Beyond risk and restraint: promoting positive interpersonal relationships to support adolescent sexual health and wellbeing

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ABSTRACT

Relationships across different contexts (family, peers, romantic, and sexual) contribute to adolescent development and an individual's sexual health and wellbeing. In particular, social connectedness, which highlights the importance of feeling care for and having a sense of belonging, provides further context to these relationships' significance. The social world in which adolescents reside is continuously evolving, and alongside this, the challenges and opportunities for adolescent sexuality. Earlier research has demonstrated the importance of comprehensive sexuality education in supporting positive adolescent sexual health, however, young people's perspectives on the content of their education regarding relationships and consent is limited. Additionally, whether school-based programmes can support the development of positive interpersonal relationships to support adolescent sexual and reproductive health, and the degree of young people's understanding of relationships are areas that require further investigation. Young people's perspectives and experiences are essential to ensure programmes and interventions aimed at supporting their sexual health and wellbeing reflect their needs.

Overarching aim:

To describe the perspectives of young people on the importance of interpersonal relationships and social connectedness for their sexual health.

The aims of this thesis are:

1. To systematically review the evidence from high-income settings about the impact of school-based interventions to promote connectedness to improve adolescent sexual and reproductive health and wellbeing.

2. To describe student perspectives of a sexuality education programme in South Australian schools between 2006 and 2017, drawing particular attention to changing topics of importance.

3. To describe teacher experiences of sexuality education training provided by South Australia's major sexual and reproductive health organisation.

4. To explore adolescents' understanding and conceptualisation of healthy relationships, including peer, family and intimate relationships.

5. To explore adolescents' understanding of consent and how different contextual factors contribute to navigating and identify consent.

Methods

1. A systematic review was conducted capturing school-based interventions and programmes that involved a component of social connectedness to improve adolescent sexual and reproductive health.
2. Student perspectives were captured from an annual survey conducted by SHINE SA. Descriptive statistics and regression analyses were undertaken to investigate student perspectives of a sexuality education programme, including an investigation of student ratings of the programme, and topics considered most useful and important.
3. A qualitative exploration was undertaken to explore teacher perspectives on a sexuality education training course. Changes in teachers' confidence and competencies were explored through descriptive statistics and Wilcoxon signed rank tests. Content analyses was selected to investigate free-text responses to the usefulness of training sections on sexual health topics.

4. Semi-structured interviews were conducted with diverse young people aged 14-20 years residing in South Australia. The interview guide comprised of the following topics: healthy relationships (Aim 4), consent (Aim 5), and sexuality education (Aim 4 and 5). Inductive thematic analysis was undertaken for both the healthy relationships and consent analyses. The interview guide and consent scenarios referred to for this research is available in Appendix 1 and 2, respectively.

    a. Positive Youth Development framework informed the analysis on healthy relationships (Aim 4).

    b. The conceptual framework on reproductive autonomy and sexual script theory informed the analysis on consent (Aim 5).

Results

1. The systematic review identified 18 studies that comprised 10 individual programmes. Programmes that were most effective included multiple constructs of social connectedness, social skill building and had sufficient intensity. Improvements were identified for condom use, delayed initiation of sex and reduced pregnancy rates, with differences between ethnicity and gender.
2. The student feedback on a sexuality education programme captured the perspectives of over 20,000 secondary students. There was a positive association between the survey year and providing a 'good/excellent' rating for safe and supportive classroom environment. Socio-emotional topics, including consent and gender stereotypes, were increasingly selected over a 5-year period. Contrastingly, there was a decrease in selecting more traditional sexual health topics, such as contraception, during this period.

3. The qualitative exploration of teacher perspectives on their sexuality education training identified gender and power, same-sex attraction, and violence in relationships as areas that teachers' appreciated guidance on. Ongoing and targeted professional development is needed to support the complex skill set needed to teach sexuality education.

4. Eighteen diverse young people (61% self-identified as female, 50% Caucasian, 41% public school education) participated in semi-structured interviews. Findings demonstrated that young people could articulate which qualities indicated a healthy relationship but this rarely reflected lived experiences, and that peer pressure and social norms are pervasive regarding expectations to date and engage in sex. Participants relied on personal experience to learn about healthy relationships, and had discrepant experiences on relationship content within their sexuality education.

5. The same eighteen young people who participated in the semi-structured interviews provided insights on consent. All participants were able to provide a definition of consent, with those with more relationship or sexual experience providing definitions reflective of the affirmative model of consent; however, there was a gap between theory and practice when discussing real life situations. In real life, the presence of sexual scripts were prevalent and the mutable nature of consent became apparent in young people's accounts. The depth and content of consent was variable in young people's sexuality education, young people made several recommendations to improve education including greater engagement in discussions of the reality of consent and moving away from a binary understanding typically taught in school.

Conclusion

To support adolescent sexuality development, sexuality education should continue to have a broad scope to include socio-emotional topics and continue moving away from

traditional approaches focusing on risk. This thesis has demonstrated strong interest from young people on these topics, including relationships and consent, but sexuality education requires further refinement in the depth and content of these topics and the training teachers receive. Young people demonstrated comprehensive understanding of relationships and consent, though within both instances, there was a greater reliance on personal experience and observation for learning over formal education. Implementing skill-based learning, deconstructing social and gender norms, and discussing the realities of relationships and consent within sexuality education are suggested as relevant approaches to supporting young people achieve healthy relationships, and subsequently, positive sexual health.

PUBLICATIONS CONTRIBUTING TO THESIS

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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.

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NOTE ON LANGUAGE

Throughout this thesis, I use the term adolescence in reference to the developmental period marked by puberty where an individual undergoes changes across physical, cognitive and socio-emotional landscapes. This developmental period typically covers the ages of 10-19 years, yet more recently has been expanded to include people up to 24 years (Sawyer et al. 2018). Individuals within this expanded age range are referred to as 'adolescents' which is used interchangeably with 'young people' within this thesis.

Hereafter is a list of key terms and definitions referred to throughout the thesis:

Gender: refers to gender identity that may be separate from the biological allocation of sex. This term is inclusive of masculine (including boys/men), feminine (including girls/women) and non-binary expressions of gender.

Gender attitudes: are related to the personal beliefs and views towards gender norms (see below).

Gender diversity: refers to the inclusion of more than one gender. Related to this term is 'gender-diverse' and 'trans/gender-diverse', which are used as encompassing terms for people that identify either with a gender different to the gender assigned to them at birth, are non-binary, gender fluid, or do not identify with a gender.

Gender norms: are the roles, behaviours, and responsibilities assigned to men and women.

Interpersonal relationships: refers to a social connection between two or more people, and can include family, peers, friends, romantic and/or sexual partners, and social relationships with multiple people within a network such as a sporting club or an educational institution.

Positive Youth Development (PYD): refers to both the framework, research and prevention/intervention programmes that suggest that healthy development can be promoted

through skill development, including the development of competencies that support navigating different life contexts (Lerner 2005). One of the most cited and utilised PYD frameworks is the Five Cs, which comprises of the following capabilities: 1) Competence, 2) Confidence, 3) Connections, 4), Character, and 5) Caring.

Reproductive health: overlaps with sexual health and is considered "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health therefore implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so" (United Nations 2014).

Reproductive autonomy: refers to the freedom to make choices regarding the reproductive system and related health behaviours and outcomes, such as whether to use contraception and what type of contraception, and whether to have children, and the timing and spacing of children.

Sexuality: In this thesis, sexuality is recognised as more than sexual attraction and behaviour, and encompasses experiences related to sexual and reproductive health that shape an individual's experience of their sexual self. Additionally, this thesis recognises that sexuality continuously develops and evolves throughout an individual's lifespan.

Sexual autonomy: refers to the freedom to make sexual decisions (e.g., if and who to engage in sexual activity with) free from pressure, coercion and force.

Sexuality development: is a term that expands on 'sexual development' to encompass "physiological and psychologies processes involved in developing a sexual self" (Tolman 2016) recognising the possibility for both positive and risky outcomes (Arbeit 2014). Related terms include 'positive sexuality' and 'healthy sexuality', and these terms refer to strengths-

based approaches to adolescent sexuality that recognises positive outcomes, instead of a sole focus on risk averse or deficit models.

Sexuality diversity: is inclusive of individuals who experience either/or sexual, romantic, emotional attraction to the same and/or other genders, including people who identify as lesbian, gay, bisexual, queer, pansexual, and asexual.

Sex education: this term is used interchangeably with 'sexuality education' and refers to any educational programme or intervention targeting sexual health knowledge, attitudes and behaviours, which is typically facilitated within the school environment but may also occur in the broader community.

- Comprehensive sexuality education: also referred to as 'comprehensive sexual health education' and 'relationships and sexual health education', encompasses broader aspects of sexuality and sexual health (e.g., understanding the role of gender and developing social skills) as well as safer sex practices, including preventing pregnancy and contraceptive use.

Sexual health: is defined as "a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence" (WHO 2006).

Sexual script theory: defines 'sexual scripts' as the expected and accepted sexual behaviour and expression of men and women, based on current gender norms (Simon and Gagnon 1986).

Sexual self-concept: a multidimensional construct regarding a person's positive and negative perceptions of themselves as a sexual being, which is considered an important developmental task in adolescence (Rostosky et al. 2008).

Sexual self-efficacy: refers to the belief in one's ability to execute a specific behaviour, for example, having the confidence in one's ability to engage in desired sexual behaviours (Rostosky et al. 2008).

Sexual self-esteem: is the positive perceptions of one's sexuality, including cognitions, affect, and behaviours and body (Hensel et al. 2011).

Sexual wellbeing: refers to the positive cognitions and affect related to sexual behaviour and reduced negative affect (Mastro and Zimmer-Gembeck 2015). Sexual wellbeing is related to two broader sexual wellbeing components (Tolman and McClelland 2011):

- Personal sexual wellbeing: a positive sense of sexual self, identify and body.
- Relational sexual wellbeing: mutually respectful relationships embodying gender equity

Social connectedness: is used interchangeably with 'connectedness' and refers to a sense of belonging and feeling valued and cared for by interpersonal relationships and social institutions (e.g., school). In this thesis Barber and Schluterman's (2008) definition is adopted which identifies four concepts that can be summarised by two key components. A relational component, which is a bond experienced by a person with another social agent, and an autonomy component which encapsulates feeling validated and supported by social relationships and institutions (Barber and Schluterman 2008).

ACRONYMS

CSE	Comprehensive sexuality education
LGBTQIA+	Lesbian, gay, bisexual, transgender, queer, intersex, asexual plus other non-heterosexual sexualities and non-cisgender identities *Note: used interchangeably with LGBT+, LGBTQ+, and LGBTI+*
PYD	Positive Youth Development
STI	Sexually transmitted infections OR Sexually transmissible infections
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WHO	World Health Organisation

CHAPTER ONE: INTRODUCTION

1.1 Preamble

In this chapter, I provide an overview of the key literature and frameworks that informed my thesis. I begin by providing some background on adolescent development, including the contribution of interpersonal relationships to development, health, and wellbeing. Following this, I present the key frameworks and models that directed my research, starting broadly with Bronfenbrenner's socio-ecological model (Bronfenbrenner 1979), and then highlighting frameworks relevant to adolescent sexual health and wellbeing. Finally, I provide some context about the lives of contemporary young people to provide an understanding of how social landscapes' impact on young people's sexual health and beliefs, the role of the school environment in adolescent health, and the development of sexuality education in Australia to highlight the current challenges in this area. This chapter concludes with the research questions and aims of this thesis.

1.2 Adolescence: a key life stage of development

Adolescence is a key developmental period marked by puberty and changes across physical, cognitive, and socio-emotional domains (Sawyer et al. 2012). While usually defined as the period covering ages 10-19 years (Kesterton and Cabral de Mello 2010), the timing of specific developmental changes typically occurs at different points across this time period. For example, physical development associated with puberty may predominate in early adolescence (ages 10-14 years), whereas the capacity for goal setting and long-term planning occurs in later adolescence (ages 15-19 years), with cognitive development continuing into young adulthood (ages 20-24 years) (Sawyer et al. 2018).

Globally, adolescents make up 16% of the population, which is the highest number of adolescents historically, in part due to a sustained decrease in child mortality in recent decades

(Patton et al. 2016a; Keeley 2021). In Australia, there has also been an increase in the number of adolescents alongside general population growth, with adolescents aged 10-19 years making up 12.5% of Australia's population in 2021 (Australian Bureau of Statistics 2021).

This transitional period in a young person's life encompasses exploration of beliefs, identity and sexuality, experimentation with health behaviours, and the development of life skills relevant to negotiating social interactions across different environments (Sawyer et al. 2012). The course of an adolescent's development contributes to an individual's capacity to establish and maintain positive relationships with family, peers, romantic and/or sexual partners, and community.

1.2.1 The contribution of relationships to development

Interpersonal relationships are key contributors to the social environment that will shape an adolescent's development and these relationships are highly influential on an individual's health and wellbeing (Collins 2003; Marmot and Bell 2012; Handley et al. 2015). These types of relationships provide love, emotional and material support, friendship, and/or guidance and some will last across the lifespan. These relationships can also provide an individual with a sense of purpose and belonging, with 'belonging' recognised as a basic need for humans and fundamental to our emotional wellbeing (Maslow 1943; Baumeister and Leary 1995).

Relationships with family including parents, siblings and wider family members are a core component of interpersonal relationships and the first relationships we form. Familial relationships provide infants and children with their first context for socialisation (Grusec 2011), which contributes to their identity development, including establishing foundational values and expectations for behaviour (Henry, Sheffield Morris, and Harrist 2015; Parcel and Bixby 2016). During adolescence, young people transition away from their family unit towards

greater autonomy (Kroger 2006), with peers becoming increasingly influential (Viner et al. 2012).

Peers provide the subsequent social context in which young people develop, and contribute to establishing behavioural and social norms, and further development of social skills (Collins and Steinberg 2006; van de Bongardt, Yu, et al. 2015). One element of peer relationships unique to adolescence is the shift from predominantly single-gender friendship groups to the formation of mixed-gender groups (Brown and Klute 2003), which provides adolescents with a new landscape to navigate and negotiate. Peer relationships during adolescence typically increase in emotional intensity, with these relationships forged on emotional closeness compared to that of shared play in childhood (Rubin et al. 2008). In itself, this emotional closeness requires new social skills for managing conflict and compromise to help manage the vulnerability and emotional intimacy involved in adolescent friendships (Rubin et al. 2008).

Outside of familial and platonic relationships, romantic and sexual relationships have recently been recognised as a part of normative adolescent development and central to the emergence of sexuality (Tolman and McClelland 2011). These types of relationships may first be experienced during adolescence and are recognised as opportunities for adolescents to develop relationship skills, such as healthy communication patterns, which can persist into adulthood (Zimmer-Gembeck, Siebenbruner, and Collins 2001; Collins, Welsh, and Furman 2009; Miller 2017). Earlier understandings of adolescent romantic and/or sexual relationships often disregarded their significance for adolescent development (Collins 2003) or focussed solely on risks associated with sexual activity, such as adolescent pregnancy and coercive relationships (Manning et al. 2014a). As a consequence, research and programmes to promote adolescent sexual and reproductive health have typically been orientated toward a deficit model of adolescent sexuality including abstinence-based approaches, rather than viewing sexuality

as a normal part of adolescent development (Tolman and McClelland 2011; Manning et al. 2014a).

1.2.2 Impact of different types of relationships on adolescent health and wellbeing

The social structures available to an adolescent shape their development, with interpersonal relationships recognised as influencing emotional wellbeing and health behaviours as well as access to health services and support (Collins and Steinberg 2007; Viner et al. 2012; Foster et al. 2017; Grevenstein et al. 2019). There are particular health needs and concerns for this age group that are distinct from childhood, as adolescence is often characterised by the emergence of risky behaviours (e.g., smoking, unhealthy eating habits), mental health disorders, and sexual and reproductive health needs (e.g., contraception) (Stephenson et al. 2018).

Although adolescents spend less time with family compared to earlier childhood, positive familial relationships at this life stage remain an important protective factor against poor health outcomes as well as being a predictor for educational outcomes (Viner et al. 2012; Brooks et al. 2012; McPherson et al. 2014). Beyond their protective role, families can contribute to adolescents' positive wellbeing and health behaviours through parental role-modelling and by providing a source of emotional support and a safe place to try out feelings and behaviours (Thomas, Liu, and Umberson 2017).

With particular regard to sexual health, parents and family relationships remain an important source of information for adolescents (Fisher CM et al. 2019; Barrense-Dias et al. 2020). Furthermore, research has demonstrated that higher degrees of parental supportiveness is positively associated with delayed first sexual intercourse and sexual autonomy (Parkes et al. 2011). There is an abundance of research exploring the influence of child-parent relationships, with an emphasis on understanding the role of parent-child communication about

sex and sexual health. A number of systematic reviews and meta-analyses have synthesized the evidence on strategies to improve parental communication about sex, such as parents receiving an educational programme on sexual and reproductive health topics, with mixed evidence of effectiveness (Downing et al. 2011; Gavin et al. 2015). To elaborate, while most interventions increased parent-child communication about sex (Downing et al. 2011; Gavin et al. 2015; Widman et al. 2016), and improved knowledge among adolescents about sexual health, there are gendered effects of some interventions, with greater effects on safer sex practices reported among adolescent females (Widman et al. 2016). While families can be a key factor in adolescent sexual health outcomes, contemporary young people have a plethora of sexual health information sources available to them, some of which have been shown to be associated with specific sexual health outcomes. For example, Swiss youth who reported school as their primary sexual health resource reported the lowest rates of STIs compared to those who reported friends as their primary source (6.8% vs 11.7%) (Barrense-Dias et al. 2020).

Outside of adolescent social development, peers can contribute to an individual's health behaviours and outcomes. Following on from a reliance on parents in childhood, greater attachment and connection to peers are formed during adolescence (Nickerson and Nagle 2005). Peers provide a social context that contribute to self-esteem and identity development, while also providing adolescents with a new network of social and emotional support (Stanton-Salazar and Spina 2005; Rabaglietti and Ciairano 2008). As peers and friendships become more salient during adolescence, the influential power of peers on behaviours and beliefs may also increase, demonstrated by the impact of peer pressure on an individual's behaviour (Prinstein and Wang 2005; Farrell et al. 2015). Given this influence, relationships with prosocial peers (e.g., peers that exhibit helpful, positive and socially acceptable behaviours) can promote healthy behaviours and provide support that contribute to positive health and wellbeing, including lower substance use (Barry and Wentzel 2006; Coyle et al. 2016).

Equally, peers can have negative influence during adolescence. Unsupportive or unhealthy peer relationships and friendships riddled with pressure to conform can contribute to adolescents engaging in risky behaviours, with peer pressure associated with aggressive behaviour and substance use (Farrell, Thompson, and Mehari 2017). Furthermore, perceptions of peer's sexual experiences have been shown to influence sexual decision making, including early sexual initiation (Buhi and Goodson 2007). The important influence of peers has been incorporated into sexual health promotion interventions, through the use of peer educators to encourage delayed sexual activity and condom use, with evidence of positive effects on these outcomes (Agha and Van Rossem 2004; Caron et al. 2004; Jennings, Howard, and Perotte 2014). The potential contrasting influence of peers on adolescents perfectly reflects how positive interpersonal relationships are essential to supporting healthy development, including sexual and reproductive health outcomes.

Adolescence may also provide the opportunity for some adolescents to explore romantic and/or sexual relationships. Although adolescent romantic relationships have historically been dismissed as insignificant (Collins 2003), these relationships can provide adolescents with intimacy and security, and the quality of romantic experiences have been shown to be correlated with self-confidence, social competence, and sexual self-efficacy (Shulman and Kipnis 2001; Zimmer-Gembeck, Siebenbruner, and Collins 2001; Zimmer-Gembeck 2013). For example, young women who reported having more supportive, warmer and less coercive partners (indicative of good relationship quality) had greater self-efficacy, including greater capacity to communicate (Zimmer-Gembeck 2013).

In addition, the relational context (e.g., committed and established relationship or casual partnership) and the quality of these relationships can influence sexual health outcomes and behaviours (e.g., initial and continued condom use), wellbeing, and related competencies, both detrimentally and favourably (Manning, Longmore, and Giordano 2000; Tharp et al. 2013;

Gómez-López, Viejo, and Ortega-Ruiz 2019; van de Bongardt and de Graaf 2020). Most commonly, adolescent romantic and/or sexual relationships have been characterised by associations with sexual behaviours (e.g., sexual intercourse frequency) (Rostosky et al. 2000), yet these relationships have also been shown to contribute to emotional wellbeing, such as feeling supported (Gómez-López, Viejo, and Ortega-Ruiz 2019).

Given the long-lasting impacts of adolescent relationships on future relationships, health behaviours and outcomes, it is surprising that there has been limited attention paid to adolescents' understanding and perceptions of their relationships, especially with regard to understandings about what contributes to positive and supportive relationships (Tharp et al. 2013). While there is an abundance of work on communication about sex between parents and children as well as intimate-partner violence (Akers et al. 2011; Widman et al. 2016), there has been limited exploration of communication about healthy romantic and sexual relationships and navigating common relationship obstacles, which are key contributors to sexual health outcomes (Weissbourd et al. 2017a). Further, the perspectives of adolescents on educational and support needs prior to initiating a romantic and/or sexual relationship require attention (Janssens et al. 2019).

1.3 Guiding frameworks, concepts and theories

1.3.1 Bronfenbrenner's socio-ecological model

Bronfenbrenner's socio-ecological model is a framework for understanding the interactions between individual and environmental factors that can influence behaviour (Bronfenbrenner 1979). This model considers the interaction between an individual and their environment, including microsystem, mesosystem, exosystem, and macrosystem. These systems correspond to the individual, interpersonal, organisational, community, and societal factors that contribute to development, health behaviour, and outcomes. The socio-ecological

model has been adapted countlessly to conceptualise the influence of an individual's environment on their health, and identify strategies to counter the associated barriers and enhance enablers across health areas (e.g., mental health (Eriksson, Ghazinour, and Hammarström 2018), and nutrition (Townsend and Foster 2013)). For example, Blum and colleagues' socio-ecological framework describes the interactions between the school level, family level, neighbourhood level, and macro-level factors that contribute to healthy adolescence (Blum et al. 2012). This framework provides guidance on possible avenues to support adolescent health and development, including the identification of factors that act as either obstacles or assets to young people's engagement with services, information, and support. The application of the socio-ecological model is expanded on further in Section 1.3.3, which provides an overview of Tolman's socio-ecological model specific to adolescent sexual health and wellbeing (Tolman 2016).

The socio-ecological model was selected as the guiding framework for this thesis as it recognises that an individual's health interacts with the broader social environment available to them. Given the evidence of how an individual's identity (as discussed in section 1.4.3), relationships (see section 1.2), and the social structures surrounding an individual (see section 1.3.3), directly and indirectly impacts their perceptions and opportunities for health and wellbeing, the socio-ecological model appeared most suitable to capture this complexity.

Similarly, the Positive Youth Development (PYD) framework acknowledges the potential for positive bidirectional relationships between youth and their families, peers, schools and communities which can be enhanced through programmes to promote youth development (Bowers et al. 2015). The PYD framework, model, and programmes/interventions that acquire this name suggest that healthy development can be promoted through skill development, including the acquisition of competencies that support navigating different life contexts (Lerner 2005). One of the most cited and utilised PYD frameworks is the Five Cs,

which comprises of the following capabilities: 1) Competence, 2) Confidence, 3) Connections, 4), Character, and 5) Caring. To ensure that this research embodied a strengths-based and positive lens concerning adolescent sexuality, both PYD as a theory and the Five Cs were referred to throughout this thesis.

1.3.2 Social connectedness, belonging, and health

The concept of social connectedness was first introduced to the adolescent health literature during the late 1980s and has since gained traction in the field of positive adolescent development (Sieving et al. 2017). While there has been inconsistency with the definition of social connectedness throughout the literature, the definition proposed by Barber and Schluterman (2008) has been highly influential in existing research on this topic (Kaminski et al. 2010; Markham et al. 2010; Foster et al. 2017). Barber and Schluterman characterised social connectedness under four concepts: as a property of a relationship system, as liking of or performance in an environment of the relationship, as the possession of feeling/attitude state (e.g., "sense of belonging" (Osterman 2000)), and as a mix of states and antecedent behaviours (Barber and Schluterman 2008). Therefore, social connectedness expands beyond the existence of interpersonal relationships to include feeling supported, and feeling cared for and close to a community or institution.

Social connectedness corresponds to specific interpersonal or institutional prosocial relationships that are reflective of the socio-ecological model, including family, peer, partner, community, and school connectedness. These proximal and distal relationships can be viewed as social connectedness constructs. For example, family connectedness refers to feeling valued, respected and loved by one's parents and family, whereas school connectedness encompasses feeling valued and cared for by adults and peers within a school setting (Resnick et al. 1997; Foster et al. 2017). There are a number of validated social connectedness measurements

available (Resnick et al. 1997; Karcher and Sass 2010; Carroll, Bower, and Muspratt 2017), such as the Parent-Family Connectedness self-report measure (Resnick et al. 1997) and Hemingway's Adolescent Connectedness Scale (Karcher and Sass 2010) (see Table 1.1). The latter is a scale that has been validated across multicultural settings, and assesses social connectedness across interpersonal relationships (e.g., friends and neighbourhoods) (Karcher and Sass 2010).

Table 1.1: Examples of social connectedness measures (Carroll, Bower, and Muspratt 2017) (Mitic et al. 2021)

Social connectedness measures	**Author(s)**
Social Connectedness Scale–Revised (SCS-R)	(Lee, Draper, and Lee 2001)
Hemingway Measure of Adolescent Connectedness	(Karcher and Sass 2010)
General Belongingness Scale (GBS)	(Malone, Pillow, and Osman 2012)
Self in a Social Context—Social Connectedness Scale (SSC–SC)	(Carroll, Bower, and Muspratt 2017)
School Connectedness Scale	(Lohmeier and Lee 2011)
Parent-Family Connectedness Self-Report Measure	(Resnick et al. 1997)
Inventory of Parent and Peer Attachment	(Armsden and Greenberg 1987)
Friendship Quality Questionnaire (FQQ)	(Parker and Asher 1993)
The Friendship Qualities Measure (FQM)	(Grotpeter and Crick 1996)
Social Support Scale for Children (and adolescents) (SSSC(A))	(Harter 1985)

Note: this is not an exhaustive list of social connectedness measurements or scales but an overview of available measures used in research with young people

Establishing and maintaining prosocial connections have demonstrated health and behavioural benefits. For example, having positive relationships inhibit acts of aggression and violence, and is protective of associating with groups that are more prone to these behaviours (e.g., gang association) (Wilson 2004). Further, there is evidence that school students are more likely to employ healthy behaviours if they feel connected to their school (Centers for Disease Control and Prevention 2009), and that feeling connected to prosocial adults (in and outside of family groups) is a protective factor against risk-taking behaviour, including early sexual debut (McNeely and Falci 2004a; Barber and Schluterman 2008). In addition, social connectedness may have an enduring impact on health, a 32-year longitudinal study found that social connectedness in childhood and adolescence was associated with greater future wellbeing in adulthood than factors such as adolescent academic achievement (standardised estimates of 0.62 vs. 0.12) (Olsson CA et al. 2012).

Thus, social connectedness has been recognised as an important foundation for positive adolescent development (Catalano RF et al. 2002; Foster et al. 2017) and is one of the Five Cs in the Positive Youth Development (PYD) framework (Lerner 2005) (see note on language for explanation of PYD). Given that social connectedness refers to quality and feelings associated with interpersonal relationships, and the relevance of relationships to sexual health (see section 1.2.2), providing opportunities to develop and strengthen social connectedness may be a possible pathway to support positive sexual and reproductive health. In fact, a review of observational studies assessing a range of aspects of social connectedness among adolescents, found that there was a protective association between the degree of family and school connectedness and the reported frequency of sex (e.g., less frequent sex) (Markham et al. 2010). In addition, female adolescents reporting greater partner connectedness were more likely to be using contraceptives than those with low levels of partner connectedness (Manlove, Ryan, and Franzetta 2004; Markham et al. 2010).

Observational studies also demonstrate that social connectedness is associated with a reduced risk of early sexual debut (Markham et al. 2010). For this reason, interventions that promote social connectedness have been discussed as a possible strategy to improve adolescent sexual and reproductive health outcomes. The school environment has been identified as an ideal environment to deliver such interventions, as it is a key part of an adolescent's social world (Sawyer et al. 2012). Notably, there has been limited examination of the influence of social connectedness on comprehensive sexual health outcomes including the socio-emotional aspects of sexual health or reproductive autonomy. Further, there is a need to understand the particular constructs of social connectedness (e.g., family connectedness) that are most influential on adolescent sexual health and wellbeing outcomes, to help target and refine social connectedness interventions. Chapter 2 of this thesis provides a systematic review of the evidence concerning social connectedness interventions in the school environment as a strategy to promote adolescent sexual and reproductive health and wellbeing.

1.3.3 Adolescent sexual health and wellbeing theoretical frameworks

The concept of positive or healthy sexuality (see note on language section) recognises the contribution sexuality has on development, and in many ways is consistent with the principles of PYD (Lerner 2005; Arbeit 2014). Positive sexuality promotes avenues to support young people's negotiation and experiences of their developing sexuality rather than a deficit focus, which is often implemented when targeting adolescent sexual health (Tolman 2016). Approaches employing a positive sexuality framework incorporate the broader aspects of sexual health noted by national and international bodies which emphasise the contribution of societal, cultural, psychological, emotional, physical, and spiritual factors to achieving sexual health (SIECUS 1995; WHO 2006; Tolman 2016).

In 2016, Tolman published a framework for adolescent sexuality that has been a cornerstone piece of research in the field of positive sexuality (Tolman 2016). The framework focuses on supporting positive sexuality by applying Bronfenbrenner's socio-ecological model (Bronfenbrenner 1979), with particular attention directed towards the individual, interpersonal, social, and socio-cultural contexts of adolescent sexuality. Figure 1.1, derived from Tolman's 2016 paper, illustrates the interplay of factors contributing to adolescent sexuality and sexual health across socio-ecological levels, highlighting the multidimensional nature of this aspect of adolescent health.

The inner-circle represents the adolescent and identifies factors associated with the development of a sense of sexuality and positive attitudes towards protective behaviours (e.g., condom use), awareness and knowledge relating to sexual health and feelings, and entitlement to pleasure, which has been identified as especially relevant to girls (Tolman 2002) (see also section 1.4.3 for further elaboration).

The next sequential circle relates to romantic, dating, and sexual relationships, which have a direct impact on an individual's sexual experiences. Romantic relationships are a common context for exploring sexual behaviours in adolescence (Manning, Longmore, and Giordano 2000; Collins 2003), and can result in negative and/or positive outcomes (Tolman 2016). For example, the interpersonal context can be wrought with factors that contribute to power imbalance within adolescent relationships (e.g., large age differences, gender norms, and sexual scripts), which can contribute to unwanted and unsafe sexual practices (Diamond and Savin-Williams 2009; Volpe et al. 2013). Conversely, romantic relationships can promote more positive and 'safer' sexual experiences (Boislard, Van de Bongardt, and Blais 2016). For example, within established relationships; condom use is more likely to occur during first sexual intercourse (Manning, Longmore, and Giordano 2000), and different sexual behaviours

are associated with perceived relationship quality (e.g., relationship satisfaction and commitment) across the adolescent developmental period (Welsh et al. 2005).

The following circle represents other social relationships that depict the in-direct influence of peer and family relationships on adolescent sexual health, described earlier in section 1.2.2. The final circle within the model comprises of socio-political and socio-cultural influences such as media and access to institutions that provide appropriate health care and information within an adolescent's social context. The relevance of newer media to adolescent sexual health is further discussed in section 1.4.1, and school as a social institution for health in section 1.5. Together, these consecutive circles provide the broad context for adolescent sexuality development and avenues to support healthy development.

