [4 – 8] 21 (8.3)	<0.001	0.19 (0.13, 0.25)
Motivation (Ability)	Median [IQR] Missing	4 [2 – 6] 45 (7.3)	2 [2 – 4] 15 (6.8)	4 [2 – 6] 9 (6.6)	6 [4 – 8] 21 (8.3)	<0.001	0.29 (0.23, 0.35)
Activities	Median [IQR] Missing	1 [0 – 2] 45 (7.3)	0 [0 – 1] 15 (6.8)	0 [0 – 2] 9 (6.6)	2 [0 – 3] 21 (8.3)	<0.001	0.09 (0.05, 0.14)
Current contact	Median [IQR] Missing	1 [0 – 2] 10 (1.6)	0 [0 – 0] 0 (0.0)	1 [0 – 1] 2 (1.5)	2 [1 – 3] 8 (3.1)	<0.001	0.48 (0.42, 0.55)
Readiness to restore	Median [IQR] Missing	23 [3 – 55] 45 (7.3)	5 [0 – 20] 15 (6.8)	28 [7 – 55] 9 (6.6)	50 [21 – 71] 21 (8.3)	<0.001	0.23 (0.18, 0.29)
Break-up distress	Median [IQR] Missing	19 [17 – 27] 50 (8.2)	20 [17 – 27] 18 (8.1)	20 [17 – 29] 10 (7.3)	18 [17 – 27] 22 (8.7)	0.075	0.01 (-0.01, 0.02)

PCF = Previous close friend; IQR = Interquartile range; CI = Confidence interval

†P-values based on Kruskal Wallis tests

Table 3.c*Differences Between Current Close Friend and Previous Close Friend Scores on Quality Measures at Wave 1*

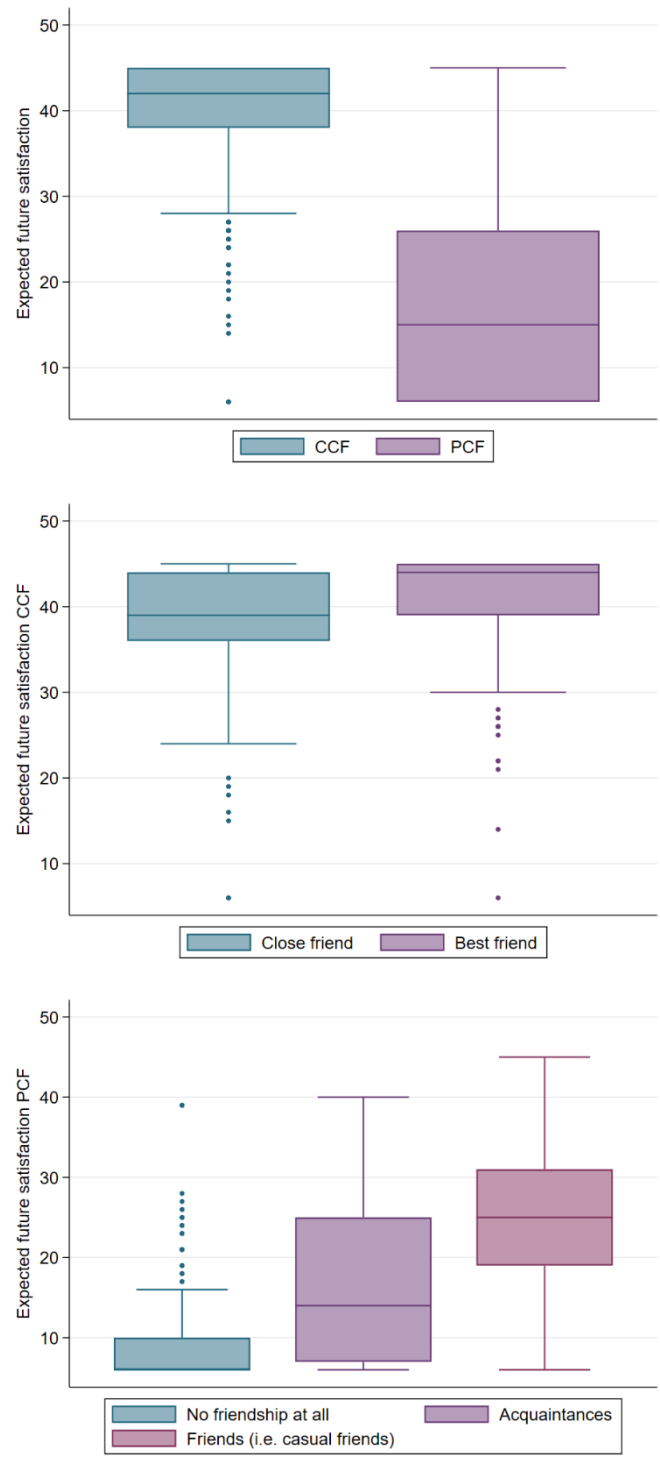
Quality measure	Median [IQR] Missing	All CCF (n = 809)	All PCF (n = 613)	<i>p</i> -value‡	Effect size (95% CI)
Expected future satisfaction	Median [IQR] Missing	42 [38 – 45] 168 (20.8)	15 [6 – 26] 46 (7.5)	<0.001	0.80 (0.79, 0.81)
Emotional closeness	Median [IQR] Missing	9 [7 – 10] 166 (20.5)	2 [1 – 4] 45 (7.3)	<0.001	0.80 (0.79, 0.82)
Commitment	Median [IQR] Missing	9 [8 – 10] 166 (20.5)	3 [1 – 5] 48 (7.8)	<0.001	0.77 (0.75, 0.79)
Plans to improve	Median [IQR] Missing	5 [4 – 6] 166 (20.5)	2 [1 – 5] 45 (7.3)	<0.001	0.65 (0.61, 0.69)
Motivation (Desire)	Median [IQR] Missing	10 [8 – 10] 166 (20.5)	4 [2 – 6] 45 (7.3)	<0.001	0.81 (0.80, 0.83)
Motivation (Ability)	Median [IQR] Missing	10 [8 – 10] 166 (20.5)	4 [2 – 6] 45 (7.3)	<0.001	0.81 (0.80, 0.83)
Activities	Median [IQR] Missing	3 [2 – 4] 166 (20.5)	1 [0 – 2] 45 (7.3)	<0.001	0.66 (0.62, 0.70)
Current contact	Median [IQR] Missing	3 [3 – 5] 3 (0.4)	1 [0 – 2] 10 (1.6)	<0.001	0.72 (0.70, 0.74)

CCF = Current close friend; PCF = Previous close friend; IQR = Interquartile range; CI = Confidence interval
 Effect size for Wilcoxon Signed-rank test is *r*

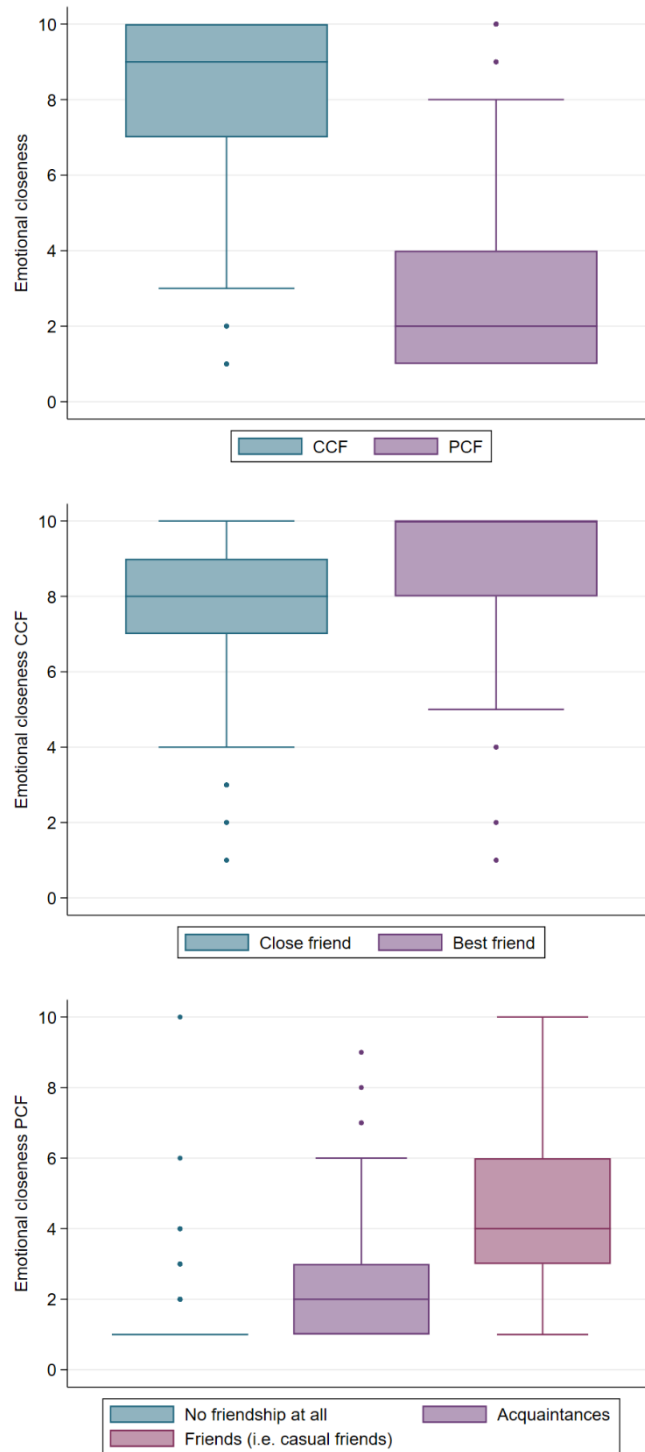
Table 4

Distribution of each quality measure comparing between CCF and PCF, between CCF groups and between PCF groups

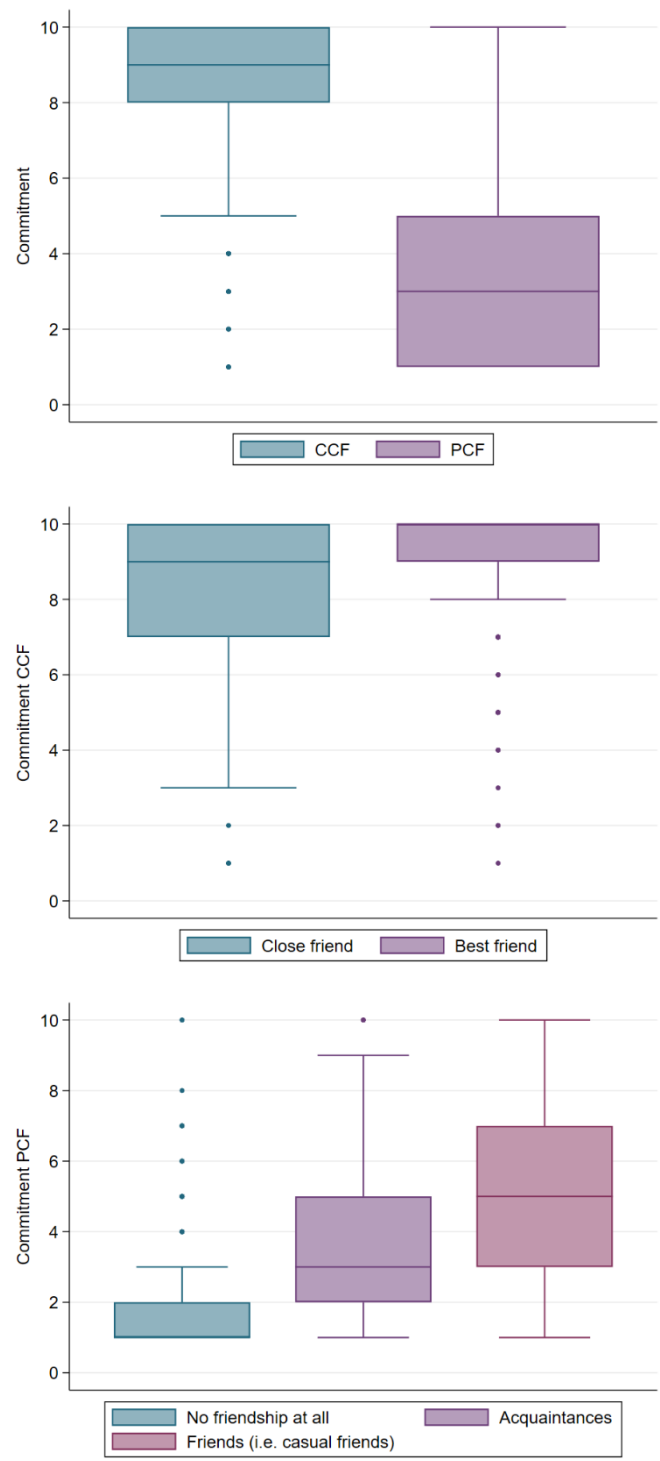
Expected future satisfaction



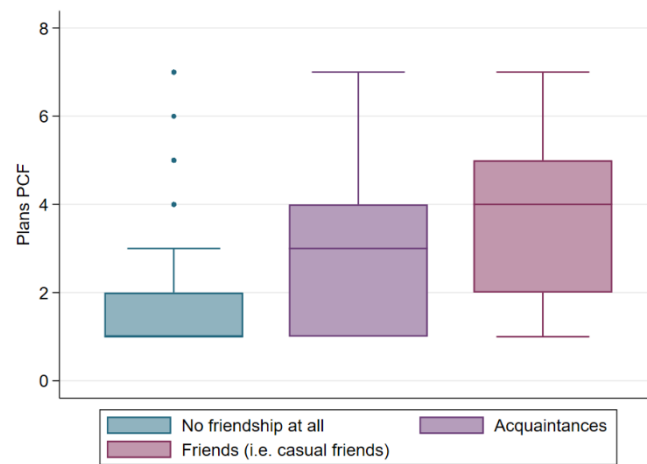
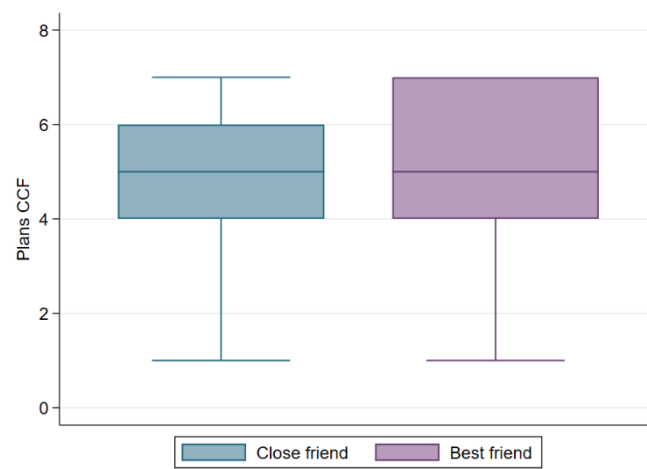
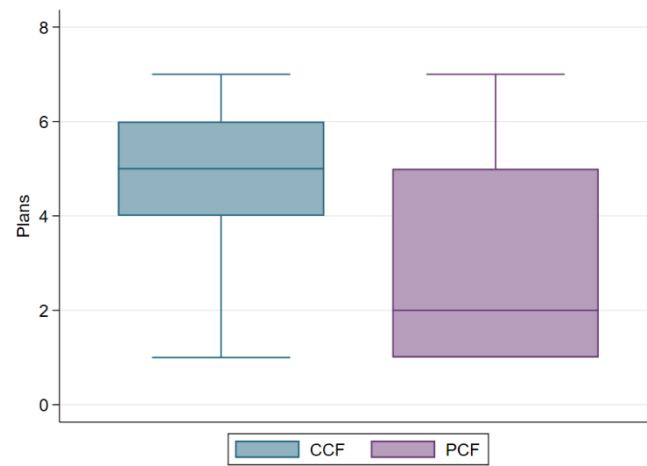
Emotional closeness



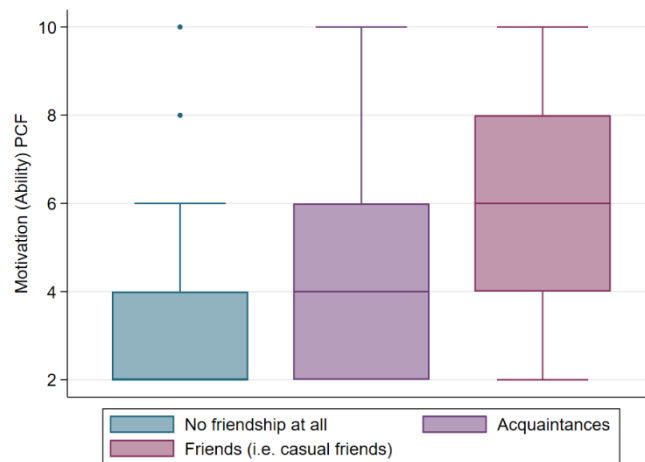
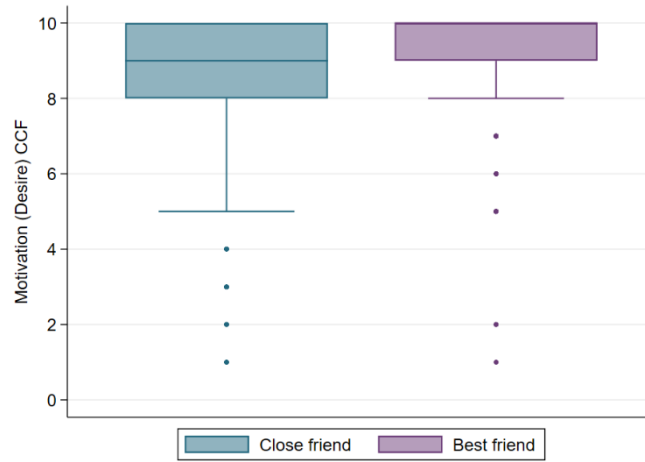
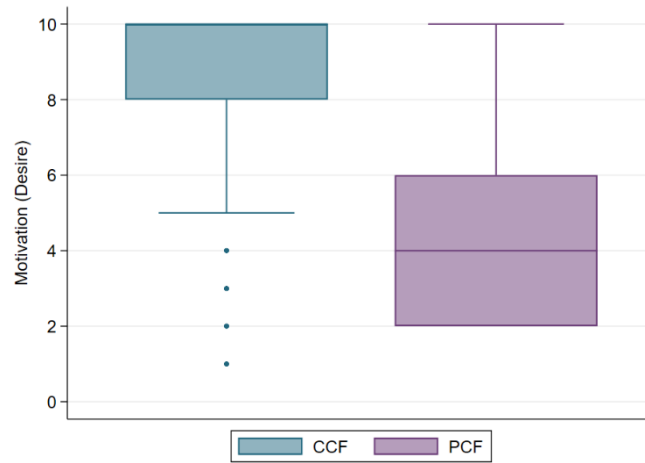
Commitment