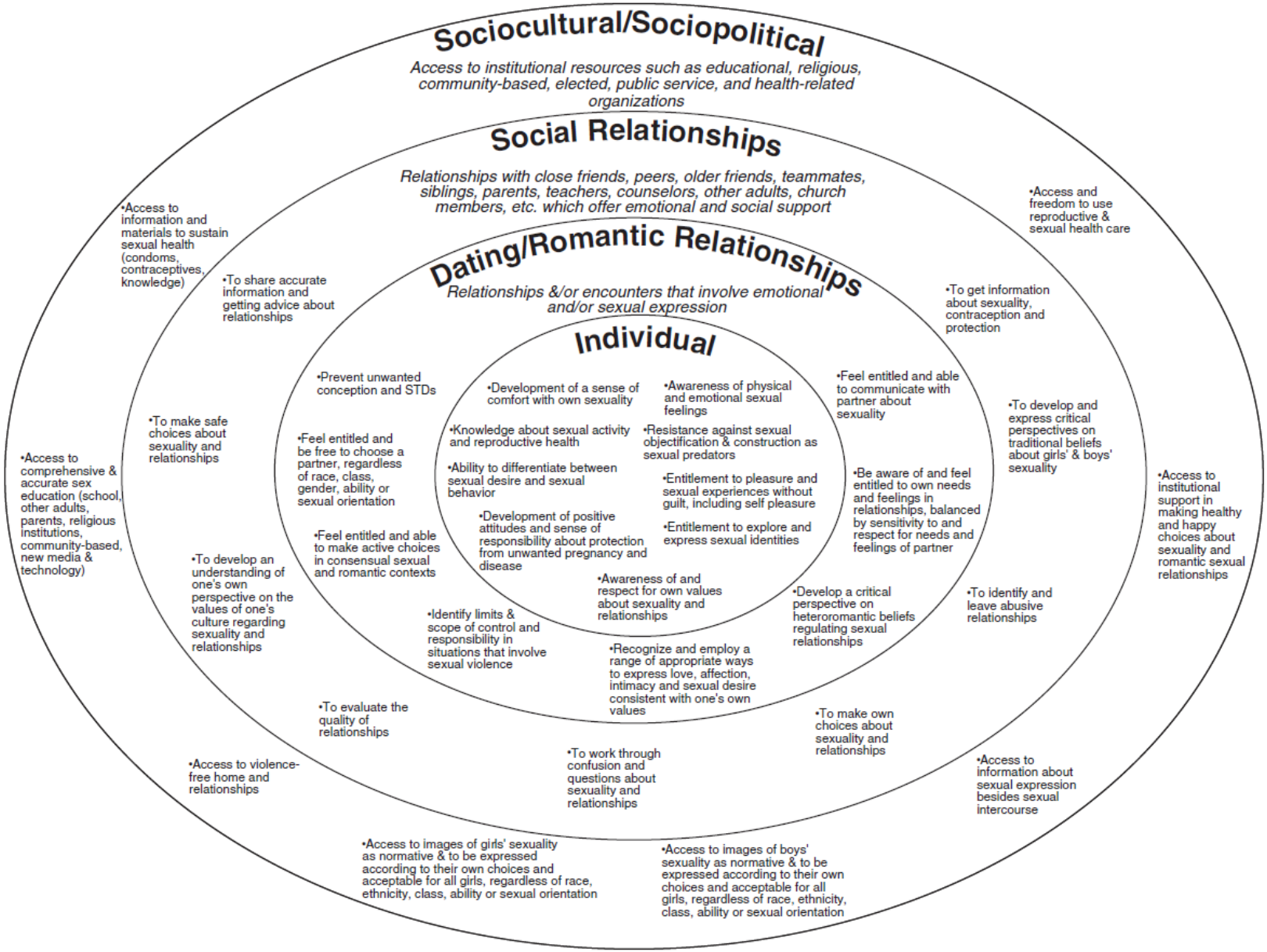

Figure 1.1: Tolman's socio-ecological framework for adolescent sexual health (from (Tolman 2016), pg 4)

A more recent conceptual framework of adolescent sexual wellbeing, developed by Kågesten and van Reeuwijk (Kågesten and van Reeuwijk 2021) provides additional insight for this thesis by distinguishing between healthy sexuality development and sexual wellbeing. The former is defined as relating to knowledge, skills, and attitudes that support adolescent identity development and relationship navigation. Sexual wellbeing is defined as encompassing two components: personal sexual wellbeing, related to a positive sense of sexual self, identity and body; and relational sexual wellbeing, which describes mutually respectful relationships across an adolescent's social world which embody gender equity.

This framework, which is grounded in theories related to PYD, empowerment, human rights, gender, and socio-ecological and life-course perspectives, includes six key domains describing competencies related to knowledge, skills, and attitudes to support adolescent sexual wellbeing, which are fundamental to adolescents' ability to navigate their sexuality. These include sexual literacy, gender-equitable attitudes, respect for human rights and understanding of consent, critical reflection skills, coping skills and stress management, and interpersonal skills. While all of the listed competencies are integral to healthy adolescent sexuality development, three competencies are especially relevant to this thesis given their application to interpersonal relationships (described by (Kågesten and van Reeuwijk 2021)):

- Gender equitable attitudes: this competency recognises the importance of establishing support for gender equity, and consequently, that restrictive gender norms and stereotypes contribute detrimentally to adolescent sexual and reproductive health;
- Respect for human rights and understanding consent: this competency recognises the relationships between sexuality and human rights, and the need to develop

knowledge, skills, and attitudes that support respect, tolerance, and empathy for others;

- Interpersonal skills: this competency includes developing skills that contribute to adolescents' ability to communicate and navigate their interpersonal relationships that contribute to their sexual health.

Together, these frameworks challenge the traditional understanding of adolescent sexuality as inherently risky (Bay-Cheng 2003; Goesling et al. 2014), and instead emphasise the need for positive approaches to support adolescent sexuality. Common features across the theories and frameworks presented in this section include: 1) the need to recognise contextual factors across a range of socio-ecological levels (e.g., gender identity and access to accurate sexual health information) as intrinsic to the barriers and opportunities available for positive adolescent sexuality development; and 2) acknowledgement that interpersonal relationships are a foundational human need and contribute to knowledge, skills, attitudes, and support necessary to achieve positive sexual health and wellbeing.

1.4 The social contexts of young people's lives

1.4.1 General discussion

Globally, the social, cultural and economic realities that young people interact with are continuously evolving. The economic and social impacts of globalisation, social movements promoting adolescent sexual and reproductive health and rights, and a focus on increasing adolescent education, particularly among girls, as a key strategy for reducing gender inequity, have dramatically changed the developmental and social opportunities available to young people in recent generations (Viner et al. 2012; Starrs et al. 2018). Across high-income and low-middle-income countries, more than ever young people are dedicating more years to education and consequently delaying marriage and children to later years (i.e. thirties and

forties) or refraining from marriage and parenthood (Bearinger et al. 2007; Starrs et al. 2018; Rybińska and Morgan 2019). The ongoing acceleration in globalisation and urbanisation has contributed greatly to this shift. Consequently, these phenomenon have created further inequity for some population groups, with young people disproportionally affected by related social costs (Harvey 2003). While greater economic and cultural globalisation may have presented many contemporary young people with more possible life pathways (Larson 2002), there are unique challenges and opportunities posed by these occurrences that young people must encounter.

In Australia, a country recognised as high-income and with high levels of freedom for individuals, young Australians remain concerned about equity and discrimination, and the global state of the world, especially regarding climate change (Chiw and Ling 2019; Australian Institute of Health Welfare 2021). Youth in Australia are disproportionally affected by the increasing casualisation of the workforce (Australian Institute of Health Welfare 2021), which has been compounded by the emergence of the COVID-19 pandemic (Oswald et al. 2021). Consequently, young people continue to face employment precarity and related financial insecurity, and typically have more complex and frequent variations in life pathways experienced than in previous generations (Australian Institute of Health Welfare 2021).

Technological developments are another unique contribution to adolescents' social worlds and provide young people with another platform to navigate and develop skills around health literacy, sexual health, and social relationships. In particular, the internet and associated online social platforms accessible on mobile phones and other devices are recognised as common sources of sexual health information for contemporary adolescents (Simon and Daneback 2013; Doornwaard et al. 2017). While these online platforms provide adolescents opportunities to connect, there are a number of positive and negative implications related to this increased connectivity. For example, these online platforms contribute to the formation,

maintenance and strengthening of young people's relationships (Subrahmanyam and Greenfield 2008), and provide unique opportunities for additional emotional support (Ybarra et al. 2015). On the other hand, these platforms have provided new pathways for exclusion and harmful behaviour, such as cyberbullying and 'sexting' (e.g., the provision of sexually explicit images and messages) (Patchin and Hinduja 2006; Strassberg et al. 2013).

Online media provides an anonymous landscape where adolescents can discover information and advice most relevant to them, which can be particularly important for those who feel their sexuality education is inadequate, for example for sexuality- and gender-diverse adolescents (Mitchell et al. 2013). However, there are a number of challenges when navigating online media beyond determining which information is accurate (e.g., scientific-based compared to user-generated content) (Kedzior et al. 2019). Of relevance to sexual health is the opportunity to engage in cybersex and increased accessibility to pornography which may reinforce gender-stereotypical sexual beliefs around males being dominant and females passive in sexual encounters, as well as contribute to gender-based violence through exposure to violent pornographic content (Baker 2016; Peter and Valkenburg 2016; Braun-Courville and Rojas 2009; Lewis et al. 2018). The impact of these beliefs on adolescent health is discussed in section 1.4.3.

1.4.2 Increasing focus on communication and negotiation of sexual consent

Recent feminist movements, in particular, the #MeToo movement, have brought the discussions of consent and associated female sexual autonomy to the global limelight once more (Fileborn and Loney-Howes 2019). The subsequent media attention has bolstered efforts in many countries including Australia, to address sexual violence, through policy and prevention programmes including enhancing education about consent among young people (Beres 2014; Bragg et al. 2020). Throughout 2021, there has been extensive media coverage in

Australia on the topic of consent. Notably, Australian secondary students, predominantly young women, have brought attention to prevailing sexist cultures within some schools and the degree of unwanted sexual experiences occurring during adolescence, highlighting an urgent need to better equip young people with the skills to negotiate and understand consent (Chrysanthos 2021; Kallios 2021). Because of these experiences, young people and sexual violence advocates in Australia have called for consent education to be more widely implemented within schools (Choahan 2021). For an overview of media articles reporting on young people and consent education in Australia during 2021, refer to Appendix 3.

As Kågesten and van Reeuwijk (2021) noted in their conceptual framework of adolescent sexual wellbeing (see section 1.3.3), an understanding of sexual consent is necessary for healthy sexuality development. However, policy and programme efforts to improve understanding and communication about consent are hampered by discrepancies between current legal and academic definitions of consent (Brady et al. 2018). Muehlenhard and colleagues (2016) address this discrepancy in their review of the conceptual challenges in defining consent and have identified three main conceptualisations of consent in the academic literature including 1) an internal state of willingness, 2) an act of explicitly agreeing to something, and 3) behaviour that someone else interprets as willingness (Muehlenhard et al. 2016). One model of sexual consent that has been emphasised as relevant for consent education is the affirmative model of consent, or "yes means yes" (Mueller and Peterson 2012; Beres 2014). The affirmative model of consent emphasises the second conceptualisation described by Muehlenhard et al. (2016), with the need for explicit consent to be sought by the initiator of the sexual contact (Muehlenhard et al. 2016). This model emphasises the need for clear, enthusiastic verbal communication and for consent to be obtained free of pressure or coercion (Beres 2014).

The majority of the previous research on young people's understandings, attitudes and experiences of negotiating sexual consent has been undertaken with university-aged, heteronormative, and ethnically/racially homogenous populations as a response to concerns about sexual violence (e.g., to inform sexual violence prevention strategies) (Muehlenhard et al. 2016; Righi et al. 2019; Willis, Blunt-Vinti, and Jozkowski 2019). However, there has been a recent shift towards focussing on consent understanding and practices amongst adolescents, in part due to high rates of teenage dating violence and non-consensual sex experienced amongst contemporary adolescents globally (Fisher CM et al. 2019; Ngo et al. 2018). Of particular concern, is the perception that these non-consensual and violent behaviours are becoming normalised and accepted in some adolescent relationships (Hlavka 2014). Experiences of dating and sexual violence and unwanted sexual activity are distressing and the resulting trauma can have profound impacts on an individual's mental health and wellbeing in the short and long term (Campbell, Dworkin, and Cabral 2009; Bliss 2022). There are also broader consequences of experiencing sexual violence, including exposure to sexually transmissible infections (STIs), long-lasting impacts on the ability to form trusting relationships in the future, and an increased risk of unhealthy coping behaviours such as substance use (Decker, Silverman, and Raj 2005; Foshee et al. 2013; Basile et al. 2006). Thus, there is an urgent need for strategies to support adolescents to understand, communicate and navigate consent during sexual encounters.

Recent research with young people in Western settings about consent knowledge demonstrates that adolescents are able to provide a definition of consent, often reflecting the affirmative consent model (Righi et al. 2019; Holmström, Plantin, and Elmerstig 2020). While this demonstrates knowledge of consent, further exploration is required to understand how young people apply consent in real life, as there is evidence that high school students from US and European settings have varying beliefs about which verbal and nonverbal cues constitute

consent (Righi et al. 2019; Bindesbøl Holm Johansen, Pedersen, and Tjørnhøj-Thomsen 2020). Research with young adults and adults also demonstrates that relational and contextual factors, such as the length of a relationship (e.g., long-term or short-term), strongly influence the ability to and experiences of navigating and identifying consent (Righi et al. 2019; Willis, Murray, and Jozkowski 2021). However, there has been limited exploration with adolescents about the factors that enable or impede communication about consent. Further, Javidi and colleagues (2020) noted the need to explore the views of adolescents with different sexuality education experiences on perceptions of affirmative consent, to determine whether sexuality education can influence affirmative consent beliefs (Javidi et al. 2020). When considering the evidence that young people have discrepant understanding of consent cues (Righi et al. 2019; Bindesbøl Holm Johansen, Pedersen, and Tjørnhøj-Thomsen 2020) and that widespread consent education is warranted (Chrysanthos 2021; Kallios 2021), additional research on young peoples' current sexuality education experiences concerning consent is essential to identify areas of improvement and the desired depth and content young people seek about this topic.

1.4.3 Gender identity development and the influence of gender norms

Unlike sex, which is thought to be biological in nature, gender is considered a social construct comprised of norms, beliefs, and behaviours that are considered either masculine or feminine. Reflecting the social nature of gender, associated norms and behaviours attributed to masculinity or femininity evolve over time and vary across different socio-cultural settings (Diamond 2013; Kågesten et al. 2016). Norms associated with masculinity and femininity are referred to as 'gender norms' or 'gender stereotypes', and are associated with the behaviours, roles, and responsibilities considered appropriate for men and women (Pulerwitz et al. 2019).

Adolescence is a particularly important time for the development of gender identity, in part due to pubertal development resulting in secondary sexual characteristics, which brings

concerns of sexuality and gender to the forefront of an adolescent's mind (Kroger 2006). During this time gender has a strong influence on interactions within interpersonal relationships, with an increasing focus on engaging with mixed-gender friendship groups, and is a contributing factor to certain health behaviours and outcomes such as higher rates of reckless driving and substance use in young men (Norona, Preddy, and Welsh 2016; Duangpatra, Bradley, and Glendon 2009). Exposure to certain gender norms and expectations has been shown to impact on a range of adolescent health and educational outcomes, for example, girls raised within families that model more egalitarian values typically do better at school compared to those raised within more 'traditional' gender-differentiation households (Galambos, Berenbaum, and McHale 2009).

Further, restrictive norms and related gender attitudes contribute to ongoing gender inequity experienced across the life course. While gender inequity is detrimental for all genders, girls and gender-diverse people are disproportionately affected (Heise et al. 2019). Gender inequality has been associated with increased substance use and violence, and mental health problems for boys and men (Santana et al. 2006; Heise et al. 2019), whereas this inequity contributes to barriers and negative outcomes for girls and women across socio-ecological levels of health, such as reduced access to education and employment opportunities (Grown, Gupta, and Pande 2005). Specific to the Australian context, gender inequity continues to be pervasive. The 2021 Global Gender Gap Index, which is designed to measure gender equity across four dimensions (economic participation and opportunity, educational attainment, health and survival, and political empowerment), placed Australia in 50th position out of 156 countries, compared to a ranking of 44th in 2020 (WEF 2021). More broadly, this gender inequity is reflected in the prevalence of gender-based physical and sexual violence (Health and Welfare 2021), and discrimination and differential economic opportunities available to

girls and women (e.g., overrepresentation of women in casual and part-time work) experienced in Australia (Workplace Gender Equality Agency 2020).

Across cultures, gender norms underpin ideas about how males and females should interact with regard to sexual behaviour and expression, also known as sexual scripts (see note on language section) (Simon and Gagnon 1986). Sexual script theory posits that femininity is associated with sexual passivity and this is often reinforced by family and peers who discourage sexual exploration and expression of girls, including self-pleasure (Goicolea et al. 2012). Conversely, boys are encouraged to explore their sexuality and express their sexual prowess (Heise et al. 2019), with greater approval of masturbation, pleasure, and multiple sexual partners (Endendijk, van Baar, and Deković 2020). This endorsement of heterosexual male sexuality is also associated with an immense pressure to be sexually assertive and experienced (Blum, Mmari, and Moreau 2017; Ragonese, Shand, and Barker 2019).

There are gendered consequences of these traditional sexual scripts on sexual relationships, and subsequent sexual health and wellbeing. The pressure for men to be sexually experienced can contribute to engagement with risk behaviours (e.g., reduced condom use and increased exposure to STIs) and can have negative impacts on mental wellbeing when these expectations are not desired or met (Santana et al. 2006; García-Moreno et al. 2015). On the other hand, for women, these scripts contribute to an environment where sexual violence may be condoned, and increase the risk of coercive relationships and difficulties negotiating contraceptive use (Bowleg, Lucas, and Tschann 2004; Krahé 2012). Notably, among sexuality-diverse and/or gender-diverse individuals, sexual scripts appear more flexible (e.g., less informed by the traditional ideas of male dominance and female passivity) (Beres, Herold, and Maitland 2004; McKenna, Roemer, and Orsillo 2021). In fact, in previous research in the United States (McKenna, Roemer, and Orsillo 2021), identifying as non-binary predicted the likelihood of an individual engaging in verbal consent communication. It has been argued that

this may be due to a lack of sexual scripts available to gender-diverse individuals (McKenna, Roemer, and Orsillo 2021).

While gender norms and heteronormativity can be harmful to all individuals regardless of gender or sexuality; trans and gender-diverse and sexuality-diverse young people must navigate these pervasive norms and expectations while developing their identity in a landscape that may lack appropriate and relevant information and support (Hobaica and Kwon 2017). There are several barriers that LGBT+ young people have identified for achieving positive sexual health including lack of access to inclusive information that is reflective of gender- and sexuality-diverse young peoples' experiences, limited safe spaces to discuss these experiences, lack of and perceived lack of relevant services (Bradford et al. 2019; Waling, Bellamy, et al. 2020; Fisher et al. 2022). Young people have expressed issues of homophobia and transphobia in schools and the barriers that need to be addressed to combat these harmful attitudes (Ullman 2015). In particular, young people have expressed support for inclusive education as an opportunity to improve health and wellbeing outcomes for LGBT+ youth (Hobaica and Kwon 2017; Waling, Fisher, et al. 2020).

In recognition of the known impact of gender on health and wellbeing and adolescence as a critical time for the establishment of gender attitudes (Chandra-Mouli et al. 2017), gender-transformative approaches and adolescent programmes challenging gendered attitudes have emerged over the last decade in high- and low-middle-income settings (Jewkes, Flood, and Lang 2015; Levy et al. 2020; Plourde, Thomas, and Nanda 2020). Further, there is a growing evidence base demonstrating that health interventions for adolescent boys and young men that are informed by and focus on gender can support the development of social skills (Plourde, Thomas, and Nanda 2020). When applied in sexuality education, this gender-transformative or gender-informed approach can shift attitudes that contribute to gender inequity, and potentially improve sexual health outcomes (e.g., lower rates of unintended pregnancy) (Haberland 2015).

Collectively these studies highlight the critical importance of adopting gender-sensitive approaches to improving adolescent sexual and reproductive health and wellbeing.

1.5 School: a key social learning environment for adolescents

A large portion of an adolescent's social development typically occurs within formal educational settings, particularly in high-income countries, which usually require adolescents to stay in school until at least 15 years of age. Thus, prevention and intervention approaches for a range of adolescent health and wellbeing outcomes are often facilitated within schools. For example, school-based interventions promoting positive relationships between peers and teachers have been associated with a decline in risky behaviours among secondary school students (e.g., 16 years), such as substance use (Benson 2002; Bond et al. 2007; Bowring AL et al. 2018; Bundy et al. 2018). Additionally, school is an opportune place to promote peer connections and positive health behaviour, and is another context where students build skills in emotional regulation (Sawyer et al. 2012). In their review of school-based interventions in high- and low-middle-income settings, Shackleton and colleagues (2016) identified the key attributes of the school ethos that have been shown to positively influence health behaviours, including sexual health, violence, and substance use. These attributes include positive student-teacher relationships, a strong student connection to school and the rules, and an orderly physical environment (Shackleton et al. 2016).

1.5.1 Comprehensive sexuality education

Adolescent sexual health is commonly supported within the school setting through sexuality education, which is a standard part of secondary school curriculum in many countries. Historically, there has been an emphasis on the physical aspects of and risk associated with sexual intercourse (abstinence, pregnancy, STIs, sexual partners, frequency of sexual intercourse) in both research and education (Goesling et al. 2014). The content included in

school-based sexuality education is greatly influenced by the social and cultural context in which the school exists, which may pressure educational institutions to use abstinence-based education and risk-aversion models. Although abstinence-based approaches are funded and implemented across the world, there is evidence that these approaches have either no effect or potentially detrimental consequences for adolescent sexual health (Kirby 2002; Bennett and Assefi 2005; Trenholm et al. 2008; Manlove, Fish, and Moore 2015).

However, adolescents desire the inclusion of information and support on the socio-emotional aspects of sexual health (e.g., love and sexuality diversity) which has been reiterated by adolescents across different contexts (Giordano M and Ross A 2012; Macintyre, Montero Vega, and Sagbakken 2015; Johnson B et al. 2016; Hogben et al. 2017). Reflective of this need is the finding that young adults often feel ill-equipped to navigate their first relationships, in part due to minimal communication from schools and parents around how best to achieve a healthy relationship (Weissbourd et al. 2017a).

Holistic approaches to sexuality education that encompass social and emotional elements of sexual health and wellbeing are now recognised as imperative for adolescent knowledge and skill development. Comprehensive sexuality education (CSE) is considered the gold standard, and is founded on a human rights approach, with a focus on the empowerment of children and young people (UNESCO 2015). This approach embodies culturally appropriate and age-relevant information that is accurate, realistic, and scientific and encompasses life skills to make conscious relationship choices (UNESCO 2009). Most critically, in a number of high- and low-middle-income country settings provision of CSE has been shown to result in improved knowledge and self-esteem among adolescents, positive changes in attitudes regarding gender and social norms and increased self-efficacy (Haberland 2015; UNESCO 2015; Goldfarb and Lieberman 2021). All of these outcomes contribute to adolescents' ability

to develop and engage in healthy relationships with peers, and romantic and sexual partners. While there is evidence for the effectiveness of CSE programmes, perceptions from students on desired topics for inclusion in sexuality education (e.g., healthy relationships and sexual pleasure) requires further exploration, particularly outside of the United States (Pound et al. 2017). Further, existing research on this topic is limited by retrospective assessment of student experiences and therefore recall bias, as it is generally undertaken after they have completed schooling. Research with students directly following the implementation of sexuality education is needed to provide high quality evidence on student perspectives and to enable programmes to continue to be adapted to the changing social landscapes that young people face.

1.6 Sexual health research and sexuality education in Australia

Sexual health attitudes, behaviours and outcomes of adolescents in Australia have evolved alongside the changing world, with greater access to sexual health information, social media, and STI testing likely affecting these changes in sexual health (Fisher et al. 2020). The National Survey of Australian Secondary Students and Sexual Health has reported on secondary students' knowledge and sexual behaviours since 1992 (Fisher and Kauer 2019). This fundamental survey has shed light on age-related changes of sexual health practices among adolescents in grades 10-12 (ages 15-18 years) (Fisher CM et al. 2019; Fisher et al. 2020). For example, there is an age-related increase in the prevalence of oral and penetrative sexual behaviours amongst female and male students from grade 10 to 12. An evaluation of trends from the commencement of this survey until the most recent version in 2018, has demonstrated some promising findings such as an increase in general STI knowledge, and continuation of high condom use amongst secondary students (Fisher and Kauer 2019). However, adolescents and young adults (aged 15-29 years) continue to report the highest notifications of chlamydia and gonorrhoea in Australia (Kirby Institute 2018). In addition,

among sexually active students surveyed in 2018, 16 percent of males and 37 percent of females reported experiences of unwanted sex (Fisher CM et al. 2019).

In Australia, all adolescents are entitled to learn about sexuality and relationships as an important area of development (Mitchell et al. 2011). The recent National Women's Health Strategy acknowledges that adolescence is a critical time for education and awareness around resilience, respectful relationships, and sexual and reproductive health (Department of Health 2018). Further, the recent implementation of the Australian National Curriculum (ACARA 2016) includes sexuality education, namely in Health and Physical Education under the content strand Personal, Social, and Community Health. This national curriculum has been thoroughly scrutinised by experts and academics and has consistently been found to be vague, with no explicit guidance on the depth of information essential or which topics are compulsory (Collier-Harris and Goldman 2017; Ezer et al. 2019). A critical discourse analysis on the curriculum was recently conducted by Ezer and colleagues (2019), who noted the most recent version (Version 8.3) has shifted from a risk-based approach to a strengths-based orientation with a greater focus on learning how to handle different experiences (Ezer et al. 2019). While this was a promising finding, it was also found that the curriculum is predominantly a framework that lacks specificity, which can result in inconsistency in the content and depth of what students are taught across schools and jurisdictions in Australia.

1.6.1 Teachers are at the forefront of sexuality education

In Australia, school students have stated that sexuality education is a trusted information source (Mitchell et al. 2014), and many parents endorse the inclusion of this education in schools (Kantor and Levitz 2017; Burns and Hendriks 2018). Although there is agreeance amongst health teachers that sexuality education should start in primary school and cover topics expanding beyond reproductive biology (e.g., negotiation skills and respectful

relationships) (Smith et al. 2011), teachers face a number of barriers that impede their ability to teach about a broad range of sexual health topics.

Common barriers that influence teachers' confidence and teaching ability include limited knowledge, time constraints within the curriculum, limited teaching resources, and lack of institutional support (Mitchell et al. 2011; Smith et al. 2011; Duffy et al. 2013). Beyond these barriers, there has been a lack of pre-service and in-service teacher training evaluations related to sexuality education curriculums (e.g., (Wight and Buston 2003)). Recent training evaluations, on specific curriculum (e.g., (Burns and Hendriks 2018)) and broader teacher training experiences (e.g., (Eisenberg et al. 2010; Carman et al. 2011)), have emphasised the importance of teacher training in increasing confidence and skills needed to facilitate sexuality education. While there is evidence of the benefits of teacher training in building teachers' capabilities, there has been minimal research on which content of sexuality education training is highly valued as well as the topics that teachers require the most support on. Identifying these topics would provide guidance on where and how to deliver additional support to help teachers deliver comprehensive sexuality education curriculum.

1.6.2 The South Australian context

Sexuality education in South Australia, like other states and territories, has been heavily swayed by the political and social climate of the time (Talukdar, Aspland, and Datta 2013). Similarly influential, are the different institutions (i.e., religious, independent, government schools) that encompass the educational landscape in South Australia. It is a requirement of South Australian's schools to provide sexuality education, however the curriculum and content can be altered to reflect each school's values and needs, which can lead to a diverse range of educational experiences for students (Talukdar, Aspland, and Datta 2013; Ezer et al. 2019).

SHINE SA is the leading body of sexual health services for young people in South Australia. This organisation produces a sexuality education curriculum in addition to facilitating training on the curriculum to teachers and school staff. When first establishing a sexuality education programme in response to increased rates of STIs and teenage pregnancy in the early 2000s (Shannon and Smith 2015), the programme was met with backlash and media and political attention. The then 'SHARE' programme as it was called was painted as a means to expose children to explicit material and encourage the sexualisation of children, although the intent was to address the impact of the young people's social world (e.g., gender stereotypes) on sexual health decision making (Johnson 2006; Gibson 2007). A number of evaluations were conducted during the early years of this programme (Dyson S and Fox C 2006; Johnson 2006), which produced supportive evidence, with increases in teacher competence and improvements in students' confidence to prevent STIs and say no to unwanted sex.

Despite initial backlash, SHINE SA have continued to implement and further develop sexual health curriculum for South Australia schools. The initial educational programme has evolved into the rebranded 'Relationships and Sexual Health Programme', which aligns with the topics and goals of comprehensive sexuality education (UNESCO 2015). Previous qualitative research involving students that participated in the Relationships and Sexual Health Programme demonstrated a desire to learn more in-depth information on gender diversity, violent relationships, love, and starting relationships (Johnson B et al. 2016; Johnson et al. 2017). While this is reflected internationally (refer to section 1.5), information about the specific content and depth that young people desire is missing. This is an important gap that requires exploration by further research to ensure the sexuality education curriculum is relevant and reflective of contemporary lives of adolescents and their needs.

1.7 Summary

The period of adolescence continuously evolves alongside the social world, and consequently, so do the opportunities and challenges young people engage with regarding their sexuality. Relationships across different contexts (family, peers, romantic and sexual encounters), and the sense of belonging and connectedness these relationships bring, are highly influential on adolescent sexual health and wellbeing. Previous research demonstrates the need for holistic and comprehensive sexuality approaches to support young people's sexual health. This includes discussion of the social and emotional aspects of interpersonal relationships, but there remain gaps in understanding the best ways to facilitate this in comprehensive sexuality education. In particular, youth voices are missing from research on the desired content and depth of these topics. Investigating contemporary young people's experiences, understanding of healthy relationships and consent, and the needed content of these topics in sexuality education are critical for research and programme redevelopment to ensure that targeted programmes and interventions reflect their social worlds and developing sexuality.

In summary, the applicability of social connectedness and interpersonal relationship factors as an approach to support adolescent sexual and reproductive health shows promise but further exploration is needed to consider outcomes related to sexual wellbeing (e.g., autonomy). The relevance and acceptability of socio-emotional topics in CSE by students and teachers also require investigation, including evaluations directly following programme implementation. Further, young peoples' conceptualisations of healthy relationship qualities and the applicability of the affirmative consent model in real life situations are an important area for future research, including discussion on current and desired support and depth on these topics across their social environments. Considering the gaps in the literature, five research questions and five aims are considered in this thesis.

1.7.1 Broad research questions

1. How effective are school-based programmes that promote social connectedness in improving adolescent sexual and reproductive health outcomes? (corresponds to Aim 1)
2. To what extent do secondary students value the inclusion of socio-emotional topics in sexuality education? Has interest in these topics changed over time? (corresponds to Aim 2)
3. How could sexuality education training for secondary teachers be improved? (corresponds to Aim 3)
4. How do young people conceptualise healthy relationships and consent? (corresponds to Aims 4 and 5)
5. How can sexuality education better support young people to navigate their interpersonal relationships and sexual consent? What approaches, content, and depth are needed? (corresponds to Aim 4 and 5)

1.7.2 Aims

This thesis comprises of five aims, incorporating quantitative and qualitative methodologies to provide in-depth, high quality evidence.

Aim 1. To systematically review the evidence from high-income settings about the impact of school-based interventions to promote connectedness to improve adolescent sexual and reproductive health and wellbeing. (Chapter 2)

Aim 2. To describe student perspectives of a sexuality education programme in South Australian schools between 2006 and 2017, drawing particular attention to changing topics of importance. (Chapter 3)

Aim 3. To describe teacher experiences of sexuality education training provided by South Australia's major sexual and reproductive health organisation. (Chapter 4)

Aim 4. To explore adolescents' understanding and conceptualisation of healthy relationships, including peer, family, and intimate relationships. (Chapter 5)

Aim 5. To explore adolescents' understanding of consent and how different contextual factors contribute to navigating and identifying consent. (Chapter 6)

CHAPTER TWO: A Systematic Review of School-based Programmes to Improve Adolescent Sexual and Reproductive Health: Considering the Role of Social Connectedness (PUBLISHED)

2.1 Preamble

This chapter contains the first study of the thesis, which comprises a systematic review of 18 studies exploring school-based programmes that include a component of social connectedness to understand their impact on adolescent sexual and reproductive health outcomes. This review provides important foundational evidence for the other chapters in this thesis demonstrating the importance of interventions that focus on strengthening relationships with individuals and institutions in an adolescent's social environment to support and improve sexual and reproductive health outcomes. This approach was selected as there was evidence that social connectedness interventions can support academic achievement and mental health in school students (Bond et al. 2007), yet there has been limited synthesis of evidence on the application of this approach for sexual and reproductive health.

This chapter has been published in *Adolescent Research Review* and is available in publication format in Appendix 4.

2.2 Statement of authorship

Statement of Authorship

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Principal Author

Name of Principal Author (Candidate)	Sophie GE Kedzior		
Contribution to the Paper	Conceptualised research question, conducted data collection (screening and extraction) and analysis, wrote manuscript, acted as corresponding author.		
Overall percentage (%)	70%		
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	8/11/2021

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 in 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.

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Contribution to the Paper	Assisted with screening and data collection, contributed to manuscript drafting and editing.		
Signature		Date	30/11/2021

A Systematic Review of School-based Programmes to Improve Adolescent Sexual and Reproductive Health: Considering the Role of Social Connectedness

(Publication presented in Appendix 4)

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2.3 Abstract

Background: Schools are an important source of information about sexuality, but programmes that focus on promoting knowledge alone generally have limited impact on sexual health. Schools also provide a space for relationship and social skill development, which are critical for social connectedness or a sense of belonging. Enhancing social connectedness among adolescents has been associated with improved mental health, but whether this is a beneficial strategy for sexual health is unclear. The aim of this systematic review was to determine the impact of school-based programmes that promote social connectedness on adolescent sexual and reproductive health.

Methods: Following a search of major databases, 18 studies of ten distinct programmes were identified.

Findings: Overall, improved condom use, delayed initiation of sex, and reduced pregnancy rates were demonstrated. Programme effectiveness was influenced by ethnicity and gender, for example, greater improvements in condom use were often reported among African American students. Programmes that were most effective incorporated multiple constructs of social connectedness, included social skill-building and had a sustained intensity.

Conclusion: Future research should examine gender- and culture-sensitive ways to promote social connectedness, and the optimal programme intensity. This review provides promising evidence that programmes that promote multiple aspects of connectedness can improve adolescent sexual and reproductive health.

Key words: Social connectedness, Adolescent health, Sexual and reproductive health, Interpersonal relationships, Belonging

2.4 Introduction

Contemporary conceptualizations of sexual and reproductive health encompass not only biological processes and associated diseases, but also social, emotional and spiritual aspects of relationships that influence sexual outcomes across the lifespan (Wellings and Johnson 2013). For adolescents, however, discourses surrounding sexual and reproductive health have generally focused on reducing the risk of sexually transmissible illnesses (STIs) and teenage pregnancy, by promoting risk-aversion and abstinence-based education. Only recently have discourses around adolescent sexual and reproductive health changed to more holistic and positive approaches, which reflect contemporary conceptualizations of sexual and reproductive health.

Relationships are at the core of sexual health, and have an influence on social norms, attitudes, knowledge, and behaviour. A range of interpersonal relationships, including family, peer and school, are known to be influential for adolescent health behaviours (Viner et al. 2012). Furthermore, relationships are an essential component of social connectedness or belonging, which is considered a fundamental human need. Social connectedness is a core component of Positive Youth Development approaches (Lerner, Lerner, Almerigi, Theokas, Phelps, Gestsdottir, Naudeau, Jelicic, Alberts, Ma, et al. 2005) and has been utilized in programmes to improve adolescent mental health. Enhancing social connectedness may also be an important strategy for promoting adolescent sexual and reproductive health, through strengthening of positive interpersonal relationships. This is the focus of the current review, which aims to synthesize the evidence on school-based programmes that seek to improve sexual and reproductive health outcomes through the inclusion of social connectedness approaches.

2.4.1 The Place of School in Health Interventions

It is well recognised that the social environment, including social norms promoted by peers and family, and relationships with individuals and institutions, are highly influential in promoting adolescent development, health and wellbeing (Bundy et al. 2018). For example, Bronfenbrenner's renowned Ecological theory describes the significance of interactions between individuals and their environment for health, wellbeing, and behaviour (Bronfenbrenner 1994).

In high-income countries, adolescents typically experience the majority of their social development in school environments. For some adolescents, school provides a safe environment to develop the academic and social skills needed to successfully transition to adulthood. School settings are an important site for the development of social relationships, and previous research demonstrates that school students are more likely to employ healthy behaviours if they feel connected to their school (Centers for Disease Control and Prevention 2009; McNeely and Falci 2004b). The successful implementation of school-based programmes that encourage engagement between adolescents, their peers, and teachers have been linked to reduced substance misuse, violence, and other antisocial behaviours (Bowring AL et al. 2018; Bundy et al. 2018).

Sexual and reproductive health is a core part of the curriculum in most high school settings, and is frequently implemented in health classes. However, evidence suggests that school-based programmes which focus on promoting sexual and reproductive health knowledge alone have limited impact on health outcomes like unplanned pregnancy (Lopez et al. 2016; Mason-Jones et al. 2016). While schools are a trusted source of guidance about sexuality and relationships, with almost ubiquitous access to the internet and social media, contemporary adolescents do not have a lack of access to information about sexuality and

sexual health outside of their school curriculum. As such, support may be required to navigate the multitude of, and often conflicting information, available, and to apply this knowledge to build sexual self-efficacy (Weissbourd et al. 2017b).

2.4.2 Transition from Risk-Aversion to Positive Adolescent Sexual and Reproductive Health

Sexual health is an important component of health and wellbeing. For some, adolescence marks the beginning of romantic and sexual relationships, signifying this as a critical time for sexuality development (Tolman and McClelland 2011; Manning et al. 2014b). During this transition, adolescents will often have to navigate complex peer-related decisions and develop capabilities for foresight and planning to manage unintended consequences such as pregnancy. However, the development of skills needed for adolescents to navigate and negotiate their sexual relationships has not always been incorporated into the education, services, and programmes they are provided.

Sexuality education in school is greatly influenced by the social and cultural context in which the school exists. Historically, sexuality education has been focused on abstinence-based education and a risk-aversion models (Bay-Cheng 2003). These approaches often focus on the physical and biological aspects of sex, including pregnancy, STIs, and reducing an adolescents' number of sexual partners and frequency of sexual intercourse (Goesling et al. 2014). Although considerable amounts of time and funding has been invested in these traditional approaches, they have limited impact on key sexual health outcomes (Lopez et al. 2016; Mason-Jones et al. 2016). A recent review noted that sexuality education and related research tends to embody two paradigms: (1) the conservative abstinence-based model previously mentioned, or (2) the non-conservative/liberal path (Roien Line, Graugaard, and Simovska 2018), often coined comprehensive sexuality education. Holistic and comprehensive approaches to sex education, acknowledging elements such as relationships, love, pleasure, sexuality, gender diversity, and

rights are critical and relevant for adolescents as they are developing their identity and pursuing relationships. In numerous studies in HICs and low-middle-income countries, adolescents have expressed the need for sexuality services and information to include these psychological and emotional aspects of sex (Braeken and Rondinelli 2012). For some students, these may in fact be considered the most important aspects of sexuality education (Hogben et al. 2017).

Healthy and positive relationships are strongly linked to sexual and reproductive health and positive wellbeing (Anderson 2013; Tharp et al. 2013). A recent increase in the investigation of enabling environments and empowerment (especially for girls) has taken shape in the field of adolescent sexual and reproductive health, as strategies for development of positive health and wellbeing. These approaches show promise, such as the established method of Positive Youth Development, which involves programmes that strengthen family and community support for youth development, help build life skills, communicate expectations for positive behaviour of youth, provides opportunities for recognition, and fundamentally empowers youth (Roth and Brooks-gunn 2003; Gavin et al. 2010). These programmes have been shown to promote adolescent sexual and reproductive health (such as decreased sexual risk taking and increased contraceptive use), as well as improve academic achievement and decrease levels of substance use and violence. Within the positive sexuality space there have also been investigations into particular individual attributes which help navigate sexual relationships and health. For example, studies by Hensel and Rostosky examining adolescent sexual self-concept and sexual behaviour found that higher levels of self-esteem, autonomy, sexual assertiveness, comfort, and openness were correlated with less risky behaviour as well as increased capacity for sexual satisfaction (Hensel et al. 2011). Thus, it is now well understood that much more than knowledge is needed to help adolescents have healthy relationships and positive sexual health experiences.

2.4.3 Social Connectedness as a Sexual Health Strategy

Previous research in adolescent health has demonstrated the complexities of adolescent development and how it spans beyond physical changes, like puberty, to include socio-emotional adaptations as well (Patton et al. 2016a). Adolescent and psychology-based literature has noted just how influential social connections are to ourselves, others, and environment, leading to social connection being considered a fundamental human need, critical for promoting health and wellbeing (Berkman et al. 2000). As adolescents develop independence, their range of connections will often expand rapidly, beyond family to include peers, and individuals in the school and wider community. Interactions across this social network can have an important influence on identity formation, including sexual identity, and provide opportunities to hone skills in decision making around health and relationships.

Considering the multitude of developmental changes that adolescence brings, having stable and supportive relationships can greatly assist students in navigating the changes that occur during this time (Allen and Kern 2017). In fact, different constructs of social connectedness have been associated with an array of positive health and wellbeing outcomes in adulthood (Carmichael, Reis, and Duberstein 2015). One study using data from the National Longitudinal Study of Adolescent to Adult Health investigated different constructs of social connectedness (family, peer, school), the degree to which it was experienced during adolescence, and the impact on health outcomes later in adulthood (Steiner et al. 2019). Notably for sexual health, school connectedness was associated with reducing multiple sex partners and STI diagnosis, while family connectedness was also shown to be protective of these outcomes in addition to protecting against intimate partner violence. This study also suggested a number of valuable and relevant conclusions to the current review, specifically that by promoting these factors (school and family connectedness) through preventative strategies involving the social ecology of adolescents, there is potential to promote overall health in adulthood. Although it is

clear that successful health prevention in schools need to involve all the levels of an adolescent's socio-ecological environment, how to appropriately enhance the feeling of social connectedness through these programmes is an area in need of more research.

A previous review demonstrated an association between social connectedness and healthier sexual and reproductive behaviour among adolescents (Markham et al. 2010). Social connectedness was found to be protective, specifically for delaying sexual initiation and preventing early sexual debut. Family and school connectedness was protective of early sexual debut, and partner connectedness was associated with an increase in condom and contraceptive use. While this review demonstrates an association between social connectedness and adolescent reproductive health outcomes, it is unclear whether programmes designed to improve social connectedness actually enhance these. Beyond this, it is also unclear whether social connectedness can be implemented successfully within school-based programmes to result in positive adolescent sexual health.

2.4.4 Current Study

To date, there are few reviews examining social connectedness as a health promotion and prevention strategy for sexual and reproductive health in adolescents. While there is evidence of using social connectedness in school programmes to improve mental health (Garcia et al. 2013), the focus of research on social connectedness and sexual health has predominantly been observational (Markham et al. 2010). The current review attempted to look beyond what has been shown in observational studies to include school-based programmes that either explicitly or theoretically integrated enhancing social connectedness in their approach. The review focuses on the impact of school-based programmes in particular, as adolescents typically have most of their social development in school.

2.5 Methods

The review was registered with PROSPERO prior to commencement (registration number: CRD42019125261). The following electronic bibliographic databases were searched until July 2019: PubMed, CINAHL, Embase, PsycINFO, ERIC, and Scopus. The search strategy included terms related to the population (adolescents, teen), the programme (school-based, connectedness, relationship building), and the outcomes (reproductive health, sexual health, empowerment, self-esteem, sex*), with the use of Booleans and MeSH terms when appropriate (see Table 2.1 for example of terms used). Additional studies were retrieved by hand searching of reference lists of individual papers.

2.5.1 Eligibility Criteria

English language studies were considered eligible if they met the following criteria: (a) focused on adolescents (aged 10-19 years) attending primary or secondary school in high-income countries; (b) evaluated a school-based programme that involved children receiving lessons/training to enhance any aspect of social connectedness to their social environment; (c) included a control/comparison group in the form of no programme or a pre-existing programme; and (d) reported on at least one outcome related to sexual and/or reproductive health.

For the purpose of this review, the conceptualization of social connectedness was derived from the outline by Barber and Schluterman (Barber and Schluterman 2008), who described the following two key elements of social connectedness:

1) a relational component, that encompasses "the connection or bond that youth experience with socializing agents"; and
2) an autonomy component, that depicts the "extent to which youth feel that their individuality is validated or supported by their socialization agents".

Programmes that considered one or both of the above components were considered for inclusion. This was operationalized as any programmes that included a focus on promoting positive relationships, bonding, a sense of belonging, and/or being cared for, between adolescents and their family, peers, partners, school community and/or the wider community. Programmes could target specific constructs of connectedness (e.g., school connectedness, described as feeling like part of the school and being cared for by the school), or multiple constructs (e.g., bonding with family, peers and the school), and be facilitated by teachers, peers, parents, mentors and/or out of school professionals (e.g., counsellors).

The following study designs were included: randomized controlled trials, non-randomized controlled trials (including quasi), controlled before-after (pre-/post-) interrupted time series, and programme evaluations. Programme evaluation without a control group were eligible if they reported on outcomes pre- and post-programme implementation.

2.5.2 Study Selection and Data Extraction

Titles and abstracts of studies retrieved using the search strategy and those from additional sources (mainly systematic reviews) were screened independently by two review authors (SK and ZL) using the COVIDENCE software ("Covidence Systematic Review

Software, Veritas Health Innovation, Melbourne, Australia"). The full texts of these studies were retrieved and independently assessed for eligibility. After confirming eligibility, multiple review authors (SK, ZL, JM, and TO) then extracted data independently on key characteristics of the programme (e.g., duration, intensity, connectedness constructs) as well as primary and second outcomes of programme effectiveness. Any disagreements concerning eligibility or data were resolved through discussion with the inclusion of a third reviewer where necessary.

2.5.3 Quality assessment

The risk of bias in each study was assessed using standard tools developed by the Cochrane Collaboration for assessing randomized controlled trials (Higgins JPT and Green S 2011) and non-randomized studies (Cochrane Effective Practice and Organisation of Care and (EPOC) 2017). In addition to these standard tools, the authors also assessed qualitatively the degree to which there was a pedagogical or theoretical basis to the programme to understand the extent to which programmes draw on relevant theories that align with constructs of connectedness, as proposed by Barber and Schluterman (Barber and Schluterman 2008).

Table 2.1: Basis of the search terms utilised and adapted to each database

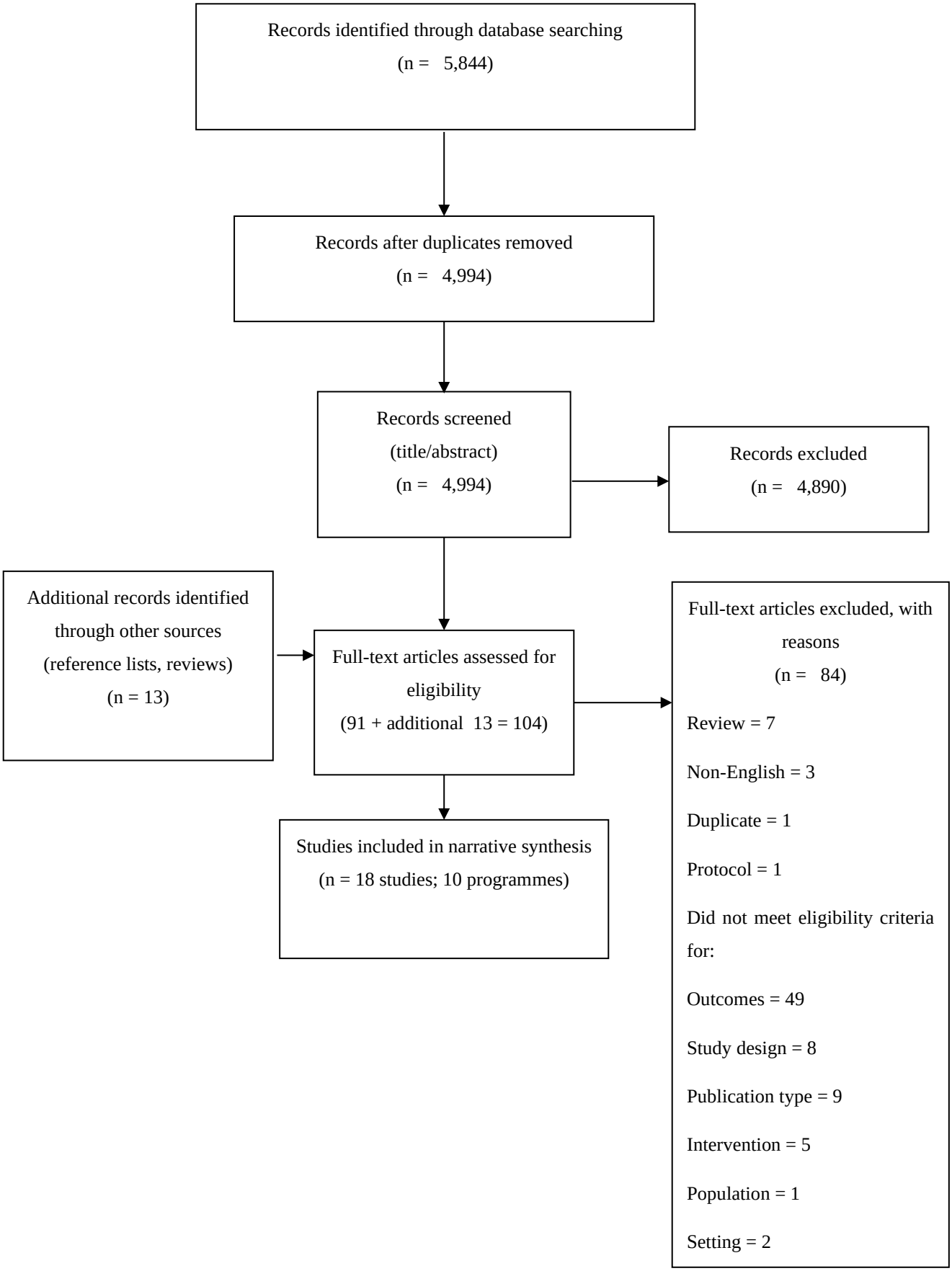
Population	Teen* OR adolescen* OR high school OR secondary school OR middle school OR senior school
Intervention	Intervention OR program* OR prevention OR school program OR school-based intervention **AND** Connectedness OR bonding OR belonging OR affiliation OR sense of belonging OR relationship building OR interpersonal relation*
Primary Outcomes	Health risk behavio* OR risk taking OR risk behavio* OR violence OR delinquency OR alcohol OR injury OR substance use OR reproductive OR sexual OR adolescent sexual and reproductive health OR sex* OR contraception OR sexual intentions OR STIs
Secondary Outcomes	Empowerment OR communication skills OR negotiation skills OR power OR self-esteem OR equality OR equity OR agency OR autonomy OR relationship quality OR relationship satisfaction OR decision making OR confidence

Combinations of the terms above were used in the following format: Population AND Intervention AND Primary Outcomes OR Secondary Outcomes. Note: the intervention column had two subsections that were combined (type of intervention AND focus of intervention).

2.6 Results

After duplicates were removed, 4,994 citations underwent initial title and abstract screening (Figure 2.1). From these, full-texts were assessed for 102 citations; this included 13 identified through reference lists and review papers. Overall, 18 studies met the inclusion criteria, these assessed 10 separate school-based programmes (Aarons et al. 2000; Allen et al. 1994; Allen and Philliber 2001; Allen, Philliber, and Hoggson 1990; Flay et al. 2004; Graves et al. 2011; Hagen et al. 2012; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991; Jorgensen, Potts, and Camp 1993; Lonczak et al. 2002; Moberg and Piper 1998; Patton et al. 2003; Patton et al. 2006; Patton et al. 2000; Piper, Moberg, and King 2000; Schanen et al. 2017). The most common reason for excluding studies was that they did not report a sexual or reproductive health outcome (the primary reason in 58% of excluded citations).

Figure 2.1: PRISMA flow diagram



2.6.1 Description of included studies

Family and/or peer connectedness were the two most common aspects of social connectedness examined, present in seven programmes (Aarons et al. 2000; Allen, Philliber, and Hoggson 1990; Flay et al. 2004; Graves et al. 2011; Hawkins et al. 1999; Jorgensen 1991; Moberg and Piper 1998) (see Table 2.2). Only three studies focused on a single construct, either school (Harrington et al. 2001; Patton et al. 2006) or family (Graves et al. 2011) connectedness, with the remaining studies targeting a combination of family, peer, partner, school and/or community connectedness activities. In all studies connectedness was an element of the programme rather than the main focus. Subsequent searches for further information to ascertain the amount of time spent on initiatives relevant to social connectedness, only detailed information about the curriculum for four programmes only was obtained. Of these, only one reported the proportion of lesson time dedicated to social connectedness (Graves et al. 2011), which comprised of 1.3 hr.

The nature of the programmes varied widely, as did the duration and intensity of each (described in detail in Table 2.2). In seven studies, the programme had an explicit focus on improving sexual and reproductive health, of these, three (Aarons et al. 2000; Hagen et al. 2012; Jorgensen 1991) promoted abstinence from sexual activity, three focused on skill building to avoid risky behaviours (Flay et al. 2004; Graves et al. 2011; Moberg and Piper 1998), and one focused predominantly on changing perceptions and attitudes towards sex (Harrington et al. 2001). Of the remaining three studies that did not focus on sexual and reproductive health, one (Allen and Philliber 2001) aimed to promote youth autonomy, one (Hawkins et al. 1999) examined building cooperation skills and one (Patton et al. 2006) aimed to promote a more positive school social environment. Eight out of ten programmes identified were derived from a theoretical basis. The most common theories informing the programmes

were the Social Cognitive Theory (reported in (Aarons et al. 2000; Flay et al. 2004; Graves et al. 2011)) and the Social Development Model (Hawkins et al. 1999; Patton et al. 2006).

All except one study was undertaken in the United States (Aarons et al. 2000; Allen and Philliber 2001; Flay et al. 2004; Graves et al. 2011; Hagen et al. 2012; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991; Moberg and Piper 1998), the remaining study occurred in Australia (Patton et al. 2006). The sample size of included studies ranged from 52 to 1,637. Eight studies focused on students in 6^{th} to 8^{th} grades (Aarons et al. 2000; Flay et al. 2004; Graves et al. 2011; Hagen et al. 2012; Harrington et al. 2001; Jorgensen 1991; Moberg and Piper 1998; Patton et al. 2006), one on 5^{th} grade students (Hawkins et al. 1999) and one programme included students across grade levels (9^{th} grade – 12^{th} grade) (Allen and Philliber 2001). Most studies (90%) included mixed-gender samples (Aarons et al. 2000; Allen et al. 1994; Allen and Philliber 2001; Allen, Philliber, and Hoggson 1990; Flay et al. 2004; Hagen et al. 2012; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991; Jorgensen, Potts, and Camp 1993; Lonczak et al. 2002; Moberg and Piper 1998; Patton et al. 2003; Patton et al. 2006; Patton et al. 2000; Piper, Moberg, and King 2000; Schanen et al. 2017), majority (60%) of the studies also focused on a mixed-ethnicity cohort (Allen and Philliber 2001; Graves et al. 2011; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991; Patton et al. 2006), though two had a higher African American population (Aarons et al. 2000; Flay et al. 2004), one had a greater Caucasian population (Moberg and Piper 1998) and one programme focused on a predominantly Native American population (Hagen et al. 2012).

Outcomes reported could be categorized into 7 broad categories encompassing (a) contraception use, (b) intercourse (frequency or another outcome as defined by authors), (c) risk of adolescent pregnancy and birth, (d) rates of sexually transmissible infections (STIs), (e) attitudes, beliefs and knowledge about sex and reproductive health, (f) autonomy and (g) connectedness. The most common outcome category was intercourse, with 80% of

programmes reporting on one or more measurements relating to intercourse. Studies used a variety of assessment tools to measure each outcome, with little consistency reported between each study. For this reason, a meta-analysis could not be performed, and results are instead summarized narratively.

2.6.2 Quality of the included studies

Of the 10 programmes (18 studies) identified, five were quasi-experimental designs including pre- and post-test evaluations (Allen and Philliber 2001; Graves et al. 2011; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991), three were randomized controlled trials (Aarons et al. 2000; Flay et al. 2004; Patton et al. 2006), the remaining trials were either a quasi-randomized design (Moberg and Piper 1998) or programme evaluation with control (Hagen et al. 2012). The main risks of bias per programme are detailed in Table 2.2, and more detailed evaluations can be found in Figure 2.2.

Four studies were evaluated using the Cochrane Risk of Bias Assessment (Aarons et al. 2000; Flay et al. 2004; Moberg and Piper 1998; Patton et al. 2006) and 6 by the EPOC criteria (Allen and Philliber 2001; Graves et al. 2011; Hagen et al. 2012; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991). The most common risks of bias across studies and programmes were related to selection (Allen and Philliber 2001; Graves et al. 2011; Hawkins et al. 1999; Jorgensen 1991) and attrition (Flay et al. 2004; Hagen et al. 2012; Moberg and Piper 1998; Patton et al. 2006). Selection bias was a key concern arising from inadequate randomization and/or allocation concealment. Regarding random sequence allocation, six studies were rated as high risk (Aarons et al. 2000; Allen and Philliber 2001; Graves et al. 2011; Hagen et al. 2012; Hawkins et al. 1999; Jorgensen 1991), one as “unclear” (Moberg and Piper 1998) and three as low risk (Flay et al. 2004; Harrington et al. 2001; Patton et al. 2006). Whereas for allocation concealment, three were deemed high risk (Allen and Philliber 2001;

Graves et al. 2011; Jorgensen 1991), four as “unclear” risk (Aarons et al. 2000; Hagen et al. 2012; Hawkins et al. 1999; Moberg and Piper 1998) and three as low risk (Flay et al. 2004; Harrington et al. 2001; Patton et al. 2006). In all studies there was no blinding of either allocation or outcome assessment, there was also insufficient information regarding blinding therefore all studies were deemed at “unclear” risk for these categories.

Four studies were at high risk for attrition bias due to loss of follow-up and attrition between waves of data (20% - 60% loss) (Flay et al. 2004; Hagen et al. 2012; Moberg and Piper 1998; Patton et al. 2006), one study was rated low risk (Jorgensen 1991), and the remaining 5 studies were rated as “unclear” due to insufficient information being provided (Aarons et al. 2000; Allen and Philliber 2001; Graves et al. 2011; Harrington et al. 2001; Hawkins et al. 1999). Overall, programmes (Aarons et al. 2000; Allen and Philliber 2001; Flay et al. 2004; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991; Moberg and Piper 1998; Patton et al. 2006) were rated as low risk for bias attributed to selective reporting, one was “unclear” risk (Graves et al. 2011) and another was high risk due to missing data not allowing all outcomes to be reported on (Hagen et al. 2012).

Due to insufficient detail being provided, few studies could be assessed for potential bias related to blinding of students, personnel and outcome assessors, and other sources of bias. Regarding confounding factors, not all studies reported on or provided sufficient information for baseline characteristics. Of the primary studies that reported on baseline characteristics, the majority of characteristics (including household composition) were similar across treatment and comparison groups and if not they were appropriately investigated.

Table 2.2: Description of included programmes*

Programme Name (timeframe) (references) *= primary study	**Programme Details**	**Sample & Comparison**	**Connectedness Component and Properties**	**Reported Outcomes**	**Tools, Measurements & Scales**	**Main source of bias**
Combined: Postponing Sexual Involvement (PSI) and the Self Centre **(February 1996 – April/May 1997)**	<u>Strategy, Theoretical Basis</u> • Abstinence • Social Cognitive Theory <u>Aim:</u> enable students to postpone sexual involvement by improving their attitudes towards abstinence, self-efficacy to refuse sex, knowledge of reproductive health. <u>Intensity and Duration</u> • Phase 1: 7th graders, 3 reproductive health	<u>Sample</u> 7th grade students (follow up at end of 7th grade, beginning and end of 8th grade), from 6 Junior High Schools, majority of students were African American (84%)	Family and peer connectedness. Focused on: • Communication with parents and peers about sexuality • Teaching assertive responses to resist pressure to engage in sex	<u>Primary</u> • "Virginity" (age at first sexual intercourse) • Birth control use at last intercourse • Ability to refuse sex in relationships and brief encounters • Attitudes: toward postponing sex, delaying childbirth	Self-administered, 75-item questionnaire, adapted from previously validated instruments (Centres of Disease Control & Prevention core questionnaire, the Youth Risk Behaviour Survey, evaluation instruments from PSI and Self Centre programmes)	Adherence to the intervention 74% of girls and 73% of boys participated in 3/5 PSI sessions

(Aarons et al. 2000)	sessions of local curriculum, 5 sessions of PSI curriculum. Presented during regular 45min classes • Phase 2: 8th graders, same 3 reproductive health sessions, and booster sessions <u>Mode of Delivery</u> • Classroom curricula • Booster sessions: brown bag – informal voluntary group discussions of 1 topic per week for 8 weeks. • 8th grade assembly on STIs and consent • Contest for 8th graders	<u>Comparison</u> random assignment of schools to control condition, no further explanation provided		• Knowledge: birth control, of reproductive health services <u>Secondary</u> • Intention to have sex in the next 6 months • Beliefs about sexual activity of peers • Parent communication • Girlfriend/boyfriend communication		

Teen Outreach Programme **(4 year period – not specified)** (Allen et al. 1994; Allen and Philliber 2001; Allen, Philliber, and Hoggson 1990)	<u>Strategy/Theoretical Basis</u> • Developmental theory • Helper therapy <u>Aim:</u> to enhance students' sense of autonomy and relatedness. <u>Intensity and Duration:</u> • Classroom discussions occur once weekly throughout the academic year • Volunteer programme: minimum ½ hour per week for a year. <u>Mode of Delivery:</u> • Administered as part of the regular school curriculum (in class for credit)	<u>Sample</u> Students in 9th-12th grade (mean grade = 10th) <u>Comparison</u> The comparison group of students were closely matched on various background characteristics from the same schools.	Family, peer, partner, and community connectedness. Focused on: • Promoting autonomy and relatedness • Teaching students how to manage family relationships, close friendships and romantic relationships	<u>Primary</u> • Pregnancy (females and males)	Brief self-report survey. 1-item question about pregnancy	Selection bias arising from the methods used to select the comparison students through nomination by facilitators or intervention students.

	• Classroom-based discussions (group exercises, films etc.) • Volunteer work in community					
The Aban Aya Youth Project **(1994 - 1998)** (Flay et al. 2004)	<u>Strategy/Theoretical Basis</u> • Social development curriculum • Included Nguzo Saba principles (culturally based teaching methods) <u>Aim:</u> to teach cognitive-behavioural skills to build self-esteem, manage stress and anxiety, develop interpersonal relationships, resist peer pressure and develop related skills to avoid unsafe sexual behaviour. <u>Intensity and Duration:</u>	<u>Sample</u> 8th grade students from 12 Metropolitan Schools, 91% of schools were African American <u>Comparison</u> Students received a health enhancement curriculum of equal intensity	Family, peer and partner connectedness. Focused on: • Skills to develop interpersonal relationships • Skill building to promote problem solving and conflict resolution in interpersonal relationships	<u>Primary</u> • Sexual activity • Condom use	Self-reports: single-item scores for sexual behaviours. Measures were based on instruments previously used with inner-city populations and modified for grade 4 readability and cultural sensitivity through feedback of focus groups and piloting.	Attrition, there was an average turnover of 20% each year and students were not followed up.

	• 16-21 lessons per year in grades 5 through to 8 (4 years) <u>Mode of Delivery:</u> • Classroom-based • Two approaches to intervention: 1. The social development curriculum (SDC) 2. SDC plus school/community intervention (SDC+SCI) – formed a local school task force					

Smart Girls **(2003 – 2004)** (Graves et al. 2011)	Strategy/Theoretical Basis • Kirby's best practice guidelines • Bandura's Social cognitive theory Aim: promoting health behaviours to reduce the risk of teen pregnancy by teaching positive life skills Intensity and Duration: • 8 week curriculum Mode of Delivery: • Activity used varied depending on class size and time allotted • Classroom discussions, role-plays	Sample 7th grade female students from 17 public schools (pre-test, post-test, 6-month follow up) Comparison Every third participant with consent were pulled to form the control group. This group did not receive the curriculum or any other information	Family connectedness. Focused on: • Strengthening family connections • Developing decision making and assertiveness skills • Recognising qualities of a healthy relationship	Primary • "Level of sexual activity" • Frequency & types of contraception use Secondary • Social sexuality expectations • Personal/self-sexuality expectations • Perceived susceptibility • Parent-adolescent communication about sex and boys	Self-report 25-item Likert scales on a 5-point scale, included 9 multichoice questions to provide descriptions on "level of sexual activity" and frequency/type of contraceptive use. Social Sexuality Expectations scale (Cronbach's alpha = .67); Person/self sexuality expectations (Cronbach's alpha = .84); Perceived susceptibility scale (Cronbach's alpha = .58)	Selection bias due to inadequate randomisation method that could easily be manipulated

		regarding sexual responsibility				
Discovery Dating **(2002 – 2007)**	<u>Strategy/Theoretical Basis</u> • Abstinence based (Community Based Abstinence Culture Programme)	<u>Sample</u> 8th grade students from a rural tribal school, 93%	Partner and community connectedness. Focused on:	<u>Primary</u> • Number of pregnancies • Had had sexual intercourse	Online survey, which was pilot tested but did not have reliability and validity testing.	Attrition resulting in selective reporting of outcomes. 40.1% of the intervention group

(Hagen et al. 2012; Schanen et al. 2017)	• Culturally relevant programme • Ecological Framework <u>Aim:</u> to teach healthy relationships and encourage abstinence. <u>Intensity and Duration:</u> • Education presented in classroom twice weekly for 2 hours each session for one academic year. (total dosage = 72 hours) <u>Mode of Delivery:</u> • Strong mentor component (parent or other significant adult) • Native American guest speakers • Face-to-face interactions in classroom, after-school club, conferences	identified as Native American in the intervention group. <u>Comparison</u> Attended the public high school who did not attend the tribal middle school	• Developing healthy relationship skills • Developing personal agency and decision making skills • Enhancing community connectedness	• Age at first intercourse (missing data) • Number of partners (missing data) • Contraceptive use <u>Secondary</u> • Partner's age at first intercourse • Whether first intercourse was planned • Whether alcohol/drugs were used at first intercourse (missing data) • Whether intercourse were forced • If they were "glad" they started having sex • Resilience • Self-efficacy • Personal agency	Pregnancy Statistic Collection – centre reported number of pregnancies. Resilience scale: 15-item questionnaire using a 7-point Likert scale (internal consistency (α) ranging from .72 to .94); Generalised Self-Efficacy Scale: 10-item questionnaire, 4-point scale (Cronbach alphas (α) obtained ranging from .87 to .94); Behaviour Identification Scale: 25-item questionnaire to measure personal agency, respondents determine which of 2 options is	completed the behaviour survey.