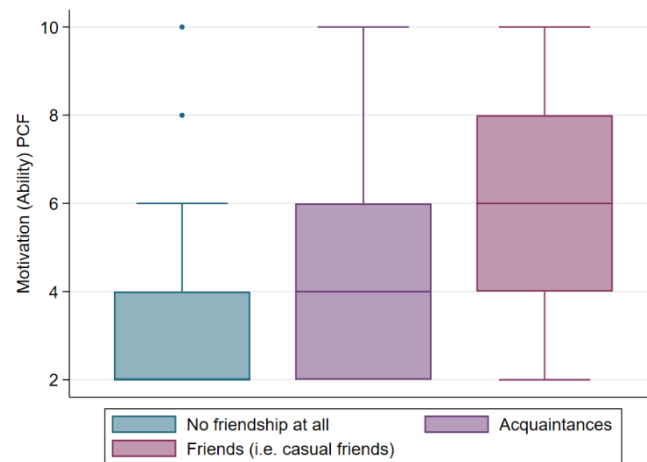
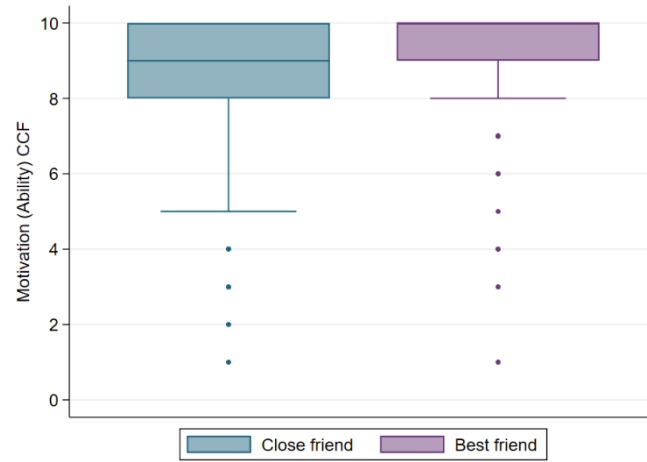
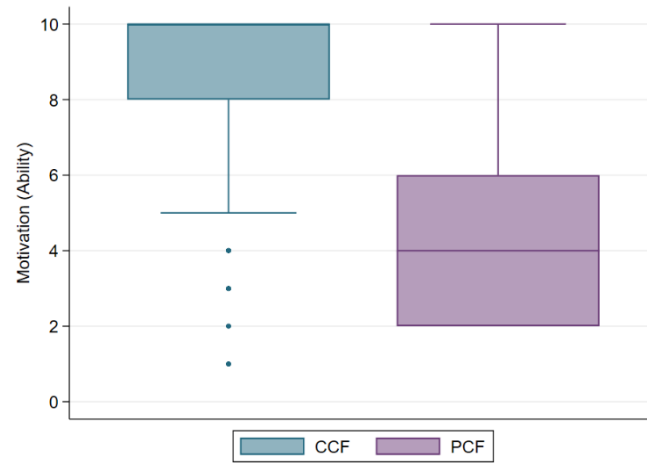
Plans to improve



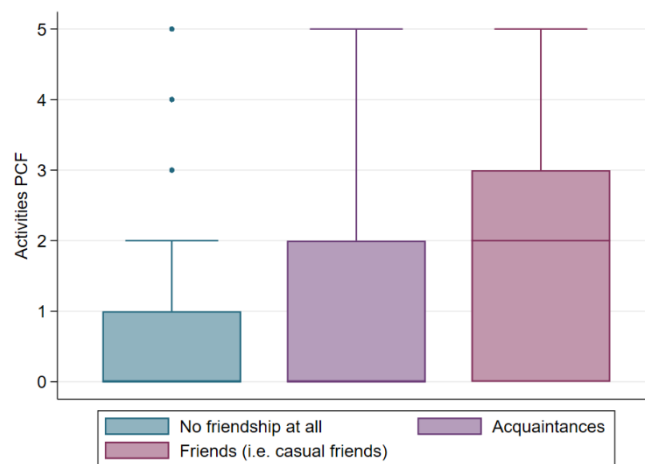
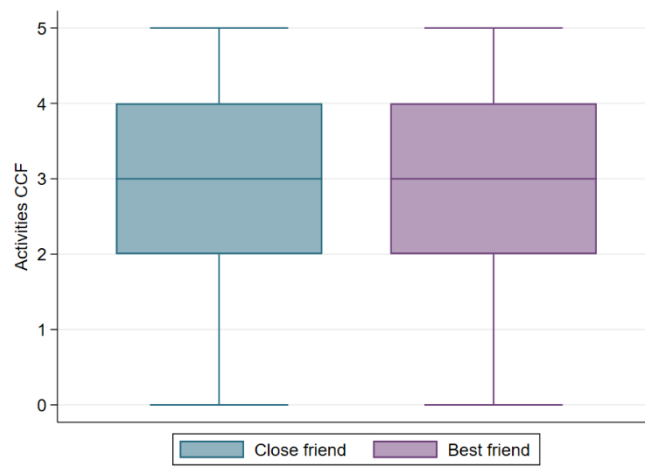
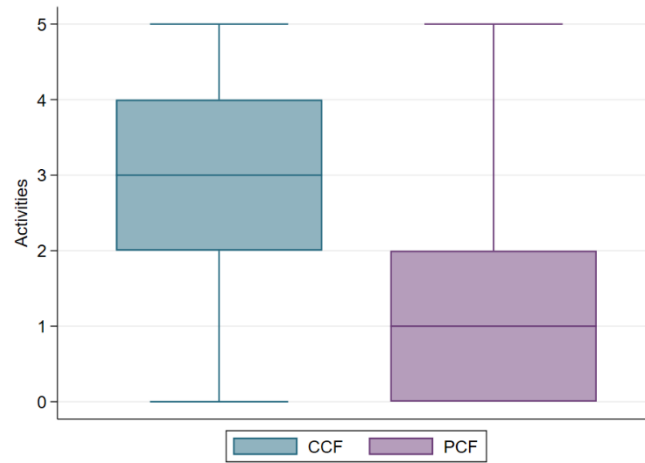
Motivation (desire)



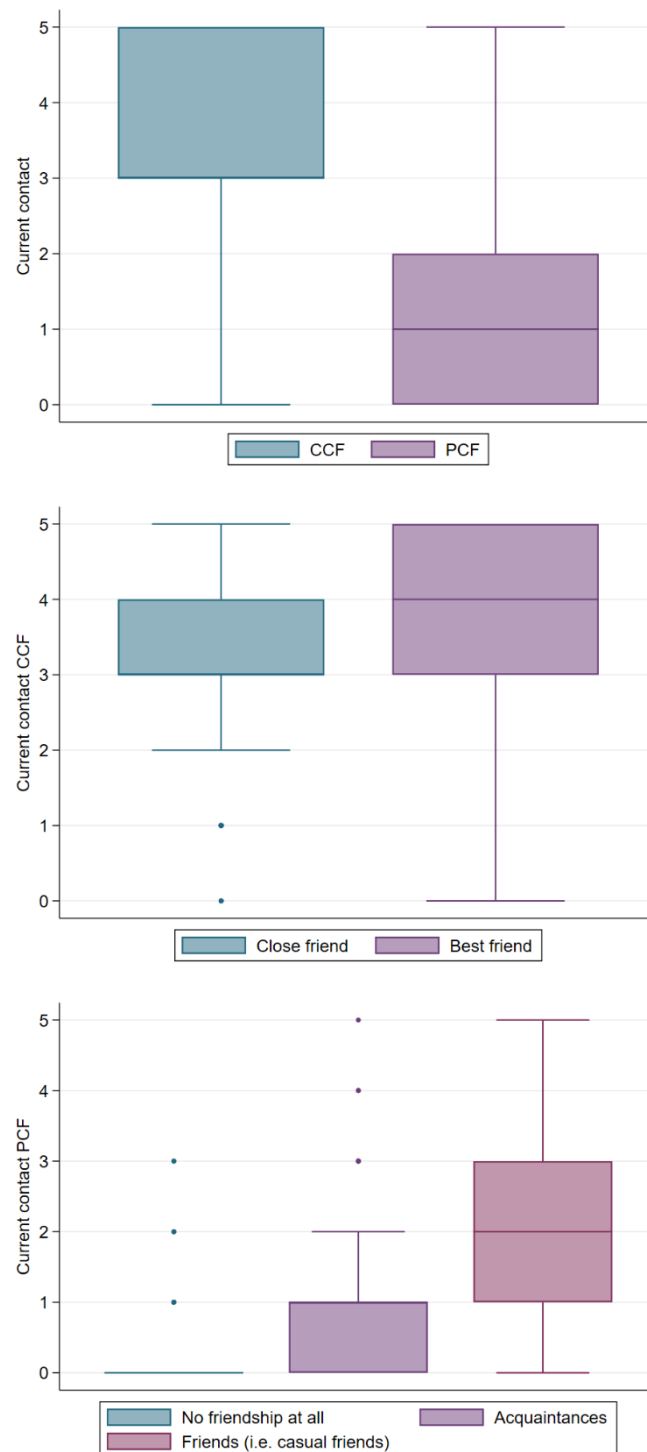
Motivation (ability)



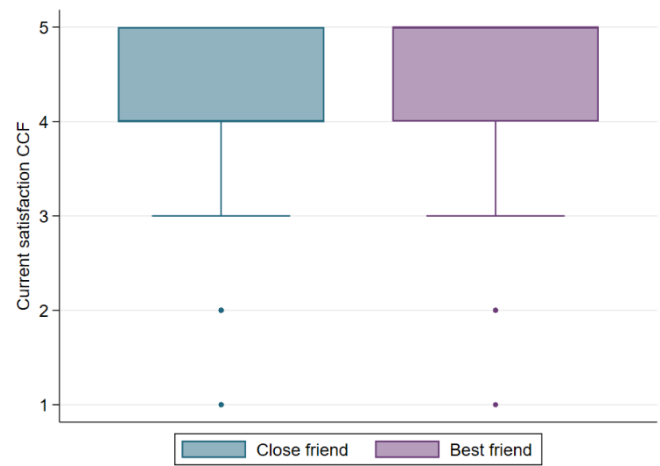
Activities



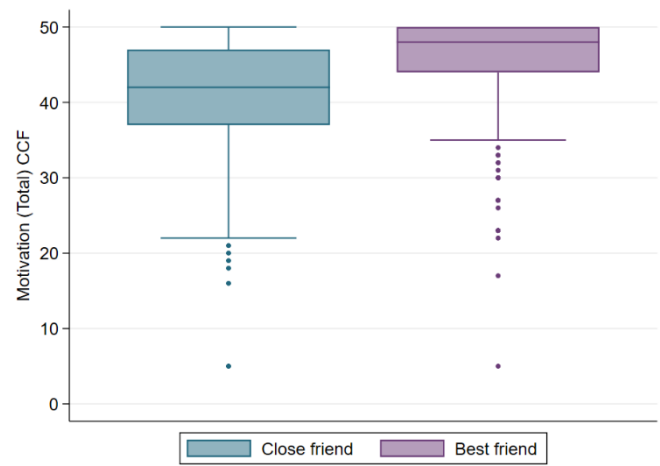
Current contact



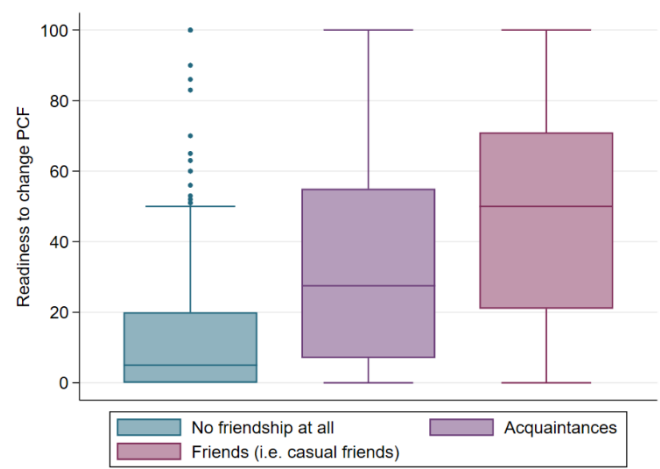
Current satisfaction



Motivation (total)



Readiness to restore



Breakup distress

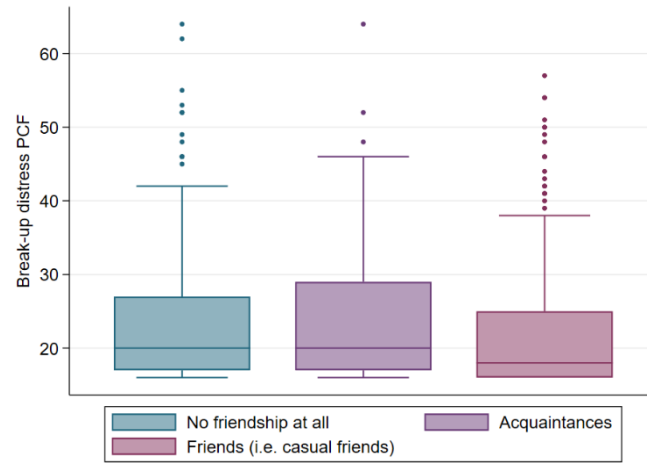
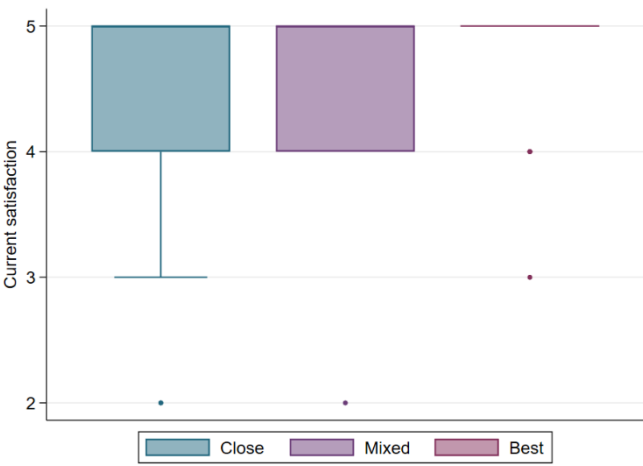


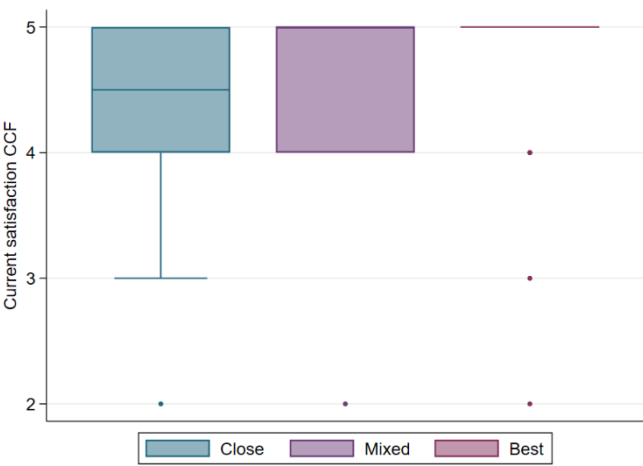
Table 5

Distribution of measures comparing Dyad type (Close friends, Mixed, Best friends)

Actor current satisfaction



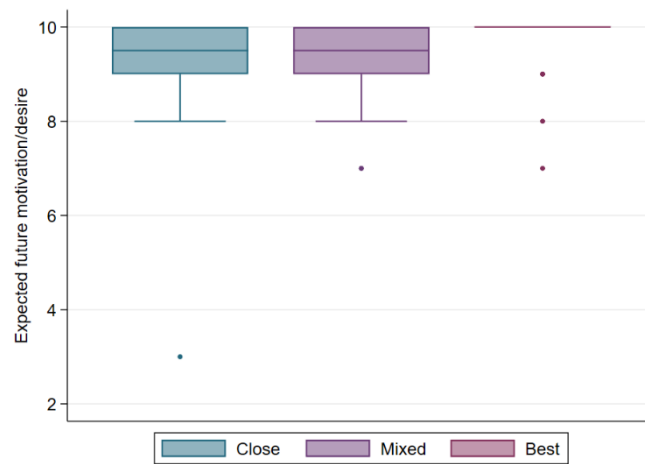
CCF current satisfaction



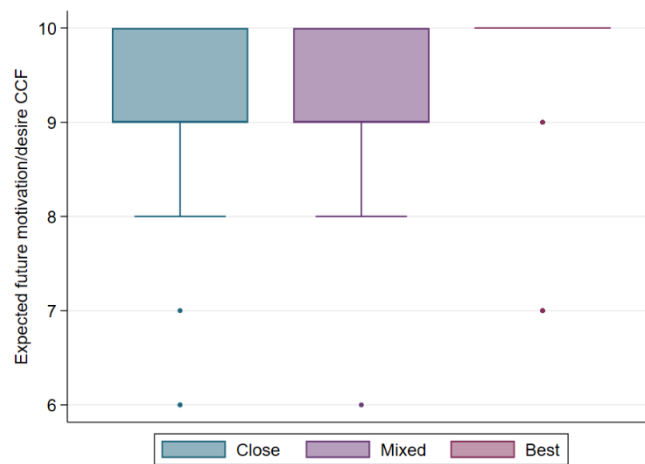
Actor expected future satisfaction



Actor expected future motivation (desire)



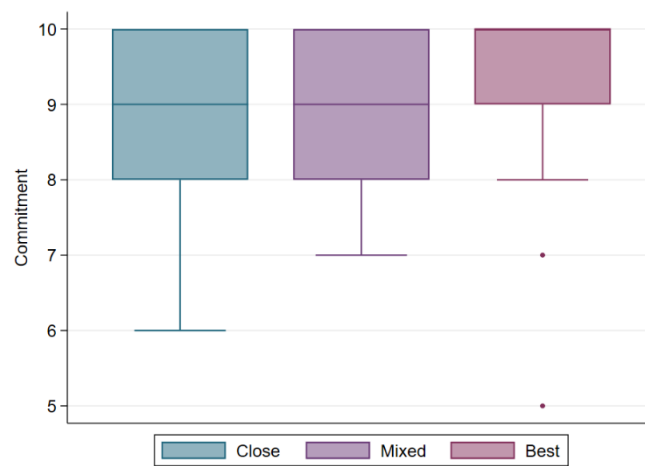
CCF expected future motivation (desire)



Actor emotional closeness



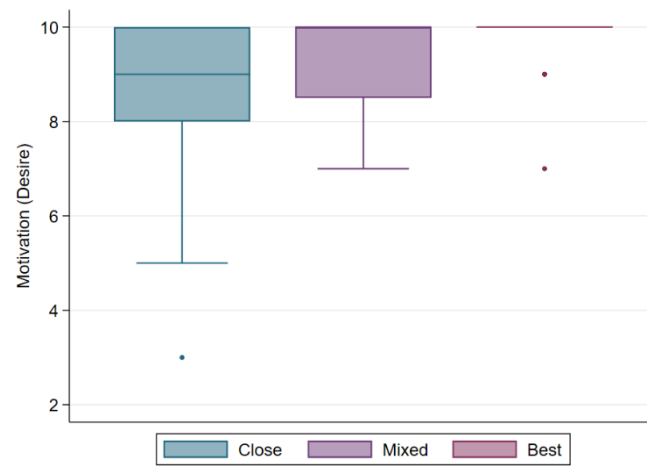
Actor commitment



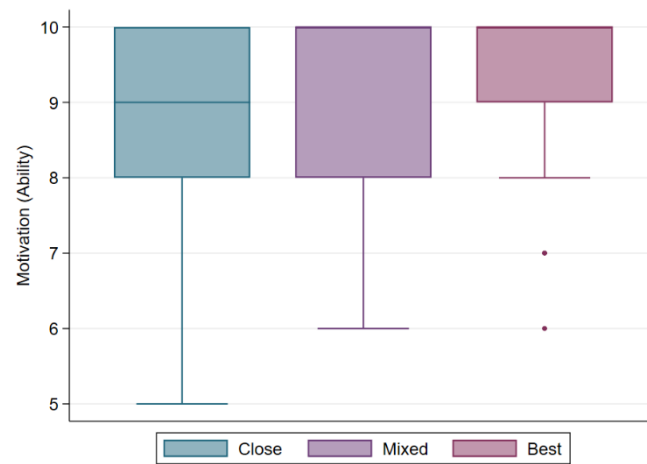
Plans to improve



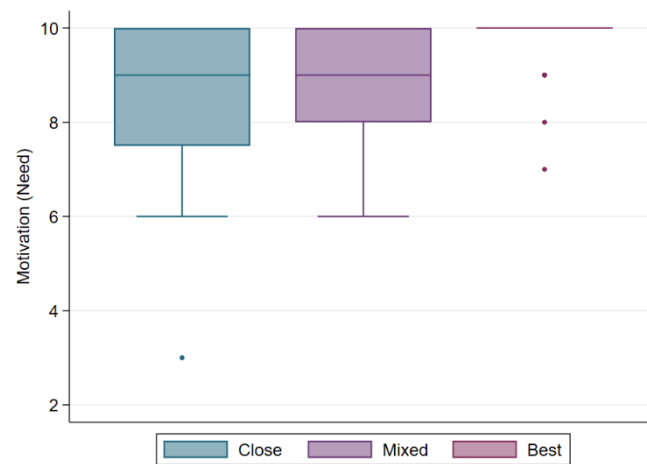
Actor motivation (desire)



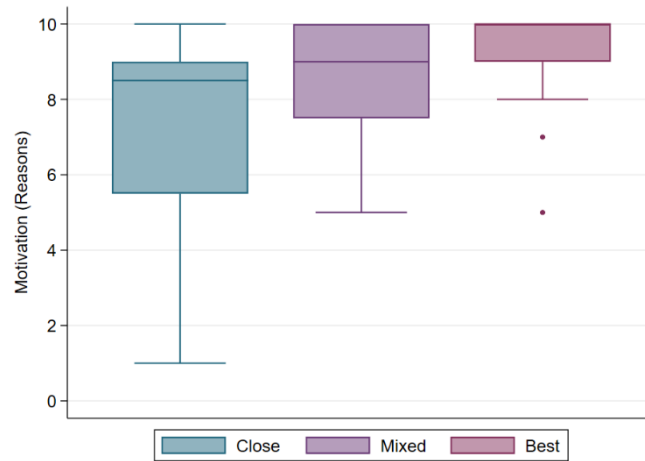
Actor motivation (ability)



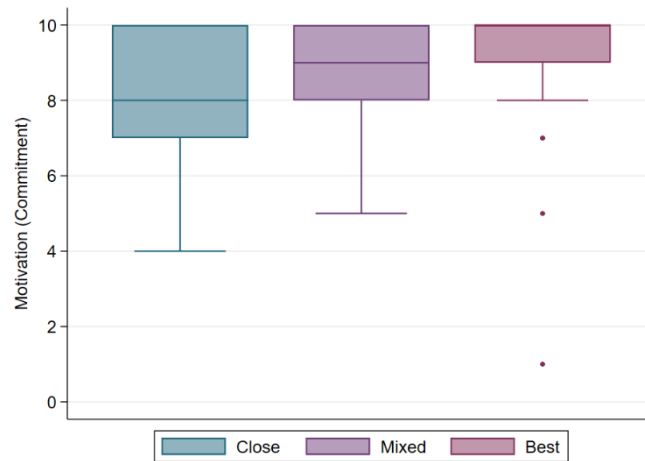
Actor motivation (need)



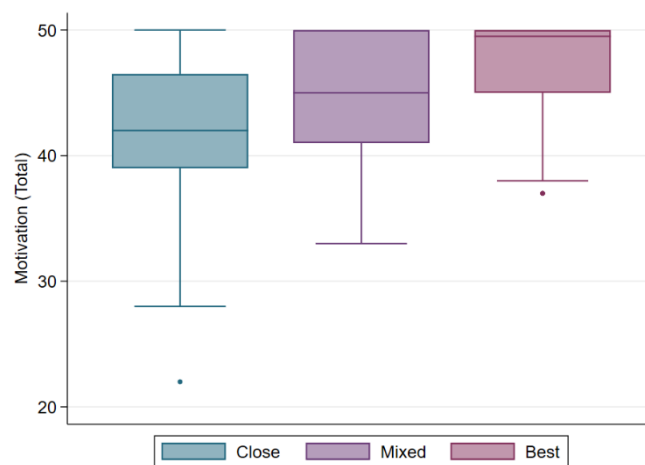
Actor motivation (reasons)



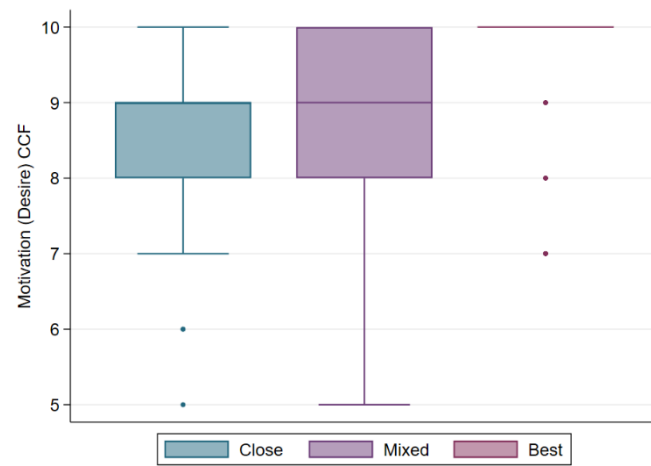
Actor motivation (commitment)



Actor motivation (total)



CCF motivation (desire)



Part 1b. Reciprocation: Inter-rater agreement for quality measures between Current Close Friends

Note 1: Gwet's AC and Kappa values below 0.00 indicate poor agreement, values between 0.00 and 0.20 slight agreement, values between 0.21 and 0.40 fair agreement, values between 0.41 and 0.60 moderate agreement, value between 0.61 and 0.80 substantial agreement, and values over 0.81 almost perfect agreement.

Note 2: ICC values below 0.50 indicate poor agreement, values between 0.50 and 0.75 moderate agreement, values between 0.75 and 0.90 good agreement, and values greater than 0.90 excellent agreement.

Table 6*Inter-rater Agreement Between Current Close Friend Dyad Members on Quality Measures at Wave 1*

Quality Measure	All (n = 74)	Gwet's AC2 (95% CI)	p-value	Observed Agreement (95% CI)
(Actor) Current satisfaction <i>Median [IQR]</i>	5.00 [4.00, 5.00]	0.82 (0.72, 0.92)	<0.001	0.89 (0.83, 0.94)
(CCF) Current satisfaction <i>Median [IQR]</i>	5.00 [4.00, 5.00]	0.76 (0.64, 0.88)	<0.001	0.85 (0.79, 0.91)
(Actor) Expected future motivation <i>Median [IQR]</i>	10.00 [9.00, 10.00]	0.87 (0.79, 0.95)	<0.001	0.92 (0.88, 0.96)
(CCF) Expected future motivation <i>Median [IQR]</i>	10.00 [9.00, 10.00]	0.89 (0.82, 0.95)	<0.001	0.93 (0.90, 0.97)
Emotional closeness <i>Median [IQR]</i>	9.00 [8.00, 10.00]	0.72 (0.59, 0.86)	<0.001	0.86 (0.81, 0.92)
Commitment <i>Median [IQR]</i>	10.00 [8.00, 10.00]	0.86 (0.79, 0.93)	<0.001	0.92 (0.89, 0.96)
Plans <i>Median [IQR]</i>	4.00 [4.00, 6.00]	0.51 (0.36, 0.66)	<0.001	0.77 (0.71, 0.82)
(Actor) Motivation (Desire) <i>Median [IQR]</i>	10.00 [9.00, 10.00]	0.88 (0.82, 0.93)	<0.001	0.92 (0.90, 0.95)
(Actor) Motivation (Ability) <i>Median [IQR]</i>	10.00 [8.00, 10.00]	0.78 (0.69, 0.88)	<0.001	0.88 (0.84, 0.92)
(Actor) Motivation (Need) <i>Median [IQR]</i>	10.00 [8.00, 10.00]	0.83 (0.76, 0.90)	<0.001	0.91 (0.88, 0.94)
(Actor) Motivation (Reasons) <i>Median [IQR]</i>	9.00 [8.00, 10.00]	0.70 (0.54, 0.86)	<0.001	0.85 (0.79, 0.92)
(Actor) Motivation (Commitment) <i>Median [IQR]</i>	9.00 [8.00, 10.00]	0.72 (0.57, 0.86)	<0.001	0.86 (0.79, 0.92)
(CCF) Motivation (Desire) <i>Median [IQR]</i>	9.00 [8.00, 10.00]	0.82 (0.74, 0.91)	<0.001	0.91 (0.87, 0.94)
Current contact <i>Median [IQR]</i>	4.00 [3.00, 5.00]	0.71 (0.58, 0.84)	<0.001	0.86 (0.81, 0.92)
Kappa (95% CI)				
Previous gap restoration <i>n (%)</i>	27 (36.5)	0.71 (0.47, 0.95)	<0.001	86.5 (74.9, 98.0)
Friendship status (Close vs Best)	32 (43.2) vs 42 (56.8)	0.34 (0.3, 0.67)	0.036	67.6 (51.7, 83.4)
ICC (95% CI)				
(Actor) Expected future satisfaction <i>Median [IQR]</i>	44.50 [39.00, 45.00]	0.37 (0.06, 0.62)	0.011	
(Actor) Motivation (Total) <i>Median [IQR]</i>	46.00 [41.00, 50.00]	0.65 (0.42, 0.81)	<0.001	
Friendship length (years) <i>Median [IQR]</i>	5.00 [2.00, 9.00]	0.94 (0.88, 0.97)	<0.001	

CCF = Current close friend; ICC = Intraclass correlation coefficient; IQR = Interquartile range

Table 7

Differences in Inter-rater Agreement Between Best Friend, Mixed (Best; Close), and Close Friend Dyads on Quality Measures at Wave 1

Quality Measure	Close friends (n = 20)	Mixed (n = 24)	Best friends (n = 30)	p-value	ES (95% CI)*
(Self) Current satisfaction <i>Median [IQR]</i>	5.00 [4.00, 5.00]	5.00 [4.00, 5.00]	5.00 [5.00, 5.00]	0.358	0.03 (-0.06, 0.12)
(CCF) Current satisfaction <i>Median [IQR]</i>	4.50 [4.00, 5.00]	5.00 [4.00, 5.00]	5.00 [5.00, 5.00]	0.044	0.08 (-0.04, 0.21)
(Self) Expected future satisfaction <i>Median [IQR]</i>	40.00 [38.50, 44.50]	42.00 [38.00, 45.00]	45.00 [44.00, 45.00]	0.003	0.15 (-0.00, 0.30)
(Self) Expected future motivation <i>Median [IQR]</i>	9.50 [9.00, 10.00]	9.50 [9.00, 10.00]	10.00 [10.00, 10.00]	0.009	0.13 (-0.01, 0.26)
(CCF) Expected future motivation <i>Median [IQR]</i>	9.00 [9.00, 10.00]	9.00 [9.00, 10.00]	10.00 [10.00, 10.00]	0.008	0.13 (-0.03, 0.28)
Emotional closeness <i>Median [IQR]</i>	8.00 [6.00, 9.50]	9.00 [8.00, 10.00]	10.00 [9.00, 10.00]	0.002	0.16 (-0.00, 0.32)
Commitment <i>Median [IQR]</i>	9.00 [8.00, 10.00]	9.00 [8.00, 10.00]	10.00 [9.00, 10.00]	0.007	0.13 (-0.02, 0.29)
Plans <i>Median [IQR]</i>	4.00 [4.00, 5.00]	4.50 [4.00, 6.00]	5.00 [4.00, 7.00]	0.063	0.07 (-0.04, 0.19)
(Self) Motivation (Desire) <i>Median [IQR]</i>	9.00 [8.00, 10.00]	10.00 [8.50, 10.00]	10.00 [10.00, 10.00]	0.003	0.15 (0.00, 0.30)
(Self) Motivation (Ability) <i>Median [IQR]</i>	9.00 [8.00, 10.00]	10.00 [8.00, 10.00]	10.00 [9.00, 10.00]	0.160	0.05 (-0.06, 0.16)
(Self) Motivation (Need) <i>Median [IQR]</i>	9.00 [7.50, 10.00]	9.00 [8.00, 10.00]	10.00 [10.00, 10.00]	<0.001	0.21 (0.05, 0.37)
(Self) Motivation (Reasons) <i>Median [IQR]</i>	8.50 [5.50, 9.00]	9.00 [7.50, 10.00]	10.00 [9.00, 10.00]	0.003	0.15 (-0.01, 0.32)
(Self) Motivation (Commitment) <i>Median [IQR]</i>	8.00 [7.00, 10.00]	9.00 [8.00, 10.00]	10.00 [9.00, 10.00]	0.011	0.12 (-0.03, 0.27)
(Self) Motivation (Total) <i>Median [IQR]</i>	42.00 [39.00, 46.50]	45.00 [41.00, 50.00]	49.50 [45.00, 50.00]	0.003	0.16 (-0.00, 0.31)
(CCF) Motivation (Desire) <i>Median [IQR]</i>	9.00 [8.00, 9.00]	9.00 [8.00, 10.00]	10.00 [10.00, 10.00]	0.002	0.17 (-0.01, 0.34)

* Effect size for Kruskal Wallis test is ϵ^2 ; CI = Confidence Interval

Table 8

Differences in Inter-rater Agreement Between Mixed Group Dyad Members (Discrepant Status Ratings Given: Best and Close Pairing) on Quality Measures at Wave 1

Quality Measure	Close friends (n = 12)	Best friends (n = 12)	Difference	p-value	ES (95% CI)*
(Self) Current satisfaction <i>Median [IQR]</i>	5.00 [4.50, 5.00]	5.00 [4.00, 5.00]	0.00 [0.00, 1.00]	0.755	0.09 (-0.48, 0.66)
(CCF) Current satisfaction <i>Median [IQR]</i>	5.00 [4.00, 5.00]	4.50 [4.00, 5.00]	1.00 [0.00, 1.00]	0.835	0.06 (-0.51, 0.63)
(Self) Expected future satisfaction <i>Median [IQR]</i>	42.00 [38.00, 45.00]	42.00 [37.50, 45.00]	4.00 [1.00, 6.50]	0.937	-0.02 (-0.59, 0.54)
(Self) Expected future motivation <i>Median [IQR]</i>	9.50 [8.00, 10.00]	9.50 [9.00, 10.00]	1.00 [0.00, 1.00]	0.535	-0.18 (-0.71, 0.35)
(CCF) Expected future motivation <i>Median [IQR]</i>	9.00 [8.00, 10.00]	9.00 [9.00, 10.00]	0.50 [0.00, 1.00]	0.328	-0.28 (-0.78, 0.21)
Emotional closeness <i>Median [IQR]</i>	9.00 [7.50, 10.00]	9.50 [8.00, 10.00]	1.00 [0.50, 2.50]	0.549	-0.17 (-0.73, 0.38)
Commitment <i>Median [IQR]</i>	9.00 [8.00, 10.00]	9.00 [8.00, 10.00]	0.50 [0.00, 1.50]	0.899	0.04 (-0.53, 0.60)
Plans <i>Median [IQR]</i>	5.00 [4.00, 6.50]	4.00 [4.00, 5.50]	1.00 [0.50, 2.00]	0.358	0.27 (-0.27, 0.80)
(Self) Motivation (Desire) <i>Median [IQR]</i>	9.00 [8.00, 10.00]	10.00 [9.50, 10.00]	1.00 [0.00, 1.00]	0.121	-0.45 (-0.90, 0.00)
(Self) Motivation (Ability) <i>Median [IQR]</i>	10.00 [8.00, 10.00]	10.00 [8.00, 10.00]	1.00 [0.00, 2.00]	0.869	-0.05 (-0.64, 0.55)
(Self) Motivation (Need) <i>Median [IQR]</i>	9.00 [8.00, 10.00]	8.50 [8.00, 10.00]	1.00 [0.50, 1.50]	0.658	0.13 (-0.42, 0.68)
(Self) Motivation (Reasons) <i>Median [IQR]</i>	9.00 [8.00, 10.00]	8.50 [7.00, 10.00]	1.00 [0.00, 2.00]	0.374	0.26 (-0.28, 0.79)
(Self) Motivation (Commitment) <i>Median [IQR]</i>	9.00 [8.00, 10.00]	8.50 [7.00, 10.00]	1.00 [0.00, 1.50]	0.174	0.39 (-0.09, 0.88)
(Self) Motivation (Total) <i>Median [IQR]</i>	46.00 [41.00, 49.00]	44.00 [40.00, 50.00]	3.00 [2.00, 5.00]	0.906	0.03 (-0.57, 0.64)
(CCF) Motivation (Desire) <i>Median [IQR]</i>	9.00 [8.00, 10.00]	9.00 [8.00, 10.00]	1.00 [0.00, 1.50]	0.656	-0.13 (-0.69, 0.43)

* Effect size (ES) for Wilcoxon signed rank test is r ; CI = Confidence Interval

Table 9

Weighted Gwet's AC (AC2) and Observed Agreement on all Quality Measures

Scores for Both Dyad Members of Each Dyad Type: Best, Mixed, Close, as well

as Overall Agreement Between Dyad Members

▪ *Overall Agreement Between Dyad Members (n = 37)*

Quality Measure	AC2 (95% CI)	P	Observed Agreement (95% CI)
(1 vs 2) Current satisfaction	0.80 (0.69, 0.92)	<0.001	0.87 (0.81, 0.93)
(2 vs 1)	0.79 (0.67, 0.90)	<0.001	0.86 (0.81, 0.92)
(1 vs 2) Current motivation/desire	0.89 (0.83, 0.95)	<0.001	0.94 (0.91, 0.97)
(2 vs 1)	0.80 (0.72, 0.89)	<0.001	0.89 (0.86, 0.93)
(1 vs 2) Expected future motivation/desire	0.89 (0.82, 0.95)	<0.001	0.93 (0.90, 0.96)
(2 vs 1)	0.87 (0.80, 0.94)	<0.001	0.92 (0.89, 0.96)

▪ *Agreement Between Best-Best Friend Dyads (n = 15)*

Quality Measure	AC2 (95% CI)	p-value	Observed Agreement (95% CI)
(1 vs 2) Current satisfaction	0.93 (0.84, 1.00)	<0.001	0.95 (0.89, 1.00)
(2 vs 1)	0.89 (0.74, 1.00)	<0.001	0.92 (0.83, 1.00)
(1 vs 2) Current motivation/desire	0.95 (0.88, 1.00)	<0.001	0.96 (0.90, 1.00)
(2 vs 1)	0.91 (0.82, 1.00)	<0.001	0.94 (0.88, 1.00)
(1 vs 2) Expected future motivation/desire	0.94 (0.86, 1.00)	<0.001	0.95 (0.89, 1.00)
(2 vs 1)	0.95 (0.88, 1.00)	<0.001	0.96 (0.91, 1.00)

▪ *Agreement Between Best-Close Friend Dyads (n = 12)*

Quality Measure	AC2 (95% CI)	p-value	Observed Agreement (95% CI)
(1 vs 2) Current satisfaction	0.77 (0.56, 0.98)	<0.001	0.85 (0.75, 0.96)
(2 vs 1)	0.77 (0.56, 0.98)	<0.001	0.85 (0.75, 0.96)
(1 vs 2) Current motivation/desire	0.83 (0.69, 0.97)	<0.001	0.91 (0.84, 0.97)
(2 vs 1)	0.76 (0.61, 0.92)	<0.001	0.88 (0.82, 0.94)
(1 vs 2) Expected future motivation/desire	0.87 (0.75, 0.98)	<0.001	0.93 (0.87, 0.98)
(2 vs 1)	0.83 (0.68, 0.97)	<0.001	0.91 (0.84, 0.97)

▪ *Agreement Between Close-Close Friend Dyads (n = 10)*

Quality Measure	AC2 (95% CI)	p-value	Observed Agreement (95% CI)
(1 vs 2) Current satisfaction	0.61 (0.22, 1.00)	0.007	0.77 (0.62, 0.93)
(2 vs 1)	0.63 (0.38, 0.87)	<0.001	0.80 (0.69, 0.91)
(1 vs 2) Current motivation/desire	0.89 (0.75, 1.00)	<0.001	0.94 (0.89, 1.00)
(2 vs 1)	0.67 (0.45, 0.88)	<0.001	0.84 (0.76, 0.93)
(1 vs 2) Expected future motivation/desire	0.82 (0.63, 1.00)	<0.001	0.90 (0.82, 0.98)
(2 vs 1)	0.79 (0.62, 0.97)	<0.001	0.89 (0.81, 0.96)