	• Interactive learning activities, reflection opportunities • Summer camp (2-weeks – Native Dreams Camp)				"more like" the prompt - 1 option demonstrates higher level personal agency than other (internal consistency (α) is .85,)	
All Stars **(not specified – 1 year)** (Harrington et al. 2001)	<u>Strategy/Theoretical Basis</u> • Social learning theory <u>Aim:</u> to help students identify their ideal desired lifestyle & influence of their perceptions of risk behaviours (e.g., sex), increase students beliefs about peer norms and have students make personal commitments <u>Intensity and Duration:</u> • Programme specialist and teacher versions – same content but teacher	<u>Sample</u> 6th and 7th grade students from 14 middle schools in a Midwestern state <u>Comparison</u> 6 schools were allocated to control condition, no further details were provided.	Targeted school connectedness. Focused on: • Developing stronger feelings of attachment and acceptance to school	<u>Primary</u> • Sexual activity <u>Secondary</u> • Bonding	Self-report questionnaire; Sexual activity was assessed using the 10-item Adolescent Sexual Activity Index (ASAI) which measures the frequency of sexual intercourse and number of partners during the last 30 days (Coefficient alpha = .89. The test-retest correlation was r = .68.). Mediating variables (e.g., bonding) assessed with 43-item scale - half	Baseline outcomes not reported, therefore cannot ensure that differences in sexual activity were related to the programme

	version is divided into shorter sessions for home room periods. • Approximately 6 months of implementation <u>Mode of Delivery:</u> • Whole-classroom sessions, small group sessions outside of class, 1-on-1 sessions between instructor and student • Interactive; includes debates, games, general discussion, homework to increase interaction between students and parents				the items were written in the negative to avoid potential response bias. Bonding (9 items) pretest coefficient alpha = .77, posttest coefficient alpha = .79; Test-retest correlations were r = .61 for bonding.	
Seattle Social Development Project	<u>Strategy/Theoretical Basis</u> • Child skill development • Social development model	<u>Sample</u> 5th grade students (follow up at 18 and 21	Family, peer and school connectedness.	<u>Primary</u> • Had engaged in sexual intercourse • Pregnancy	Self-reported data from interviews. Sex questionnaire was completed as a separate	Selection bias, the schools were purposively selected by investigators to

(1985 – follow up 1993) (Hawkins et al. 1999; Lonczak et al. 2002)	Aim: to develop children's skills for involvement in cooperative learning groups and other social activities, without resorting to aggressive or other problem behaviours. Intensity and Duration: • Full intervention: 1st to 6th grade • Late intervention: 5th and 6th grades only. • When in 6th grade received 4 hours of training from project staff in skills to recognise and resist social influences • Participants in full intervention received programme for at least one semester in grade 1, 2,	years), from 18 Public Elementary schools serving high-crime areas Comparison received no special intervention	Focused on: • developing interpersonal problem solving skills with an emphasis on social interaction • promoting bonding to school by teachers • promoting bonding to family and school by training parents	• Birth • STDs • Age of sexual onset • Number of sexual partners • Condom use Secondary • Bonding to school	paper & pencil instrument and included one question per outcome (e.g., "how many sexual partners have you had in your lifetime?" (response choices: 0, 1, 2, 3, 4, 5, or 6 or more))	focus on students from poor families that live in high-crime neighbourhoods.

	3, or 4, and at least 1 semester in grade 5 or 6 Mode of Delivery: • Interactive teaching • Voluntary parent training classes: • 1st & 2nd grade: 7-session curriculum "Catch 'Em Being Good" • 2nd & 3rd grade: 4 session curriculum "How to Help Your Child Succeed in School" • 5th and 6th grade: 5 session curriculum "Preparing for the Drug (Free) Years"					
Project Taking Charge **(1989)**	Strategy/Theoretical Basis • Abstinence based Aim: to promote strong family values and	Sample 7th grade students (pre- and post- test; sister study	Family and peer connectedness. Focused on:	Primary • Knowledge: consequences of teen pregnancy; anatomy, sexuality & STDs	Self-administered questionnaire (pre and post). Relevant measure scales: 1. self-esteem - 10-item Rosenberg self-	Selection bias due to local teachers delivering the programme selecting which class would

(Jorgensen 1991; Jorgensen, Potts, and Camp 1993)	abstinence from sexual activity Intensity and Duration: • 6-week curriculum for 7th grade students in home economics class, as part of the normal school day • 3 parent-youth sessions Mode of Delivery: • Classroom-based	included a 6-month follow-up for 2 sites), from 3 sites targeting areas with high proportion low income families. Comparison A different home economics class at the same schools	• Promoting strong family values • Skills for adolescents to "take charge" of their relationships with parents and peers • Parent-child communication	• Clarity of sexual values • Sexual attitudes and intentions • Initiation of sexual intercourse Secondary • Self-esteem • Communication about sex with parents	esteem scale. 2. knowledge: consequences of teen pregnancy - 4-item test =average. 3. knowledge: anatomy, sexuality, STDs - matching exercise for anatomy & 15-item test = average score. 4. clarity of sexual values - 4-item Kirby, Alter & Scales (1979) scale. 5. Sexual attitudes & intentions (permissiveness) - 7 items analysed individually. 6. sex communication with parents: frequency & comfort - 4-item index	receive the intervention and which was the comparison.

					for mother, 4-item index for father.	
Healthy for Life Project **(not specified)** (Moberg and Piper 1998; Piper, Moberg, and King 2000)	Strategy/Theoretical Basis • Social influences model Aim: to equip young teens with the social competences, including peer pressure resistance skills, necessary to positively manage social situations in which high risk behaviours are expected by others. Intensity and Duration: • Sexuality issues were the primary focus during 16 class periods out of 4 core lessons • Age appropriate condition: 3 year period, ongoing programme	Sample 6th-8th grade students (follow up 9th grade), from 21 schools, majority of participants across groups were white. Comparison "usual programming", continued with whichever pre-existing curricula was in place at the	Family, peer, school and community connectedness. Focused on: • Developing social competencies, such as the ability to positively manage social situations (e.g., resistance skills)	Primary • Intercourse (lifetime & past month) • Frequency of condom use Secondary • "normative beliefs" – perception of sexual activity among peers • Perceived attitudes towards sexual intercourse of one's parents, peers and self	Self-report survey. Key questions for sexuality: past month & lifetime intercourse, frequency of condom use among sexually active teens, perception of the extent of sexuality activity amongst peers ("normative beliefs"), single items on perceived attitudes (approval/disapproval of having intercourse) of one's parents, peers, and self. Did not include sexual behaviour items until 8th grade - in surveys from 6th-10th	Attrition, for 9th grade students 80% provided data whereas 68% of the original 6th grade cohort provided data in 10th grade.

	exposure for 4 weeks each year of middle school. Lessons were delivered in sequence every day for four weeks to the entire grade in a 43 minute class. • Intensive condition: 12-week curriculum in 1 block in the 7th grade <u>Mode of Delivery:</u> • Active learning • Use of an incentive system • Included parent, community and peer leader components • 8 teaching strategies were utilised: social inoculation/refusal skill training, use of peer leaders, use of	comparison schools			grade included a proxy measure of "involvement with the opposite sex" which ranged from "talking at lunch time" to "going steady".	

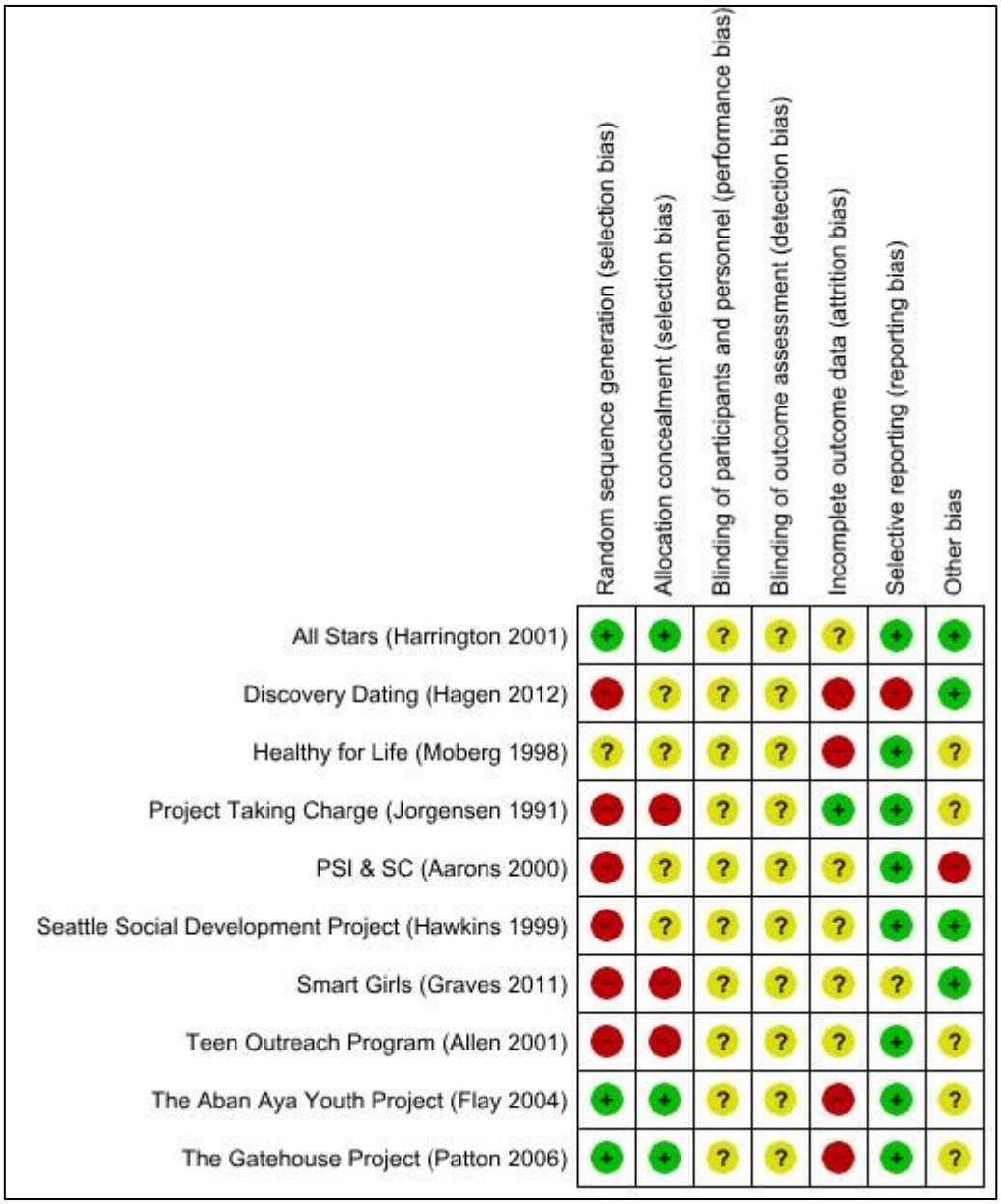
	parent/adult interviews by students, health advocacy, emphasis on short-term effects of targeted health behaviours, analysis of advertising/media influences, public commitments, feedback of peer norms					

The Gatehouse Project **(1997 – 2001)** (Patton et al. 2003; Patton et al. 2006; Patton et al. 2000)	Strategy/Theoretical Basis • Social development programme • Attachment theory • Whole school strategy Aim: prevent/delay the onset of depressive symptoms through the promotion of a more positive school social environment. Intensity and Duration: • Taught in 8th grade during a 10-week period in English, Health, or Personal Development Classes Mode of Delivery: • Small group work, class discussion, interactive teaching	Sample 8th grade students from secondary schools in Victoria, Australia (number of schools fluctuated per study; range 12-26) Comparison Control condition by school, no further details provided	School connectedness. Focused on: • Developing social and emotional skills • Strategies to promote inclusive relationships within the classroom • Promotion of a positive school social environment	Primary • Initiation of sexual intercourse Secondary • School commitment	Self-administered survey. Early initiation of sexual intercourse- single item about ever having had sexual intercourse. School commitment was assessed with a questionnaire comprising 23 items and 5 subscales reflecting school attachment, student–teacher communication, perceived opportunities for participation, disincentives, and rewards for participation.	Attrition, there was lower response from control students in 1997 and 1999, which may have led to underestimation of intervention effects.

	• Establishment of an adolescent health team of staff to take a formal place within the school's organisational structure. • Programme was adapted to each intervention school depending on results from social climate profile generated from student pre-test survey results.					

**Not all included studies reported on an outcome and were instead used as sister studies to expand on the understanding of the individual programmes.*

Figure 2.2: Risk of Bias summary: review authors' judgments about each risk of bias item for each included primary study



PSI & SC = Postponing Sexual Involvement & the Self Centre. Note: EPOC categories were adapted to the Cochrane RCT Risk of Bias categories to be inputted into Review Manager.

2.6.3 Programme effectiveness on outcomes

The most common outcomes investigated were behavioural, with eight reporting on an aspect of the initiation, frequency or age of first intercourse (Aarons et al. 2000; Flay et al. 2004; Hagen et al. 2012; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991; Moberg and Piper 1998; Patton et al. 2006) and 5 programmes reporting on contraceptive use (Aarons et al. 2000; Flay et al. 2004; Hagen et al. 2012; Hawkins et al. 1999; Moberg and Piper 1998). Half of the programmes included an outcome related to knowledge, attitudes or beliefs (Aarons et al. 2000; Graves et al. 2011; Hagen et al. 2012; Jorgensen 1991; Moberg and Piper 1998); fewer programmes included outcomes related to reproductive autonomy (Aarons et al. 2000; Graves et al. 2011; Hagen et al. 2012; Jorgensen 1991) or connectedness (Harrington et al. 2001; Hawkins et al. 1999; Patton et al. 2006). The findings of each programme are detailed in Table 2.3 and 2.4.

Of the 10 programmes included, five reported on contraceptive use. Of these, one programme demonstrated a clear improvement in use of condoms between comparison groups (71% vs 59% condom use at most recent intercourse) (Hagen et al. 2012), three reported improvements in specific subgroups only including females (Aarons et al. 2000), males (Flay et al. 2004), and among African American students (Hawkins et al. 1999), and one reported no difference between comparison groups (Moberg and Piper 1998). One programme reported on age of sexual debut, and demonstrated a small delay in the intervention group (16.3 vs 15.8 years) (Hawkins et al. 1999). A further two studies (Jorgensen 1991; Patton et al. 2006) reported fewer students in their intervention group had initiated first sexual intercourse compared with the control group (e.g., a 27% difference reported by (Jorgensen 1991)). Three studies reported on a range of outcomes related to frequency of sexual activity (Flay et al. 2004; Harrington et al. 2001; Moberg and Piper 1998), with highly variable findings spanning clear

improvements to potential risks, in part reflecting inconsistency in the way outcomes were defined and measured (see Table 2.3).

Three programmes reported on outcomes relating to pregnancy and birth. All three showed important reductions in the risk of teen pregnancy and/or birth (Allen and Philliber 2001; Hagen et al. 2012; Hawkins et al. 1999); for example the teen pregnancy rate was halved in one study (Allen and Philliber 2001), and intervention participants in another study were 8-fold less likely to become pregnant (3.2% vs. 24.2%) (Hagen et al. 2012). A further study reported that fewer female participants in the intervention group had been pregnant or given birth by age 21 (Hawkins et al. 1999); however, there was no difference in teen fatherhood.

One programme reported on prevalence of STIs (Hawkins et al. 1999), and found no overall difference between groups. However, when analyses were stratified by ethnicity, fewer African American students in the intervention group had a STI diagnosis than African American students in the control group.

Four programmes investigated outcomes related to reproductive autonomy (Aarons et al. 2000; Graves et al. 2011; Hagen et al. 2012; Jorgensen 1991), such as having the ability to refuse sex and development of skills related to autonomy (e.g., self-efficacy). Two programmes demonstrated improvements in some but not all outcomes related to autonomy; for example one programme demonstrated an improvement in personal agency (Hagen et al. 2012) and another for personal/self sexuality expectations (Graves et al. 2011). The remaining two programmes did not demonstrate any long-lasting effects between comparison groups across the outcomes. Two critical areas related to autonomy, parent communication and self-esteem, demonstrated no improvements across the programmes.

Five programmes reported on measures of knowledge, attitudes and beliefs (Aarons et al. 2000; Graves et al. 2011; Hagen et al. 2012; Jorgensen 1991; Moberg and Piper 1998).

Improved knowledge was reported in two studies; in one there were improvements in knowledge about birth control in males only, and improved knowledge of available reproductive health services in females only (Aarons et al. 2000), and the other programme reported improvements in knowledge of anatomy, sexuality and STIs (Jorgensen 1991). The remaining programmes did not report any clear difference between comparison groups.

Three programmes (Harrington et al. 2001; Hawkins et al. 1999; Patton et al. 2006) reported on an outcome related to connectedness, expressed as bonding/attachment with the school, or the degree to which students felt committed to the school. Improved bonding with the school was seen in one study, and particularly significant among children from economically deprived backgrounds ($p=0.001$) (Hawkins et al. 1999); the other study reported on school bonding found no overall differences (Patton et al. 2006). A further study reported improved bonding among African American and Hispanic students in the intervention group (but not White students) (Harrington et al. 2001).

An overall summary of the impact of each programme on each outcome category is presented in Table 2.5.

Table 2.3: Range of effects of programmes by clinical outcome*

Outcome (References)	**Range of Effects**
Category: Contraception	
Condom Use (Flay et al. 2004; Hagen et al. 2012; Hawkins et al. 1999; Moberg and Piper 1998)	**The Aban Aya Youth Project:** • Relative improvement in condom use for boys compared to control (95% increase in use for SDC group, 165% increase in use for SDC+SC) **Discovery Dating:** • More 8th grade intervention students reported condom use during recent intercourse compared to controls (71.4% vs. 59.4%) **Seattle Social Development Project:** • Results (for 21 year olds): • Past-year use frequency: not a clear effect for sample as a whole. After controlling for poverty, 50% of single African American participants in the full-intervention reported always using a condom compared to 12% of African American participants in the control. • Use at first intercourse: no clear effect of the intervention (OR 1.42; 95% CI 0.87-2.30) (intervention 73/131 vs. control 66/192) • Use during last intercourse: 66% of full intervention participants compared to 44% of control (OR 1.88). Ethnicity difference was found; 79% of African Americans in the intervention compared to 36% African Americans. 56% of non-African American participants compared to 47% of non-African American controls. **Healthy for Life:**

	• No clear difference of always using a condom during sex between groups (9th grade: control 58%, age appropriate 56%, intensive 58%). Significant increase of always using condom use for 9th grade participants that had involvement with opposite sex during earlier grades (e.g., holding hands; OR 1.12, p<.05), but this was not dependent on group assignment.
Birth control use at last intercourse (Aarons et al. 2000)	**Postponing Sexual Involvement & the Self Center:** • Significant difference between intervention and control group at each time-point for female participants (3 to 5.5 times higher odds of using some form of birth control at last intercourse). For male participants there was no significant effect of the intervention on the use of birth control.
Category: Intercourse	
Age at first intercourse (Hawkins et al. 1999)	**Seattle Social Development Project:** • Mean age of full intervention was 16.3 years compared to 15.8 years for control (p<.05)
Initiation of sexual intercourse (Jorgensen 1991; Patton et al. 2006)	**Project Taking Charge:** • 23% of intervention students became sexually active compared to 50% of control students between pre and post-test (p=.051) **The Gatehouse Project:** • Lower rates by students in the intervention schools, and the changes were apparent across subsequent cohorts. This was most pronounced for the 2001 cohort (OR 0.55; CI 0.37, 0.83).
Had engaged in sexual intercourse (Hagen et al. 2012; Hawkins et	**Discovery Dating:** • 66.7% of the intervention students compared to 74.2% if the control students. **Seattle Social Development Project:** • 18 year olds: no clear difference between full intervention, late intervention and control participant (72.1%, 76.1%, 83%).

al. 1999; Moberg and Piper 1998)	**Healthy for Life:** • The intervention conditions increased the likelihood of students engaging in sexual intercourse by 1.3 to 1.4 times compared to control.
Level of sexual activity (recent/frequency) (Flay et al. 2004; Harrington et al. 2001; Moberg and Piper 1998)	**The Aban Aya Youth Project:** • 44% of combined intervention male participants compared to 65% of comparison male participants. Recent sexual intercourse was not defined. **All Stars:** • Sexual activity increased over time (especially between post-test and follow-up), but the increase did not vary across condition. • Specialist condition: African American students demonstrated less of an increase of sexual behaviour when paired with an African American specialist compared to a White specialist; F(2,598)=2.93, p=.05. **Healthy for Life:** • For 9th grade students there was no clear difference between groups for past month intercourse (control = 11%, age appropriate = 13%, intensive = 15%). Compared to controls, there was an increased risk of having intercourse in the last month by 45% for 10th grade students in the age-appropriate intervention.
Number of sexual partners (Hawkins et al. 1999)	**Seattle Social Development Project:** • 18 years: more control participants had had multiple sex partners compared to full intervention participants (61.5% vs 49.7%). No clear difference between control and late intervention (61.5% vs. 59.1%). (multiple sex partners were not defined). • 21 years: full intervention reported significantly less partners than control (32% vs. 43%; p<.05).

Partner's age at first intercourse (Hagen et al. 2012)	**Discovery Dating:** • Fewer intervention students reported a first sexual partner's relative age as 2± years than themselves (11.9% vs. 19.1%).
Intention to have sex in the next 6 months (Aarons et al. 2000)	**Postponing Sexual Involvement & the Self Center:** • For female intervention participants there was only a significant difference at the end of 7th grade related to sexual intent for the next 6 months compared to control (57.3% vs. 45.9%). There was no clear difference between males either group across any time point (example: Beginning of 8th Grade; OR 0.62 (0.30, 1.28)).
Whether first intercourse was planned (Hagen et al. 2012)	**Discovery Dating:** • Of participants that had engaged in sex, 7.1% in the intervention group planned it compared to 13.1% in the control. More intervention participants selected the response "I didn't plan it but I wanted to do it" (81% vs. 57.6%).
Whether intercourse was forced (Hagen et al. 2012)	**Discovery Dating:** • Two response choices related to coercion: "I didn't want to do it but he or she convinced me", fewer intervention students selected this option (9.5% vs. 27.3%). Similar percentage of intervention and control students selected the response "I was forced into it" (2.4% vs. 2%).
Category: Pregnancy and Birth	
Pregnancy	**Teen Outreach Programme:**

(Allen and Philliber 2001; Hagen et al. 2012; Hawkins et al. 1999)	• Intervention participants demonstrated only 53% the risk of pregnancy demonstrated by the comparison group. • Nonteenage parents in the intervention group had odds ratios or pregnancy approx. two-thirds the ratios of comparison • Teenage parents in the intervention group had 1/5th the risk of pregnancy compared to teen parents in the comparison (OR = .18) (presented in a figure/graph – numbers not provided) **Discovery Dating:** • Reported as the number of pregnancies, 5/157 and 32/136 of participants in the intervention and control (p<.001). **Seattle Social Development Project:** • Been or gotten someone pregnant • 18 years: 26.4% of control compared to 17.1% of the full intervention (ns). No clear difference between control and late intervention. • 21 years: 38% of female participants in the full intervention had been pregnant by 21 compared to 56% of control females (p<.05). There was no clear difference between groups for male participants (intervention 34% vs. control 36%).
Birth (Hawkins et al. 1999)	**Seattle Social Development Project:** • 18 years: 14.7% of control participants had had a baby or fathered a baby compared to 9.5% of full intervention participants (ns). • 21 years: 38% of females in the full intervention compared to 56% of control females (p<.05). There was no clear difference between groups for male participants (intervention 23% vs. control 20%).
Category: STIs	

STI Diagnosis (Hawkins et al. 1999)	**Seattle Social Development Project:** • No clear effect of the intervention on STI diagnosis (intervention = 13% vs. control = 18%). Ethnicity difference was found; 7% African American intervention participants compared to 34% African American controls, and 14% Non-African American intervention participants compared to 11% of non-African American controls.

**Includes outcome results from primary studies and sister studies if applicable. Results are reported as either percentages (%), odds ratios (OR), or p values (ns = not significant).*

Table 2.4: Range of effects of programmes by holistic/psychosocial outcome

Outcome (References)	**Range of Effects**
Category: Attitudes, beliefs and knowledge	
Attitudes: postponing sex (Aarons et al. 2000)	**Postponing Sexual Involvement & the Self Center:** • No clear difference between groups for either sex. Odds ratio for female students at the end of 8th grade = 0.06 (-0.06, 0.18); for males at the end of 8th grade = -0.002 (-0.25,0.25) (regression coefficients).
Attitudes: delaying childbirth (Aarons et al. 2000)	**Postponing Sexual Involvement & the Self Center:** • No clear difference for female participants at any time point (example: end of 8th grade; -0.03(-0.15,0.11). Males in the intervention group were more likely to indicate positive attitudes towards delaying childbirth compared to control males at the end of 7th grade (0.24(0.06, 0.43)) and beginning of 8th grade (0.21(0.03, 0.38)).
Attitudes: sexual attitudes and intentions (Jorgensen 1991)	**Project Taking Charge:** • No significant difference between groups.
"normative beliefs" – perception of sexual activity among peers	**Postponing Sexual Involvement & the Self Center:** • A higher percentage of intervention females believed that most girls their age were not having sex at all time-points, only significant at then of 7th grade (17 times more likely to report girls their age were not having sex). For males, at the end of 7th grade intervention males were 3x more likely to believe boys their age were not having sex compared to controls. **Healthy for Life:**

(Aarons et al. 2000; Moberg and Piper 1998)	• Rates increased significantly over time across all groups, and there was no clear difference between groups.
Clarity of sexual values (Jorgensen 1991)	**Project Taking Charge:** • No clear differences between groups for pre-/post-test or the 6-month follow up (pre/post-test F(df) = 0.20 (1,132).
Social sexuality expectations (Graves et al. 2011) *Defined in legend*	**Smart Girls:** • The degree of change did no differ across the experimental and control groups (pre-post difference by group; F = 0.79, p =.37). Post-test control group's mean score = 4.61 vs. intervention group's mean score = 4.64.
If they were "glad" they started having sex (Hagen et al. 2012)	**Discovery Dating:** • Response options ("wish I would have waited", "glad I started", "in some ways, both") were reported equivalently across the two groups (intervention: 28.6%, 31% & 40.5% vs. control: 29.2%, 30.2%, & 39.6%)
Knowledge: birth control (Aarons et al. 2000)	**Postponing Sexual Involvement & the Self Center:** • No clear difference for female participants (End of 8th grade; OR 0.02 (-0.16, 0.27)). Intervention male participants had higher birth control knowledge scores compared to the control group across all time-points (Difference: T1 = 34%; T2 = 21%; T3 = 23%).
Knowledge: reproductive health services	**Postponing Sexual Involvement & the Self Center:** • Females in the intervention group scored higher on knowledge (difference; 0.19, CI: -0.02, 0.39).

(Aarons et al. 2000)	
Knowledge: consequences of teenage pregnancy (Jorgensen 1991)	**Project Taking Charge:** • No clear difference between group's knowledge gains at post-test (F(df) = 0.21(1,133)). At 6-months follow-up the treatment group had significantly higher knowledge scores than the control group (F value = 3.33, df(1,90)(p<.05).
Knowledge: anatomy, sexuality & STDs (Jorgensen 1991)	**Project Taking Charge:** • Intervention participants reported greater knowledge (F=20.97, df(1,113); p<.001; F=49.08, df(1,133);p<.001) compared to controls. At follow-up, intervention participants had more correct responses compared to control for their knowledge on anatomy (71% vs 20%). Intervention participants on average had more correct answers relating to sexuality and STDs at 6-months post intervention (71% vs. 50%).
Category: Autonomy	
Ability to refuse sex (Aarons et al. 2000)	**Postponing Sexual Involvement & the Self Center:** • More females in the intervention group reported that they could refuse sex with their boyfriend at all time-points compared to control females. Only significant at the end of 7th grade (12% more intervention females stating they could refuse sex).
Communication with parents (Aarons et al. 2000; Graves et al. 2011; Jorgensen 1991)	**Postponing Sexual Involvement & the Self Center:** • No change in reported levels of communication about sex with parents across any time point for male or female participants (End of 8th grade: females OR 0.04(-0.19,0.27); males OR -0.19(-0.41,0.04)). **Smart Girls:** • No clear difference between groups relating to frequency of communication about sex (pre-post difference by group: F = 1.15, p=.28). There was a significant difference by group related to pre-post-test communication about boys (F=6.45, p<.01).

	Project Taking Charge: • No clear difference at any time-point or at 6-month follow-up (F values were not high enough to attain statistical significance).
Girlfriend/boyfriend communication (Aarons et al. 2000)	**Postponing Sexual Involvement & the Self Center:** • No change in reported levels of communication about sex with girlfriends or boyfriends across any time point. (End of 8th grade: females OR -0.09(-0.28, 0.11); males OR 0.03(-0.19, 0.25))
Personal agency (Hagen et al. 2012)	**Discovery Dating:** • For the scale used to measure Personal Agency, a 7.93% improvement was observed for the intervention group between pre and post-test ($p<.05$), compared to a 1.21% improvement between pre and post-test for control.
Personal/self sexuality expectations (Graves et al. 2011) *Defined in legend*	**Smart Girls:** • Significant difference between intervention group and control at post-test ($p<.001$); intervention group had greater gains related to this outcome (mean score: intervention group = 4.51 vs. control group = 4.36). Some of these gains remained at 6-month follow up (ns).
Resilience (Hagen et al. 2012)	**Discovery Dating:** • Increase in resilience observed in both groups (4.79% vs. 5.27%; ns).
Self-Efficacy (Hagen et al. 2012)	**Discovery Dating:** • Increase for both intervention group (3.31%) and control group (3.12%) (ns).
Self-esteem (Jorgensen 1991)	**Project Taking Charge:** • There was no clear difference for self-esteem at pre-/post-test ($F=0.04$, df(1,134)) or at 6-month follow-up ($F=0.00$, df(1,84)).

Category: Connectedness[a]	
Bonding to School (Harrington et al. 2001; Hawkins et al. 1999)	**All Stars:** • No differences in means at pre-test and post-test between groups, control students had lower mean scores than either treatment condition at subsequent follow-up ($p<0.05$). - Teacher condition: African American and Hispanic students had a clear increase in bonding to school from each time point, whereas for White students bonding remained constant from pre-test to post-test and then declined at follow-up. **Seattle Social Development Project:** • On a 4-point scale for school commitment there was a 0.15 difference between full intervention students compared to control students ($p=.03$) • On a 4-point scale for school attachment there was a 0.20 difference between full intervention compared to control students ($p=.006$). Economical difference; intervention students from poor families were significantly more attached to school than control students from poor families ($p=.001$) • There was no clear difference on either bonding measures between control and late intervention groups
School commitment (Patton et al. 2006)	**The Gatehouse Project:** • No clear difference found in the follow-up surveys, but a potential trend developing for improved student-teacher communication in 1999 (ns).