Appendix K: Tables. Dissolution univariate analyses

Part 1. Predicting future maintenance and dissolution with interpersonal relationship outcome measures

Table 1

Logistic regressions predicting likelihood of close friendship dissolution in 6-months-time

Measure	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Expected future satisfaction	-.11	.03	15.23	1	<.001	.90	.85	.95
Emotional closeness	-.27	.10	6.99	1	.008	.76	.62	.93
Commitment	-.30	.10	10.13	1	.001	.74	.62	.89
Current satisfaction	-.41	.21	3.77	1	.052	.66	.44	1.00

Part 2. Predicting future maintenance and dissolution: Exploratory items

Table 2

Actor-distal factors - univariate logistic regressions predicting likelihood of close friendship dissolution in 6-months-time (cut-off point of $p < .20$)

	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Trait avoidant attachment (item 1)	.34	.12	8.85	1	.003	1.41	1.12	1.77
Decay belief	.26	.11	5.82	1	.016	1.30	1.05	1.60
Avoidant attachment to friend	.27	.15	3.11	1	.078	1.31	.97	1.77
Trait anxious attachment (item 2)	.17	.10	2.92	1	.088	1.18	.98	1.43
Antagonism	.11	.07	2.42	1	.120	1.11	.97	1.27
Trait anxious attachment (item 1)	.14	.11	1.83	1	.177	1.15	.94	1.42

Table 3

Current close friend distal factors - univariate logistic regressions predicting likelihood of close friendship dissolution in 6-months-time (cut-off point of $p < .20$)

Current close friend distal factor	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Conscientious	-.16	.09	3.63	1	.057	.85	.72	1.01
Extroverted	.16	.09	3.04	1	.081	1.17	.98	1.40
Antagonism	.08	.06	2.02	1	.156	1.08	.97	1.21
Anxious attachment to actor	.16	.11	1.90	1	.168	1.17	.94	1.46

Table 4

Actor-intrapersonal processes - univariate logistic regressions predicting likelihood of close friendship dissolution in 6-months-time (cut-off point of $p < .20$)

Actor-intrapersonal process	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Expected future satisfaction	-.11	.03	15.23	1	<.001	.90	.85	.95
Emotional closeness	-.27	.10	6.97	1	.008	.76	.62	.93
Death devastation	-.28	.13	4.43	1	.035	.76	.58	.98
Commitment	-.30	.10	10.09	1	.001	.74	.62	.89
Positive emotions	-.42	.15	8.22	1	.004	.65	.49	.87
Expected future motivation (desire)	-.47	.12	14.36	1	<.001	.63	.49	.80
Current satisfaction	-.41	.21	3.74	1	.053	.66	.44	1.01
Actor likes CCF	-.50	.29	3.02	1	.082	.61	.35	1.07
Positive illusory belief (CCF ideal friend)	-.34	.21	2.55	1	.110	.72	.47	1.08
Care for welfare	-.10	.07	2.27	1	.132	.91	.80	1.03
Current hurt	.32	.22	2.17	1	.141	1.38	.90	2.12

Table 5

Current close friend intrapersonal processes - univariate logistic regressions predicting likelihood of close friendship dissolution in 6-months-time (cut-off point of $p < .20$)

Current close friend intrapersonal process	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Motivation (desire)	-.29	.12	5.57	1	.018	.75	.59	.95
Current satisfaction	-.48	.24	4.15	1	.042	.62	.39	.98
Expected future motivation (desire)	-.58	.13	20.06	1	<.001	.56	.44	.72

Table 6

Actor-positive behaviours - univariate logistic regressions predicting likelihood of close friendship dissolution in 6-months-time (cut-off point of $p < .20$)

Actor-positive behaviour	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Maintenance behaviours	-.34	.17	4.10	1	.043	.71	.51	.99
Reciprocation	-.45	.24	3.47	1	.063	.64	.39	1.02
Forgiving	-.35	.21	2.68	1	.100	.71	.47	1.07
Considerate	-.40	.26	2.48	1	.115	.67	.40	1.10
Grateful	.43	.28	2.36	1	.124	1.54	.89	2.68

Table 7

Current close friend positive behaviours - univariate logistic regressions

predicting likelihood of close friendship dissolution in 6-months-time (cut-off

point of $p < .20$)

Current close friend positive behaviour	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Good communication ability	-.32	.14	5.06	1	.024	.73	.55	.96
Forgiving	-.50	.18	7.43	1	.006	.61	.43	.87
Takes responsibility	-.52	.18	8.74	1	.003	.60	.42	.84
Reciprocates	-.58	.21	7.53	1	.006	.56	.37	.85
Empathy	-.31	.17	3.09	1	.079	.74	.53	1.04
Loyal	-.29	.17	2.76	1	.097	.75	.53	1.05
Trustworthy	-.33	.22	2.33	1	.127	.72	.47	1.10
Considerate	-.30	.20	2.20	1	.138	.74	.50	1.10
Maintenance behaviours	-.25	.17	2.05	1	.153	.78	.56	1.10
Relies on actor for emotional needs	.23	.18	1.70	1	.193	1.26	.89	1.78

Table 8

Actor-oppositional behaviours - univariate logistic regressions predicting

likelihood of close friendship dissolution in 6-months-time (cut-off point of $p <$

.20)

Actor-oppositional behaviour	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Ostracises friend	.60	.21	7.94	1	.005	1.81	1.20	2.74
Entitled	.35	.18	3.86	1	.049	1.42	1.00	2.02
Arrogant	.29	.15	3.84	1	.050	1.34	1.00	1.79
Passive aggression	.20	.14	2.12	1	.146	1.22	.93	1.60
Defensive	.21	.15	1.88	1	.170	1.24	.91	1.67
Judgemental	.20	.15	1.82	1	.177	1.23	.91	1.65

Table 9

Current close friend oppositional behaviours - univariate logistic regressions predicting likelihood of close friendship dissolution in 6-months-time (cut-off point of $p < .20$)

Current close friend oppositional behaviour	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Ostracises actor	.50	.24	4.45	1	.035	1.65	1.04	2.63
Controlling	.46	.15	9.84	1	.002	1.58	1.19	2.11
Arrogant	.38	.15	6.25	1	.012	1.45	1.08	1.95
Selfish	.32	.16	4.17	1	.041	1.38	1.01	1.88
Stonewalls	.24	.14	3.12	1	.077	1.27	.97	1.67
Self-righteousness	.21	.14	2.50	1	.114	1.24	.95	1.62
Persistent	.24	.16	2.26	1	.133	1.27	.93	1.72

Table 10

Actor-negative behaviours- univariate logistic regressions predicting likelihood of close friendship dissolution in 6-months-time (cut-off point of $p < .20$)

Actor-negative behaviour	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Ambitious	.43	.20	4.45	1	.035	1.53	1.03	2.27
Sexual interest in friend	.43	.18	5.71	1	.017	1.52	1.08	2.18
Ingratiation	.11	.06	3.78	1	.052	1.12	1.00	1.25
Low peer conformity goals	.24	.16	2.46	1	.117	1.28	.94	1.73
Boring	-.31	.20	2.44	1	.119	.73	.50	1.08
Pessimistic	.23	.15	2.31	1	.129	1.26	.94	1.70
Self-perfectionism	.22	.16	1.90	1	.168	1.25	.91	1.70
Reassurance seeking	.24	.17	1.87	1	.172	1.27	.90	1.77
Hypocritical	.22	.17	1.73	1	.189	1.24	.90	1.72

Table 11

Current close friend negative behaviours - univariate logistic regressions

predicting likelihood of close friendship dissolution in 6-months-time (cut-off

point of $p < .20$)

Current close friend negative behaviour	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Sexual interest in actor	.42	.18	5.31	1	.021	1.53	1.07	2.19
Shows off	.42	.15	8.11	1	.004	1.52	1.14	2.02
Coercive	.42	.15	7.42	1	.006	1.52	1.12	2.05
Low peer conformity goals	.41	.15	8.04	1	.005	1.51	1.14	2.01
Eccentric	.35	.14	6.01	1	.014	1.42	1.07	1.89
Jealous of actor's characteristics	.31	.16	3.93	1	.047	1.36	1.00	1.84
High peer conformity goals	.28	.15	3.53	1	.060	1.32	.99	1.77
Competitive	.21	.14	2.11	1	.147	1.23	.93	1.62
Ingratiation	.07	.05	2.06	1	.152	1.08	.97	1.19

Table 12

Actor-contextual factors - univariate logistic regressions predicting likelihood of

close friendship dissolution in 6-months-time (cut-off point of $p < .20$)

Actor-contextual factor	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Ability to keep friends	-.37	.18	4.29	1	.038	.69	.49	.98
Commitment to maintaining other close friends	-.16	.08	3.65	1	.056	.85	.72	1.00
Life satisfaction	-.18	.13	2.00	1	.157	.83	.65	1.07

Table 13

Current close friend contextual factors - univariate logistic regressions predicting

likelihood of close friendship dissolution in 6-months-time (cut-off point of $p <$

.20)

Current close friend contextual factor	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Peers ostracise friend	.40	.20	4.06	1	.044	1.40	1.01	2.22

Table 14

Friendship dynamic factors - univariate logistic regressions predicting likelihood of close friendship dissolution in 6-months-time (cut-off point of $p < .20$)

Friendship dynamic factor	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Friend's political beliefs bother actor	.42	.20	4.73	1	.030	1.53	1.04	2.24
Actor-political beliefs bother friend	.40	.20	8.87	1	.049	1.49	1.00	2.22
Friend's religious/spiritual beliefs bother actor	.38	.19	3.95	1	.047	1.47	1.01	2.14
Actor-morals bother friend	.34	.21	2.72	1	.099	1.41	.94	2.13

Table 15

Summary of univariate logistic regression models predicting likelihood of future close-friendship dissolution with Odds ratio of +/- >.1

Model	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio	
							Lower	Upper
Distal factor: actor								
Trait avoidant attachment (item 1)	.34	.12	8.85	1	.003	1.41	1.12	1.77
Decay belief	.26	.11	5.82	1	.016	1.30	1.05	1.60
Oppositional behaviour: actor								
Ostracises friend	.60	.21	7.94	1	.005	1.81	1.20	2.74
Entitled	.35	.18	3.86	1	.049	1.42	1.00	2.02
Oppositional behaviour: friend								
Ostracises actor	.50	.24	4.45	1	.035	1.65	1.04	2.63
Controlling	.46	.15	9.84	1	.002	1.58	1.19	2.11
Arrogant	.38	.15	6.25	1	.012	1.45	1.08	1.95
Selfish	.32	.16	4.17	1	.041	1.38	1.01	1.88
Negative behaviour: actor								
Ambitious	.43	.20	4.45	1	.035	1.53	1.03	2.27
Sexual interest in friend	.43	.18	5.71	1	.017	1.52	1.08	2.18
Negative behaviour: friend								
Sexual interest in actor	.42	.18	5.31	1	.021	1.53	1.07	2.19
Shows off	.42	.15	8.11	1	.004	1.52	1.14	2.02
Coercive	.42	.15	7.42	1	.006	1.52	1.12	2.05
Low peer conformity goals	.41	.15	8.04	1	.005	1.51	1.14	2.01
Eccentric	.35	.14	6.01	1	.014	1.42	1.07	1.89
Jealous of actor's characteristics	.31	.16	3.93	1	.047	1.36	1.00	1.84
Contextual factor: friend								
Peers ostracise friend	.40	.20	4.06	1	.044	1.40	1.01	2.22
Contextual factor: friendship dynamic								
Friend's political beliefs bother actor	.42	.20	4.73	1	.030	1.53	1.04	2.24
Actor political beliefs bother friend	.40	.20	8.87	1	.049	1.49	1.00	2.22
Friend's religious/spiritual beliefs bother actor	.38	.19	3.95	1	.047	1.47	1.01	2.14

Appendix L: Dealbreaker frequencies

*Dealbreaker Factors According to Theoretical Group for T1 Previous Close Friend and T2 Current Close Friend
(Dissolution) Groups*

Theoretical group	Actor/friend	Dealbreaker Variable	PCF		CCF (Dissolution group) <i>n</i> = 35	
			<i>n</i> (<i>n</i> sample size)	%	<i>n</i>	%
Distal factors	Actor	Self-esteem	6 (570)	1.1	0	0
		Intelligent	1 (569)	0.2	0	0.0
	Friend	PDI5-Hurt Others	58 (593)	9.8	1	2.8
		PDI5-Takes advantage	57 (593)	9.3	0	0
		PDI5-Manipulative	52 (593)	8.8	2	5.7
		PDI5-Grandiose	32 (593)	5.4	1	2.8
		PDI5-Craves Attention	31 (593)	5.2	2	5.7
		Self-esteem	5 (586)	0.9	0	0
		Intelligent	5 (577)	0.9	0	0
Intrapersonal processes	Actor		115			
		Hurt	(563)	20.4	6	17.1
		Like friend	27 (563)	4.8	1	2.8

Interpersonal
processes: Positive
behaviours

Actor	Relied on friend - emotional needs	24 (564)	4.3	2	5.7
	Authenticity	17 (564)	3	3	8.6
	Communication ability	16 (569)	2.8	1	2.8
	Loyalty	16 (569)	2.8	1	2.8
	Relied on friend - practical needs	14 (564)	2.5	0	0.0
	Forgiving	14 (564)	2.5	0	0.0
	Maintenance behaviours	14 (564)	2.5	3	8.6
	Trustworthy	13 (569)	2.3	1	2.8
	Reciprocation	12 (564)	2.1	0	0
	Trusting	12 (569)	2.1	0	0.0
	Considerate	10 (569)	1.8	1	2.8
	Responsibility for actions	9 (565)	1.6	0	0.0
	Optimistic	7 (569)	1.2	0	0.0
	Compromised	7 (569)	1.2	0	0.0
	Empathic	7 (569)	1.2	0	0.0
	Confident	6 (569)	1.1	0	0.0
	Grateful	3 (570)	0.5	0	0
	Kind	3 (569)	0.5	0	0.0
	Prosocial (altruistic)	3 (569)	0.5	0	0.0
	Hygienic	2 (569)	0.4	0	0.0
Friend	Responsibility for actions	67 (569)	11.8	1	2.8
	Trustworthy	60 (575)	10.4	2	5.7
	Loyalty	55 (575)	9.6	4	11.4
	Reciprocation	43 (564)	7.6	6	17.1

		Considerate	33 (576)	5.7	2	5.7
		Communication ability	31 (576)	5.4	1	2.8
		Empathic	30 (576)	5.2	2	5.7
		Compromised	25 (575)	4.3	1	2.8
		Forgiving	24 (568)	4.2	1	2.8
		Trusting	32 (575)	3.9	1	2.8
		Relied on actor - emotional needs	18 (563)	3.2	2	5.7
		Kind	16 (578)	2.8	1	2.8
		Prosocial (altruistic)	15 (578)	2.6	0	0.0
		Relied on actor- practical needs	14 (563)	2.5	0	0.0
		Optimistic	13 (575)	2.3	0	0.0
		Grateful	12 (586)	2	1	2.8
		Hygienic	5 (578)	0.9	0	0.0
		Confident	4 (575)	0.7	0	0.0
Interpersonal processes: Oppositional behaviours	Actor	Ostracised friend	28 (563)	5.0	0	0.0
		Indirect verbal victimisation friend	14 (563)	2.5	0	0.0
		Stonewalls	14 (569)	2.5	0	0.0
		Selfish	13 (569)	2.3	0	0.0
		Controlling	12 (569)	2.1	0	0.0
		Persistent	12 (569)	2.1	0	0.0
		Direct verbal victimisation friend	11 (563)	2.0	0	0.0
		Defensive	10 (569)	1.8	0	0.0
		Entitled	9 (564)	1.6	0	0.0
		Arrogant	8 (569)	1.4	0	0.0

		Passive aggressive	7 (569)	1.2	0	0.0
		Perfectionistic (other-oriented)	6 (569)	1.1	0	0.0
		Self-righteousness	5 (569)	0.9	0	0.0
		Judgemental	5 (569)	0.9	0	0.0
Friend		Ostracised actor	73 (563)	13.0	3	8.6
		Selfish	61 (576)	10.6	4	11.4
		Judgemental	52 (575)	9.0	1	2.8
		Controlling	49 (575)	8.5	1	2.8
		Indirect verbal victimisation actor	47 (563)	8.3	1	2.8
		Stonewalls	47 (575)	8.2	3	8.6
		Direct verbal victimisation actor	42 (563)	7.5	1	2.8
		Entitled	40 (571)	7.0	2	5.7
		Passive aggressive	38 (575)	6.6	1	2.8
		Arrogant	37 (575)	6.4	4	11.4
		Persistent	27 (578)	4.7	2	5.7
		Self-righteousness	25 (578)	4.3	1	2.8
		Defensive	19 (575)	3.3	0	0.0
		Perfectionistic (other-oriented)	17 (578)	2.9	1	2.8
Interpersonal processes: negative behaviours						
Actor		Jealous of friend's interactions	15 (570)	2.6	0	0.0
		Unavailable	13 (569)	2.3	1	2.8
		Reassurance seeking	12 (569)	2.1	0	0.0
		Eccentric	12 (569)	2.1	0	0.0
		Hypocritical	9 (569)	1.6	0	0.0

	Jealous of friend's characteristics	8 (570)	1.4	0	0.0
	Silly	8 (569)	1.4	0	0.0
	Ingratiation - Personal favours	8 (564)	1.4	0	0.0
	Pessimistic	8 (569)	1.4	0	0.0
	Low peer conformity goals	7 (569)	1.2	0	0.0
	High peer conformity goals	6 (569)	1.1	0	0.0
	Ingratiation - Praise	5 (564)	0.9	0	0.0
	Perfectionism (self-oriented)	5 (569)	0.9	0	0.0
	Prosocial (coercive)	4 (569)	0.7	0	0.0
	Shows off	4 (569)	0.7	0	0.0
	Competitive	4 (569)	0.7	0	0.0
	Boring	4 (569)	0.7	0	0.0
	Ingratiation - Showed interest	4 (564)	0.7	0	0.0
	Ingratiation - Compliments	2 (564)	0.4	0	0.0
	Ambitious	2 (569)	0.4	0	0.0
Friend	Hypocritical	49 (575)	8.5	3	8.6
	Jealous of actor interactions	43 (586)	7.3	1	2.8
	Prosocial (coercive)	33 (578)	5.7	0	0.0
	Pessimistic	31 (575)	5.4	1	2.8
	Unavailable	24 (578)	4.2	4	11.4
	Competitive	21 (578)	3.6	2	5.7
	Shows off	20 (578)	3.5	2	5.7
	Jealous of actor characteristics	20 (586)	3.4	0	0.0
	Ingratiation - Praise	16 (567)	2.8	0	0.0
	Ingratiation - Personal favours	16 (567)	2.8	1	2.8
	Eccentric	15 (578)	2.6	0	0.0

Contextual factors	Actor	Ingratiation - Showed interest	13 (567)	2.3	1	2.8
		Ingratiation - Compliments	11 (567)	1.9	0	0.0
		Reassurance seeking	9 (575)	1.6	0	0.0
		Silly	8 (578)	1.4	0	0.0
		Boring	7 (578)	1.2	0	0.0
		High peer conformity goals	22 (576)	1.0	0	0.0
		Low peer conformity goals	6 (576)	1.0	0	0.0
		Ambitious	5 (575)	0.9	0	0.0
		Perfectionistic - self-oriented	4 (578)	0.7	0	0.0
		Peers ostracised actor	32 (563)	5.7	1	2.8
		Peers indirect verbal victimisation actor	29 (563)	5.2	0	0.0
		Peers direct verbal victimisation actor	22 (563)	3.9	0	0.0
		Peer approval of actor	16 (563)	2.8	0	0.0
		Alternative friends	14 (563)	2.5	0	0.0
		Likeability	9 (563)	1.6	NA	NA
	Friend	Depressed mood	8 (570)	1.4	0	0
		Stressed	5 (570)	0.9	0	0
		Anxious	4 (570)	0.7	0	0
		Current hurt	29 (563)	5.2	2	5.7
		Peers ostracise friend	17 (563)	3.0	0	0.0
		Peers direct verbal victimisation friend	17 (563)	3.0	0	0.0
		Peer approval of friend	16 (563)	2.8	0	0.0
		Likes actor	15 (563)	2.7	1	2.8
		Alternative friends	14 (563)	2.5	1	2.8

		Peers indirect verbal victimisation				
		friend	11 (563)	2.0	0	0.0
		Popularity	6 (563)	1.1	NA	NA
		Anxious	5 (586)	0.9	0	0.0
		Stressed	4 (586)	0.7	0	0.0
		Depressed mood	4 (586)	0.7	0	0.0
Friendship dynamic factors	Actor- Friend	Friend morals bothered actor	48 (563)	8.5	2	5.7
		Change in time spent together	40 (563)	7.1	2	5.7
		Friend-values bothered friend	29 (563)	5.2	3	8.6
		Actor-morals bothered friend	19 (563)	3.4	1	2.8
		Actor-values bothered friend	17 (563)	3.0	1	2.8
		Actor-political beliefs bothered friend	14 (563)	2.5	0	0.0
		Friend-political beliefs bothered actor	14 (563)	2.5	NA	NA
		Actor-religious/spiritual beliefs bothered friend	9 (563)	1.6	0	0.0
		Common interests	7 (565)	1.2	1	2.8
		Friend- religious/spiritual beliefs bothered actor	7 (563)	1.2	1	2.8
		Actor-sexual interest in Friend	7 (563)	1.2	0	0.0
		Friend-sexual interest in actor	5 (563)	0.9	1	2.8

Appendix M: Tables. Distress univariate analyses

Study 1. Predicting current distress

Table 1

Actor-distal factors – univariate linear regressions predicting current dissolution distress

Actor-distal factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Decay belief	1.52	.26	.24	.24	<.001	1.02	2.02	.06
Avoidant attachment to friend (pre-dissolution)	-1.26	.21	-.25	-.25	<.001	-1.67	-.85	.06
Locus of control (external)	1.34	.27	.21	.21	<.001	.82	1.87	.04
Antagonism	.64	.15	.18	.18	<.001	.35	.93	.03
Trait anxious attachment (item 2)	.80	.21	.16	.16	<.001	.39	1.20	.03
Locus of control (internal)	-1.03	.25	.17	.17	<.001	-1.52	.55	.03
Neuroticism	.61	.20	.13	.13	.002	.22	1.00	.02
Trait anxious attachment (item 1)	.83	.23	.15	.15	<.001	.38	1.27	.02
Trait avoidant attachment (item 1)	.38	.23	.07	.07	.091	-.06	.83	.01
Conscientiousness	-.36	.19	-.08	-.08	.053	-.72	.01	.01
Self-esteem (pre-dissolution)	-.49	.35	-.06	-.06	.164	-1.18	.20	.00
Destiny belief (item 2)	.40	.25	.07	.07	.113	-.10	.90	.00
Growth belief (item 2)	.37	.26	.06	.06	.159	-.14	.88	.00

Table 2

Previous close friend distal factors - univariate linear regressions predicting current dissolution distress (cut-off point of $p < .20$)

Previous close friend distal factor (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		<i>R</i> ²
						Lower	Upper	
Neuroticism	-.30	.18	-.07	-.07	.095	-.65	.05	.01
Anxious attachment to actor	-.50	.26	-.08	-.08	.053	-1.01	.01	.01
Openness	.28	.18	.07	.07	.115	-.07	.63	.00
Intelligent	.53	.37	.06	.06	.147	-.19	1.25	.00
Avoidant attachment to actor	-.31	.21	-.06	-.06	.143	-.73	.11	.00

Table 3

Actor-intrapersonal processes - univariate linear regressions predicting current dissolution distress (cut-off point of $p < .20$)

Actor-intrapersonal process	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Motivation (desire)	1.30	.15	.35	.35	<.001	1.00	1.59	.12
Negative emotions	.84	.15	.23	.23	<.001	.54	1.14	.05
Expected future motivation (desire)	.63	.12	.22	.22	<.001	.40	.87	.05
Commitment	.82	.14	.23	.23	<.001	.54	1.10	.05
Readiness to change	.06	.01	.19	.19	<.001	.03	.08	.04
Plans to improve	.92	.19	.20	.20	<.001	.54	1.30	.04
Hurt (pre-dissolution)	1.33	.30	.18	.18	<.001	.73	1.93	.03
Expected future satisfaction	.12	.04	.14	.14	.001	.05	.20	.02
Emotional closeness	.52	.18	.12	.12	.003	.17	.87	.02
Restoration likelihood	.04	.01	.12	.12	.003	.01	.07	.02
Liked friend (pre-dissolution)	.91	.37	.10	.10	.013	.19	1.63	.01
Positive illusory belief	.63	.37	.07	.07	.091	-.10	1.37	.01
Positive emotions	.16	.16	.06	.06	.144	-.08	.56	.00
Likes friend (current)	.46	.33	.06	.06	.159	-.18	1.10	.00

Table 4

Previous close friend-intrapersonal processes - univariate linear regressions predicting current dissolution distress

(cut-off point of $p < .20$)

Previous close friend intrapersonal process (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		<i>R</i> ²
						Lower	Upper	
Hurt	1.50	.35	.18	.18	<.001	.81	2.20	.03
Liked actor	-.70	.40	-.07	-.70	.080	-1.48	.08	.01

Table 5

Actor-positive behaviours (pre-dissolution) - univariate linear regressions predicting current dissolution distress

(cut-off point of $p < .20$)

Actor-positive behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		<i>R</i> ²
						Lower	Upper	
Relied on friend for emotional needs	2.28	.30	.30	.30	<.001	1.68	2.88	.09
Maintenance behaviours	1.79	.36	.21	.21	<.001	1.09	2.49	.04
Optimistic	-1.44	.37	-.16	-.16	<.001	-2.18	-.71	.03
Relied on friend for practical needs	1.28	.32	.17	.17	<.001	.65	1.92	.03
Confident	-.1.17	.37	-.13	-.13	.002	-1.90	-.45	.02
Took responsibility for actions	-.79	.38	-.09	-.09	.038	-1.54	-.04	.01
Reciprocation	1.05	.39	.11	.11	.007	.29	1.82	.01
Hygienic	-.86	.44	-.08	-.08	.049	-1.71	-.01	.01

Table 6

Previous close friend positive behaviours (pre-dissolution) - univariate linear regressions predicting current dissolution distress

(cut-off point of $p < .20$)

Previous close friend positive behaviours (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		<i>R</i> ²
						Lower	Upper	
Considerate	.72	.35	.09	.09	.042	.03	1.41	.01
Compromised	.82	.36	.09	.09	.026	.10	1.53	.01
Confident	.69	.36	.08	.08	.052	-.01	1.39	.01
Hygienic	-.65	.38	-.07	-.07	.087	-1.38	.09	.01
Kind	.45	.34	.06	.06	.190	-.22	1.12	.00

Table 7

Actor-oppositional behaviours (pre-dissolution) - univariate linear regressions predicting current dissolution distress (cut-off point of $p < .20$)

Actor-oppositional behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		<i>R</i> ²
						Lower	Upper	
Verbally victimised friend	2.73	.42	.27	.27	<.001	1.91	3.55	.07
Controlling	1.81	.34	.22	.22	<.001	1.15	2.47	.05
Entitled	1.70	.34	.21	.21	<.001	1.04	2.37	.04
Stonewalled	.33	.17	.17	.17	<.001	.68	1.97	.03
Selfish	1.13	.34	.14	.14	.001	.45	1.81	.02
Arrogant	.97	.33	.12	.12	.003	.33	1.61	.02
Ostracised friend	1.00	.31	.14	.14	.001	.40	1.60	.02
Passive aggressive	1.00	.32	.13	.13	.002	.37	1.63	.02
Defensive	1.09	.31	.15	.15	.001	.48	1.70	.02
Judgemental	1.20	.34	.15	.15	<.001	.54	1.86	.02
Perfectionistic (other-oriented)	1.19	.35	.14	.14	.001	.51	1.87	.02
Self-righteousness	.91	.34	.11	.11	.007	.25	1.57	.01
Persistent	.61	.34	.08	.08	.071	-.05	1.27	.01

Table 8

Previous close friend oppositional behaviours (pre-dissolution) - univariate linear regression predicting current dissolution distress (cut-off point of $p < .20$)

Previous close friend positive behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		<i>R</i> ²
						Lower	Upper	
Verbally victimised actor	1.51	.32	.20	.20	<.001	.89	2.13	.04

Table 9

Actor-negative behaviours (pre-dissolution) - univariate linear regressions predicting current dissolution distress (cut-off point of $p < .20$)

Previous close friend positive behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Sexual interest in friend	4.39	.36	.46	.46	<.001	3.68	5.11	.21
Sexual interest in friend's partner	4.12	.47	.35	.35	<.001	3.20	5.20	.12
Reassurance seeking	1.95	.31	.26	.26	<.001	1.35	2.55	.07
Jealous of friend's interactions	1.90	.29	.26	.26	<.001	1.32	2.48	.07
Pessimistic	2.05	.33	.26	.26	<.001	1.41	2.68	.07
Jealous of friend's characteristics	1.66	.33	.21	.21	<.001	1.02	2.30	.04
Hypocritical	1.26	.35	.15	.15	<.001	.57	1.94	.02
High conformity goals	1.10	.32	.14	.14	.001	.47	1.73	.02
Eccentric	.93	.33	.12	.12	.005	.29	1.57	.01
Boring	.95	.35	.11	.11	.007	.26	1.64	.01
Coercive	.94	.35	.11	.11	.008	.24	1.63	.01
Ambitious	-.94	.38	-.10	-.10	.014	-1.68	-.19	.01
Low peer conformity goals	.77	.35	.09	.09	.029	.08	1.46	.01
Ingratiation	.22	.11	.09	.09	.036	.02	.43	.01
Shows off	.70	.36	.08	.08	.053	-.01	1.41	.01
Competitive	.54	.33	.07	.07	.106	-.12	1.19	.01
Perfectionistic (self-oriented)	.51	.33	.07	.07	.119	-.13	1.16	.00
Unavailable	-.49	.33	-.06	-.06	.138	-1.14	.16	.00

Table 10

Previous close friend negative behaviours (pre-dissolution) - univariate linear regressions predicting current dissolution distress

(cut-off point of $p < .20$)

Previous close friend negative behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		<i>R</i> ²
						Lower	Upper	
Sexual interest in actor	4.47	.42	.41	.41	<.001	3.64	5.30	.17
Sexual interest in actor's partner	3.02	.40	.30	.30	<.001	2.23	3.81	.09
Eccentric	.96	.33	.12	.12	.003	.32	1.61	.02
Low peer conformity goals	.84	.35	.10	.10	.016	.16	1.52	.01
Unavailable	.71	.33	.09	.09	.030	.07	1.35	.01

Table 11

Actor-contextual factors - univariate linear regressions predicting current dissolution distress (cut-off point of $p < .20$)

Actor-contextual factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		<i>R</i> ²
						Lower	Upper	
Actor's partner sexually interested in friend	4.20	.47	.35	.35	<.001	3.27	5.13	.12
Peers verbally victimised actor (pre-dissolution)	2.75	.35	.32	.32	<.001	2.07	3.43	.10
Peers ostracised actor (pre-dissolution)	1.88	.30	.26	.26	<.001	1.30	2.46	.07
Alternative friends	-2.03	.31	-.27	-.27	<.001	-2.64	-1.42	.07
Depressed mood (pre-dissolution)	1.84	.32	.24	.24	<.001	1.21	2.47	.06
Depressed mood (current)	3.95	.78	.21	.21	<.001	2.41	5.49	.04
Likeability (current)	-2.44	.51	-.20	-.20	<.001	-3.44	-1.44	.04
Stress (pre-dissolution)	1.35	.34	.17	.17	<.001	.69	2.01	.03
Anxious (pre-dissolution)	1.37	.32	.18	.18	<.001	.73	2.00	.03
Keeps friends easily (current)	-1.32	.38	-.14	-.14	.001	-2.08	-.57	.02
Popularity (current)	-.55	.46	-.14	-.14	.001	-2.46	-.65	.02
Anxious (current)	2.68	.94	.12	.12	.004	.84	4.52	.01
Life satisfaction (current)	-.45	.26	-.07	-.07	.089	-.96	.07	.05
Stress (current)	1.88	1.11	.07	.07	.090	-.30	4.06	.01
Makes friends easily (current)	-.60	.37	-.07	-.07	.106	-1.34	.13	.01

Table 12

Previous close friend contextual factors - univariate linear regressions predicting current dissolution distress (cut-off point of $p < .20$)

Previous close friend contextual factors	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		<i>R</i> ²
						Lower	Upper	
Friend's-partner sexually interested in actor	3.17	.41	.31	.31	<.001	2.37	3.97	.10
Peers verbally victimised friend (pre-dissolution)	2.05	.39	.22	.22	<.001	1.29	2.82	.05
Peers ostracised friend (pre-dissolution)	1.24	.33	.16	.16	<.001	.61	1.88	.03
Popularity (pre-dissolution)	.60	.35	.07	.07	.084	-.08	1.28	.01
Stress (pre-dissolution)	.55	.34	.07	.07	.107	-.12	1.21	.01
Likeability (pre-dissolution)	.57	.35	.07	.07	.108	-.12	1.26	.01
Anxiety (pre-dissolution)	.53	.33	.07	.07	.112	-.12	1.19	.01
Peer approval of friend (pre-dissolution)	.41	.27	.06	.06	.134	-.13	.95	.00

Table 13

Friendship dynamic factors - univariate linear regressions predicting current dissolution distress (cut-off point of $p < .20$)

Friendship dynamic factors	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for B		<i>R</i> ²
						Lower	Upper	
Activities (current)	1.54	.25	.26	.26	<.001	1.06	2.03	.07
Friend's-religious/spiritual beliefs bothered actor (pre-dissolution)	1.81	.38	.20	.20	<.001	1.06	2.56	.04
Actor-values bothered friend (pre-dissolution)	1.41	.35	.17	.17	<.001	.71	2.10	.03
Actor-religious/spiritual beliefs bothered friend (pre-dissolution)	1.48	.40	.15	.15	<.001	.69	2.28	.02
Actor-political beliefs bothered friend (pre-dissolution)	1.27	.37	.14	.14	.001	.54	2.00	.02
Friend's political beliefs bothered actor (pre-dissolution)	1.01	.34	.12	.12	.004	.33	1.68	.02
Actor-morals bothered friend (pre-dissolution)	1.00	.35	.12	.12	.004	.32	1.68	.02
Common interests (pre-dissolution)	.97	.39	.10	.10	.014	.20	1.74	.01
Altercations (pre-dissolution)	1.08	.44	.10	.10	.015	.21	1.94	.01
Friend's morals bothered actor (pre-dissolution)	.45	.29	.07	.07	.125	-.13	1.02	.00
Change in time spent together (pre-dissolution)	-.43	.33	-.06	-.06	.192	-1.08	.22	.00

Table 14

Summary of univariate linear regression models predicting current dissolution distress with small to large effect sizes (cut-off point of $p < .20$)

Model	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Intrapersonal process: actor								
Motivation (desire)	1.30	.15	.35	.35	<.001	1.00	1.59	.12
Negative behaviour (pre-dissolution): actor								
Sexual interest in friend	4.39	.36	.46	.46	<.001	3.68	5.11	.21
Sexual interest in friend's partner	4.12	.47	.35	.35	<.001	3.20	5.20	.12
Negative behaviour (pre-dissolution): friend								
Sexual interest in actor	4.47	.42	.41	.41	<.001	3.64	5.30	.17
Contextual factor (pre-dissolution): actor								
Actor's partner sexually interested in friend	4.20	.47	.35	.35	<.001	3.27	5.13	.12
Peers verbally victimised actor	2.75	.35	.32	.32	<.001	2.07	3.43	.10
Contextual factor (pre-dissolution): friend								
Friend's-partner sexually interested in actor	3.17	.41	.31	.31	<.001	2.37	3.97	.10

Study 2. Predicting future distress

Table 15

Univariate linear regressions predicting future dissolution distress (cut-off point of $p < .20$)

Quality measure	B	$SE\ B$	Beta	sr	p	95% CI for B		R^2
						Lower	Upper	
Dissolution distress	.45	.05	.51	.51	<.001	.35	.56	.26
Commitment	.67	.19	.25	.25	<.001	.30	1.04	.06
Readiness to change	.06	.02	.24	.24	.001	.03	.09	.06
Emotional closeness	.50	.26	.14	.14	.053	-.01	1.01	.02

Appendix N: Tables. Restoration univariate analyses

Study 2a Predicting wave 2 restoration with wave 1 relationship outcome measures

Table 1

Univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time (cut-off point of $p < .20$)

Measure	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Emotional closeness	.51	.09	31.16	1	<.001	1.67	1.40	2.00	.258
Commitment	.39	.07	29.28	1	<.001	1.48	1.29	1.71	.241
Expected future satisfaction	.11	.02	26.84	1	<.001	1.12	1.07	1.17	.240
Current contact									.218
No contact at all	2.09	.59	12.42	1	<.001	8.05	2.52	25.67	
Yes, but less than once a month	2.61	.67	15.33	1	<.001	13.53	3.67	49.83	
Yes, about once a month	2.49	.66	14.25	1	<.001	12.11	3.32	44.18	
Readiness to change	.03	.01	23.90	1	<.001	1.03	1.02	1.05	.185

Study 2b. Predicting wave 2 restoration with wave 1 exploratory variables

Table 2

Actor-distal factors - univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time (cut-off point of $p < .20$)

Actor-distal factor	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for Odds Ratio		Nagelkerke R^2
							Lower	Upper	
Anxious attachment to friend	.29	.15	3.96	1	.047	1.34	1.00	1.78	.034
Growth belief (item 2)	-.20	.12	2.68	1	.102	.82	.65	1.04	.019
Extroversion	-.15	.09	2.62	1	.106	.86	.71	1.03	.019
Self-esteem	.27	.17	2.43	1	.119	1.31	.93	1.83	.019
Anxious attachment to close friends in general (item 2)	-.14	.09	2.34	1	.126	.87	.73	1.04	.017
Perceived intelligence	-.27	.20	1.74	1	.187	.77	.52	1.14	.013
Gender									.015
Female	19.39	17974.93	.00	1	1.00	264165577.1	.00	-	
Male	19.66	17974.93	.00	1	1.00	346173022.7	.00	-	
Age									.040
18-24 years	.22	.60	.14	1	.712	1.25	.39	4.02	
25-34 years	.28	.55	.27	1	.606	1.33	.45	3.89	
35-44 years	.36	.81	.20	1	.658	1.43	.29	7.07	
45-54 years	1.38	.61	5.10	1	.024	3.98	1.20	13.21	
55-64 years	.36	1.12	.10	1	.749	1.43	.16	12.97	
65-74 years	-19.23	23205.42	.00	1	1.00	.00	.00	-	

Table 3

Previous close friend distal factors- univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time

(cut-off point of $p < .20$)