**Includes outcome results from primary studies and sister studies if applicable. Definitions (as defined by study author): Social Sexuality Expectations: related to social pressures to have sex (e.g., "you should stay with your boyfriend if…he pressures you to have sex"). Personal/Self Sexuality Expectations: related to personal attitudes about having (e.g., "I feel that I don't have to have sex if I don't want to"). Results are reported as either percentages (%), odds ratios (OR), or p values (ns = not significant).*

[a]Includes direct measures of connectedness, rather than singular components such as autonomy and communication

Table 2.5: Summary of the impact of each programme on each outcome category overall

Programme (references)	**Contraception**	**Intercourse**	**Pregnancy and birth**	**Attitudes, beliefs & knowledge**	**STIs**	**Autonomy**	**Connectedness**
Postponing Sexual Involvement & the Self Center (Aarons et al. 2000)	+*	o		+*		o	
Teen Outreach Programme (Allen and Philliber 2001)			+				
The Aban Aya Youth Project (Flay et al. 2004)	+*	+*					
Smart Girls (Graves et al. 2011)				o		+	
Discovery Dating (Hagen et al. 2012)	+	+	+	o		+	

All Stars (Harrington et al. 2001)		o					o*
Seattle Social Development Project (Hawkins et al. 1999)	+*	+	+*		+*		+*
Project Taking Charge (Jorgensen 1991)		+		+		o	
Healthy for Life Project (Moberg and Piper 1998)	o	-		o			
The Gatehouse Project (Patton et al. 2006)		+					o

*+ = statistically significant impact at final data collection point for at least one outcome in the category; o = no statistically significant impact; - = negative impact; Grey boxes = not available, outcome was not reported on. * = significant effects in a subgroup only (based on ethnicity, gender, SES etc.)*

2.7 Discussion

Interventions that address adolescents' social environments have emerged as effective strategies for promoting health and wellbeing across a range of areas (Kia-Keating et al. 2011). While the acquisition of sexual and reproductive health knowledge is important, the ability to navigate relationships, in which sexual health behaviours and attitudes occur and are formed, is just as critical. Enhancing positive relationships and a sense of social connectedness (founded on feeling cared for, respected and supported), have been used as successful strategies in Positive Youth Development and particularly for mental health. Given sexual health develops, and is influenced by, interpersonal relationships with individuals and institutions, it appears imperative to investigate whether school-based programmes have the capacity to enhance social connectedness, and consequently improve sexual health in adolescents. The purpose of this review was to determine whether school-based programmes designed to enhance social connectedness, either actively or passively, improve adolescent sexual and reproductive health.

In this review, 10 programmes or interventions were identified that had specific curriculum-based activities to enhance adolescent social connectedness and reported on sexual and reproductive health outcomes. Of these, there were four programmes with clear evidence of positive impact on sexual and reproductive health behaviours (Table 2.6). Notably, these programmes targeted more than one aspect of social connectedness. For example, the *Aban Aya Youth Project* (Flay et al. 2004) covered family, peer, and partner connectedness and reported delayed sexual activity and improved condom use among male participants. *Discovery Dating* (Hagen et al. 2012), a programme developed for Native American adolescents, targeted partner and community connectedness, and led to increases in condom use and fewer teen pregnancies. Finally, two other successful programmes, the *Seattle Social Development Project*

(Hawkins et al. 1999) and *the Gatehouse project* (Patton et al. 2006), had a focus on school connectedness in conjunction with other aspects (peers, family, etc.), with both programmes reporting delayed initiation of sexual activity.

In addition, among the four successful programmes, all included lessons and curriculum dedicated to building social skills for developing and managing interpersonal relationships, such as responding to peer pressure, addressing sexual coercion, and building self-efficacy. Importantly, all four programmes were implemented in a sustained approach, with the intensity of the programme ranging from weekly lessons for at least one term, through to two lessons per week for an entire school year. Of note, only one programme had an explicit focus on promoting abstinence (Hagen et al. 2012), and two programmes were specifically designed as sexual and reproductive health programmes or interventions (Flay et al. 2004; Hagen et al. 2012). The commonalities identified across these successful multicomponent programmes are in alignment with best practice for comprehensive sexuality education (Kirby 2007).

Table 2.6: Characteristics of successful programmes

Programme (references)	**Connectedness Construct**	**Intensity**	**Focus**	**Abstinence-based**	**Outcomes**
The Aban Aya Youth Project (Flay et al. 2004)	• Family • Peer • Partner	16 – 21 lessons	Developing interpersonal relationships	No	Increase in condom use for boys
Discovery Dating (Hagen et al. 2012)	• Partner • Community	2 lessons per week during school year	Healthy relationships	Yes	Increase in condom use Fewer pregnancies reported
Seattle Social Development Project (Hawkins et al. 1999)	• Family • Peer • School	At least 1 school semester	Interpersonal problem solving skills	No	Increase in condom use at last intercourse Fewer pregnancies by 21 years for female participants
The Gatehouse Project (Patton et al. 2006)	• Peer • Teacher • School	On average 20 lessons	Positive school social environment Social and emotional skill development	No	Lower rates of initiation of sexual intercourse

Notably, across all of the studies, programme effects often varied by ethnicity, with positive effects particularly seen for African-American, Hispanic, and Native American students. Similarly, programme outcomes also varied by gender, but there were no consistent patterns observed. For example, some studies reported improved contraception use in males but not females (Flay et al. 2004), whereas others reported reduced teen pregnancy in females but no impact on teenage fatherhood (Hawkins et al. 1999). It is promising that these programmes may be particularly beneficial to groups that disproportionately experience discrimination and marginalization. This reiterates the positive effects of connection to identity and how strong social connections can buffer against stressors (Wong, Eccles, and Sameroff 2003; Brondolo et al. 2009).

Several theories concerning social connectedness may explain how interventions in this review positively influenced adolescent sexual and reproductive health. In the adult health literature (Haslam, Cruwys, and Haslam 2014; Greenaway et al. 2016), some have argued that social connectedness promotes health via exposure to an increased social network which brings positive role modelling, engagement in pro-social activities, increased access to resources and health information, a sense of belonging, and active engagement in the community (Cohen and Wills 1985). Arguably, these factors could contribute to improved self-esteem, empowerment, and autonomy, all of which influence capabilities for sexual self-efficacy.

Notably, despite programmes aiming to actively or passively promote social connectedness, few studies attempted to measure any specific aspect of social connectedness (e.g., student's sense of belonging or bonding to school) or assess related outcomes, such as autonomy, self-esteem, or communication skills. It is especially important that future research describes all programme components in detail, and engage with tools that measure social connectedness (Lee and Robbins 1995) and related outcomes. This includes both the extent of social relationships across different domains (e.g., peers, teachers, family, and community) as

well as the quality of these relationships. This will improve understanding of the specific aspects of social connectedness that are pertinent to promoting adolescent sexual health (Markham et al. 2010). Further, this is necessary to build the evidence base for multicomponent interventions and shift the focus away from simple educational programmes, given such programmes have been examined extensively, and generally only demonstrate modest effects on important sexual and reproductive health outcomes (Mason-Jones et al. 2016; Lopez et al. 2016).

The ability to directly compare effects of programmes included in this review was inhibited by a number of issues. Foremost, there was substantial heterogeneity across the programmes, given they were all multicomponent. Furthermore, inadequate reporting of interventions often made it difficult to determine the intensity and duration of the social connectedness component, relative to other components, which has consequences for guiding the design of future programmes. The quality of the evaluations varied between programmes, with only three studies (Aarons et al. 2000; Flay et al. 2004; Patton et al. 2006) employing a randomized controlled design. The remainder were quasi-experimental, utilizing either a historical control group or non-randomized control group that may not have been comparable. Where there was a clear difference in baseline characteristics between study groups, these were addressed in the analyses of some studies (Moberg and Piper 1998; Allen and Philliber 2001; Harrington et al. 2001), but for several other studies there was insufficient reporting of participant characteristics to determine whether this was a key source of bias.

An additional problem was the differential attrition rates across studies, which can bias programme outcomes. Higher rates of attrition were typically noted in intervention groups (Patton et al. 2006; Hagen et al. 2012), which may have ultimately overestimated the effects of programmes as students who dropped out may have been those who were more likely to engage in risk behaviours (Patton et al. 2006; Hooven et al. 2011). In addition, the risk of attrition bias

could not be assessed in half of all programmes due to incomplete reporting. Furthermore, none of the programmes provided sufficient details to assess the degree of blinding (e.g., of outcome assessors). This is potentially problematic as nearly all outcomes were self-reported. A common issue with school-based interventions is programme fidelity, which is often attributed to a lack of time and resources. Some programmes in this review ensured adequate support to the school and programme mediators, but whether each class received the exact same intensity and duration of the programme is unclear due to insufficient reporting.

Unsurprisingly, few studies in this review focused on primary school students. Despite this, there is evidence supporting the presence of comprehensive sexuality education from an early age (United Nations Educational Scientific and Cultural Organization 2015; Cameron et al. 2019), before gender norms have formed for instance (Fund 2015). As such, there is scope for future age-appropriate programmes for this cohort, which incorporate elements of social connectedness, perhaps through discussions of what makes a healthy relationship in the context of peers and family.

The majority of studies in this review were undertaken prior to, or during, the early 2000s, when internet technology and social media was not as accessible or ingrained in the lives of adolescents as it is today (Tsitsika et al. 2014). Online platforms offer another avenue for adolescents to seek out and maintain social connections, and they are doing so at increasingly younger ages. For example, 20% of children aged 8-11 years who access the internet have a social media profile (Ofcom 2019). Some evidence suggests that interactions in the digital landscape can enhance adolescents' feelings of belonging and promote autonomy and identify formation (Davis 2012; Grieve et al. 2013; Borca et al. 2015). However, there are also concerns about the impact of digitally-mediated socialization on mental health, with several studies indicating online activities, particularly when they displace real world experiences, can contribute to feelings of loneliness as well as anxiety and depression (Best,

Manktelow, and Taylor 2014). How online connections influence other constructs of social connectedness, and whether this is beneficial or detrimental to adolescent sexual and reproductive health, is unclear. This is a critical area for future research.

The systematic process of searching across a range of health, psychological, and educational databases was a strength of this review. In addition, two or more reviewers independently assessed studies for eligibility, extracted data, and assessed study quality, maximizing the objectivity of these processes. A limitation is that, despite the comprehensive search strategy, relevant programmes may have been missed if they were not published in academic literature. In addition, it was not possible to perform a meta-analysis due to heterogeneity in outcomes reported. Consequently, a formal assessment of publication bias was not possible. By restricting the inclusion criteria to school-based settings, it was not possible to assess the impact of social connectedness interventions on outcomes for adolescents not in school, who typically reflect a group that are vulnerable to risk behaviours (e.g., incarcerated youth, teenage mothers etc.). This may underestimate the potential of programmes with a focus on social connectedness, as it has been shown that youth at higher risk often benefit the most from the presence of positive relationships (Animosa, Lindstrom Johnson, and Cheng 2018).

2.8 Conclusion

School-based programmes that enhance social connectedness across adolescents' socio-ecological environments, involving peers, parents, and school, have shown to be successful in improving adolescent mental health. Whether this strategy can be utilized for adolescent sexual health is less clear, as a majority of recent studies and reviews have been observational in nature. Social relationships are relevant to adolescence beyond sexual health, as they provide a blueprint for social norms, identity development, and establishing health behaviours. Although the social environment is known to be critical for adolescent

development, the majority of the literature surrounding social connectedness has been for older populations and from a counselling perspective. This review evaluated school-based interventions with intentions to actively or passively enhance social connectedness to improve adolescent sexual and reproductive health.

The available evidence suggests that school-based programmes that incorporate activities and strategies to enhance adolescent social connectedness may assist in promoting positive sexual and reproductive health behaviours, including contraception use and delayed initiation of sexual activity. Almost all available studies were undertaken in the USA and, in some programmes, findings were more pronounced among African American and Hispanic students. The impact of these strategies on outcomes related to reproductive autonomy, while promising, is less clear. Common features of successful programmes included curriculum and/or activities that target multiple constructs of social connectedness (e.g., family, peer, partner, and school connectedness) and include strategies to promote social skill development. As the current body of evidence is limited by a lack of rigorous evaluations, and incomplete assessment of social connectedness, programme outcomes cannot be directly attributed to the social connectedness component. Future, well-designed studies are needed to examine the specific impact of different domains of social connectedness on adolescent sexual and reproductive health. Such research should engage adolescents early in the study design process, include populations outside of the USA, and pay attention to gendered and cultural differences, as well as the influence of connections in the online social environment.

CHAPTER THREE: Student perspectives on a state-wide relationships and sexual health programme in South Australian schools, 2006–2017 (PUBLISHED)

3.1 Preamble

This chapter presents the second aim of this thesis, which sought to describe student perspectives on a relationship and sexual health programme in South Australian schools between 2006 and 2017, and draws particular attention to the changing topics of importance and usefulness. This chapter utilises data provided by SHINE SA, the peak body of sexual health information, education and clinical services for young people in South Australia. The data incudes 12 years of student feedback surveys on SHINE SA's secondary school Relationships and Sexual Health Programme. Findings from this study provide evidence on secondary students' satisfaction with their sexuality education programme, which topics are most relevant and useful, and provides suggestions for improving the programme.

This chapter has been published in *Sex Education* and is available in Appendix 5.

3.2 Statement of authorship

Statement of Authorship

Title of Paper	Student perspectives on a state-wide relationships and sexual health programme in South Australian schools, 2006–2017
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Principal Author

Name of Principal Author (Candidate)	Sophie GE Kedzior		
Contribution to the Paper	Conceptualised research question, conducted data cleaning, management and analysis, wrote manuscript, acted as corresponding author.		
Overall percentage (%)	75%		
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	9/11/2021

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 in 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	Alice R Rumbold		
Contribution to the Paper	Supervised development of work, provided guidance on data analysis, helped in data interpretation, and manuscript evaluation and editing.		
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Name of Co-Author	Helen Calabretto		
Contribution to the Paper	Acted as key correspondent for SHINE SA, assisted with the conceptualisation of the research questions, provided access and guidance to the data used in this manuscript, contributed to manuscript drafting and editing.		
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Contribution to the Paper	Contributed to manuscript drafting and editing.		
Signature		Date	05/01/2022

Student perspectives on a state-wide relationships and sexual health programme in South Australian schools, 2006–2017

(Publication presented in Appendix 5)

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3.3 Abstract

Background: Relationships and sexual health education is an accepted part of the school curriculum to support adolescent development. In recent years, the nature of this education has expanded to include topics encompassing a social model of health (e.g., with a focus on gender roles). There has, however, been limited exploration of student views about the inclusion of these topics. This paper presents student feedback on South Australia's Relationships and Sexual Health Programme, a state-wide curriculum produced by the state's major sexual and reproductive health organisation.

Methods: The findings are drawn from an annual survey conducted from 2006 to 2017, involving 29,533 secondary school students aged 12–16 years. Regression analyses were used to assess the relationship between the year the survey was conducted and student ratings of the programme ('good/excellent' vs 'poor/satisfactory') and, separately, the individual topics students' considered most important.

Findings: There was a positive association between survey year and rating the programme as 'good/excellent' with regard to providing a 'safe and supportive classroom environment', and

a small negative association between survey year and ‘overall rating’ as ‘good/excellent’. Over time, there was an increase in the number of students selecting the topic ‘consent’ as the most important.

Conclusions: These findings demonstrate student support for the inclusion of a range of social health topics in relationships and sexual health education.

Key words: Relationships and sex education, secondary school students, relationships, consent, programme

3.4 Introduction

Adolescence is a critical life stage for the development of relationship skills and sexual health knowledge and behaviours (Collins, Welsh, and Furman 2009; Viner et al. 2012). The school environment is influential in supporting students to build skills in these areas, providing both informal and formal learning opportunities. Indeed, students regularly report that schools are a trusted source of information about relationships and sexuality, and for some students, where they receive most of their information (Mitchell et al. 2014; Fisher CM et al. 2019).

The provision of comprehensive relationships and sexual health education within the curriculum is considered best practice in a school setting (UNFPA 2014; UNESCO 2015; Women UN and UNICEF 2018). Evidence suggests that this approach is associated with increased knowledge and skills related to sexual health, can delay first sexual intercourse, and may decrease the number of sexual partners during adolescence (UNESCO 2009). However, while there is general agreement about the need for a comprehensive approach, there is considerable debate about the range of topics considered appropriate for adolescents (Bearinger et al. 2007; Roien Line, Graugaard, and Simovska 2018).

In recent years, increasing importance has been placed on the inclusion of discussions about gender roles and power and how they influence sexual practices, with some evidence that this approach can improve sexual health outcomes, including, reduced sexually transmitted infections (STIs) (Haberland 2015), and help to address underlying social issues, such as gender-based violence. In doing so, schools need to provide supportive and safe environments to discuss these topics, to minimise harassment and coercion, and bullying of students who do not conform to conventional gender roles (Haberland 2015). However, there has been limited prior research investigating student experiences surrounding the inclusion of these topics in the curriculum, and the value they place on them (Pound, Langford, and Campbell 2016). This

occurs despite consistent acknowledgment that the perspectives of students need to be captured to ensure programmes are relevant, engaging and reflect desired information (Aggleton and Campbell 2000; Allen 2005a).

The limited research that is available has generally found that students appreciate topics that reflect positive sexuality, including healthy relationships and sexual pleasure (Pound, Langford, and Campbell 2016; Johnson B et al. 2016; Larkin et al. 2017). However, existing research is subject to a number of limitations. The vast majority of previous studies have been undertaken in the USA, and may have limited generalisability beyond this setting. In addition, existing research has tended to focus on selected samples of students, often those with a specific interest in sexual health topics, and with potential for recall bias, as evaluations are often undertaken after students have completed schooling (Giordano M and Ross A 2012; Pound, Langford, and Campbell 2016; Unis and Sällström 2020). Contemporary surveys of students undergoing school-based relationships and sexual health education are needed soon after participation to adapt programmes to the current social contexts of young people, and to respond to the diversity of young people's needs.

This study focuses on the Relationships and Sexual Health Programme implemented in a large number of secondary schools in South Australia. The objective of the study was to assess students' satisfaction with the programme, the content areas they considered important and useful, and determine whether there were any changes in how they rated these aspects of the programme over time.

3.5 Method

3.5.1 Overview of SHINE SA

SHINE SA is the peak body for sexual health services in South Australia for young people. This organisation is the main source for relationships and sexual health education curriculum and teacher training within the state, and is responsible for the creation of the Relationships and Sexual Health Programme. Schools that have opted to provide this programme's curriculum receive ongoing support from SHINE SA for their educators, as well as access to a resource library, which includes interactive materials to facilitate learning.

3.5.2 Programme Curriculum

The SHINE SA curriculum is used by the majority of the South Australian Department for Education schools that have a secondary component (e.g., for students aged 13-16 years). These are schools that are predominantly in the public school system.

To support programme delivery, SHINE SA has developed a series of teacher resource handbooks that include the curriculum and activities/resources to complement the lessons. These resource handbooks have been developed for ages 13-14 years, ages 14-15 years, and ages 15-16 years and comprise fifteen, 50-minute lessons per year level. The curriculum is only available to educators who have completed a two-day training course with SHINE SA. It is adapted annually in the light of both student and teacher feedback, and topics span from puberty and contraception, to the impact of popular media and gender equity on sexual health.

3.5.3 Survey Administration

This study draws on 12 years of student feedback data that SHINE SA collects annually following delivery of the Relationships and Sexual Health Programme. Data are collected

through a survey which asks students to rate the programme, indicate the topics they consider most useful and important, specify where and who they typically seek sexual health support from, and to state whether they consider the programme to be respectful and inclusive of same-sex attraction and cultural diversity. The surveys are voluntary and anonymous.

The survey is administered throughout the school year once a class has completed the programme. Classroom teachers distribute the survey during the final lesson; the survey takes 3-5 minutes to complete. The survey was first distributed in 2006, during earlier years of survey administration (2006-2012) the surveys were provided in paper format and entered into a Microsoft Access database. From 2013 onwards, the surveys were undertaken via Survey Monkey with the option of paper copies, if preferred.

Schools that implement the curriculum enter into a formal agreement with SHINE SA that permits their students to participate in the annual student feedback survey (SHINE SA 2018). The results from this survey provide information and ideas to improve the programme. The survey data is also distributed to educators at each specific site as a school report; this provides educators with the opportunity to reflect on how they can improve their facilitation of the curriculum.

3.5.4 Survey Measures

The survey captured demographic data such as the school name, year level (year 8 corresponding to ages 13-14 years, year 9 corresponding to ages 14-15 years, and year 10 corresponding to ages 15-16 years), gender (female/male, only for the years 2006-2012), and number of lessons received (only from 2014 onwards). Students were specifically asked to rate two aspects of the programme: 1) the degree to which the programme was provided in a 'safe and supportive class environment', and 2) an overall rating of the programme. For both of these

domains, students provided a rating on a scale of 1 to 4 (1= poor, 2= satisfactory, 3 = good, 4 = excellent). Students were asked what changes they would make to the programme, options included 'no change', 'more lessons', 'less lessons', 'more in-depth information', 'more information on where to go for help', 'single-sex classes', and 'better class behaviour'. There were no restrictions on the number of changes a student could select.

In addition, students were asked to rate how useful individual topics were including contraception, STIs, condom use, safer sex, the body/puberty, pregnancy options, relationships, power, gender/stereotypes, respecting difference, consent, media/technology, communication skills, and where to go for help. First, students were asked to select one or more topics that they considered 'most useful'. For this question, there was no restriction on the number of topics that students could select as 'most useful'. A second question asked students to report the topic that was 'most important'. For this question, students could only select one topic.

Additional questions included where students sought information and support about relationships and sexual health, with the option to select as many sources as was applicable. Options included 'parent/carer', 'friend', 'health service', 'internet', 'teacher', 'school counsellor', 'magazine', and 'other'. Students were also asked whether they thought the programme was respectful and inclusive of (a) same-sex attraction, and (b) different cultures and religions with response options including 'no', 'sometimes', 'often' and 'always'.

3.5.5 Data Analysis

Initial analyses were undertaken to describe the data. These involved calculating the frequency and percentages of each category for all variables, including demographic characteristics, ratings of the programme, suggested programme changes, useful and important topics, sources of information, and inclusivity for same-sex attraction and different cultures

and religion. Relationships between these variables and the survey year were then further explored using logistic regression.

For student ratings of the programme ('safe and supportive class environment' and 'overall rating'), the scale responses were combined into two categories: 'poor/satisfactory' and 'good/excellent'. Separate logistic regressions were performed for the student rating scales, to assess the relationship between the survey years (2006 through to 2017) and rating categories. Survey year was considered a continuous variable. This approach was used to determine whether the ratings of the Relationships and Sexual Health Programme improved over the 12-year period (i.e. positive association for selecting 'good/excellent'). For all analyses, the clustering of survey responses within school was accounted for in the logistic regression models by generating robust cluster variance estimates.

The same logistic regression approach was undertaken for the following categorical data including the most useful and important topics (0 = not selected, 1 = selected). For the most useful topics question, if 'all of it' and another variable was selected for this question (e.g., STIs), 'all of it' was recoded to be unselected to ensure this variable was not overrepresented. For the outcomes inclusiveness of same-sex attraction and cultural diversity, the responses were combined into two categories, 'no/sometimes' and 'often/always' before undertaking separate logistic regression models. These models assessed the relationships between survey year (2013-2017) and response categories.

When exploring the impact of the programme rating on whether students' considered the programme inclusive and respectful of diversity, 'safe and supportive class environment' and 'overall rating' were combined into one variable, 'total rating'. The student responses were coded as 'poor/satisfactory' for the 'total rating' variable if at least one scale was considered 'poor/satisfactory'. The relationship between 'total rating' and inclusiveness was first explored

in cross tabulations. Logistic regression models were then generated to assess the relationship between total rating (either 'poor/satisfactory' or 'good/excellent') and separately, inclusivity of same-sex attraction, and cultural diversity (coded as 'no/sometimes' or 'often/always').

Individual models were generated for each source of information, to assess the relationships between year level (year 8, 9, and 10) and the source category (e.g., 'parent/carer'). Odds ratios and confidence intervals (CI) were calculated from the regression analyses, and a p-value <0.05 was considered significant.

Some limitations in the temporal use of the data exist due to the changing nature of the annual survey (e.g., exclusion/introduction of questions) which coincided with changes in the programme curriculum over time. Student gender was removed in 2013 to ensure students did not feel pressured to select a binary gender of male/female. For this reason, no analyses were undertaken separately based on student gender. Participants were able to skip any of the survey questions; therefore, the number of questions answered was not uniform within and across the years. The proportion of missing observations are reported where possible. For the outcomes of interest in this paper, data were available for the programme ratings for the years 2006 to 2017, number of lessons for 2014 to 2017, and the remaining outcomes for 2013 to 2017. All analyses were conducted using Stata version 14.0 (StataCorp 2015).

3.5.6 Ethics Approval

The University of Adelaide's Office of Research Ethics, Compliance and Integrity's Human Research Ethics Secretariat assessed this project and determined that ethics approval was not required. The project was exempted from HREC approval as the data collected and subsequently analysed was non-identifiable and thus it was deemed there was negligible risk to the participants. Passive or active consent is collected by each school for involvement in the

Relationships and Sexual Health Programme and the subsequent anonymous survey.

3.6 Results

3.6.1 Survey data findings

A total of 29,533 students participated in the survey between 2006 to 2017, with a range of 331 to 4,383 participants per year and survey participation typically increased per year. Table 3.1 provides the proportion of students per year level, including the sample size for each year. With respect to gender (only available 2006-2012, n = 7,566; missing = 15%), more girls than boys participated in 2006 (66% n = 215 vs. 34% n = 112), although this effect was less pronounced in later years (e.g., for 2012: 51% female students vs. 49% male students). Although there was a large amount of missing data for number of lessons received (2014-2017, missing = 71%), for the 4,760 participants that reported on the number of lessons they received, on average 8% of students received 1-5 lessons, 25% received 6-10 lessons, 37% received 10-15 lessons, and 30% received 16+ lessons.

Table 3.1: Proportion of students, by year, providing feedback on the Relationships and Sexual Health Programme (2006-2017; n = 29,533)

Year of Survey	**Year Level**			**Sample Size**
	Year 8 (%)	**Year 9 (%)**	**Year 10 (%)**	
2006	82 (25)	192 (60)	48 (15)	331
2007	24 (7)	200 (59)	117 (34)	353
2008	249 (38)	322 (49)	85 (13)	750
2009	468 (39)	677 (57)	46 (4)	1,237
2010	751 (44)	769 (45)	195 (11)	1,728
2011	942 (48)	797 (41)	214 (11)	1,962
2012	1,290 (48)	1,076 (40)	314 (12)	2,705
2013	1,620 (41)	1,691 (42)	688 (17)	4,057
2014	1,769 (43)	1,580 (39)	725 (18)	4,295
2015	1,853 (45)	1,468 (36)	789 (19)	4,384
2016	1,574 (44)	1,278 (35)	757 (21)	3,674
2017	1,703 (44)	1,537 (40)	623 (16)	4,057
Total:	**12,325**	**11,587**	**4,601**	**29,533***

**Total population is different from grade as not all students disclosed this information*

3.6.2 Ratings of the Programme

Figure 3.1 depicts a timeline to illustrate the changing trends in 'poor', 'satisfactory', 'good' and 'excellent' ratings across the two criteria. Across all years, the mean of the proportion of student ratings of 'safe and supportive environment' was 48% for 'good', 38% for 'excellent', followed by 12% for 'satisfactory' and 2% for 'poor' (Figure 1A)(n = 28,716; missing = 3%). There was small positive association between survey year and selection of 'good/excellent' for 'safe and supportive classroom environment' (OR 1.04, CI 95% 1.01 to 1.07, p=0.0051).

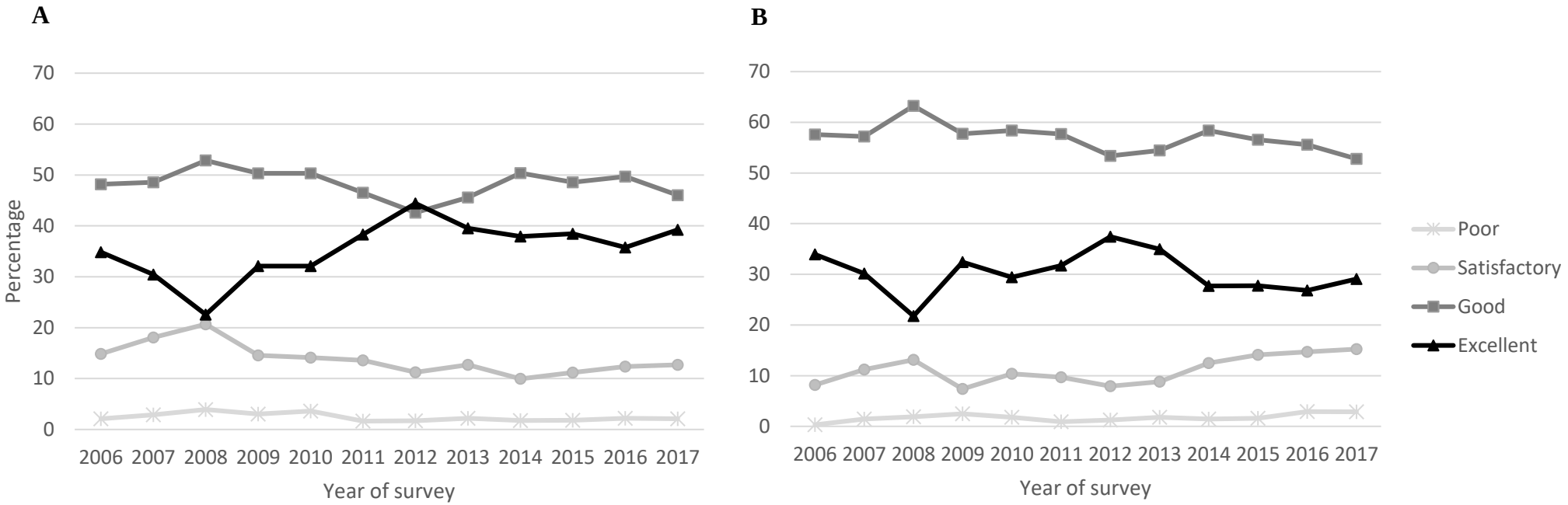
For the 'overall course rating' (n = 28,558; missing = 3%), the mean proportion of students rating the course as 'good' was 56%, followed by 'excellent' (30%), 'satisfactory' (12%), and 'poor' (2%) (Figure 1B). There was a small negative association between survey year and selection of 'good/excellent' for overall programme rating, suggesting a slow decline in this rating over time (OR 0.92, CI 95% 0.89 to 0.95, p=0.0000).

For the period of 2013-2017 (n = 20,467), less than 15% of students rated the programme as 'poor' or 'satisfactory' on the scales pertaining to 'safe and supportive classroom environment' (n = 4,182) and 'overall course rating' (n = 3,939). Compared to the total sample, these students were more likely to receive 1-5 lessons (mean: 19% vs. 8% total sample) and were less likely to receive 11-15 lessons (mean: 29% vs. 37% total sample).

There were 16,410 responses available from 2014 to 2017 about possible programme changes. Overall, the most highly selected categories observed were 'no change' (41%), 'more in-depth information' (17%), 'more lessons' and 'better class behaviour' (both 16%). The subgroup of students that rated either scale as 'poor/satisfactory' in general selected more options. A greater number of these students selected 'better class behaviour' (22-30%), 'more in-depth information' (21%), 'single-sex classes' (17-18%), 'more lessons' (14-15%), 'less

lessons' (13-15%), whereas fewer selected 'no change' (27-28%) in comparison to the total sample.

Figure 3.1: Trends in the proportion of secondary students that rated the Relationships and Sexual Health Programme as poor, satisfactory, good, or excellent per survey year. A) Safe and supportive classroom environment. B) Overall rating of the course.



3.6.3 Most useful and important topic(s) selected by students

The following results include responses from the 2013-2017 surveys, which reflect the addition of new survey questions, including a total sample size of 20,467.

When asked to select the topics considered most useful (Table 3.2) (n = 20,467), the top five responses were (1) 'relationships' (47%), (2) 'safer sex' (45%), (3) 'STIs'(39%), (4) 'condom use' (36%), and (5) 'the body/puberty' (34%). There was a positive association between survey year and selection of 'consent' (OR 1.16, CI 95% 1.11 to 1.21, p=0.0000), as well as for selection of 'gender stereotypes' (OR 1.07, CI 95% 1.03 to 1.11, p=0.0003) and 'media/technology' (OR 1.06, CI 95% 1.01 to 1.11, p=0.0114), with these topics being increasingly selected over the five-year period. In contrast, there was a negative association between survey year and selecting 'contraception' (OR 0.94, CI 95% 0.89 to 0.99, p=0.0169), which was decreasingly selected over the survey period. Some topics showed no association between survey year and being selected as useful, suggesting that these remained stable over the five years, including 'relationships', and 'all of it' which were consistently rated high, and 'the body/puberty', 'respecting difference' and 'communication skills' which were less frequently selected.