Friend-distal factor	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke R^2
							Lower	Upper	
Self-esteem (pre-dissolution)	.33	.17	4.10	1	.043	1.40	1.01	1.93	.033
Intelligent (pre-dissolution)	.28	.18	2.41	1	.121	1.32	.93	1.87	.019
Antagonism (pre-dissolution)	-.06	.04	1.91	1	.167	.94	.87	1.03	.014
Age									.043
18-24 years	.24	.55	.19	1	.662	1.27	.44	3.71	
25-34 years	.30	.60	.26	1	.614	1.35	.42	4.40	
35-44 years	-.60	1.07	.32	1	.572	.547	.07	4.44	
45-54 years	1.11	.74	2.30	1	.129	3.05	.72	12.86	
55-64 years	1.27	.75	2.86	1	.091	3.56	.82	15.48	
65-74 years	-19.24	23205.42	.00	1	1.00	.00	.00	-	
Gender									.008
Female	-.18	.42	.18	1	.674	.84	.37	1.92	
Male	-19.55	23205.42	.00	1	.999	.00	.00	-	

Table 4

Actor-intrapersonal processes - univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time (cut-off point of $p < .20$)

Actor-intrapersonal process	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke R^2
							Lower	Upper	
Emotional closeness	.51	.09	31.40	1	.000	1.67	1.40	2.00	.258
Commitment	.40	.07	29.50	1	<.001	1.49	1.29	1.71	.241
Expected future satisfaction	.11	.02	26.71	1	<.001	1.12	1.07	1.17	.240
Positive emotions	.44	.10	20.52	1	<.001	1.56	1.28	1.89	.189
Readiness to change	.03	.01	23.81	1	<.001	1.03	1.02	1.05	.185
Likes friend (current)	.74	.18	17.06	1	<.001	2.10	1.48	2.99	.147
Hurt (pre-dissolution)	-.57	.15	14.40	1	<.001	.57	.42	.76	.113
Negative emotions	-.28	.08	11.92	1	.001	.76	.65	.89	.097
Liked friend (pre-dissolution)	.52	.20	6.57	1	.010	1.68	1.13	2.51	.057
Hurt (current)	-.27	.11	6.03	1	.014	.76	.61	.95	.051
Positive illusory belief	.24	.18	1.73	1	.189	1.28	.89	1.84	.013

Table 5

Previous close friend intrapersonal processes - univariate logistic regressions predicting friendship restoration in 6-months-time

(cut-off point of $p < .20$)

Friend-intrapersonal process	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Motivation (desire; current)	.74	.17	18.59	1	<.001	2.09	1.50	2.93	.149
Hurt (pre-dissolution)	-.30	.17	3.01	1	.083	.74	.53	1.04	.024
Liked actor (pre-dissolution)	.29	.20	2.07	1	.150	1.34	.90	2.00	.016

Table 6

Actor-positive behaviours - univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time

(cut-off point of $p < .20$)

Actor-positive behaviour (pre-dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke R^2
							Lower	Upper	
Good communication skills	.44	.18	6.13	1	.013	1.56	1.10	2.21	.051
Relied on friend for practical needs	.41	.15	6.93	1	.008	1.50	1.11	2.03	.051
Authentic	.47	.20	5.78	1	.016	1.60	1.09	2.34	.049
Trusting	.50	.21	5.44	1	.020	1.64	1.08	2.49	.046
Considerate	.47	.24	4.01	1	.045	1.61	1.01	2.55	.034
Trustworthy	.34	.21	2.64	1	.104	1.41	.93	2.12	.022
Empathic	.31	.21	2.16	1	.142	1.37	.90	2.07	.017
Altruistic	-.22	.17	1.84	1	.175	.80	.58	1.11	.013

Table 7

Previous close friend positive behaviours (pre-dissolution) - univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time
(cut-off point of $p < .20$)

Friend-positive behaviour (pre-dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke R^2
							Lower	Upper	
Trusting	.57	.18	10.24	1	.001	1.78	1.25	2.52	.088
Grateful	.57	.19	8.94	1	.003	1.76	1.22	2.56	.076
Loyal	.53	.16	11.23	1	.001	1.71	1.25	2.33	.092
Optimistic	.54	.20	7.20	1	.007	1.71	1.16	2.54	.058
Reciprocation	.47	.18	7.22	1	.007	1.60	1.14	2.25	.057
Maintenance behaviours	.45	.17	6.88	1	.009	1.57	1.12	2.19	.053
Considerate	.44	.17	6.32	1	.012	1.55	1.10	2.18	.051
Forgiving	.44	.16	7.32	1	.007	1.55	1.13	2.13	.058
Good communication ability	.41	.15	7.17	1	.007	1.51	1.12	2.04	.056
Trustworthy	.40	.15	7.38	1	.007	1.49	1.12	2.00	.059
Took responsibility for actions	.29	.14	4.43	1	.035	1.34	1.02	1.76	.033
Kind	.26	.16	2.66	1	.103	1.30	.95	1.77	.020
Empathy	.26	.16	2.62	1	.105	1.30	.95	1.78	.020
Compromised	.22	.17	1.77	1	.184	1.25	.90	1.73	.013

Table 8

Actor-oppositional behaviours - univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time

(cut-off point of $p < .20$)

Actor-oppositional behaviour (pre-dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Persistent	.25	.15	2.92	1	.087	.78	.58	1.04	.022

Table 9

Previous close friend oppositional behaviours (pre-dissolution) - univariate logistic regressions predicting friendship restoration in 6-months-time (cut-off point of $p < .20$)

Friend-oppositional behaviour (pre-dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Verbally victimised actor	-1.17	.36	10.26	1	.001	.31	.15	.64	.158
Personally ostracised actor	-.67	.17	15.55	1	<.001	.51	.37	.71	.148
Passive aggressive	-.33	.13	6.40	1	.011	.72	.56	.93	.049
Stonewalled	-.33	.14	5.61	1	.018	.72	.54	.94	.043
Judgemental	-.24	.13	3.46	1	.063	.79	.61	1.01	.025
Arrogant	-.23	.13	2.98	1	.084	.80	.62	1.03	.022
Self-righteous	-.24	.14	2.96	1	.085	.79	.60	1.03	.022
Entitled	-.21	.13	2.66	1	.103	.81	.63	1.04	.020

Defensive	-.19	.14	1.91	1	.167	.82	.63	1.08	.014
Persistent	-.19	.14	1.86	1	.173	.82	.62	1.09	.014
Other-oriented perfectionism	-.20	.15	1.71	1	.190	.82	.61	1.10	.013

Table 10

Actor-negative behaviours - univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time

(cut-off point of $p < .20$)

Actor-negative behaviour (pre- dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Eccentric	-.45	.15	8.94	1	.003	.64	.47	.86	.069
Silly	-.39	.16	6.23	1	.013	.68	.50	.92	.047
Sexual interest in friend's partner	.57	.24	5.44	1	.020	1.76	1.10	2.83	.037
Showed off	-.26	.18	2.14	1	.143	.77	.55	1.09	.017
Sexual interest in friend	.26	.19	1.81	1	.178	1.29	.89	1.89	.012

Table 11

Previous close friend negative behaviours - univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time
(cut-off point of $p < .20$)

Friend-negative behaviour	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Silly	-.38	.15	6.12	1	.013	.68	.50	.92	.046
Jealous of actor's interactions	-.32	.13	5.71	1	.017	.73	.56	.94	.045
Jealous of actor's characteristics	-.28	.15	3.72	1	.054	.75	.57	1.01	.029
Sexual interest in Actor's partner	.38	.20	3.74	1	.053	1.47	1.00	2.16	.025
High conformity goals	-.23	.13	3.19	1	.074	.80	.62	1.02	.024
Pessimistic	-.25	.14	3.14	1	.076	.78	.59	1.03	.023
Sexual interest in actor	.36	.22	2.66	1	.103	1.43	.93	2.21	.018
Hypocritical	-.20	.13	2.18	1	.140	.82	.63	1.07	.016
Prosocial (coercive) behaviours	-.21	.15	2.09	1	.149	.81	.61	1.08	.016
Competitive	-.20	.14	2.03	1	.154	.82	.62	1.08	.015
Shows off	-.19	.14	1.94	1	.164	.83	.63	1.08	.014
Unavailable	.21	.15	1.86	1	.173	1.23	.91	1.66	.014

Table 12

Actor-contextual factors - univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time (cut-off point of $p < .20$)

Actor-contextual behaviour	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Peers verbally victimised actor (pre-dissolution)	-1.02	.41	6.01	1	.014	.36	.16	.82	.086
Likeability (current)	-.73	.26	7.80	1	.005	.48	.29	.81	.060
Peers ostracised actor (pre-dissolution)	-.42	.19	5.08	1	.024	.66	.45	.95	.046
Actor's partner sexually interested in friend (pre-dissolution)	.47	.21	4.89	1	.027	1.60	1.06	2.43	.032
Stress (current)	-.72	.43	2.70	1	.100	.49	.21	1.15	.018
Stress (pre-dissolution)	-.20	.15	1.74	1	.187	.82	.62	1.10	.013

Table 13

Previous close friend contextual factors (pre-dissolution) - univariate logistic regressions predicting friendship restoration in 6-months-time (cut-off point of $p < .20$)

Friend-contextual factor (pre-dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for odds Ratio		Nagelkerke <i>R</i> ²
							Lower	Upper	
Peers ostracised friend	-.50	.23	5.03	1	.025	.60	.39	.94	.048
Peers approved of friend	.22	.12	3.26	1	.071	1.25	.98	1.60	.025
Peers verbally victimised friend	-.45	.29	2.39	1	.122	.64	.36	1.13	.022

Table 14

Friendship dynamic factors- univariate logistic regressions predicting likelihood of friendship restoration in 6-months-time
(cut-off point of $p < .20$)

Friendship dynamic factor (pre-dissolution)	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for Odds Ratio		Nagelkerke R^2
							Lower	Upper	
Actor-morals bothered friend	-.41	.19	4.93	1	.026	.66	.46	.95	.040
Friend's morals bothered actor	-.31	.14	4.80	1	.028	.74	.56	.97	.038
Actor-values bothered friend	-.32	.19	2.91	1	.088	.73	.51	1.05	.023
Activities (current)	.21	.12	3.01	1	.083	1.23	.97	1.56	.021
Change in time spent	-.21	.15	2.11	1	.146	.81	.61	1.71	.015
Friend's values bothered actor	-.20	.15	1.74	1	.187	.82	.61	1.10	.013
Common interests	.25	.19	1.68	1	.194	1.28	.88	1.87	.013

Table 15

Summary of univariate logistic regression models predicting likelihood of future close-friendship restoration (cut-off point of $p < .20$)

Model	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for Odds Ratio		Nagelkerke R^2
							Lower	Upper	
Distal factor: actor									
Anxious attachment to friend	.29	.15	3.96	1	.047	1.34	1.00	1.78	.034
Distal factor: friend									
Self-esteem (pre-dissolution)	.33	.17	4.10	1	.043	1.40	1.01	1.93	.033
Intrapersonal factor: actor									
Emotional closeness	.51	.09	31.40	1	.000	1.67	1.40	2.00	.258
Commitment	.40	.07	29.50	1	<.001	1.49	1.29	1.71	.241
Expected future satisfaction	.11	.02	26.71	1	<.001	1.12	1.07	1.17	.240
Positive emotions	.44	.10	20.52	1	<.001	1.56	1.28	1.89	.189
Readiness to change	.03	.01	23.81	1	<.001	1.03	1.02	1.05	.185
Likes friend (current)	.74	.18	17.06	1	<.001	2.10	1.48	2.99	.147
Hurt (pre-dissolution)	-.57	.15	14.40	1	<.001	.57	.42	.76	.113
Negative emotions	-.28	.08	11.92	1	.001	.76	.65	.89	.097
Liked friend (pre-dissolution)	.52	.20	6.57	1	.010	1.68	1.13	2.51	.057
Hurt (current)	-.27	.11	6.03	1	.014	.76	.61	.95	.051
Intrapersonal factor: friend									
Motivation (desire; current)	.74	.17	18.59	1	<.001	2.09	1.50	2.93	.149
Positive behaviour (pre-dissolution): actor									
Good communication skills	.44	.18	6.13	1	.013	1.56	1.10	2.21	.051
Relied on friend for practical needs	.41	.15	6.93	1	.008	1.50	1.11	2.03	.051
Authentic	.47	.20	5.78	1	.016	1.60	1.09	2.34	.049
Trusting	.50	.21	5.44	1	.020	1.64	1.08	2.49	.046
Considerate	.47	.24	4.01	1	.045	1.61	1.01	2.55	.034
Positive behaviour (pre-dissolution): friend									
Trusting	.57	.18	10.24	1	.001	1.78	1.25	2.52	.088

Grateful	.57	.19	8.94	1	.003	1.76	1.22	2.56	.076
Loyal	.53	.16	11.23	1	.001	1.71	1.25	2.33	.092
Optimistic	.54	.20	7.20	1	.007	1.71	1.16	2.54	.058
Reciprocation	.47	.18	7.22	1	.007	1.60	1.14	2.25	.057
Maintenance behaviours	.45	.17	6.88	1	.009	1.57	1.12	2.19	.053
Considerate	.44	.17	6.32	1	.012	1.55	1.10	2.18	.051
Forgiving	.44	.16	7.32	1	.007	1.55	1.13	2.13	.058
Good communication ability	.41	.15	7.17	1	.007	1.51	1.12	2.04	.056
Trustworthy	.40	.15	7.38	1	.007	1.49	1.12	2.00	.059
Took responsibility for actions	.29	.14	4.43	1	.035	1.34	1.02	1.76	.033
Oppositional behaviour (pre-dissolution): friend									
Verbally victimised actor	-1.17	.36	10.26	1	.001	.31	.15	.64	.158
Personally ostracised actor	-.67	.17	15.55	1	<.001	.51	.37	.71	.148
Passive aggressive	-.33	.13	6.40	1	.011	.72	.56	.93	.049
Stonewalled	-.33	.14	5.61	1	.018	.72	.54	.94	.043
Negative behaviour (pre-dissolution): actor									
Eccentric	-.45	.15	8.94	1	.003	.64	.47	.86	.069
Silly	-.39	.16	6.23	1	.013	.68	.50	.92	.047
Sexual interest in friend's partner	.57	.24	5.44	1	.020	1.76	1.10	2.83	.037
Contextual factor (pre-dissolution): actor									
Peers verbally victimised actor (pre-dissolution)	-1.02	.41	6.01	1	.014	.36	.16	.82	.086
Likeability (current)	-.73	.26	7.80	1	.005	.48	.29	.81	.060
Peers ostracised actor (pre-dissolution)	-.42	.19	5.08	1	.024	.66	.45	.95	.046
Actor's partner sexually interested in friend (pre-dissolution)	.47	.21	4.89	1	.027	1.60	1.06	2.43	.032
Contextual factor (pre-dissolution): friend									
Peers ostracised friend	-.50	.23	5.03	1	.025	.60	.39	.94	.048
Friendship dynamic factor (pre-dissolution)									
Actor-morals bothered friend	-.41	.19	4.93	1	.026	.66	.46	.95	.040
Friend's morals bothered actor	-.31	.14	4.80	1	.028	.74	.56	.97	.038

Appendix O: Tables Ostracism univariate analyses

Study 1. Personal ostracism of current close friends: a current perspective

Table 1

Actor-distal factors – univariate linear regressions predicting personal ostracism of current close friend (cut-off point of $p < .20$)

Actor-distal factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Avoidant attachment to friend	.23	.03	.34	.34	<.001	.18	.28	.12
Intelligence	-.21	.04	-.22	-.22	<.001	-.29	-.14	.05
Decay belief	.08	.02	.16	.16	<.001	.04	.13	.02
Anxious attachment to friend	.05	.02	.12	.12	.003	.02	.09	.01
Trait avoidant attachment (item 2)	.03	.02	.07	.07	.101	-.01	.07	.00
Trait avoidant attachment (item 1)	.03	.02	.06	.06	.165	-.01	.06	.00

Table 2

Current close friend distal factors- univariate linear regressions predicting personal ostracism of current close friend (cut-off point of $p < .20$)

Current close friend distal factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Antagonism	.08	.01	.30	.30	<.001	.06	.10	.09
Avoidant attachment to actor	.20	.03	.29	.29	<.001	.15	.26	.08
Intelligence	-.21	.03	-.24	-.24	<.001	-.28	-.15	.06
Anxious attachment to actor	.10	.02	.20	.20	<.001	.06	.13	.04
Agreeableness	-.04	.01	-.12	-.12	.002	-.07	-.02	.02
Openness	-.05	.02	-.12	-.12	.002	-.08	-.02	.02

Table 3

Actor-intrapersonal processes - univariate linear regressions predicting personal ostracism of current close friend (cut-off point of $p < .20$)

Actor-intrapersonal process	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Like	-.52	.04	-.47	-.47	<.001	-.60	-.45	.22
Motivation	-.05	.00	-.46	-.46	<.001	-.06	-.04	.21
Hurt	.41	.03	.45	.45	<.001	.35	.48	.20
Negative emotions	.18	.02	.45	.45	<.001	.15	.21	.20
Expected future motivation (desire)	-.25	.02	-.44	-.44	<.001	-.39	-.21	.20
Expected future satisfaction	-.05	.01	-.41	-.41	<.001	-.06	-.04	.17
Commitment	-.18	.02	-.38	-.38	<.001	-.21	-.15	.14
Positive emotions	-.25	.02	-.38	-.38	<.001	-.29	-.20	.14
Positive illusory belief	-.35	.04	-.37	-.37	<.001	-.42	-.28	.13
Death devastation	-.16	.02	-.29	-.29	<.001	-.20	-.12	.08
Plans to improve	-.07	.02	-.12	-.12	.003	-.11	-.02	.01
Care for welfare	-.03	.01	-.10	-.10	.008	-.05	-.01	.01

Table 4

Current close friend-intrapersonal processes - univariate linear regressions predicting personal ostracism of current close friend (cut-off point of $p < .20$)

Current close friend intrapersonal process	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Hurt	.45	.03	.47	.47	<.001	.38	.52	.22
Like	-.40	.04	-.40	-.40	<.001	-.47	-.33	.16
Current satisfaction	-.34	.04	-.33	-.33	<.001	-.41	-.26	.11
Motivation (desire)	-.17	.02	-.33	-.33	<.001	-.21	-.13	.11
Expected future motivation (desire)	-.17	.02	-.30	-.30	<.001	-.21	-.13	.09

Table 5

Actor-positive behaviours - univariate linear regressions predicting personal ostracism of current close friend (cut-off point of $p < .20$)

Actor-positive behaviour	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Authentic	-.48	.05	-.38	-.38	<.001	-.57	-.39	.15
Trustworthy	-.37	.04	-.33	-.33	<.001	-.45	-.29	.11
Considerate	-.33	.04	-.31	-.31	<.001	-.41	-.25	.11
Empathic	-.33	.04	-.33	-.33	<.001	-.41	-.26	.11
Loyal	-.30	.04	-.32	-.32	<.001	-.36	-.23	.10
Reciprocation	-.31	.04	-.29	-.30	<.001	-.39	-.24	.09
Takes responsibility for actions	-.30	.04	-.30	-.30	<.001	-.38	-.23	.09
Hygienic	-.23	.03	-.28	-.28	<.001	-.30	-.17	.08
Trusting	-.27	.04	-.28	-.28	<.001	-.34	-.20	.08
Grateful	-.26	.04	-.27	-.27	<.001	-.33	-.19	.07
Forgiving	-.21	.04	-.21	-.21	<.001	-.28	-.13	.04
Maintenance behaviours	-.15	.03	-.20	-.20	<.001	-.21	-.09	.04
Good communication skills	-.12	.03	-.17	-.17	<.001	-.18	-.07	.03
Relies on CCF for practical needs	.10	.03	.12	.12	.002	.04	.15	.02
Compromises	-.14	.04	-.15	-.15	<.001	-.21	-.07	.02
Altruistic	-.07	.03	-.11	-.11	.007	-.13	-.02	.01
Confident	-.07	.03	-.08	-.08	.037	-.13	-.00	.01
Kind	-.08	.03	-.10	-.10	.010	-.14	-.02	.01
Optimistic	-.09	.03	-.11	-.11	.007	-.15	-.02	.01

Table 6

Current close friend positive behaviours - univariate linear regressions predicting personal ostracism of current close friend

(cut-off point of $p < .20$)

Current close friend positive behaviour	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Reciprocation	-.27	.04	-.29	-.29	<.001	-.34	-.20	.08
Takes responsibility	-.22	.03	-.26	-.26	<.001	-.28	-.15	.07
Forgiving	-.23	.03	-.25	-.25	<.001	-.29	-.16	.07
Trustworthy	-.27	.04	-.25	-.25	<.001	-.35	-.19	.06
Considerate	-.23	.04	-.25	-.25	<.001	-.30	-.16	.06
Trusting	-.22	.04	-.23	-.23	<.001	-.29	-.15	.05
Empathic	-.17	.03	-.19	-.19	<.001	-.23	-.10	.04
Hygienic	-.15	.03	-.18	-.18	<.001	-.21	-.08	.03
Grateful	-.15	.04	-.17	-.17	<.001	-.22	-.08	.03
Maintenance behaviours	-.13	.03	-.17	-.17	<.001	-.19	-.07	.03
Kind	-.10	.03	-.14	-.14	<.001	-.16	-.05	.02
Good communication ability	-.09	.03	-.13	-.13	.001	-.14	-.03	.02
Loyal	-.12	.03	-.15	-.15	<.001	-.19	-.06	.02
Optimistic	-.11	.03	-.14	-.14	<.001	-.18	-.05	.02
Compromises	-.12	.03	-.14	-.14	<.001	-.19	-.06	.02
Relies on actor for practical needs	.10	.03	.13	.13	.001	.04	.15	.02
Altruistic	-.09	.03	-.12	-.12	.003	-.14	-.03	.01
Confident	-.08	.03	-.10	-.10	.014	-.14	-.02	.01

Table 7

Actor-oppositional behaviours - univariate linear regressions predicting personal ostracism of current close friend (cut-off point of $p < .20$)

Actor-oppositional behaviour	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Verbally victimises friend	.90	.03	.79	.79	<.001	.85	.96	.62
Aggressive (mean)	.28	.03	.36	.36	<.001	.22	.33	.13
Entitled	.26	.03	.34	.34	<.001	.20	.31	.11
Arrogant	.18	.03	.26	.26	<.001	.13	.23	.07
Stonewalls	.19	.03	.28	.28	<.001	.14	.25	.07
Selfish	.19	.03	.26	.26	<.001	.13	.24	.07
Controlling	.16	.03	.23	.23	<.001	.11	.21	.05
Defensive	.13	.03	.20	.20	<.001	.08	.18	.04
Passive aggressive	.11	.02	.17	.17	<.001	.06	.16	.03
Judgemental	.12	.03	.18	.18	<.001	.07	.17	.03
Self-righteousness	.11	.03	.16	.16	<.001	.06	.16	.03
Perfectionistic (other-oriented)	.09	.03	.14	.14	<.001	.04	.14	.02

Table 8

Current close friend oppositional behaviours - univariate linear regressions predicting personal ostracism of current close friend (cut-off point of $p < .20$)

Current close friend oppositional behaviour	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Verbal victimisation of actor	.82	.03	.76	.76	<.001	.77	.88	.58
Ostracises actor	.62	.03	.67	.67	<.001	.56	.67	.44
Aggressive (mean)	.25	.03	.33	.33	<.001	.19	.30	.11
Controlling	.21	.03	.30	.30	<.001	.16	.27	.09
Entitled	.20	.03	.28	.28	<.001	.15	.25	.08
Arrogant	.19	.03	.27	.27	<.001	.13	.24	.07
Selfish	.20	.03	.27	.27	<.001	.15	.26	.07
Stonewalls	.16	.03	.24	.24	<.001	.11	.20	.06
Passive aggressive	.12	.02	.20	.20	<.001	.08	.17	.04
Defensive	.14	.03	.21	.21	<.001	.09	.18	.04
Judgemental	.13	.02	.21	.21	<.001	.08	.18	.04
Self-righteousness	.13	.02	.20	.20	<.001	.08	.17	.04
Perfectionistic (other-oriented)	.14	.03	.19	.19	<.001	.08	.19	.04

Table 9

Actor-negative behaviours - univariate linear regressions predicting personal ostracism of current close friend (cut-off point of $p < .20$)

Actor-negative behaviour	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Sexual interest in friend's partner	.54	.04	.49	.49	<.001	.46	.61	.24
Sexual interest in friend	.39	.03	.44	.44	<.001	.33	.45	.20
Jealous of friend's characteristics	.19	.03	.26	.26	<.001	.14	.25	.07
Jealous of friend's interactions	.15	.03	.22	.22	<.001	.09	.20	.05
Shows off	.16	.03	.23	.23	<.001	.11	.21	.05
Hypocritical	.14	.03	.19	.19	<.001	.08	.19	.04
Boring	.15	.03	.20	.20	<.001	.09	.21	.04
Coercive	.12	.03	.18	.18	<.001	.07	.18	.03
Pessimistic	.11	.03	.16	.16	<.001	.06	.16	.03
Low peer conformity goals	.11	.03	.15	.15	<.001	.05	.16	.02
High peer conformity goals	.09	.03	.13	.13	.001	.03	.14	.02
Ambitious	-.08	.03	-.11	-.11	.005	-.14	-.03	.01
Silly	-.05	.03	-.07	-.07	.060	-.10	.00	.01
Competitive	.05	.03	.07	.07	.066	-.00	.10	.01
Eccentric	.04	.02	.06	.06	.103	-.01	.09	.00
Unavailable	.04	.03	.05	.05	.186	-.02	.09	.00

Table 10

Current close friend negative behaviours - univariate linear regressions predicting personal ostracism of current close friend (cut-off point of $p < .20$)

Current close friend negative behaviour	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Sexual interest in actor	.39	.03	.44	.44	<.001	.33	.45	.19
Sexual interest in actor's partner	.40	.04	.41	.41	<.001	.33	.47	.17
Boring	.31	.03	.36	.36	<.001	.24	.37	.13
Hypocritical	.19	.03	.28	.28	<.001	.14	.24	.08
Jealous of actor's characteristics	.18	.03	.24	.24	<.001	.13	.24	.06
High peer conformity goals	.16	.03	.24	.24	<.001	.11	.21	.06
Low peer conformity goals	.17	.03	.24	.24	<.001	.12	.22	.06
Shows off	.14	.03	.22	.22	<.001	.10	.19	.05
Jealous of actor's interactions	.15	.03	.22	.22	<.001	.10	.21	.05
Coercive	.15	.03	.22	.22	<.001	.10	.21	.05
Pessimistic	.11	.03	.17	.17	<.001	.06	.16	.03
Eccentric	.08	.02	.12	.12	.002	.03	.12	.02
Ambitious	-.09	.03	-.12	-.12	.003	-.15	-.03	.01
Ingratiation	-.02	.01	-.11	-.11	.006	-.04	-.01	.01
Competitive	.04	.02	.06	.06	.104	-.01	.09	.00

Table 11

Actor-contextual factors - univariate linear regressions predicting personal ostracism of current close friend (cut-off point of $p < .20$)

Actor-contextual factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Peers verbally victimise actor	.59	.03	.61	.61	<.001	.53	.64	.37
Peers ostracise actor	.33	.03	.43	.43	<.001	.28	.38	.18
Actor's partner sexual interest in friend	.41	.04	.42	.42	<.001	.34	.48	.17
Commitment to maintain other close friends	-.09	.02	-.23	-.23	<.001	-.12	-.06	.05
Alternative close friends	.12	.03	.18	.18	<.001	.07	.18	.03
Likeability	-.16	.04	-.16	-.16	<.001	-.25	-.08	.02
Popularity	-.10	.04	-.10	-.10	.009	-.17	-.02	.01
Keeps friends easily	-.08	.03	-.10	-.10	.009	-.14	-.02	.01
Makes friends easily	-.07	.03	-.09	-.09	.028	-.13	-.01	.01
Peer approval of actor	-.04	.02	-.08	-.08	.039	-.08	-.00	.01
Stress	-.14	.09	-.06	-.06	.115	-.32	.03	.00
Depression	.10	.06	.06	.06	.132	-.03	.22	.00

Table 12

Current close friend contextual factors - univariate linear regressions predicting personal ostracism of current close friend (cut-off point of $p < .20$)

Current close friend contextual factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Peers verbally victimise friend	.67	.03	.65	.65	<.001	.61	.73	.43
Peers ostracise friend	.50	.03	.58	.58	<.001	.45	.56	.34
Friend's partner sexually interested in actor	.48	.04	.47	.47	<.001	.41	.54	.22
Likeability	-.30	.04	-.31	-.31	<.001	-.37	-.23	.10
Alternative friends	.09	.03	.13	.13	.001	.04	.14	.02
Negative affect	.08	.03	.13	.13	.001	.03	.13	.02
Popularity	-.09	.03	-.11	-.11	.005	-.16	-.03	.01
Peer approval of friend	-.04	.02	-.07	-.07	.089	-.08	.01	.00

Table 13

Friendship dynamic factors - univariate linear regressions predicting personal ostracism of current close friend (cut-off point of $p < .20$)

Friendship dynamic factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Friend-religious/spiritual beliefs bother actor	.48	.03	.51	.51	<.001	.42	.54	.26
Actor-morals bother friend	.46	.03	.50	.50	<.001	.40	.52	.25
Friend-political beliefs bother actor	.46	.03	.49	.49	<.001	.39	.52	.24
Actor-religious/spiritual beliefs bother friend	.46	.03	.49	.49	<.001	.40	.53	.24
Friend-morals bother actor	.42	.03	.48	.48	<.001	.36	.47	.23
Actor-political beliefs bother friend	.45	.03	.47	.47	<.001	.39	.52	.22
Friend-values bother actor	.40	.03	.46	.46	<.001	.34	.46	.21
Actor-values bother friend	.39	.03	.43	.43	<.001	.33	.46	.19
Common interests	-.25	.04	-.26	-.26	<.001	-.32	-.18	.07
Current activities	.05	.02	.09	.09	.022	.01	.10	.01
Change in time spent together	.06	.03	.08	.08	.034	.00	.11	.01
Previous life events	.07	.05	.06	.06	.123	-.02	.16	.00

Table 14

Summary of univariate linear regression models with small to large effect sizes predicting personal ostracism of current close friend (cut-off point of $p < .20$)

Model	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Distal factor: actor								
Avoidant attachment to friend	.23	.03	.34	.34	<.001	.18	.28	.12
Intrapersonal process: actor								
Like	-.52	.04	-.47	-.47	<.001	-.60	-.45	.22
Motivation	-.05	.00	-.46	-.46	<.001	-.06	-.04	.21
Hurt	.41	.03	.45	.45	<.001	.35	.48	.20
Negative emotions	.18	.02	.45	.45	<.001	.15	.21	.20
Expected future motivation (desire)	-.25	.02	-.44	-.44	<.001	-.39	-.21	.20
Expected future satisfaction	-.05	.01	-.41	-.41	<.001	-.06	-.04	.17
Commitment	-.18	.02	-.38	-.38	<.001	-.21	-.15	.14
Positive emotions	-.25	.02	-.38	-.38	<.001	-.29	-.20	.14
Positive illusory belief	-.35	.04	-.37	-.37	<.001	-.42	-.28	.13
Intrapersonal process: friend								
Hurt	.45	.03	.47	.47	<.001	.38	.52	.22
Current satisfaction	-.34	.04	-.33	-.33	<.001	-.41	-.26	.11
Motivation (desire)	-.17	.02	-.33	-.33	<.001	-.21	-.13	.11
Positive behaviour: actor								
Authentic	-.48	.05	-.38	-.38	<.001	-.57	-.39	.15
Trustworthy	-.37	.04	-.33	-.33	<.001	-.45	-.29	.11
Considerate	-.33	.04	-.31	-.31	<.001	-.41	-.25	.11
Empathic	-.33	.04	-.33	-.33	<.001	-.41	-.26	.11
Loyal	-.30	.04	-.32	-.32	<.001	-.36	-.23	.10
Oppositional behaviour: actor								
Verbally victimises friend	.90	.03	.79	.79	<.001	.85	.96	.62
Aggressive (mean)	.28	.03	.36	.36	<.001	.22	.33	.13
Entitled	.26	.03	.34	.34	<.001	.20	.31	.11
Oppositional behaviour: friend								

Verbally victimises actor	.82	.03	.76	.76	<.001	.77	.88	.58
Ostracises actor	.62	.03	.67	.67	<.001	.56	.67	.44
Aggressive (mean)	.25	.03	.33	.33	<.001	.19	.30	.11
Negative behaviour: actor								
Sexual interest in friend's partner	.54	.04	.49	.49	<.001	.46	.61	.24
Sexual interest in friend	.39	.03	.44	.44	<.001	.33	.45	.20
Negative behaviour: friend								
Sexual interest in actor	.39	.03	.44	.44	<.001	.33	.45	.19
Sexual interest in actor's partner	.40	.04	.41	.41	<.001	.33	.47	.17
Boring	.31	.03	.36	.36	<.001	.24	.37	.13
Contextual factor: actor								
Peers verbally victimise actor	.59	.03	.61	.61	<.001	.53	.64	.37
Peers ostracise actor	.33	.03	.43	.43	<.001	.28	.38	.18
Actor's partner sexual interest in friend	.41	.04	.42	.42	<.001	.34	.48	.17
Contextual factor: friend								
Peers verbally victimise friend	.67	.03	.65	.65	<.001	.61	.73	.43
Peers ostracise friend	.50	.03	.58	.58	<.001	.45	.56	.34
Friend's partner sexually interested in actor	.48	.04	.47	.47	<.001	.41	.54	.22
Likeability	-.30	.04	-.31	-.31	<.001	-.37	-.23	.10
Friendship dynamic factor								
Friend-religious/spiritual beliefs bother actor	.48	.03	.51	.51	<.001	.42	.54	.26
Actor-morals bother friend	.46	.03	.50	.50	<.001	.40	.52	.25
Friend-political beliefs bother actor	.46	.03	.49	.49	<.001	.39	.52	.24
Actor-religious/spiritual beliefs bother friend	.46	.03	.49	.49	<.001	.40	.53	.24
Friend-morals bother actor	.42	.03	.48	.48	<.001	.36	.47	.23
Actor-political beliefs bother friend	.45	.03	.47	.47	<.001	.39	.52	.22
Friend-values bother actor	.40	.03	.46	.46	<.001	.34	.46	.21
Actor-values bother friend	.39	.03	.43	.43	<.001	.33	.46	.19

Study 2. Personal ostracism of previous close friend: a retrospective perspective

Table 15

Actor-distal factors – univariate linear regressions predicting personal ostracism of previous close friend (pre-dissolution) (cut-off point of $p < .20$)

Actor-distal factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Antagonism	.08	.02	.17	.17	<.001	.04	.12	.03
Anxious attachment to friend (pre-dissolution)	-.11	.03	-.15	-.15	.000	-.18	-.05	.02
Locus of control (internal)	-.09	.03	-.11	-.11	.007	-.16	-.03	.01
Conscientiousness	-.06	.03	-.10	-.10	.019	-.10	-.10	.01
Neuroticism	.06	.03	.09	.09	.032	.01	.11	.01
Avoidant attachment to friend (pre-dissolution)	.06	.03	.09	.09	.043	.00	.12	.01
Locus of control (external)	.06	.04	.07	.07	.096	-.01	.14	.01
Growth belief (item 1)	.05	.04	.06	.06	.128	-.02	.12	.00
Intelligent (pre-dissolution)	-.09	.06	-.06	-.06	.160	-.20	.03	.00
Extroversion	.04	.03	.06	.06	.171	-.02	.09	.00

Table 16

Previous close friend distal factors - univariate linear regressions predicting personal ostracism of previous close friend (pre-dissolution)
(cut-off point of $p < .20$)

Previous close friend distal factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Antagonism	.06	.12	.21	.21	<.001	.04	.09	.04
Avoidant attachment to actor	-.13	.03	-.18	-.18	<.001	-.18	-.07	.03
Agreeableness	-.08	.02	-.15	-.15	<.001	-.12	-.03	.02
Neuroticism	.07	.02	.12	.12	.006	.02	.11	.01
Conscientiousness	.06	.02	.11	.11	.007	.02	.10	.01
Intelligence	-.11	.05	-.09	-.09	.027	-.21	-.01	.01

Table 17

Actor-intrapersonal processes - univariate linear regressions predicting personal ostracism of previous close friend (pre-dissolution)

(cut-off point of $p < .20$)

Actor-intrapersonal process	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Liked friend (pre-dissolution)	-.38	.05	-.32	-.32	<.001	-.47	-.29	.10
Expected future motivation (desire)	-.10	.02	-.25	-.25	<.001	-.13	-.07	.07
Negative emotions	.11	.02	.23	.23	<.001	.07	.15	.05
Hurt (pre-dissolution)	.20	.04	.20	.20	<.001	.12	.28	.04
Positive emotions	-.10	.02	-.20	-.20	<.001	-.15	-.06	.04
Likes friend (current)	-.20	.04	-.19	-.19	<.001	-.29	-.12	.04
Positive illusory belief	-.22	.05	-.19	-.19	<.001	-.32	-.13	.03
Motivation (desire)	-.09	.02	-.17	-.17	<.001	-.13	-.04	.03
Restoration likelihood	-.01	.00	-.14	-.14	.001	-.01	-.00	.02
Commitment	-.07	.02	-.15	-.15	<.001	-.11	-.03	.02
Plans to improve	-.09	.03	-.14	-.14	.001	-.14	-.03	.02
Dissolution distress	.02	.01	.14	.14	.001	.01	.03	.02
Expected future satisfaction	-.01	.01	-.12	-.12	.005	-.02	-.00	.01
Hurt (current)	.07	.03	.11	.11	.009	.02	.13	.01
Readiness to restore	-.01	.00	-.11	-.11	.011	-.01	-.00	.01
Death devastation	-.05	.02	-.10	-.10	.014	-.09	-.10	.01
Motivation (ability)	-.04	.02	-.08	-.08	.059	-.08	.00	.01
Emotional closeness	-.04	.02	-.07	-.07	.099	-.09	.01	.01

Table 18

Previous close friend intrapersonal processes - univariate linear regressions predicting personal ostracism of previous close friend (pre-dissolution) (cut-off point of $p < .20$)

Previous close friend intrapersonal process	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Hurt (pre-dissolution)	.45	.05	.39	.39	<.001	.37	.54	.15
Liked actor (pre-dissolution)	-.16	.05	-.13	-.13	.003	-.27	-.06	.02

Table 19

Actor-positive behaviours - univariate linear regressions predicting personal ostracism of previous close friend (pre-dissolution) (cut-off point of $p < .20$)

Actor-positive behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Trustworthy	-.35	.05	-.28	-.28	<.001	-.45	-.25	.08
Authentic	-.30	.05	-.26	-.26	<.001	-.39	-.21	.07
Loyal	-.29	.05	-.25	-.25	<.001	-.39	-.20	.06
Trusting	-.31	.05	-.25	-.25	<.001	-.40	-.21	.06
Reciprocation	-.27	.05	-.22	-.22	<.001	-.38	-.17	.05
Maintenance behaviours	-.22	.05	-.19	-.19	<.001	-.32	-.13	.04
Grateful	-.26	.06	-.20	-.20	<.001	-.37	-.16	.04
Forgiving	-.20	.05	-.18	-.18	<.001	-.30	-.11	.03
Good communication skills	-.17	.05	-.16	-.16	<.001	-.26	-.08	.03
Takes responsibility for actions	-.20	.05	-.16	-.16	<.001	-.30	-.10	.03
Hygienic	-.21	.06	-.15	-.15	<.001	-.32	-.09	.02
Empathic	-.19	.06	-.14	-.14	.001	-.30	-.08	.02
Relied on friend for emotional needs	-.12	.04	-.12	-.12	.004	-.21	-.04	.01
Considerate	-.16	.06	-.12	-.12	.005	-.28	-.05	.01
Compromises	-.12	.05	-.10	-.10	.021	-.23	-.20	.01
Optimistic	-.08	.05	-.07	-.07	.104	-.19	.02	.01