When asked to select the *one* topic considered most important (Table 2) (n = 17,631; missing = 14%), over the five-year period, there was a negative association between survey year and selecting 'STIs' (OR 0.88, CI 95% 0.83 to 0.93, p=0.0000), 'contraception' (OR 0.87, CI 95% 0.81 to 0.94, p=0.0003), 'pregnancy options' (OR 0.78, CI 95% 0.68 to 0.9, p=0.0008) and 'safer sex' (OR 0.93, CI 95% 0.89 to 0.98, p=0.0069). However, there was a positive association between survey year and selecting 'all of it' (OR 1.21, CI 95% 1.12 to 1.31, p=0.0000), and 'consent' (OR 1.3, CI 95% 1.2 to 1.41, p=0.0000).

Table 3.2: Trends in included topics in the Relationships and Sexual Health Programme that students considered most useful and most important (2013-2017)

Topic	**Year of Survey**									
	2013		**2014**		**2015**		**2016**		**2017**	
	Useful %	**Most Impt %**	**Useful %**	**Most Impt %**	**Useful %**	**Most Impt %**	**Useful %**	**Most Impt %**	**Useful %**	**Most Impt %**
Safer sex[†]	47	19	45	20	45	18	47	17	41	15
Relationships	44	11	47	11	50	12	51	10	44	11
STIs[††]	41	15	38	13	39	13	37	11	35	10
Condom use	38	7	36	7	35	6	37	7	31	7
Where to go for help	36	6	33	5	36	4	36	3	31	5
Contraception[*††]	34	10	32	10	30	6	32	6	27	7
All of it[††]	26	10	26	12	23	17	24	20	24	19
The Body/Puberty	32	6	34	9	34	8	35	7	33	9
Gender stereotypes[**]	29	3	31	3	35	3	39	4	32	3
Pregnancy options[††]	26	2	24	1	24	1	25	1	20	1
Respecting difference	25	2	27	3	29	3	31	3	25	2
Consent[**††]	21	3	22	3	27	5	33	6	29	7

Communication skills	20	1	22	1	22	1	26	1	20	1
Media/technology*	17	2	21	2	21	2	24	2	20	1
Power	17	3	19	2	20	3	24	2	17	2

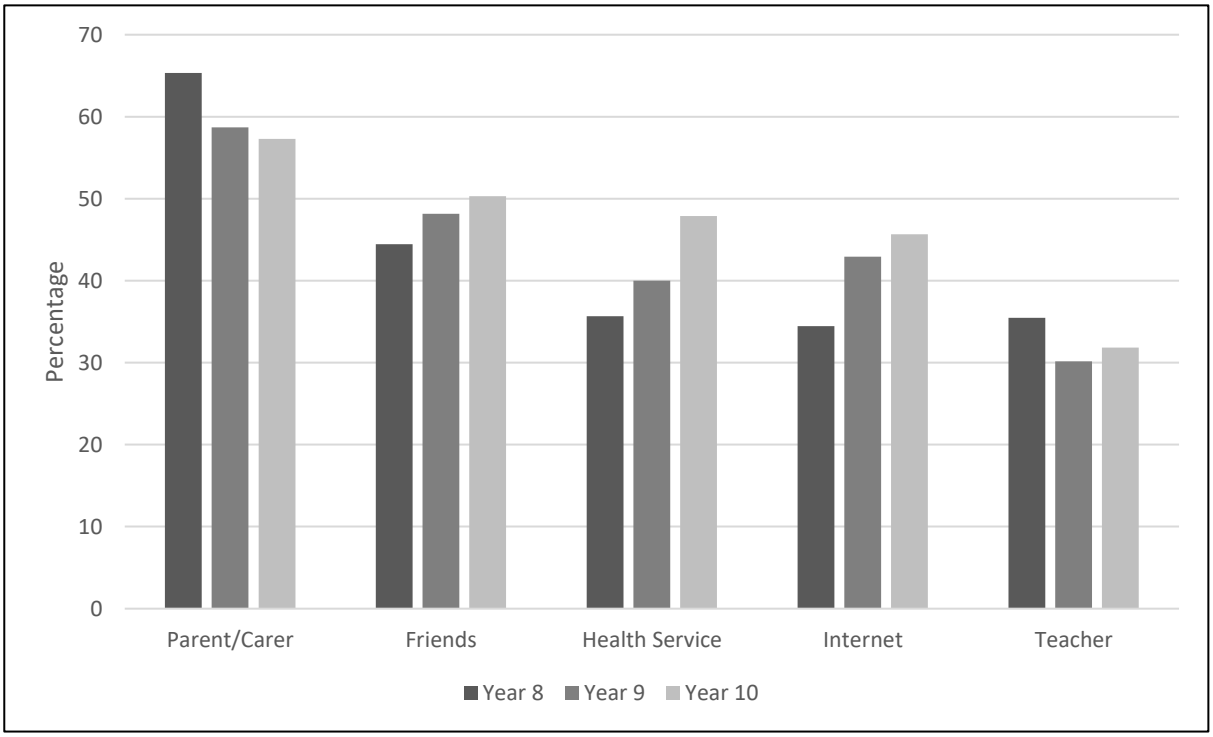
*Note: Most useful topics – students could select as many topics as they considered most useful (N=20,467): *p<0.05, **p<0.001.*

Most important topics (Most Impt) – students could only select one topic that they considered most important (N= 17,631): †p<.05, ††p<.001.

3.6.4 Sources of support and information about relationships and sexual health

Across the years 2013-2017, the most frequently selected sources of support observed did not change appreciably (n=20,467). For the total responses, 60% selected 'parent/carer', followed by 'friend' (46%), 'health service' and 'internet' (both 39%), and 'teacher' (32%). Figure 3.2 depicts the influence of students' year level on their source selection for the total sample (n=20,467). Regardless of the students' year level, 'parent/carer' was the top source. There was a negative association between year level and 'parent/carer' (OR 0.83, CI 95% 0.78 to 0.88, p=0.0000). In contrast, there was a positive association between year level and 'internet' (OR 1.29, CI 95% 1.2 to 1.38, p=0.0000), 'health service' (OR 1.28, CI 95% 1.19 to 1.37, p=0.0000), 'friend' (OR 1.13, CI 95% 1.06 to 1.2, p=0.0001), and 'teacher' (OR 1.1, CI 95% 1.05 to 1.15, p=0.0000).

Figure 3.2: The most common sources that secondary students' use for information and support on relationships and sexual health, presented by year level (2013-2017, n=20,467)



Note: Categories 'school counsellor', 'magazine', and 'other' are not presented due to low response rate

3.6.5 Inclusiveness of same-sex attraction and different values and beliefs

Data on whether students felt the programme was respectful and inclusive of same-sex attraction were available for 2013 to 2017 (n= 18,792; missing = 8%). In total, 46% and 33% of students considered the programme 'always' and 'often' inclusive and respectful of same-sex attraction, while 16% and 5% of students selected 'sometimes' and 'no'. Logistic regression analysis demonstrated no significant association between survey year and selecting 'often/always' (OR 1.03, CI 95% 0.99 to 1.08, p=0.15). When looking at the subgroup of students that rated at least one scale as 'poor/satisfactory', 40% of these students selected 'no/sometimes' in response to questions about inclusiveness of

same-sex attraction. The students who selected ‘no/sometimes’ for inclusiveness of same-sex attraction were much less likely to give the total programme rating ‘good/excellent’ (OR 0.29, CI 95% 0.26 to 0.32, p=0.0000).

A similar pattern was observed from student responses about whether the course was inclusive and respectful of different cultures and religions (n= 18,763; missing = 8%), with 32% and 48% of the participants selecting ‘often’ and ‘always’, respectively. There was a positive association between survey year and considering the programme ‘often/always’ inclusive and respectful of cultural and religious diversity (OR 1.14, CI 95% 1.09 to 1.2, p=0.0000). Again, for the subgroup of respondents who indicated that the programme was ‘poor/satisfactory’, a greater proportion of these students selected ‘no/sometimes’ (37%). The students that selected ‘no/sometimes’ for inclusiveness of cultural and religious diversity were much less likely to give a total programme rating of ‘good/excellent’ (OR 0.28, CI 95% 0.26 to 0.31, p=0.0000).

3.7 Discussion

Findings from this study with over 20,000 students across South Australia revealed that students highly value the relationships and sexual health curriculum provided in secondary school. Across all years, the majority of students rated the programme as ‘good’ or ‘excellent’ and over time students were increasingly positive about the programme fostering a safe and supportive classroom environment. There was an increase in the proportion of students who considered broader social health orientated topics, including ‘consent’, to be most important and useful. The findings revealed some important age differences with regards to preferences for information and support about relationships and sexual health, with older students demonstrating a shift away from parents/carers to greater reliance on the internet for information.

This study provides a number of encouraging findings. In particular, the majority of students responded to the scales (safe and supportive class environment, and overall rating) with either 'good' or 'excellent' ratings. A greater proportion of students selected 'no change' or 'more lessons' for suggested programme changes and an increase in selecting 'all of it' for the most important topic also emerged over time. However, there was a small decline in the overall rating of the programme as 'good/excellent' over time. Thus, there is still a need for ongoing review and revision of the programme to maintain its relevance to contemporary secondary students. This can be gained by continuing the annual surveys of the curriculum, as well as by undertaking in-depth research using participatory methods to gain insight into specific experiences of the programme (e.g., (Coll, O'Sullivan, and Enright 2018)).

The students who rated the course as 'poor' or 'satisfactory', either overall or with regard to providing a safe and supportive environment, made up a small proportion of the sample (<15% across all years). However, it is important to look more closely at this subgroup to understand ways to improve their engagement in relationships and sexual health education. There were a number of differences between the total sample and this subgroup. In particular, individuals within this subgroup were more likely to receive insufficient lessons, and consider the course to not be inclusive and respectful of same-sex attraction and other cultures. This subgroup also selected a larger number of suggested changes to the programme in comparison to the total sample. The changes focussed on modifications to the classroom environment, including delivery of the course in single sex environment.

The inclusion of sexual, gender and cultural diversity has been raised as an important component of relationships and sexual health education (Women UN and UNICEF 2018), and previous research has noted that sexuality- and gender-diverse youth

often feel their education is inadequate (Hillier et al. 2010; Mitchell et al. 2013). Whilst the South Australian curriculum emphasises the inclusion of teaching about sexual and gender diversity, whether teachers are able to combat homophobic and discriminatory comments in the classroom environment is a different issue (Ullman 2015), and may have contributed to poor or satisfactory ratings in this survey. With regard to cultural diversity, previous research indicates teachers can experience difficulty navigating what sexual health information is appropriate in a culturally diverse context (Eisenberg et al. 2012). Further research is needed to investigate ways to promote awareness and respect for diverse sexualities, genders and cultures in relationships and sexual health education, to ensure the experiences of minorities are not treated as an 'add on', which may exacerbate the 'otherness' these students can experience (Haggis and Mulholland 2014).

Having an 'enabling environment' is central to student health, wellbeing and academic achievement (Svanemyr et al. 2015), and this is particularly true for relationships and sexual health education, with students needing to feel safe and comfortable in order for these programmes to be effective (Thomas and Aggleton 2016). A small minority of students rated the programme as 'poor' or 'satisfactory', and these students were less likely to rate the classroom as being respectful and inclusive. Further research investigating ways to support educators to reduce discomfort and engage these students in relationships and sexual health education is required. To achieve this, an approach that acknowledges and respects contextual factors within students' lives is essential (Haberland and Rogow 2015). Importantly, findings from this survey demonstrate an increase in ratings of the class environment as being 'good' or 'excellent' over time. This may suggest an increasing focus among schools on promoting a positive class environment, increased confidence within teachers to facilitate, or students feeling more comfortable discussing sexual health matters.

This paper also provides important insights into the topics secondary students consider important. Of particular interest is the increase in students selecting the topic 'consent' both as the most important and one of the most useful topics. To ensure students are appropriately engaged in relationships and sexual health education the topics within the curriculum need to reflect their reality (Aggleton and Campbell 2000; Allen 2005b), and the observed increase in selecting 'consent' may reflect the current social climate (e.g., awareness of the 'Me Too' movement (Lind, Adams-Clark, and Freyd 2020; Unis and Sällström 2020)). Students being increasingly open to discussions around consent is an important step towards building community awareness and challenging the norms that contribute to gender-based and family violence, sexual harassment and assault (Australian Human Rights Commission 2017; Australian Institute of Health Welfare 2019).

There is an emerging field of research investigating how consent is conceptualised and negotiated by young people (Coy et al. 2016), suggesting that although young people often understand the meaning of consent, real life contexts provide unique challenges particularly for younger adolescents which makes negotiating consent difficult (Burkett and Hamilton 2012; Coy et al. 2016). Whether the student sample in this study wanted more information, greater practical support, or assistance in developing skills around negotiating consent would be a fruitful area for further in-depth research, to ensure the programme aligns with students' lived experiences and needs. Nevertheless, the increasing interest in consent demonstrated in this study reinforces the importance of inclusion of consent and related constructs (e.g., how consent is influenced by gender (Powell 2010)) in relationships and sexual health education.

Related to 'consent', is the topic of 'relationships' which was one of the most frequently and consistently selected topics as most important and useful across the survey

years. Learning about interpersonal relationships, including platonic relationships, through relationships and sexual health education is critical during early development (Hair, Jager, and Garrett 2002; Goldman 2013). It provides children with the opportunity to develop skills and identify behaviours that are appropriate across their social landscape (including abuse), while preparing them to navigate romantic and/or sexual relationships in the future.

At the forefront of Relationships and Sexual Health Programme's curriculum is the topic of 'relationships'. This aligns with previous research demonstrating that students desire more information about the social and emotional aspects of sexual health and is reflected in this study (Giordano M and Ross A 2012; Macintyre, Montero Vega, and Sagbakken 2015; Johnson B et al. 2016; Hogben et al. 2017). Further, in the current study there was a decline over time in selection of more biological topics (e.g., STIs and contraception) as the most important. This could be explained by the increase in students selecting 'all of it', or reflect the plethora of information that is available online about these topics (Simon and Daneback 2013; Doornwaard et al. 2017).

Where young people receive information and support for relationships and sexual health continuously evolves alongside accessibility to technology. In the current study, the most frequently selected source of support and information regardless of the student's year level was 'parent/carer'. This is in contrast to another Australian study where parents were reported as the sixth most frequent source of information (Giordano M and Ross A 2012), although this may be explained by the slightly older age of participants in that study. Friends were another commonly selected source, and there was an increase in the selection of friends with advancing school year level. This is consistent with previous research with young people demonstrating the strong influence of peers as a source of

sexual health norms and information, as well as support (Whitfield et al. 2013; Van de Bongardt, Reitz, et al. 2015).

Other sources that were selected more frequently as the school year level increased were health services and the internet. The frequent use of the internet reported in this and other studies (Giordano M and Ross A 2012; Doornwaard et al. 2017) identifies the need for inclusion of health literacy skill building in school curricula to equip young people with the skills to distinguish between reliable sexual health information online. With increasing recognition of the importance of providing youth-friendly health services (Ambresin et al. 2013), it is promising that almost half of students aged 15 to 16 in this study reported accessing health services for sexual health information and guidance. However, more research is needed to understand whether younger students (e.g., ages 13-14 years) want greater access to health services or want other avenues for support on relationship and sexual health topics.

3.7.1 Strengths and limitations

A major strength of this research is the use of a very large sample of students surveyed annually over a decade. Participants in the survey were broadly representative of South Australian secondary school students, as they were captured from a range of diverse school settings that covered both urban and rural locations.

There are a number of limitations relating to the data collection, however, such as discontinuing the collection of information about gender from 2012, and prior to this, the failure to allow students to select a non-binary gender. Nevertheless, based on the data that was available about gender, the gender distribution of students was representative of South Australia in the middle years of survey data collection. This is an important strength, as sexual health is often framed as a gendered issue, with more emphasis and

responsibility placed on girls and women (Saewyc 2012). Nevertheless, there is an ongoing need to ensure there is adequate representation of young boys in research concerning relationships and sexual health (Starrs et al. 2018). A further limitation concerning gender is the missed opportunity to investigate whether students consider the curriculum inclusive of gender diversity, as has been done for sexuality and cultural-diversity.

The data collection in the current study was designed provide SHINE SA and participating schools with feedback on whether students considered the programme satisfactory, and gauge interest in specific sexual health topics, to permit programme adaptation. However, additional data could be collected to further adapt and advocate for this programme, including questions to evaluate student knowledge, attitudes and skills, pre- and post-programme. The number of lessons received was introduced to the survey in 2014, while this is an improvement to the survey, more detailed data on the way the programme was delivered should be considered to assess programme fidelity, which has been noted as a limitation of other studies (LaChausse, Clark, and Chapple 2014; Denford et al. 2017).

Another possible limitation was the need to collapse the programme rating variables (‘poor/satisfactory’ vs. ‘good/excellent’) for logistic regression analysis, which may have resulted in some loss of information.

3.8 Conclusion

The results of this study demonstrate student support for and increasing interest in a diverse range of topics in sexual and reproductive health education, spanning social and biomedical topics. This provides clear evidence in support of the sustained implementation and funding of comprehensive sexual health and reproductive health curricula in secondary schools. Furthermore, while most students in the survey felt the curricula were delivered in a safe and supportive environment, there is a need for continued focus on creating an inclusive environment to improve engagement of gender- and sexuality diverse and culturally diverse students.

CHAPTER FOUR: "Hadn't thought about gender before": a Qualitative Exploration of Teachers' Perspectives about Relationships and Sexual Health Education Training

(SUBMITTED January 2022 – *Teaching Education*)

4.1 Preamble

While Chapter 3 explored feedback from secondary students, Chapter 4 investigates teacher feedback of the related training for the Relationships and Sexual Health Programme. As demonstrated in Chapter 3, there was a growing appreciation for socio-emotional topics amongst secondary students, including 'consent'. Whether teachers similarly appreciate training on these sexual health topics was explored in Chapter 4. This chapter utilises survey data on teacher feedback following a two-day training session on the Relationships and Sexual Health Programme curriculum. The survey comprised of tick box and free-text responses, the latter was addressed via content analyses for an exploration of which sexual health topics were considered most and least useful by teachers. This study provides insight into which sexual health topics teachers appreciated training on, and provides suggestions for how sexuality education teacher training can be improved.

This chapter has been submitted for publication in the journal *Teaching Education*.

4.2 Statement of authorship

Statement of Authorship

Title of Paper	**"Hadn't thought about gender before": a qualitative exploration of teacher's perspectives about relationships and sexual health education training.**
Publication Status	☐ Published ☐ Accepted for Publication ☒ Submitted for Publication ☐ Unpublished and Unsubmitted work written in manuscript style
Publication Details	**Kedzior, S. G., Calabretto, H., Drummond, H., Moore, V. M., Rumbold, A., & Lassi, Z. S. (2021). "Hadn't thought about gender before": a qualitative exploration of teacher's perspectives about relationships and sexual health education training.**

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Name of Principal Author (Candidate)	Sophie GE Kedzior		
Contribution to the Paper	Conceptualised research question, conducted data cleaning, management and analysis including content analysis, wrote manuscript, acted as corresponding author.		
Overall percentage (%)	80%		
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	9/11/2021

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 in 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.

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Contribution to the Paper	Acted as key correspondent for SHINE SA, assisted with the conceptualisation of the research questions, provided access and guidance to the data used in this manuscript, contributed to manuscript drafting and editing.		
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Signature		Date	21/01/2022

"Hadn't thought about gender before": a Qualitative Exploration of Teachers' Perspectives about Relationships and Sexual Health Education Training

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4.3 Abstract

Background: Teacher training is imperative to ensure teachers have the necessary skills and confidence to teach relationships and sexual health education. Further exploration on which sexual health topics covered in teacher training courses are valued is needed.

Methods: Teachers that participated in a two-day training course provided feedback on their confidence and the sexual health topics considered most and least useful. Tick box and free-text responses were included regarding the usefulness of the topics. Content analyses were undertaken to contextualise why the topics were considered useful.

Findings: Gender and power, same-sex attraction, and violence in relationships, were highly regarded by majority of teachers. Teachers valued the opportunity and specialist support in updating their knowledge and strengthening the complex skills required to teach relationships and sexual health education. However, some teachers felt that the

course was targeted towards educators with less knowledge, while others required more support in strategies to discuss safer sex.

Conclusions: Tailoring training to compliment teachers' experience and previous professional development would ensure that relationships and sexual health education courses are relevant to teachers' needs. In addition, further engagement with teachers on the relevance of inclusive relationships and sexual health education for all students is required.

Key words: sexuality education, teacher confidence, professional development, teacher training

4.4 Introduction

Relationships and sexual health education often occurs within schools and involves a range of topics from biology and development, to social topics, such as relationships and gender stereotypes (Pound, Langford, and Campbell 2016). While a number of professionals may facilitate this education, including school nurses and counsellors, most often the responsibility falls to teachers (Fonner et al. 2014). However, if teachers lack professional learning, confidence or are conflicted with teaching certain topics, it can result in a poor educational experience for students and reduce student wellbeing (Pound, Langford, and Campbell 2016; Collier-Harris and Goldman 2017), as well as reinforce harmful norms and gender stereotypes (UNESCO 2015).

The successful implementation of relationships and sexual health education does not stem solely from teacher familiarity with a curriculum; diverse skills are required, including preparedness, comfort and support from the broader school environment (Lokanc-Diluzio et al. 2007; Women UN and UNICEF 2018). The knowledge, skills and confidence necessary to teach relationships and sexual health education can be developed through quality pre-service and in-service training. A recent systematic review on pre-service training in Australia drew attention to the continuing feelings of ill-preparedness of pre-service teachers going into relationships and sexual health education (O'Brien, Hendriks, and Burns 2020). In combination with a literature review on South Australian pre-service teachers' sexually transmitted infection (STI)-related knowledge and attitudes (Talukdar and Aspland 2013), these studies emphasise the need to monitor and evaluate both relationships and sexual health education teacher training and curriculum on an ongoing basis.

Training can help ensure that topics that are considered sensitive are not minimized due to personal discomfort or beliefs (Alldred, David, and Smith 2003; Carrion and Jensen 2014; Burns and Hendriks 2018). Beyond challenging personal attitudes and biases, training can provide teachers with the opportunity to enhance confidence in teaching about broader sexual health related topics, such as respectful relationships (Ollis 2014). Although many teachers have shown willingness to teach these topics given the appropriate support (Goldman and Grimbeek 2016), there is still little pre-service or in-service training provided (Carman et al. 2011; Byrne et al. 2016). The ongoing need for support has also been noted by sexual health education teachers in Australia surrounding topics relating to sexuality and gender diversity (Smith et al. 2011; Ezer et al. 2021). Although a number of studies in Australia have captured the perspectives of sexual health educators across different states (e.g., (Smith et al. 2013; Johnson, Sendall, and McCuaig 2014; Burns and Hendriks 2018; Ezer et al. 2021)), few studies explore which topics covered in training are valued by teachers.

The current study investigates the perspectives of teachers following a two-day relationships and sexual health training course, on which sexual health topics they consider the most and least useful for their professional development. This study aimed to explore the reasoning behind why some topics are considered more or less valuable, and the implications this has for providing teachers with ongoing support in these areas.

4.5 Method

4.5.1 Training Content and Objectives

A large proportion of government schools in South Australia provide SHINE SA's Relationships and Sexual Health Programme, often taught as a part of the Health and Physical Education Learning Area. SHINE SA generates three handbooks with curricula specific to secondary school, including grades 8 (ages 13-14 years), 9 (ages 14-15 years) and 10 (ages 15-16 years), which consist of 15 lessons per grade (https://www.shinesa.org.au/courses/secondary-years/). Varying emphasis is placed on different topics depending on the grade, for example, the grade 8 curriculum has a greater focus on puberty. The handbooks provide lesson plans that include instructional advice, activities, and resources as well as lesson objectives. The student learning outcomes for the programme include improvements in attitudes, skills and knowledge, but in order for students to develop in these areas, their teachers need to have the skills to disseminate these lessons.

A two-day training course (*Teach it like it is 2*) can be undertaken with SHINE SA for any teacher or school staff member. Participation in the course is a requirement for teachers and schools to have access to the curricula. This course utilises the Relationships and Sexual Health Programme curriculum for secondary students (grades 8-10, student ages ranging 13-16 years), which is based on SHINE SA's principles of best practice (SHINE SA 2019), and mapped to the Child Protection Curriculum (Department for Education) and Australian National Curriculum (ACARA).

The topics covered over the course compliments each grades' handbook, by noting which lessons (and how many) address the sexual health topics, and the methodologies available. The key message of each lesson can be addressed through a

number of available activities, and teachers are encouraged to adapt the approach to best suit the context and needs of their students. Throughout the two-day training course, teachers actively participate in different student activities in order to determine their appropriateness and to gain confidence in facilitating these tasks.

4.5.2 Course Evaluation

The course evaluation implemented a pre-post design. Immediately following teacher training, teachers are provided with the option to offer feedback on the course and their development through an online survey (Survey Monkey). The survey comprises of Likert scales that captured teacher confidence before and after training (1 = not confident, 2 = low confidence, 3 = confident, 4 = very confident), and areas of personal improvement related to knowledge, skills, and awareness (1 = no improvement to 5 = high improvement). From 2014, demographic information was captured which included which grades the teachers were involved with, years of experience teaching sexuality education, and whether they had previous professional development. Specific feedback relating to the course content was provided through check boxes and the option to include a free-text comment for the topics of the training that were the most and least useful.

4.5.3 Data Analysis

4.5.3.1 Quantitative Data

Descriptive statistics described the feedback provided by teachers who completed the two-day training programme between the years 2013-2017. Descriptive statistics were used to describe ratings of teacher confidence and competencies after training completion. Percentages were calculated to determine the frequencies of self-rated confidence before and after the training, and improvements for competencies related to knowledge, skills, and awareness. Wilcoxon signed rank tests were used to determine whether there were

significant differences in ratings of teacher confidence before and after training. Differences were examined overall and for the following subgroups; grades taught, years of experience in relationships and sexual health education, and previous professional development. Analysis was conducted on the grades taught and years of experience in relationships and sexual health education, but there were no differences between these groups therefore this is not reported. Participants were able to skip any of the survey questions; therefore every question was not answered by every teacher. The analyses were conducted using Stata version 15.0 (StataCorp 2017).

4.5.3.2 Free-Text Responses and Content Analysis

Two content analyses were undertaken to analyse the free-text responses for the questions relating to usefulness of each sexual health topic. Topics included in the training were: 1) gender and power, 2) same-sex attraction, 3) relationships and violence, 4) media and technology, 5) safer sex and teenage pregnancy, 5) values and diversity, 6) puberty. There were 677 free-text responses available for the most useful topic, and 636 comments for the least useful topic. Data was first cleaned, which involved removal of free-text responses that did not add depth, for example "N/A" was removed from the most useful responses. Responses that did not meaningfully address the question on the least useful topics were removed (e.g., "All sections were highly relevant and useful"), as the purpose of this question was to determine why topics were considered less valuable. This resulted in 673 and 299 free-text comments for the most and the least useful topics, respectively. Each dataset was first read through in full to become familiar with the content, before coding the free-text comments (Hsieh and Shannon 2005). These codes led to the division of free-text comments into categories, which were then broken down into subcategories. The frequency of each category and subcategory was summarised, and free-text responses that were summative were highlighted.

4.5.4 Ethics

The University of Adelaide's Office of Research Ethics, Compliance and Integrity's Human Research Ethics Secretariat assessed this project and determined that ethics approval was not required.

4.6 Results

4.6.1 Demographics and improvements of teacher competencies

From 2013 to 2017, 1,273 teachers participated in providing feedback (Table 1). The majority of participants taught reception-grade 7 (ages 5-13 years) and grades 8-10 (ages 13-16 years), with fewer teaching grade 11-12 (ages 16-18 years). Participants were more likely to have no teaching experience (45.6%), and no previous professional development in relationship and sexual health education (47.2%).

For self-assessment on confidence, an improvement after training was observed for the whole sample (Table 4.1). There was an overall significant improvement in the rating from 'low confidence' before training to 'confident' following training ($p<0.001$). Participants were asked to provide self-assessment on other capabilities following the training, including: understanding of comprehensive relationship and sexual health topics, content specific knowledge, skills related to creating safe spaces, teaching methodologies, and facilitating student discussions, awareness of personal attitudes and values, and access further information and support. Overall, for all seven criteria, ≥94% of participants selected 4 or 5, indicating high improvement.

Table 4.1: Characteristics of teachers that participated in the two-day training course on relationships and sexual health education, 2013-2017 (n=1,273)

Participant information	**n (%)**	**Confidence before training**					**Confidence after training**				
Total N:	1,273	1: Not confident **n**	2: Low confidence **n**	3: Confident **n**	4: Very confident **n**	Average score	1: Not confident **n**	2: Low confidence **n**	3: Confident **n**	4: Very confident **n**	Average score
		266	508	443	78	2.3	3	40	750	459	3.3
Year levels involved with (2013-2017)†											
		n (%)	**n (%)**	**n (%)**	**n (%)**		**n (%)**	**n (%)**	**n (%)**	**n (%)**	
Reception – Grade 7	638 (41)	133 (21.1)	259 (41.1)	207 (32.8)	32 (5)		1 (0.2)	21 (3.3)	398 (63.2)	210 (33.3)	*
Grade 8 – Grade 10	657 (42)	96 (14.8)	250 (38.5)	256 (39.4)	48 (7.4)		0 (0)	18 (2.8)	362 (56)	266 (41.2)	*
Grade 11 – Grade 12	274 (18)	33 (12.3)	115 (42.7)	99 (36.8)	22 (8.2)		2 (0.8)	8 (3)	155 (58)	103 (38.2)	*
Years' experience in relationships and sexual health education (2014-2017)											
None	419 (46)	132 (32)	211 (51.2)	65 (15.8)	4 (1)		1 (0.2)	25 (6.2)	290 (71.6)	89 (22)	*

1-2 Years	186 (20)	17 (9.3)	83 (45.6)	74 (40.7)	8 (4.4)	0 (0)	1 (0.5)	102 (54.8)	83 (44.6)	*
3-5 Years	102 (11)	7 (6.9)	36 (35.6)	49 (48.5)	9 (8.9)	0 (0)	2 (2)	50 (50)	48 (48)	*
6-10 Years	105 (11)	3 (2.9)	32 (31.1)	59 (57.3)	9 (8.7)	0 (0)	0 (0)	59 (56.7)	45 (43.3)	*
10+ Years	107 (12)	3 (2.8)	14 (13.2)	62 (58.5)	27 (25.5)	0 (0)	0 (0)	41 (39.1)	64 (60.9)	*
Previous professional development in relationships and sexual health education (2014-2017)†										
None	475 (47)	134 (28.6)	221 (47.1)	106 (22.6)	8 (1.7)	1 (0.2)	25 (5.4)	317 (68.3)	121 (26.1)	*
University Course	175 (17)	9 (5.2)	76 (43.9)	76 (43.9)	12 (6.9)	0 (0)	2 (1.2)	88 (50.9)	83 (48)	*
Previous SHINE SA 2 day teacher training course	136 (14)	7 (5.2)	29 (21.6)	68 (50.8)	30 (22.4)	0 (0)	0 (0)	63 (47)	71 (53)	*
SHINE SA 1.5hour Update	75 (7)	3 (4.1)	26 (35.1)	31 (41.9)	14 (18.9)	0 (0)	0 (0)	28 (37.8)	46 (62.2)	*
Other (e.g., Child Protection	146 (15)	13 (9.3)	48 (34.5)	65 (46.8)	13 (9.4)	1 (0.2)	25 (5.4)	317 (68.3)	121 (26.1)	*

Curriculum, Family Life Education)										

*†Participants could select as many categories as was applicable. Wilcoxon signed rank test were conducted: *p<0.001*

Note: Participants could choose whether to respond to each question, therefore, there is some missing data.

4.6.2 Topics considered most and least useful

There were a greater number of topics selected for being most useful compared to least useful (3,974 responses vs. 659 responses, respectively). The top three most useful topics were gender and power (53%), same-sex attraction (49%), and relationships and violence (44%). The least useful topics included media and technology (11%), puberty (11%), and safer sex and teenage pregnancy (8%).

4.6.3 Content Analyses

The results of the content analyses are presented in Table 4.2 and Table 4.3, which describe the categories and subcategories for the most and least useful topics, respectively. Examples of the free-text comments are presented, and an analytical commentary accompanies these.