Table 20

Previous close friend positive behaviours - univariate linear regressions predicting personal ostracism of previous close friend (pre-dissolution) (cut-off point of $p < .20$)

Previous close friend positive behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Trusting	-.21	.05	-.19	-.19	<.001	-.30	-.12	.04
Hygienic	-.25	.05	-.21	-.21	<.001	-.35	-.16	.04
Takes responsibility for actions	-.16	.04	-.16	-.16	<.001	-.25	-.08	.03
Optimistic	-.20	.05	-.16	-.16	<.001	-.30	-.10	.03
Trustworthy	-.16	.04	-.16	-.16	<.001	-.24	-.08	.03
Relied on actor for emotional needs	.15	.05	.14	.14	.001	.06	.24	.02
Relied on actor for practical needs	.15	.05	.14	.14	.001	.06	.24	.02
Considerate	-.15	.05	-.13	-.13	.002	-.24	-.06	.02
Grateful	-.16	.05	-.14	-.14	.001	-.25	-.06	.02
Empathic	-.13	.05	-.12	-.12	.004	-.22	-.04	.01
Forgiving	-.13	.05	-.12	-.12	.005	-.22	-.04	.01
Loyalty	-.12	.04	-.11	-.11	.008	-.20	-.03	.01
Altruistic	-.11	.05	-.09	-.09	.026	-.21	-.01	.01
Compromises	-.11	.05	-.09	-.09	.032	-.20	-.01	.01
Kind	-.09	.05	-.08	.05	.052	-.08	-.08	.01
Confident	-.09	.05	-.08	-.08	.071	-.18	.01	.01
Reciprocation	-.07	.05	-.06	-.06	.128	-.17	.02	.00
Good communication ability	-.06	.04	-.06	-.06	.165	-.15	.03	.00

Table 21

Actor-oppositional behaviours - univariate linear regressions predicting personal ostracism of previous close friend (pre-dissolution) (cut-off point of $p < .20$)

Actor-oppositional behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Verbally victimised friend	.85	.05	.61	.61	<.001	.76	.94	.37
Stonewalled	.28	.04	.26	.26	<.001	.20	.37	.07
Defensive	.26	.04	.26	.26	<.001	.18	.26	.07
Selfish	.26	.05	.23	.23	<.001	.17	.23	.06
Passive aggressive	.23	.04	.22	.22	<.001	.14	.31	.05
Entitled	.23	.05	.21	.21	<.001	.14	.32	.04
Judgemental	.18	.05	.17	.17	<.001	.09	.27	.03
Arrogant	.16	.04	.15	.15	<.001	.07	.25	.02
Self-righteousness	.14	.05	.13	.13	.002	.05	.23	.02
Controlling	.13	.05	.12	.12	.005	.04	.22	.01
Perfectionistic (other-oriented)	.12	.05	.11	.11	.011	.03	.21	.01
Persistent	.09	.05	.08	.08	.047	.00	.18	.01

Table 22

Previous close friend oppositional behaviours - univariate linear regressions predicting personal ostracism of previous close friend (pre-dissolution)
(cut-off point of $p < .20$)

Previous close friend oppositional behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Verbal victimisation of actor	.39	.04	.38	.38	<.001	.31	.47	.14
Arrogant	.25	.04	.26	.26	<.001	.17	.33	.07
Entitled	.26	.04	.26	.26	<.001	.18	.34	.07
Defensive	.25	.04	.24	.24	<.001	.17	.34	.06
Self-righteousness	.25	.04	.24	.24	<.001	.16	.33	.06
Controlling	.22	.04	.23	.23	<.001	.14	.29	.05
Passive aggressive	.22	.04	.23	.23	<.001	.14	.29	.05
Judgemental	.21	.04	.21	.21	<.001	.13	.29	.05
Selfish	.20	.04	.19	.19	<.001	.11	.28	.04
Persistent	.15	.05	.14	.14	.001	.06	.24	.02
Stonewalled	.11	.04	.12	.12	.005	.03	.20	.01
Perfectionistic (other-oriented)	.12	.05	.12	.12	.006	.04	.21	.01

Table 23

Actor-negative behaviours pre-dissolution - univariate linear regressions predicting personal ostracism of previous close friend (pre-dissolution)
(cut-off point of $p < .20$)

Actor-negative behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Sexual interest in friend's partner	.40	.07	.24	.24	<.001	.27	.53	.06
Hypocritical	.25	.05	.22	.22	<.001	.16	.34	.05
Sexual interest in friend	.21	.06	.16	.16	<.001	.10	.31	.03
Coercive	.17	.05	.15	.15	<.001	.07	.26	.02
Unavailable	.16	.05	.15	.15	<.001	.07	.25	.02
Pessimistic	.14	.05	.13	.13	.002	.05	.23	.02
Shows off	.15	.05	.12	.12	.003	.05	.24	.02
Eccentric	.11	.04	.10	.10	.013	.02	.20	.01
Competitive	.10	.05	.09	.09	.027	.01	.19	.01
Jealous of friend's interactions	.09	.04	.09	.09	.040	.00	.17	.01
Perfectionism (self-oriented)	.09	.05	.08	.08	.045	.00	.18	.01
Perfectionism (other-oriented)	.09	.05	.08	.08	.045	.00	.18	.01
High peer conformity goals	.09	.04	.08	.08	.055	-.00	.17	.01
Boring	.08	.05	.07	.07	.103	-.12	.17	.01
Jealous of friend's characteristics	.06	.05	.06	.06	.176	-.03	.15	.00

Table 24

Previous close friend negative behaviours - univariate linear regressions predicting personal ostracism of previous close friend (pre-dissolution)
(cut-off point of $p < .20$)

Previous close friend negative behaviour (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Sexual interest in actor's partner	.37	.06	.27	.27	<.001	.26	.48	.07
Shows off	.21	.04	.22	.22	<.001	.14	.29	.05
Jealous of actor's characteristics	.22	.04	.23	.23	<.001	.15	.30	.05
Jealous of actor's interactions	.19	.04	.21	.21	<.001	.12	.26	.04
Pessimistic	.20	.04	.20	.20	<.001	.12	.28	.04
Reassurance seeking	.20	.04	.20	.20	<.001	.12	.29	.04
Sexual interest in friend	.32	.06	.21	.21	<.001	.19	.44	.04
Boring	.20	.05	.18	.18	<.001	.11	.30	.03
Eccentric	.17	.04	.16	.16	<.001	.08	.26	.03
Hypocritical	.18	.04	.18	.18	<.001	.10	.26	.03
Competitive	.13	.04	.12	.12	.003	.04	.22	.02
High conformity goals	.13	.04	.13	.13	.002	.05	.20	.02
Coercive	.13	.04	.12	.12	.005	.04	.21	.01
Unavailable	-.09	.04	-.09	-.09	.035	-.18	-.01	.01
Low conformity goals	.09	.05	.08	.08	.073	-.01	.18	.01
Perfectionistic (self-oriented)	.08	.05	.07	.07	.097	-.01	.16	.01

Table 25

Actor-contextual factors - univariate linear regressions predicting personal ostracism of previous close friend (pre-dissolution) (cut-off point of $p < .20$)

Actor-contextual factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Actor's partner sexual interest in friend (pre-dissolution)	.39	.07	.24	.24	<.001	.26	.52	.06
Peers verbally victimised actor (pre-dissolution)	.26	.05	.22	.22	<.001	.17	.35	.05
Peers ostracised actor (pre-dissolution)	.18	.04	.18	.18	<.001	.10	.26	.03
Alternative friends	.13	.04	.12	.12	.003	.04	.22	.02
Negative affect (pre-dissolution)	.11	.04	.10	.10	.013	.02	.20	.01
Life satisfaction	-.09	.04	-.10	-.10	.017	-.16	-.02	.01
Peer approval of actor (pre-dissolution)	.08	.04	.09	.09	.032	.01	.14	.01
Stress (pre-dissolution)	.09	.05	.08	.08	.049	.00	.18	.01
Commitment to maintain other close friendships	-.04	.03	-.07	-.07	.098	-.10	.01	.01
Anxious (pre-dissolution)	.07	.05	.06	.06	.139	-.02	.15	.00

Table 26

Previous close friend contextual factors - univariate linear regressions predicting personal ostracism of previous close friend (pre-dissolution)
(cut-off point of $p < .20$)

Previous close friend contextual behaviours (pre-dissolution)	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Peers ostracised actor	.56	.04	.53	.53	<.001	.49	.63	.28
Peers verbally victimised actor	.65	.05	.50	.50	<.001	.55	.74	.25
Friend's partner sexually interested in actor	.36	.06	.26	.26	<.001	.25	.48	.07
Likeability	-.20	.05	-.18	-.18	<.001	-.30	-.11	.03
Negative affect	.18	.04	.17	.17	<.001	.09	.27	.03
Anxious	.14	.05	.13	.13	.003	.05	.23	.02
Alternative friends	-.09	.05	-.09	-.09	.042	-.18	-.11	.01
Stress	.08	.05	.08	.08	.074	-.01	.17	.01
Popularity	-.08	.05	-.07	-.07	.086	-.18	.01	.01

Table 27

Friendship dynamic factors - univariate linear regressions predicting personal ostracism of previous close friend (pre-dissolution) (cut-off point of $p < .20$)

Friendship dynamic factor	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Friend-morals bothered actor	.31	.04	.33	.33	<.001	.24	.39	.11
Actor-values bothered friend	.34	.05	.29	.29	<.001	.24	.43	.08
Friend-values bothered actor	.27	.04	.26	.26	<.001	.19	.35	.07
Actor-morals bothered friend	.31	.05	.27	.27	<.001	.22	.40	.07
Friend-political beliefs bothered actor	.29	.05	.26	.26	<.001	.20	.38	.07
Actor-political beliefs bothered friend	.30	.05	.25	.25	<.001	.20	.39	.06
Friend-religious/spiritual beliefs bothered actor	.27	.05	.22	.22	<.001	.17	.37	.05
Altercations	.31	.06	.22	.22	<.001	.19	.42	.05
Actor-religious/spiritual beliefs bothered friend	.25	.06	.19	.19	<.001	.15	.36	.04
Previous life events	-.20	.08	-.11	-.11	.012	-.35	-.04	.01
Common interests	-.12	.05	-.09	-.09	.030	-.22	-.01	.01
Change in time spent together	.07	.05	.07	.07	.107	-.02	.16	.01

Table 28

Summary of univariate linear regression models with small to large effect sizes predicting personal ostracism of previous close friend (pre-dissolution)
(cut-off point of $p < .20$)

Model	<i>B</i>	<i>SE B</i>	Beta	<i>sr</i>	<i>p</i>	95% CI for <i>B</i>		<i>R</i> ²
						Lower	Upper	
Intrapersonal process: actor								
Liked friend (pre-dissolution)	-.38	.05	-.32	-.32	<.001	-.47	-.29	.10
Intrapersonal process: friend								
Hurt (pre-dissolution)	.45	.05	.39	.39	<.001	.37	.54	.15
Oppositional behaviour: actor								
Verbally victimised friend	.85	.05	.61	.61	<.001	.76	.94	.37
Oppositional behaviour: friend								
Verbal victimisation of actor	.39	.04	.38	.38	<.001	.31	.47	.14
Contextual factor: friend								
Peers ostracised actor	.56	.04	.53	.53	<.001	.49	.63	.28
Peers verbally victimised actor	.65	.05	.50	.50	<.001	.55	.74	.25
Friendship dynamic factor								
Friend's morals bothered actor	.31	.04	.33	.33	<.001	.24	.39	.11

Appendix P: Analysis of attrition

Analysis of attrition: Comparison of wave 1 data for non-participants and participants at study wave 2 (T2) and wave 3(T3): Actor age and gender

Baseline (T1) actor variable	Overall sample <i>N</i> = 827 (T1 score: <i>n</i> (%))	T2 non- participant <i>n</i> = 510 (T1 score: <i>n</i> (%))	T2 participant <i>n</i> = 317 (T1 score: <i>n</i> (%))	Difference between T2 non- participant and participant scores (T1 score differences: <i>p</i> score; <i>phi</i>)	T3 non- participant <i>n</i> = 668 (T1 score: <i>n</i> (%))	T3 participant <i>n</i> = 159 (T1 score: <i>n</i> (%))	Difference between T3 non- participant and participant scores (T1 score differences: <i>p</i> score; <i>phi</i>)
Age				<.001(.19*)			<.001(.28*)
18 - 24	526(63.6)	340(64.6)	186(35.4)		451(85.7)	75(14.3)	
25 - 34	113(13.7)	77(68.1)	36(31.9)		95(84.1)	18(15.9)	
35 - 44	105(12.7)	58(55.2)	47(44.8)		74(70.5)	31(29.5)	
45 - 54	40(4.8)	24(60)	16(40)		30(75)	10(25)	
55 - 64	30(3.6)	9(30)	21(70)		14(46.7)	16(53.3)	
65 - 74	10(1.2)	2(20)	8(80)		4(40)	6(60)	
75 - 84	3(.4)	0(0)	3(100)		0(0)	3(100)	
Gender				.094(.098)			.013(.12*)
Female	607(73.4)	365(44.4)	242(39.9)		482(79.4)	125(20.6)	
Male	209(25.3)	141(67.5)	68(32.5)		180(86.1)	29(13.9)	
Non-binary	9(1.1)	4(44.4)	5(55.6)		5(55.6)	4(44.4)	
Other	1(.1)	0(0)	1(100)		1(100)	0(0)	
Decline to state	1(.1)	0(0)	1(100)		0(0)	1(100)	

*Small effect size 0.1 - 0.3 (Cohen, 1988)

Analysis of attrition: Comparison of wave 1 data for non-participants and participants at study wave 2 (T2) and wave 3(T3): Actor mental health, personality, implicit beliefs, attachment and social factors

Baseline (T1) actor variable	Overall sample <i>N</i> = 827 (T1 score: <i>M/SD</i>)	T2 non- participant <i>n</i> = 510 (T1 score: <i>M/SD</i>)	T2 participant <i>n</i> = 317 (T1 score: <i>M/SD</i>)	Difference between T2 non- participant and participant scores (<i>p</i> score; eta squared)	T3 non- participant <i>n</i> = 668 (T1 score: <i>M/SD</i>)	T3 participant <i>n</i> = 159 (T1 score: <i>M/SD</i>)	Difference between T3 non- participant and participant scores (T1 score differences: <i>p</i> score; eta squared)
Mental health							
Anxiety	1.77 (.42)	1.79 (.41)	1.74 (.44)	.078 (.00)	1.79 (.41)	1.69 (.46)	.012 (.01*)
Depression	1.44 (.50)	1.48 (.50)	1.39 (.49)	.016 (.01*)	1.45 (.50)	1.40 (.49)	.245 (.00)
Stress	1.85 (.36)	1.85 (.36)	1.85 (.36)	.855 (.00)	1.86 (.35)	1.81 (.39)	.142 (.00)
Life satisfaction	2.06 (1.52)	1.98 (1.44)	2.17 (1.62)	.177 (.00)	1.97 (1.45)	2.40 (1.72)	.001 (.01*)
Personality							
Agreeableness	5.96 (2.08)	6.00 (2.17)	5.88 (1.92)	.425 (.00)	6.00 (2.13)	5.77 (1.86)	.202 (.00)
Extroversion	5.27 (2.03)	5.25 (2.07)	5.31 (1.97)	.695 (.00)	5.29 (2.04)	5.17 (2.00)	.486 (.00)
Openness	5.59 (2.11)	5.62 (2.12)	5.54 (2.08)	.604 (.00)	5.57 (2.11)	5.68 (2.07)	.542 (.00)
Neuroticism	5.77 (1.99)	5.85 (1.99)	5.64 (1.98)	.126 (.00)	5.79 (2.01)	5.69 (1.91)	.545 (.00)
Conscientiousness	5.50 (2.15)	5.45 (2.19)	5.60 (2.09)	.502 (.00)	5.49 (2.13)	5.58 (2.23)	.628 (.00)
Antagonism (PDI5)	8.37 (2.64)	8.54 (2.75)	8.11 (2.43)	.024 (.01*)	8.48 (2.72)	7.93 (2.22)	.020 (.01*)
Implicit beliefs							
Internal locus of control	7.14 (1.58)	7.11 (1.59)	7.18 (1.57)	.502 (.00)	7.15 (1.60)	7.10 (1.54)	.758 (.00)

External locus of control	4.67 (1.46)	4.67 (1.47)	4.66 (1.44)	.922 (.00)	4.68 (1.47)	4.62 (1.40)	.641 (.00)
Destiny beliefs items 1	4.76 (1.44)	4.76 (1.46)	4.76 (1.42)	.958 (.00)	4.72 (1.46)	4.92 (1.37)	.112 (.00)
Destiny beliefs item 2	3.88 (1.58)	3.94 (1.59)	3.79 (1.56)	.189 (.00)	3.87 (1.57)	3.96 (1.59)	.519 (.00)
Growth beliefs item 1	4.87 (1.51)	4.87 (1.54)	4.88 (1.48)	.971 (.00)	4.86 (1.51)	4.92 (1.53)	.647 (.00)
Growth beliefs item 2	4.96 (1.53)	4.92 (1.58)	5.03 (1.44)	.306 (.00)	4.93 (1.54)	5.11 (1.46)	.165 (.00)
Decay belief	2.92 (1.51)	2.91 (1.50)	2.94 (1.53)	.787 (.00)	2.84 (1.47)	3.30 (1.64)	.001 (.01*)
Attachment							
Avoidant attachment to CCF	1.86 (1.22)	2.03 (1.34)	1.66 (1.02)	<.001 (.02*)	1.93 (1.26)	1.64 (1.06)	.014 (.01*)
Avoidant attachment to PCF (pre-dissolution)	4.46 (1.85)	4.36 (1.82)	4.57 (1.88)	.177 (.00)	4.45 (1.83)	4.48 (1.92)	.866 (.00)
Trait avoidant attachment item 1	4.22 (1.76)	4.26 (1.76)	4.14 (1.75)	.340 (.00)	4.24 (1.75)	4.11 (1.79)	.417 (.00)
Trait avoidant attachment item 2	3.06 (1.72)	3.05 (1.70)	3.07 (1.74)	.887 (.00)	3.11 (1.75)	2.84 (1.54)	.081 (.00)
Trait anxious attachment item 1	4.33 (1.73)	4.33 (1.70)	4.33 (1.79)	.993 (.00)	4.31 (1.744)	4.41 (1.68)	.488 (.00)
Trait anxious attachment item 2	4.38 (1.92)	4.39 (1.88)	4.35 (1.97)	.733 (.00)	4.40 (1.91)	4.26 (1.94)	.408 (.00)
Social factors							

Makes friends easily	3.31 (1.07)	3.31 (1.11)	3.32 (1.00)	.900 (.00)	3.33 (1.06)	3.23 (1.11)	.283 (.00)
Keeps friends easily	3.45 (1.03)	3.44 (1.06)	3.47 (.98)	.697 (.00)	3.45 (1.03)	3.47 (1.00)	.795 (.00)
Likeability	3.73 (.77)	3.73 (.80)	3.73 (.72)	.948 (.00)	3.37 (.78)	3.71 (.73)	.735 (.00)
Popularity	3.03 (.86)	3.03 (.86)	3.04 (.85)	.946 (.00)	3.03 (.85)	3.06 (.88)	.608 (.00)

*Small effect size (.01 - .05) (Cohen, 1988)