The majority of the free-text responses on the most useful topics emphasised how *Teach it like it is 2* training provided teachers with the opportunity to gain further or new knowledge, and develop necessary skills to teach relationships and sexual health (Table 4.2). This category was comprised of four subcategories: knowledge and awareness, topic specific, improving capabilities, and training specific. The first subcategory comprised of 19% of all free-text responses, and comments related to how the training provided teachers with new and updated knowledge. For teachers with greater experience, this training refreshed their understanding of topics that have evolved since they began teaching or received their own relationships and sexual health education. The following free-text response provides an example of this, and this participant selected several topics including ‘values and diversity’:

“These are the parts that have changed most since I did it at school”

One in ten participants raised either a specific topic they considered interesting, or the key message they learnt about a topic. All topics were included in the responses, with some participants specifying several in their free-text comment. There was specific appreciation for statistics (e.g., on STIs and sexual intercourse), as well as sexuality and gender diversity. Statistics were included throughout the training, and were especially emphasised in the 'introduction' section. Respondents felt that the statistics provided them with a starting point as well as context for different topics, including same-sex attraction and sexual behaviour of secondary students. Same-sex attraction, gender stereotypes and diversity were raised frequently across this subcategory, with respondents commenting on how the training provided them with an understanding of the difference between sex and gender, and the appropriate language to use. This is described by the comment below:

> *"Getting to know all the different terms used for gender etc., and what comes with them"*

The remaining responses raised how the training provided teachers with the opportunity to improve their confidence and comfort in discussing sexual health topics with students. This was particularly important for teachers with little experience or professional development.

Although acquiring new knowledge was the most frequent appraisal of the training, there were over a hundred responses identifying strategies to promote positive engagement of students. In particular, 12% considered several topics to be of particular relevance to their students. Teachers remarked that these topics covered the common questions and issues students ask of their teachers (e.g., on same-sex attraction). The following responses illustrate this view:

"Covered what questions young people ask and informed me about sexual health"
"Discrimination against [same-sex attraction] is an issue our year are facing & pressure to do things they may not want to do"

This also tied into a smaller subcategory, which noted that training provided teachers with strategies to approach these topics, which could result in direct impact on their students. For example, in ways to address and combat student attitudes by addressing sexuality diversity.

Around 16% of the participants commented on their appreciation of the practical support provided by the training, including what language to use when approaching topics teachers may consider difficult. About 8% of participants appreciated the opportunity to clarify how to deliver different topics, including how to start the discussion around a new or challenging topic (such as gender, same-sex attraction, and safer sex). The below quotations describe these findings below:

"I didn't know the words to use to describe it"
"Did not know how to positively approach these topics in the classroom"
"How to cover this in a non-contrite way"

Fifteen percent of respondents considered all topics to be useful. A further 9% of free-text comments spoke to how relationships and sexual health education has evolved alongside contemporary society. This included teachers noting that the current curriculum is more modern and relevant to today's society and students. Other teachers raised how some of these topics are currently considered taboo or were something they had not considered teaching. The following responses exemplify these points:

"Areas that aren't usually talked about much at schools"
"Hadn't thought about gender before"

Finally, a small group of participants took the free-text comment as an opportunity for self-reflection. This included some teachers finding the topics to be either challenging or conflicting to their personal beliefs, while others found it to be eye-opening and provided them with a new perspective. Even those that found certain topics conflicting, the comments were overwhelmingly positive. An example of this is provided below:

> *"An area where I have some conflicting ideas – This made it much easier to understand"*

This first analysis reiterated the appreciation of topics raised as useful in the quantitative data, namely gender and power, same-sex attraction, and values and diversity. Teachers expressed that they developed skills spanning beyond knowledge and confidence, to include strategies to engage students and combat discrimination in class. The training also provided them with the opportunity to self-reflect and learn from the experiences of their peers.

Table 4.2: Themes arising from the content analysis of the most useful topics of the training (N = 673)

Category	**Number of responses (%)**	**Subcategory**	**Number of responses (%)**	**Sample quotes**
Supports knowledge and skill development	270 (40%)	Increased my knowledge & awareness	125 (19%)	"These are the topics I had little knowledge of"
		Appreciation of a specific topic and key message	64 (10%)	"Always good to get more info on same sex attraction."
		Improving my capabilities	42 (6%)	"I will be more comfortable teaching this"
		Applicability of the training for my facilitation of the course	39 (6%)	"Quite useful to the content I will need to deliver"
Skills to promote positive engagement	114 (17%)	Relevant to my students	80 (12%)	"Relevant to so many students at my school"
		A variety of strategies to address topics and student attitudes	22 (3%)	"How to present to students, ways to address topics/issues"
			12 (2%)	

		Belief that the topic is appropriate for the age of my student cohort		"All very relevant for secondary students and not often discussed."
Offers practical support	107 (16%)	A variety of resources available for use	52 (8%)	"New and revised methods of teaching these topics"
		Clarification on delivery	38 (6%)	"How to teach about different relationships and touch. How to articulate them"
		Guidance for teaching harder and unfamiliar content	17 (3%)	"I didn't know the words to use to describe it"
Relevance to contemporary society	63 (9%)	Applicable to current society	26 (4%)	"Very current topics"
		Moving away from traditional topics	21 (3%)	"These are typically the topics not covered well in traditional sex ed"
		Topics that are not spoken about in the school setting or I had not considered including	16 (2%)	"Usually not spoken about"
Encouraging self-reflection	19 (3%)	Increasing personal awareness	14 (2%)	"A personal awareness. If my view and acceptance has changed, then it means I can teach much more effectively.
		Something I have a personal interest in	5 (1%)	
Everything	100 (15%)			"All useful either as reminders or new information."

The analysis on the least useful topic revealed four categories, comprising of ten subcategories (Table 4.3; n = 299). Over half of these comments related to how teachers felt the training was targeted towards those with little experience or knowledge. These participants felt they had a good pre-existing understanding of the topic. Further, over a quarter of responses emphasised that there was an overlap with other curricula, such as on cyber safety and the *Child Protection Curriculum*. Although these comments were related to the least useful topics, they were not necessarily negative. The below response illustrates this point:

> *"These are two topics I am quite familiar with generally but hearing/thinking about it again was still useful."*

The third category consisted of whether the teachers considered the content as age-appropriate for their students, and whether they would likely use it in the classroom. For the comments concerning students' age, most stated that the content was less relevant or it would not be covered, as their students were primary school aged. The ensuing comments are representative of this:

> *"Probably the sex related content, I teach year 5."*
> *"I think year eight is perhaps a more appropriate age for this."*

Whether a topic was considered under- or overemphasised emerged as another category. Some of the topics that teachers thought required more attention included challenges surrounding hygiene and menstruation, and teenage pregnancy. A few teachers (n=10) raised that they felt there was an overemphasis on some topics, in particular, same-sex attraction was considered overstated with other topics were skimmed over as a consequence of this focus. The following responses typify this concern:

"Felt this area was a bit over emphasised considering the [percentage] of the population that are this way"

"I felt that there was such a strong focus on LGBT that things like STIs and stages of pregnancy were a bit rushed."

The subsequent category comprised of teachers that had issues regarding the course content or how the training was facilitated. First regarding the content, some teachers felt the content was either dated or a topic was too time consuming. Contrastingly, other teachers felt that more information or strategies were needed for some topics. The following quotations highlight this:

"Possibly more strategies around this but the violence aspects within relationships is a difficult area to approach with some at risk students."

"Would have liked more info on how to make it more relatable and breakdown community views/stereotypes."

"Would like to find new and engaging ways to deliver the reproductive system."

The second analysis demonstrated that teachers, regardless of teaching experience, felt that the training targeted those with less knowledge. While some of these respondents felt they had the knowledge and confidence needed, others felt that further clarification, support or strategies would be of value.

Table 4.3: Themes arising from the content analysis of the least useful topics of the training (N = 299)

Category	**Number of responses (%)**	**Subcategory**	**Number of responses (%)**	**Sample quotes**
Targeted to inexperienced teachers	162 (54%)	I already have knowledge and confidence in this area	91 (30%)	"It was probably an area that I already felt comfortable in."
		I have learnt about this in other training	44 (15%)	"Areas where I have knowledge already through other school based training"
		I have taught this topic previously	20 (7%)	"It is a topic I teach under English"
		I have knowledge from life experience	7 (2%)	"Knowledge as a mother"
Concern about age appropriateness	48 (16%)	Beliefs around what is appropriate for students	43 (14%)	"Not suitable for my students age"
		I am unlikely to teach this to my class	5 (2%)	"Stats were interesting, but won't use in classroom."
Balance of topics	38 (13%)	I needed more information on this topic	28 (9%)	"I think we rushed this section, would have been good to get more info."

		There was too much time spent on this topic	10 (3%)	“Smallest subset of the population.”
Specific suggestions for improvements to the course	51 (17%)	Opinions on structure and content I need further clarity or information I am unsure if this topics activities are useful to me This felt like common sense	20 (7%) 13 (4%) 9 (3%) 9 (3%)	“Something that didn't focus much on the content that I needed to know” “Dynamics of asking for an abortion or choices with pregnancy.” “Not convinced about blue/pink idea and strategies to cope with sexualisation in the media” “I feel like most people know about puberty and that the other sections were so much more helpful.

4.7 Discussion

Findings from this study demonstrate that teachers appreciate and benefit from participation in *Teach it like it is 2* training, which is reflected in improved teacher confidence and competencies. Results showed that the training resulted in higher confidence, especially for those with no previous professional development. The specific topics that teachers considered most useful were more social in nature (i.e. gender and power, same-sex attraction). This is consistent with findings from previous studies, with teachers noting that they often required more guidance on topics including gender and same-sex attraction (Smith et al. 2011). A systematic review of qualitative studies highlighted the absence of these same topics in relationships and sexual health curricula and training, and recommended remedying this (Walker et al. 2020). At the same time, there were areas that teachers felt could receive less emphasis.

There were some concerns about whether teachers' students were old enough for the content recommended. Such misgivings can influence teachers willingness to teach specific content, especially if there are other structural barriers and lack of supports (Cohen, Byers, and Sears 2012; Eisenberg et al. 2013). On the other hand, some teachers felt that training on same-sex attraction and gender were important and relevant, both to combat discrimination in schools and because students frequently asked questions surrounding sexuality. Other studies in South Australia (Johnson B et al. 2016) and internationally (Hilton 2007; Phillips and Martinez 2010), have noted that gender diversity, gender norms, and sexuality are topics that are important to students. Whether the teachers that found the content on sexuality and gender diversity useful then disseminated this content into the classroom requires further investigation, especially considering recent national data found that teachers feel least comfortable teaching these topics (Ezer et al. 2021).

Topics considered not age-appropriate included safer sex and teenage pregnancy. This was largely attributed to their cohort of students being in primary education (e.g., age 10 years), and would be something they would address in later grades (e.g., grade 8). While Australian data has shown that 46.6% of secondary school students have engaged in vaginal or anal intercourse, other behaviours such as deep kissing and oral sex are more prevalent (Fisher CM et al. 2019). An understanding of sexual behaviour outside of penetrative intercourse is important as these may be experienced at younger ages (Haydon et al. 2012; Chow et al. 2017; Fisher CM et al. 2019; Kelly et al. 2019).

While international bodies recommend comprehensive education in primary years that is age-appropriate for a child's development, there can be variation across developmental stages within a student cohort (Grace, Hayes, and Wise 2017), which can make it difficult for teachers to navigate specific content. Beyond this, what is age-appropriate or important is often determined by adults, whether that be the school, teacher, parents or even researchers (Phillips and Martinez 2010; Haberland and Rogow 2015). What young people, both in primary and secondary schooling, consider appropriate for them to learn needs to be explored (Hilton 2007; Powell and Barber 2017).

While participants considered all topics useful, gender and power, same-sex attraction, and relationships and violence were highly regarded in both the quantitative and free-text responses. Considering that teaching gender, sexuality and relationships are typically more challenging (Sherwin and Jennings 2006; Robinson and Ferfolja 2008; Sondag, Johnson, and Parrish 2020) it is welcoming to see that the majority of teachers appreciated this focus. For those that were less appreciative as to why such emphasis was placed on a 'small proportion of the population', further studies are needed to explore how to engage teachers in recognising the importance of including diversity in relationships and sexual health education, by making

these topics more relatable (e.g., (Ollis 2010)). This is particularly important when studies have shown that teacher positivity and support regarding sexuality and gender diversity result in improved connection and wellbeing for students who identify as such (Ullman 2017).

This has implications for Australia, considering the backlash on the *Safe Schools Coalition Australia* programme, which aimed to increase understanding of lesbian, gay, bisexual, transgender, intersex (LGBTI+) young people in the Australian education setting (e.g., (Carden 2019)). Relationships and sexual health education often fails LGBTI+ youth, and the need for more inclusive education is well documented (Hillier et al. 2010; UN Youth Australia 2019; Sondag, Johnson, and Parrish 2020). The inclusion of sexuality and gender diversity topics across the school environment is imperative to contest discrimination and provide all youth with the relevant knowledge and skills to maintain positive sexual health (Ollis 2010). The findings of this study suggest that some teachers views may be grounded in heteronormativity (DePalma and Atkinson 2006; Ferfolja 2007) and may require further guidance on why inclusive relationships and sexual health education is important for all students. Despite personal and societal beliefs that this content is relevant to a small number of individuals, discussions around sexuality and gender are critical to provide all students with an understanding of diversity and to collectively provide a safe school environment (Horn, Szalacha, and Drill 2008; Romeo and Horn 2017).

Previous research has demonstrated that confidence and teacher training are significant indicators for teaching comprehensive sexual health topics (Rhodes et al. 2013; Fisher and Cummings 2016). The current training resulted in increased confidence for all teachers, regardless of previous teaching experience or professional development in relationships and sexual health education. The greatest improvement in confidence were for participants with no previous experience or professional development, which further speaks to the relevance of pre-

service training (Ninomiya 2010; Rose, Boyce, et al. 2019; O'Brien, Hendriks, and Burns 2020). While this training resulted in teachers feeling more confident, whether this confidence remained while facilitating the curriculum is unknown. One study has demonstrated teacher confidence may diminish a year post training, once teachers have begun facilitating the relationships and sexual health programme (Wight and Buston 2003). Both of these studies speak to the importance of ongoing evaluations of teacher confidence, as well as identification of strategies to ensure teacher confidence remains once facilitating the programme.

In agreement with the majority of the literature (Wilson et al. 2015; Burns and Hendriks 2018; Clayton et al. 2018; Rose, Boyce, et al. 2019), teachers from this study acknowledged the need for ongoing professional development. While this is a common finding, teacher training courses in relationships and sexual health education are often at the own teachers' discretion in Australia and internationally (e.g., USA) (Carman et al. 2011; Smith et al. 2011; O'Brien, Hendriks, and Burns 2020), and this is the case for the course provided by SHINE SA. It would be ideal for all school employees to undertake such training to ensure everyone in the school environment has the appropriate knowledge and skills needed to help support adolescents during a period of sexual and emotional development (Women UN and UNICEF 2018).

4.7.1 Limitations

Participation in SHINE SA's *Teach it like it is 2* training is voluntary, as is the feedback provided by the surveys. Therefore, it is possible that the feedback captured the voices of teachers who already value training on topics relating to relationships and sexual health. Whether school staff outside of the direct teaching of relationships and sexual health education would value this training and topics equally is unknown and critical to ensure a whole-of-school approach is implemented. In addition, the measure of confidence was self-reported

which remains a challenge for this field, as more precise measures of confidence are needed (Stewart et al. 2000; Hoy and Spero 2005). The structure of the survey allowed teachers to choose which questions they responded to, for example, some participants did not select any topics for most and least usefulness but instead responded via the comment box. This further validates the importance of considering free-text data as a rich source of information (Rich, Chojenta, and Loxton 2013).

4.8 Conclusion

This study demonstrates that teachers valued numerous aspects of the relationships and sexual health education training provided by SHINE SA. Topics that were especially valued were gender and power, same-sex attraction and violence in relationships. Teachers' feedback on areas that could be improved broadly reflected a need for the programme to be more tailored to their teaching experience and student cohort.

CHAPTER FIVE: 'Like fumbling around in the dark': Young people's perceptions and realities of healthy relationships

(SUBMITTED January 2022 – *Child: Care, Health, and Development*)

5.1 Preamble

The previous Chapters of this thesis utilised predominantly quantitative data, and explored the impact of incorporating social connectedness into school-based programmes on sexual and reproductive health outcomes (Chapter 2), and analyses of student and teacher feedback on a sexuality education programme (Chapters 3 and 4). The following two chapters describe qualitative research using semi-structured interviews with young South Australians aged 14-20 years, to contextualise earlier findings on the value placed on 'relationships' and 'consent' in sexuality education. A qualitative methodology was undertaken to provide an in-depth approach to determining young people's voices on matters that are important to them and directly impact them.

This chapter focusses on the 'relationship' component of earlier findings and addresses Aim 4, which was to explore adolescents' understanding and conceptualisation of healthy relationships, including peer, family, and intimate relationships. Eighteen young people participated in semi-structured interviews, sharing their perspectives of healthy relationship qualities, common relationships issues, and learning experiences that have contributed to this understanding. Themes were generated using thematic analysis informed by Positive Youth Development principles and the results are mapped to Lerner's (2005) 'Five Cs'. This chapter provides insight into contemporary young peoples' understanding of healthy relationships during a period where interpersonal relationships are salient to their development. This chapter has been submitted for publication in the journal *Child: Care, Health and Development*.

5.2 Statement of authorship

Statement of Authorship

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Principal Author

Name of Principal Author (Candidate)	Sophie GE Kedzior
Contribution to the Paper	Generated and submitted ethics application and related amendments, conceptualised research questions and research materials (e.g. interview guide), led recruitment and facilitated semi-structured interviews, conducted transcription and data analysis, wrote manuscript, acted as corresponding author.
Overall percentage (%)	80%
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 9/11/2021

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 in 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.

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Contribution to the Paper	Supervised development of work, provided guidance on data analysis, helped in data interpretation, and manuscript drafting and editing.
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Contribution to the Paper	Transcription, and contributed to manuscript drafting and editing.		
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Contribution to the Paper	Acted as key correspondent for SHINE SA, and contributed to manuscript drafting and editing.		
Signature		Date	12/11/21

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Contribution to the Paper	Contributed to manuscript drafting and editing.		
Signature		Date	9/12/2021

‘Like fumbling around in the dark’: Young people’s perceptions and realities of healthy relationships

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5.3 Abstract

Background: Learning to negotiate relationships is a key feature of adolescence, yet perspectives from young people on what constitutes healthy relationships are lacking. Therefore, insights were sought on healthy relationship qualities, common issues encountered, and relevant informal and formal educational experiences.

Methods: Semi-structured interviews were undertaken with 18 young people (11 self-identified as female, 5 male, and 2 trans/gender-diverse) aged 14-20 years, residing in Adelaide, South Australia. Relationships with parents, siblings, peers, and intimate partners were open for discussion. Braun and Clarke’s approach to thematic analysis was utilised to generate themes. Positive Youth Development “Five Cs” model informed the analysis.

Findings: Accounts of young people suggested disjuncture between desired relationship qualities, realities, and education on relationships and sexual health. Young people articulated tensions in navigating peer norms and societal expectations around dating and sex, including unrealistic representations, gender stereotyping and strong ‘sexpectations’, the idea that the

majority of peers were sexually active by age 14-15 years. Participants relied more heavily on personal experience and observation than formal education to develop an understanding of healthy relationships. Applying the lens of Positive Youth Development suggested this approach could provide a framework for meeting needs expressed by young people, notably building communication skills, confidence and agency.

Conclusions: Adolescents were highly aware of unhealthy relationships they wished to avoid. Achieving healthy relationships was generally perceived to be complex and requiring skills or understanding they were unsure about. A Positive Youth Development approach in relationships and sex education could be beneficial.

Key words: interpersonal relationships, adolescents, romantic relationships, family, peers, sex education

5.4 Introduction

Adolescence is a critical stage of development marked by major transitions in personal relationships. During this time parent-child relationships often evolve to become more equal and reciprocal, yet may be marked by conflict (Kroger 2006). Concurrently, peers become an increasingly important source of social and emotional support (Stanton-Salazar and Spina 2005; Rose, McDonald, et al. 2019), and for some, adolescence marks the beginning of romantic and sexual relationships (Collins, Welsh, and Furman 2009).

Previous research has shown that young people can often articulate what constitutes an unhealthy relationship, including experiences indicative of intimate partner violence (Abbott, Weckesser, and Egan 2020). However, they may lack the skills to identify and support building healthy relationships, due in part to a lack of positive relationship models as well as increased exposure to social media containing material that promotes sexual violence and violence against women (Brown and L'Engle 2009; Coyle et al. 2017). Further, existing approaches still incorporate risk-aversion and avoidance concerning adolescent sexuality, with some programmes continuing to emphasise abstinence or a focus on reproductive biology (Collins 2003; Vasilenko, Lefkowitz, and Welsh 2014). To counter this 'deficit' approach to adolescent sexuality, the 'positive sexuality' perspective has emerged (Russell 2005), providing a framework for understanding adolescent sexuality and exploration as normative, potentially healthy, and an opportunity for skill development and personal growth (Tolman and McClelland 2011).

More broadly, the Positive Youth Development (PYD) perspective is premised on the understanding that all adolescents have potential, and can be supported to develop positive assets through mutually beneficial relationships with their families, schools and communities (Lerner et al. 2009). The renowned "Five Cs" model directs attention to five core

competencies: competence, confidence, connection, character and caring (Lerner, Lerner, Almerigi, Theokas, Phelps, Gestsdottir, Naudeau, Jelicic, Alberts, and Ma 2005). *Competence* refers to young people's ability to navigate their environmental contexts successfully by utilising the resources available to them, whereas *confidence* derives from the successful navigation of these contexts and belief in self to overcome contextual barriers. *Character* encompasses young people's ability to facilitate respect and develop a sense of right and wrong as well as agency. *Caring* is linked to empathy, including considering others' feelings and respect for diversity. *Connection* includes feeling valued, involved and positively connected across interpersonal relationships (Geldhof et al. 2015). Given relationships are a core component of PYD; we suggest this theoretical framework may be applied in an exploration of young people's conceptualisations of healthy relationships and to understanding the contribution that formal learning could make.

In Australia, recent research has demonstrated that young people wish to have conversations about relationships in their relationships and sexual health education, as well as discussions on consent and pleasure (Helmer et al. 2015; Johnson B et al. 2016; Waling, Fisher, et al. 2020). In Waling and colleagues' study (2020), young people desired information and guidance on a range of relationship topics, including unhealthy relationships, including sexual abuse, casual relationships, and LGBT+ specific content on relationships and sex (Waling, Fisher, et al. 2020). More in-depth exploration on adolescents' understandings of positive relationships, including across different relational contexts, is required. Further, there has been limited research investigating what these young people wish to learn, in informal and formal education settings, as they begin to navigate romantic or sexual relationships (Janssens et al. 2019). In this study, we sought to address these gaps by conducting in-depth interviews with young people aged 14 to 20 years.

Research Aims:

1. To investigate how young people understand healthy relationships, including family, peer, friend and intimate relationships
2. To explore the common challenges young people articulate in navigating intimate and other relationships
3. To examine young people's formal and informal learning experiences about relationships to identify opportunities to improve support and skill development

5.5 Methods

5.5.1 Participants and settings

In total, 18 participants aged between 14 and 20 years, residing in Adelaide, South Australia, were interviewed. The majority of participants chose to have a one-on-one interview (16 participants), with two selecting to be interviewed together. The sampling frame for this research project included young people residing in South Australia aged 14 to 20 years identified via social media channels.

Recruitment was facilitated by SHINE SA, a sexual and reproductive health organisation that distributed the recruitment materials through social media channels. Several other youth-based organisations, research societies and The University of Adelaide also disseminated recruitment materials including a QR code and web address locating the detailed participant information sheet and the consent form. An online platform (REDCap) was used to collect consent, contact details and demographic information (Harris et al. 2009). For participants under the age of 16 years, consent was provided by a parent/guardian before participants provided their assent. Participants received an AUD$30 gift card for their time.

5.5.2 Data collection

This research was guided by a social constructionist perspective (Charmaz 2008), which acknowledges that knowledge and understanding are dependent on social processes. Semi-structured interviews were undertaken, as this allowed participants to explore the topics as relevant to them (Adler, Salanterä, and Zumstein-Shaha 2019). Interviews were conducted from February to August 2021, with the location selected by the participant from three in-person sites or online via a video conferencing facility. An online format was included to allow young people greater flexibility, and was not expected to influence the responses from participants (Adams-Hutcheson and Longhurst 2017).

One female researcher (SK) conducted the interviews, which lasted on average 78 minutes (range 34 mins to 108 mins). An interview guide comprising open-ended questions and prompts ensured the topics of interests were covered. The interview guide was discussed in depth with co-authors and SHINE SA, and the flow and interview activities were piloted with colleagues in their early 20s. To commence, participants were provided with a list of different types of relationships that could be discussed in the interview (sibling, family, friends, intimate partner). They were asked to select one and provide some key qualities or examples they thought were indicative of a good, healthy relationship within that context. This then expanded into a discussion on the other main relational contexts of interest.

An audit trail was maintained throughout. It included reflections, notes on common themes, points that invited further exploration, and a record of changes to prompts or questions as they evolved throughout the study.

5.5.3 Data analysis

Each interview was audio recorded, de-identified and transcribed by a researcher (SK, TO). Any details pertaining to the participants' identity (e.g., names, locations) were removed

during the transcription process. Analysis was an iterative process, with transcripts read, re-read, discussed and coded throughout the data collection period and thereafter. Discussions regarding codes and themes throughout data collection and analysis were conducted with the co-authors, including presenting exerts of transcripts to confirm the coding approach.

Thematic analysis was undertaken following Braun and Clarke's (2006) method (Braun and Clarke 2006). This involved familiarisation with the data; preliminary coding of transcripts using the coding framework and identification of overarching themes for each aim; adding of new codes as they emerged through analysis; and reviewing and finalising the codes and themes. The data was initially approached deductively, where data was coded without any preconceived ideas or reference to an framework, before being mapped to the Positive Youth Development framework (Lerner et al. 2009), to see how this framework illuminated particular results. To ensure individual biases of the researchers were recognised in the facilitation of interviews and interpretation of data, reflexivity was employed by the involvement of other co-authors throughout the development of the topic guide and analysis process.

Participant quotes are included throughout the manuscript, including a participant identifier (e.g., P1), their gender (F = female, M = male, TGD = trans and/or gender-diverse), and age (14-15 years, 16-17 years, 18-20 years) to contextualise the quotes.

5.5.4 Ethics approval

Approval for the study was obtained from the Human Research Ethics Committee of The University of Adelaide (H-2020-205).

5.6 Results

Eighteen young people provided their perspectives on healthy relationships; some participants chose to share their personal relationship experiences while others shared opinions and observations. Participant demographics are described in Table 5.1.

Table 5.1: Demographics of participants

Characteristics	N (%)
Age	
14-15	2 (11)
16-17	5 (28)
18-20	11 (61)
Gender	
Female	11 (61)
Male	5 (28)
Transgender/Gender-diverse	2 (11)
Cultural background/Ethnicity*	
Caucasian	8 (50)
Asian	5 (31)
Multiple selected	1 (6)
Other	2 (13)
School jurisdiction**	
Public	7 (41)
Independent	7 (41)
Catholic	3 (18)

Note: Providing demographic characteristics was optional and not all participants disclosed these details. Therefore, the percentage for cultural background and school jurisdiction** has been calculated for the data points available.*

Three participants had received all or some of their schooling internationally, and another had left school before year 12.

The common themes emerging from the data are presented under the following headings, corresponding to the main aims: (1) Understanding what makes a healthy relationship; (2) Common challenges in relationships; and (3) Informal and (4) Formal learning experiences. The coding framework is presented in Table 5.2.

Table 5.2: Coding framework of themes and subthemes

Theme	**Subtheme**	**Example of codes**
Understanding what makes a healthy relationship	Respect is key but can be hard to recognise	Respect Negative example
	Trust, independence and being able to set boundaries	Autonomy Trust Balance
Common challenges in relationships	Miscommunication and conflict, related to a lack of confidence and maturity	Insecurity Challenges with communication
	Endorsement of gender stereotypes	Gender roles Masculinity Gender and sex
	Pressure to 'date' and 'sexpectations'	Pressure/expectation to have sex Having somebody Reasons for being in a relationship
Informal learning experiences	Personal experience and role models	Trial and error Learning while doing Learning from friend's experiences
	Media has a strong role in promoting positive and problematic relationships	Social media Movies

		Providing an image Dependent on the content consumed
Formal learning experiences	Missing feelings – gaps in relationships and sex education	Reality/realistic language Discrepancy in education Learning about sex The impact of heteronormativity
	Effective approaches	Age-appropriate Open conversations Humour Confident

5.6.1 Understanding what makes a healthy relationship

Respect is key but can be hard to recognise

Participants identified respect as fundamental to healthy relationships, across all contexts. When describing respect, participants discussed qualities such as reciprocity in the form of equitable time, effort and support, open communication, and understanding, which related to empathy for the other person and acknowledgment of their autonomy. These views were common across genders and age groups.

Yet when prompted further, participants often seemed to have difficulty articulating how to discern whether they were respected in a relationship, particularly in intimate relationships. Some participants spoke of reliance on "feeling it" whereas others thought it was difficult to determine whether a relationship is healthy or unhealthy, with the exception of an 'outright abusive' relationship:

> *"So I don't think there's really a way to say this is a good or a bad relationship. Unless they're like abusing you, in which then it's a bad one. But other than that there's not really like a definition of a good or bad one." (P11, F, 14-15)*

Using the PYD lens, participants' depictions of respect reflect competencies of caring and character, with a stronger ability to identify, articulate and embody respect inviting development of other competencies. This becomes clearer with analysis of other themes, as described below.

Trust, independence and being able to set boundaries

Desirable qualities emphasised repeatedly for intimate relationships included trust, and the need for autonomy and independence, in particular the importance of "not [being] attached at the hip" and "space". When prompted, most participants elaborated on this by invoking negative experiences. For example, trust was described as "not being jealous", while autonomy

centred around “not changing yourself”, and “understanding you don’t have to do everything with your partner”:

> *“…respecting like their autonomy especially, like being able to do things on their own, not being like you have to talk to me constantly. I feel like that’s a big one, I’ve been kinda trapped in those situations before and I’m just like, I’m an individual I can do this myself, you know like I don’t have to text you every time…” (P1, TGD, 16-17)*

In the context of friendships, participants made distinctions between a ‘close friend’ versus’ ’friendship group’. Friendship groups existed on the principles of shared interests and activities, and typically resulted from close proximity, whereas close friends had a higher expectation of effort and emotional support. Setting boundaries was identified as important and some participants reported it was easier to do this with a friend than in other types of relationships:

> *“I can’t have someone who says they’re my friend but they just use me to do things for them, like it has to be sorta like a mutual symbiotic sort of like ‘I do things for you, you do things for me’ relationship” (P2, F, 18-20)*

Healthy family relationships were often described as a balance between friendship and role modelling, open-mindedness and autonomy. These qualities applied to both sibling and parental relationships, but role modelling and respect for autonomy was spoken of most often in relation to parents. Parents’ role as mentors was considered an integral part of this relationship, described by one participant as *“give you that thing in your upbringing where you learn how to life* [sic]*”*.

5.6.2 Common challenges in relationships

Miscommunication and conflict, related to a lack of confidence and maturity

While participants consistently identified important qualities they expected from relationships, these expectations were often not met. Common challenges in relationships varied with the relational context.

For intimate relationships, common problems articulated were miscommunication, having to challenge co-dependence, and lack of trust. Explanations of communication as a dominant cause of conflict centred on fears of confrontation and rejection, sometimes linked to 'self-esteem'. Confidence was raised as a barrier for navigating and establishing a romantic connection:

> *"…I feel like communication is key but we're all just so scared and worried that we're going to be rejected so we just don't bother and we would rather just mess with someone's head and hope that it turns out" (P5, F, 18-20)*

Age and maturity were commonly identified as factors that amplified miscommunication and trust issues, as described here: *"…as you mature you understand, like your acts and its consequences and stuff like that, whereas younger ages don't really think about that" (P15, M, 16-17).*

Issues with friendships encompassed one-sidedness, possessiveness, and exclusion, often exacerbated by social media. Female participants more commonly discussed exclusion, while all genders noted the challenge of navigating and ending a one-sided or 'toxic' friendship, and the impact this had on them.

Family issues included fighting for autonomy, which for some involved going against family expectations, such as stepping back from caring responsibilities to prioritise their own needs and wellbeing. Another issue was privacy, and related autonomy and agency, with

several participants describing their friends' experiences of parents going through phones and rooms or disposing of personal belongings.

> *"I was specifically thinking about parent-child boundaries I've noticed. I know someone whose parents will just like, go in their room and do stuff. So they can't have like, have anything private themselves. And they have like, gotten rid of their kids' stuff without asking them." (P6, F, 18-20)*

Using the PYD lens, this sub-theme of miscommunication and conflict clearly speaks to communication competencies and efforts to support confidence, as well as a complex understanding of caring across different relational contexts. Family dynamics are complicated and tolerance, understanding and respect needs to be fostered on all sides.

Endorsement of gender stereotypes

Some participants identified gender as a key influence, for example, suggesting that open communication was especially challenging for boys *"because of the stigma that surrounds that"*. Several female participants specifically raised the notion of having 'rules' in romantic relationships, comprising surveillance and controlling behaviour. For example, restricting where a partner could go and with whom, and monitoring social media accounts:

> *"I just see a lot of other people that are like jealous, that will like give their boyfriends rules and 'you can't go here' 'you can't do this' or a guy telling a girl 'you can't wear this'." (P5, F, 18-20)*

Participants attributed these behaviours to jealousy and a lack of trust within a relationship. Girls were predominantly described as performing this behaviour. From a PYD perspective, it requires both character (e.g., personal agency) and specific competence to become critically aware of gender stereotypes and be able to challenge them.

Pressure to 'date' and 'sexpectations'

Participants discussed broader expectations that affected their relationships. Beliefs about appropriate behaviour in romantic relationships were discussed in depth, with repeated mentions of the role that school played in reinforcing these norms. All participants discussed the notion of 'fitting in' and 'conforming' to peer pressure concerning intimate relationships, with strong beliefs that this was more influential for particular peer groups (i.e. the 'popular' group or 'bad bunch'). This belief was apparent across age groups and genders.

Participants consistently raised 'school yard talk' as a source of pressure to conform to 'sexpectations', expectations surrounding sex and dating. Participants reported an overall expectation of being sexual, that young people should want and seek out romantic relationships. This was evident for all genders, with some participants reporting friends' embarrassment and low self-worth about lack of sexual experience. Some suggested that not conforming to expectations about sex and relationships would have a stronger negative impact on self-esteem and worth among males.

> *"I feel like they want to [have sex] so they felt like they fit in more so. I feel like it was more so the boys in my year to be honest. They kinda felt like if they hadn't been sexually active they were like a loser or something" (P1, TGD, 16-17)*

Discussions around female experiences of sex stressed gatekeeping, combating pressure from romantic partners, and the role of sex in relationship maintenance. When discussing the expectation of young people to be sexual, male participants described their male peers and friends as sex-driven, but did not refer to themselves in such terms. Some female participants also discussed how the perception of sex differed across gender, in particular, how girls hold their 'first time' to a greater value compared to boys.

"I think everyone has their own idea of how they'd want to have sex, maybe more if it's the first time, like stereotypically again girls value their first time more than boys do, but that's just a stereotype maybe, who knows." (P5, F, 18-20)

The expectation that young people should be dating or seeking an intimate relationship remained a consistent pressure across ages and genders. This included the concept of 'needing' a relationship and the common but contested idea that intimate relationships involve being 'together all the time'. Some participants commented on how their friends and peers date for 'the sake of it' or 'for experience'.

"...like they do it for the sake of doing it more than doing it for the sake of being personally connected. So, like "oh because they're doing I have to do it" more than I feel, actually, I genuinely like them and I want to be more serious and committed with them" (P15, M, 16-17)

Using PYD as a lens would encourage development of confidence and character to support self-integrity in young people, cultivating the ability to resist peer pressure and challenge the need for an intimate relationship to validate self-worth.

5.6.3 Informal learning about relationships

Personal experience and role models

When discussing where young people learn about healthy and respectful relationships, participants spoke of building on personal experience, commonly dubbed 'trial and error'. Reflections on their own intimate relationships revealed that these were viewed as learning experiences about themselves and to assist them in identifying desirable qualities in their future relationships. Although several participants stated that some of their experiences were not 'actual' relationships, they were viewed as valuable.

"I mean, it doesn't make them [high school relationships] less meaningful, but it's just kind of like fumbling around in the dark. Yeah, it's a learning experience." (P6, F, 18-20)

Regardless of relationship experience, learning about relationships through observation was another key strategy. Participants referred to observing their own parents, friends, and media. A minority reported that they did not have a good relationship with their parents and did not consider them relationship role models. These young people often reported that they took this as an opportunity to understand unwanted qualities or looked to friends for modelling healthy relationships.

"yeah I don't look up to my parents as role models as much. So I guess what I've learnt how healthy relationships work is just from friends" (P9, F, 16-17)

Attending to PYD, the importance of connection is at the foreground of this subtheme; in particular, the impact of positive connections to others (e.g., parents or friends) on shaping perceptions of relationships.

Media has a strong role in promoting positive and problematic relationships

When asked where young people learn about sex and sexual relationships, participants raised traditional media (e.g., TV shows and movies) and newer platforms (e.g., the internet and social media) often as the main points of exposure. When asked about the type of messages these sources offered pertaining to sex and relationships, participants usually responded that it was dependent on the type of content. One participant in particular spoke of potential exposure to more 'sexist' depictions of sexual relationships that may be stumbled upon online.

"Every now and then you see those posts around that are just generally, I guess sexist, or promote, I guess, yeah, unhealthy ideals of masculinity about how you've got to be tough and in control of, yeah, and that would, I guess that would probably, yeah, lead to, I guess the perpetuation of negative parts of relationships and how that would lead to less respect, more expectation" (P17, TGD, 18-20)

More generally, media was suggested as both a substitute for young people that lack positive relationship representation in their immediate social world, and another avenue for messages on how a relationship should look. Traditional and social media were both seen as an opportunity to see positive relationship archetypes and also challenging in dissecting reality from fiction. All articulated that these depictions may not be realistic, and displayed critical thinking regarding what they portray. However, some participants believed media could unduly affect younger people, or those without relationship experience.

"I guess sexuality in movies is always shown to be quite male dominated. And you don't really see- Sometimes there's also like no emotion involved, you see a lot more just hooking up, I guess, which takes, it depends on what you want from a relationship, but it can also create the idea that sex is just for pleasure, or intimacy, it depends I guess on what you're watching." (P14, M, 18-20)

Participants appeared to be quite insightful around media. However, from a PYD perspective, young people more generally need to be given skills to deconstruct what they see in the media (e.g., gender stereotypes and relationship expectations) building on communication, caring and connection.

5.6.4 Formal learning about relationships

Missing feelings – gaps in relationships and sex education

When prompted on what participants learnt about relationships and sexual health from school, some participants still drew on conversations with friends and observations of peers or 'rumours' within the school environment rather than school curriculum covering relationships and sexual health topics.

Discussions about formal education on relationships and sexual health suggested discrepancies in content taught within and across schools. Participants acknowledged that although biological and practical topics, like safer sex and STIs, were important there was a range of content missing from discussions on healthy relationships. Some noted that covering 'just the basics' of a healthy relationship would have been beneficial, whilst others said the education they received was too 'surface-level'. Common suggestions included the need for a balance between discussions of healthy and unhealthy relationships. Those that had not covered the latter in their education placed greater emphasis on including discussions of 'red flags'. Desired content on healthy relationships was typically around 'what a healthy relationship is and feels like'.

> *"…a lot of attention is paid to what are the warning signs against bad relationships which is good, but you also need a flipside of what are the positive signs of a good relationship" (P10, M, 16-17)*

Male participants were more likely than others to raise the need to discuss sex in sex education.

> *"I think a lot of the discussion around safe sex is to do with more abstinence, but I think they should discuss maybe how... because if students are going to... maybe should discuss how to do it." (P14, M, 18-20)*

Almost all participants, including those who confided they had not had a sexual relationship, believe young people started to engage in this around 14-15 years of age. However, participants often suggested that the inevitability of this should be challenged. In particular, older participants reflected that young people should know that they 'don't need a relationship'. Additionally, knowing yourself and having a sense of independence was considered important to counteract the possibility of losing themselves in a relationship.

> *"I wish I had, I guess, recognised myself as an individual before, not just a part of a relationship. I'm me and I am independent of that relationship. Despite the fact that I'm in it" (P17, TGD, 18-20)*

A number of participants who identified broadly as non-heterosexual, spoke of the irrelevance of relationships and sex education in school as a whole, due to the cis-heteronormative nature of current approaches, and the impact this had on themselves and/or their friends who identified as LGBTQ+. These participants relied more heavily on media or older members of the LGBTQ+ community for information:

> *"definitely queer representation like, talking about relationships they were so cis-heteronormative and I just couldn't relate to any of it, like I didn't see myself in any of the situations" (P1, TGD, 16-17)*

Using a PYD lens, the above issues arguably intersect with all five competencies, which collectively support autonomy and authenticity. The PYD framework acknowledges the strength of diversity. LGBTQ+ and heterosexual students need the opportunity to develop positive connections and knowledge within the school environment, encompassing feelings of involvement, support, respect and being valued.

Effective approaches

There was some appreciation of the efforts teachers made when teaching about relationships, especially the inclusion of how to have more open and realistic conversations. Open conversations across the social environment, including with parents, was suggested as important in normalising such communication. Openness around relationships and sex was seen as an opportunity to challenge widely circulating unrealistic expectations and would provide a safe sounding board to discuss healthy and respectful romantic and/or sexual relationships. The most impactful presentations and lessons included presenters or teachers who were confident, comfortable and honest about the realities of relationships.

> *"They had a woman come out and talk about abusive relationships, toxic relationships, you know, the processes and steps of 'all right, if you are in that, what are things you can do', they were very informative of young women, and the issues that can occur and the like, the scary stuff, which they didn't shy away from it, which was fantastic, I think, because it made us girls more comfortable with talking with other girls about 'hey, there's this guy, he said this, this happened, I drank at this party, this guy did that'." (P18, F, 18-20)*

5.7 Discussion

In this study, we report insights from young people about their perceptions and experiences of relationships. These revealed that young people possess a nuanced understanding of the qualities of positive relationships, although can find it difficult to recognise and enact these qualities in real life. Notably, participants across age groups and genders were able to express an understanding of the multi-faceted nature of respect, consistent with other research findings (Gowen et al. 2014). This may reflect increasing relationship literacy as a result of intimate-partner violence prevention efforts, as seen in other studies with young people (Murphy and Smith 2010; De Koker et al. 2014).

However, participants struggled to elaborate further on examples of behaviours that are respectful, and often framed their discussions in terms of negative behaviours. This has been reported in other research on consent (Brady et al. 2018) and suggests the need for improved support and learning coming from a strengths-based approach rather than a deficit model. Our participants identified this as an area in which school-based relationships and sex education could be improved, consistent with other findings on relationships and sex education (Kedzior et al. 2021).

Many common challenges identified in personal relationships centred on communication. Participants expressed that 'communication is key' to healthy relationships but described struggling to achieve this, a discrepancy reported in previous research (Forenza, Bermea, and Rogers 2018), not unexpectedly as communication skills continue to be refined across adolescence. Of note, young people felt that unrealistic depictions in social media exacerbated issues of autonomy in intimate relationships, consistent with other research (Taba et al. 2020). Despite recognition of problematic gender norms in real world and online environments, participants' responses often drew on common gender stereotypes. For example, males were represented as finding it more difficult to communicate and wanting sex more than females, while females could be 'controlling' of their partner's behaviour (Wiederman 2005; Giordano, Longmore, and Manning 2006).

There are thus a number of areas in which youth development could be further supported. The PYD framework builds an integrated set of skills that appear to align well with needs identified by our participants, reinforcing a move away from a sole-focus on biological topics in relationships and sex education (Bay-Cheng 2003; Pound, Langford, and Campbell 2016). While they acknowledged the need for learning about safety (e.g., protection against STIs), our participants wanted discussions on how one should feel and interact in a relationship and during sexual encounters, which might be facilitated through socio-emotional learning

strategies within PYD (Romeo and Kelley 2009; Taylor et al. 2017). Other competencies (e.g., self-awareness (Weissberg and O'Brien 2004; Taylor et al. 2017)) would collectively assist in developing the ability to navigate independence within intimate relationships.

'Fitting in' is a common concern in adolescence (Gevers, Jewkes, and Mathews 2013; Van de Bongardt, Reitz, et al. 2015), and has demonstrated consequences for behaviours deemed 'risky' including 'sexpectations' (Van de Bongardt, Reitz, et al. 2015). In contrast to recent research (Fisher CM et al. 2019), participants believed a majority of their peers were engaged in sexual relationships by age 14-15 – survey data could be used to in teaching to help dismantle this expectation. Indeed, evidence suggests that relationships and sex education programmes can successfully target peer and gender norms to support gender equitable attitudes and sexual health (Agha and Van Rossem 2004; Haberland 2015).

The development of PYD competencies is largely dependent on context such as gender (Theokas et al. 2005), and our data demonstrates that young people want resources to handle problematic gender dynamics that occur within relationships. In applying PYD with this data, it became apparent that the ability of young people to practice these competencies might also vary by gender. In fact, there is evidence that girls typically possess greater caring and connection, and boys' higher competence and confidence (Gomez-Baya, Reis, and Gaspar de Matos 2019; Wiium et al. 2019). This research suggests that utilising PYD to develop competencies and relationship literacy in young people also requires explicit recognition of gender and gender dynamics.

5.7.1 Strengths and Limitations

Some limitations of this study need to be acknowledged. First, this study reflects the perspectives of interested young people residing in Adelaide during the study period. Although there was the option for any young person residing in South Australia to participate, only those

in metropolitan areas were included, therefore the perspectives of young people from regional and rural South Australia are missing. Most participants in our sample were either still in school or had recently completed school. We do not claim their perspectives are representative, but emphasise the depth of insight gained. Nevertheless, it would be valuable to explore perspectives of young people with different educational and cultural backgrounds. Findings, particularly about peer norms, may have been different from focus groups rather than individual interviews. However, participants elected to be interviewed, which other work has demonstrated that additional detail may be provided in this format (Forenza, Bermea, and Rogers 2018).

Strengths of this study include the engagement established with young people that allowed for rich conversations and data collection. Additionally, the voices of adolescents at younger ages are rarely available and we made efforts to capture diversity in this study.

5.8 Conclusion

In conclusion, from accounts of young people, this study illustrates that young people have a degree of understanding of healthy relationships; however, there is a need for open conversations and formal education to further develop understanding of healthy relationships and to translate ideals into reality. A Positive Youth Development framework, which includes supporting the development of competencies through supportive relationships, within relationships and sex education appears to be a relevant approach to supporting young people's development of relationship skills, whilst simultaneously deconstructing unhelpful norms and expectations.

CHAPTER SIX: Young people's views on the complex realities of asking for consent and the role for sex education (Presented in manuscript format)

6.1 Preamble

As shown in Chapter 5, young South Australians described challenges between ideal relationship qualities and lived experiences, and recommended content and approaches to improve sexuality education on relationships. This chapter addresses an important component of relationships, 'consent', which has shown to be of increasing importance to secondary students as a topic in their sexuality education (Chapter 3).

This chapter presents findings from the same 18 semi-structured interviews detailed in Chapter 5, and addresses Aim 5, which was to identify young peoples' understanding of consent and the different contextual factors that contribute to this understanding. Thematic analysis was informed by Simon and Gagnon's sexual script theory (1986) and Upadhyay and colleagues (2014) conceptual framework for reproductive autonomy. Findings from this chapter demonstrate that maturity and relationship/sexual experience contribute to young peoples' understanding of the mutable nature of consent (e.g., how contextual factors impact identifying and navigating consent). Additionally, this chapter discusses participants' informal and formal learnings of consent, including sexuality education and the need for more open discussions on the reality of sexual encounters and consent. The discussion delves into the applicability and achievability of the affirmative consent model for young people, and recommendations for supporting young people in developing skills to enact consensual sexual experiences using the reproductive autonomy framework.

This chapter is presented in manuscript format.

6.2 Statement of authorship

Statement of Authorship

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Principal Author

Name of Principal Author (Candidate)	Sophie GE Kedzior		
Contribution to the Paper	Generated and submitted ethics application and related amendments, conceptualised research questions and research materials (e.g. interview guide), led recruitment and facilitated semi-structured interviews, conducted transcription and data analysis, wrote manuscript, acted as corresponding author.		
Overall percentage (%)	80%		
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	9/11/2021

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 in 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	Vivienne M Moore		
Contribution to the Paper	Supervised development of work, provided guidance on qualitative methods and theory, and contributed to manuscript drafting and editing.		
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Contribution to the Paper	Provided guidance throughout data analysis stages, and contributed to manuscript drafting and editing.		
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Young people's views on the complex realities of asking for consent and the role for sex education

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6.3 Abstract

Background: There is emerging evidence that young people have a good understanding of consent as a concept, but this does not align with real world practices. The perspectives of young people on the complexities of enacting consent are lacking, as are their views on the role of sex education. The current study explored the topic of consent with 18 young people age 14-20 years through interviews.

Methods: Interviews were recorded, transcribed and coded, with four over-arching themes progressively developed. Deeper analysis was guided by gender script theory and a reproductive autonomy framework.

Findings: Participants had a sound understanding of consent in abstract and emphasised the importance of explicit verbal communication; however, consent was unlikely to occur in this manner in practice. In real life, consent was enveloped in socially laden contexts more amenable to non-verbal cues, with sexual scripts also used to pattern interactions; with young women said to have difficulty either asserting boundaries or affirming interest. As well, in real

life consent was not binary but mutable, and required continual updating. Young people reported a lack of discussion of consent within their families, with their predominant source of knowledge television and films, typically featuring lack of explicit consent and inequitable gender stereotypes. Reports of sex education on consent varied greatly but even when available there was a lack of depth and complexity.

Conclusions: The difficulties described by participants in navigating consent could be addressed through a reproductive autonomy framework, emphasising skill building. Participants' made recommendations for making formal sex education more relevant and useful.

Key words: consent, adolescence, sex education, reproductive autonomy, sexual scripts

6.4 Introduction

Consent entails an agreement to engage in a sexual act (Muehlenhard et al. 2016). Teenagers clearly understand this when consent is considered as a concept or in an abstract discussion (Powell 2010; Coy et al. 2013; Holmström, Plantin, and Elmerstig 2020). However, tensions and discrepancies are evident in adolescents' descriptions of navigating real life sexual situations (Holmström, Plantin, and Elmerstig 2020).

Some research suggests that consent may be understood in a more clear-cut manner by younger adolescents (Coy et al. 2013), drawing on the notion of a verbal legal contract. Complexity and uncertainty seem to occur as age increases (Coy et al. 2013), perhaps as lived experience brings awareness of the sensual and emotional aspects of encounters and the social and gendered backdrop. It is thus important to problematize the notion of a verbal legal contract, devoid of these contextual issues (Brady et al. 2018), in order to develop more relevant guidance for young people.

Perceptions of consent cues (explicit, implicit, verbal, and non-verbal) have been discussed in recent literature and, to some extent, the social and relational contexts in which these occur (Righi et al. 2019; Willis, Murray, and Jozkowski 2021). Views on which cues indicate consent vary amongst secondary school students (Righi et al. 2019; Bindesbøl Holm Johansen, Pedersen, and Tjørnhøj-Thomsen 2020), with non-verbal cues more likely to be acknowledged by older students and young adults (Beres 2010; Righi et al. 2019). As well, there is recognition that interactions involving consent are heavily influenced by gender and gender norms (Powell 2010).

Since adolescence is a period in which many embark on romantic and sexual relationships, with implications for future relationships, health and wellbeing (Miller 2017), there have been calls to implement education on consent during this life stage, including calls

from young people themselves (Gilbert 2018; Chrysanthos 2021; Kallios 2021). Sex education has evolved from having a focus on reproductive biology to inclusion of social aspects and relationships (Gilbert 2018). Sexual violence and abuse impacts one in five women in Australia before the age of 15 (Australian Bureau of Statistics 2017), and amongst sexually active secondary students, 28.4% had experienced unwanted sex (Fisher CM et al. 2019). These statistics draws further attention to the need for more explicit prevention strategies to be implemented among young people in Australia (Hooker et al. 2021).

The inclusion of consent in sex education is seen as imperative to increase young people's understanding of the issues, develop relevant social skills, challenge attitudes and norms that contribute to gender-based violence, and to counter the high rates of sexual coercion that prevail in adolescent relationships (Fisher CM et al. 2019; Katz et al. 2019). In theory, this is sound; in practice, unless sex education reflects, and reflects on, the complexity of asking for consent, it risks being unhelpful or dismissed.

Adding to the challenges of providing realistic and meaningful sex education is the affirmative model of consent - which we endorse as a positive development, while still grappling with the gap between theory and practice. To explain further, historically consent messages placed the responsibility for providing or refusing consent in a sexual encounter on the 'recipient', typically a woman, with the associated mantra of "no means no" (Burkett and Hamilton 2012). In contrast, the affirmative consent model upholds "yes means yes" (Mueller and Peterson 2012). It emerged from feminist movements and women's rights approaches, recently enhanced by social awareness such as that generated by #MeToo (Fileborn and Loney-Howes 2019). Affirmative consent emphasises explicit communication that is expressed verbally and is clear and enthusiastic (Beres 2014). However there are debates on the applicability of this model to the lived experiences of adolescents (Gilbert 2018; Holmström, Plantin, and Elmerstig 2020). The model constructs the matter as simply one of an interpersonal

exchange, involving communication between parties that are knowledgeable and with high levels of self-efficacy; there is little consideration of the socio-cultural context and constraints, such as insecurity and gender norms, that pervade adolescent sexual relationships (Cense, Bay-Cheng, and Lieke van 2018).

While the above concerns about understanding and enactment of consent in adolescence, and how to provide relevant education, have been raised in the literature, research is lacking. To date, consent research has been dominated by samples that are university-aged and heteronormative, approached using a sexual violence lens (Muehlenhard et al. 2016; Righi et al. 2019; Willis, Blunt-Vinti, and Jozkowski 2019). While that research addresses an important matter, it is timely to explore the views and lived experiences of those in the secondary school age range (Quinlivan 2018), including perspectives of sexually active and inactive adolescents (Righi et al. 2019) and those with diverse experiences of sex education (Javidi et al. 2020).

Sexual script theory (Simon and Gagnon 1986) provides a way to analyse how adolescents draw on wider social norms about gender roles in their accounts of interpersonal relations or expectations of them. Sexual scripts are held to be especially useful in the early stages of a relationship as they reduce uncertainty and provide a template for exchanges (Wiederman 2005). At the same time, sexual scripts arguably reinforce the sexual double standard (Endendijk, van Baar, and Deković 2020), in which sexual proactivity in males is acclaimed, whereas females are expected to be naive and passive. While gender equity and positive sexuality in relationships is more possible now in some Western countries than in the past (Endendijk, van Baar, and Deković 2020), adolescents may not be well placed to enact this, being at the confluence of several conflicting social currents, while still gaining social skills and insight. Sexual script theory may help in understanding the difficulties young people encounter in enacting affirmative consent.

Additionally, Upadhyay and colleagues (Upadhyay et al. 2014) provide a conceptual framework for reproductive autonomy that appears to be highly relevant to understanding the ways in which adolescents might benefit from education and support in order to navigate consent respectfully. According to this framework, core competencies for achieving reproductive autonomy comprise self-efficacy, communication ability, decision-making power, ability to manage coercion, and equitable gender-role attitudes. We suggest that this framework can be usefully located in social-ecological model of adolescent development (Bronfenbrenner 1979). It seems to provide a way to integrate the accumulated life experiences and competencies that mean adolescents may vary in their understanding and undertaking of consent. Importantly, this framework foregrounds matters of gender, equity and participation in decisions that affect one's body.

The purpose of this study was to explore the perspectives of young people aged 14 to 20 years on consent and the contextual factors they perceive as relevant to young people's ability to enact affirmative consent, including the role of sex education encompassing its perceived deficiencies or absence. Deeper analyses were formulated by applying gender script theory and the reproductive autonomy framework. The following research questions guided this study:

1. In what ways do young people understand, define and identify consent?
2. What factors or circumstances are understood to contribute to young people's varying enactments of consent?
3. How do young people depict their learning about consent?
4. How might school-based education support meaningful and positive learning about consent?

6.5 Materials and Methods

6.5.1 Participant recruitment

The study was conducted in Adelaide, South Australia (SA), and recruitment was undertaken in collaboration with SHINE SA, a sexual and reproductive health organisation that focuses on young people. SHINE SA distributed the recruitment materials through their offices and their social media channels and encouraged their network to share the invitation. Recruitment materials were also distributed throughout the University of Adelaide's city campuses, and through several research societies' social media. Other youth-based organisations and sporting clubs were contacted and provided with the opportunity to provide recruitment materials to their networks, several chose to do so via social media. Any young person between the ages of 14-20 residing in South Australia was eligible to join, including young people from diverse genders, school education, and cultural background/ethnicity.

The recruitment materials, both in paper and online format, included a Quick Response matrix code (QR code) and web address link to the participant information sheet detailing the study and the consent form. A secure web application (REDCap) was used to collect participants' consent, contact details and demographic information. For participants under the age of 16, an additional consent form was sent to their parent or guardian to provide their consent before the participant could provide their own.

6.5.2 Participants

Participants comprised 18 young people aged 14-20 years. Demographic characteristics are reported in Table 6.1, with the characteristics of the 18 participants grouped for anonymity. As can be seen in Table 6.1, participants came from a range of schools. School jurisdictions in Australia include public schools that are supported by the government, independent schools which are private schools, require a school fee and are non-government operated, and Catholic

schools which are run by the Catholic Church of Australia and include religious teachings and Christian principles. In South Australia, 63% of students attend public schools, 18% attend Catholic schools, and 19% attend independent schools (Australian Bureau of Statistics 2022).

Although the demographic details collected did not include information on sexuality, three participants disclosed their sexualities as queer, asexual and bisexual. Other participants who recounted their own relationship or consent experiences typically described other-sex interactions, although no assumptions should be made regarding these participants' sexuality identity. Participant quotes are included throughout the results and include a participant number (e.g., P1), gender (F = female, M = male, TGD = trans and/or gender-diverse), and age bracket (14-15 years, 16-17 years, 18-20 years).

Table 6.1: Demographics of participants

Characteristics	N (%)
Age	
14-15	2 (11)
16-17	5 (28)
18-20	11 (61)
Gender	
Female	11 (61)
Male	5 (28)
Transgender/Gender-diverse	2 (11)
Cultural background/Ethnicity*	
Caucasian	8 (50)
Asian	5 (31)
Multiple selected	1 (6)
Other	2 (13)
School jurisdiction**	
Public	7 (41)
Independent	7 (41)
Catholic	3 (18)

Note: Providing demographic characteristics was optional and not all participants disclosed these details. Therefore, the percentage for cultural background and school jurisdiction** has been calculated for the data points available.*

6.5.3 Interview process

One researcher (SK) undertook all the interviews between February and August 2021. There was a choice of format between interviews and focus groups, however all but two participants elected to have an individual interview with the remaining two opting for a dyadic interview. Interviews lasted an average of 78 minutes (range of 34 to 108 minutes). Interviews were audio-recorded. The interview location was determined by a participant's preference, with three in-person sites available, as well as the option to conduct the session online via video-conferencing. The format of the interview was not expected to influence the responses from participants (Adams-Hutcheson and Longhurst 2017).

The interview guide comprised open-ended questions and prompts that reflected the research questions. Age-specific vignettes (option to discuss two per age group (14-17 years and 18-20 years)), were utilised to ease into conversations around consent. The vignettes were hypothetical, participants were asked about their feelings surrounding the scenarios, and whether consent was present, before discussing whether altering the context (e.g., removal or inclusion of alcohol) would change their perceptions. Following these questions, the vignettes were used as a comparative tool where participants were asked to consider the difference between the scenario and reality of consent in the lives of young people. Further questions were asked around giving consent, getting consent, the influence of gender on the reality of consent, and whether they had any conversations or experiences where they learnt about consent. Additional prompts on school-based education were included, including questions on any exposure to consent education and suggestions for what content should be included. Participants received an A$30 gift card at the completion of the interview for their contribution to this research.

6.5.4 Data Analysis

A social constructionist perspective guided this research (Charmaz 2008), as we were interested in how young people conceptualise consent and understand their own experiences. The first author transcribed each interview recording, and all identifying information (e.g., names) were removed during this process. The interviews and analysis were conducted simultaneously, with particular attention paid to new and emerging codes. The codes were descriptive in nature and were used to identify and describe the primary topic of the passage (Saldaña 2013). Thematic analysis, as described by Braun and Clarke (2006), was undertaken. This involved an iterative process of reading and re-reading the transcripts, and moving between the data, codes and themes across and within the transcripts (Braun and Clarke 2006). Two theoretical stances informed this study's analysis and discussion, sexual script theory (Simon and Gagnon 1986) and the reproductive autonomy framework (Upadhyay et al. 2014).

6.5.5 Ethics approval

Approval for the study was obtained from the Human Research Ethics Committee of The University of Adelaide (H-2020-205).

6.6 Results

Participants offered a variety of perspectives when discussing consent, ranging from their knowledge of and beliefs about other young people, their own values and views of how consent *should* be, and their own experiences of consent, typically within a committed relationship context (e.g., "my partner"). Four primary themes were generated: 1) understanding and identifying consent, including the gap between abstract knowledge and lived reality, 2) the mutable nature of consent, 3) informal learning, positive experiences and problematic pop culture, and 4) the need for reality and skills in consent education. The coding framework detailing the themes, subthemes and codes are presented in Table 6.2.

Table 6.2: Coding framework of themes and subthemes

Theme	**Subtheme**	**Examples of codes**
Understanding and identifying consent, including the gap between abstract knowledge and lived reality		Discrepancy of understanding Theory vs. practice Black and white description of consent Asking for consent
The mutable nature of consent	The roles of age, experience and familiarity	Knowing someone Familiarity The need to be confident
	Enacting and rejecting gender scripts	Gender shouldn't matter Gender stereotype
Informal learning, positive experiences and problematic pop culture		Movies and television shows Social media and awareness of consent Positive personal experience
The need for reality and skills in consent education		Classroom behaviour Overly simplistic descriptions of consent Open discussions Skill development

6.6.1 Understanding and identifying consent, including the gap between abstract knowledge and lived reality

All participants were able to provide a definition of consent, typically describing consent as an agreement to engage in an activity. Beyond that, some differences became apparent. One definition offered corresponded to a one-sided process (i.e. a question followed by a recipient accepting or rejecting the offer), while another represented a mutual model of consent, where both parties participate and negotiate the situation. A few participants moved from the one sided to the mutual model in the process of discussion.

Participants who were younger or had no/little relationship experience typically depicted consent as binary and one sided. Participants who provided definitions that were mutual and more nuanced were typically older (16+ years) and either in a current intimate relationship or had previous relationship and/or sexual experience. Their descriptions included words such as 'enthusiastic', 'active', and the importance of 'checking in', illustrating these participants' understanding of affirmative consent. Two excerpts illustrating these contrasting degrees of understanding are provided below:

> *"In my mind it shouldn't be that hard of a concept to understand. 'Cause it's no different to asking can I borrow your water bottle? Can I do this? It's just asking can I make contact with you." (P11, F, age 14-15)*

> *"So it's not just 'yes, I will be a part of that' it's, yeah you have to make sure they understand the situation, you need to consider their state of mind in the situation, it's specific to what scenario they're in. It's a little more complicated than just saying yes basically" (P10, M, age 16-17)*

When asked about identifying consent, participants described verbal and non-verbal cues as well as the implicit (e.g., 'vibe') or explicit nature of these cues. All participants first spoke about how consent could be identified by 'asking', which was considered a reliable way

of ensuring consent was established and that there would be "*less chance of, yeah, miscommunicating and misreading someone's intentions if they are enthusiastically actually saying. 'Yes, that's okay*"" (P18, TGD, age 18-20). A couple of female participants spoke specifically about 'the tone of voice' and language as an indicator of consent, for example, one female participant stated that "*you can differentiate between a 'yeah, I want to do it' just to please you, or I really want to do it because I want to do it*" (P8, F, age 18-20). Non-verbal cues centred on body language, in particular someone's responsiveness and participation in an act. Some participants turned to describing non-consent when asked to expand on 'body language', such as depicting someone hesitating or 'going stiff'. Overall, there was a belief that verbal cues, namely 'asking' for consent, was the only way to know whether consent has been received.

The majority of participants believed that young people knew about and understood consent, including what is 'right and wrong'. One younger participant (aged 14-15) was unsure whether all of her peers understood consent, attributed to consent not yet being relevant (i.e. *"'cause they don't need to"*). Complexity arose when discussing whether this understanding translated to real life, with several participants mentioning that consent "*might not be tricky to understand in a concept, but I think it's tricky to practice*" (P13, M, age 18-20). 'Practice' related to both asking and establishing consent, as well as young people's ability to pick up cues.

Most participants believed that young people would not explicitly ask for consent, even though there was an emphasis on the importance of asking when previously discussing the concept. Reasons as to why asking may not occur were lack of confidence, awkwardness, and fears of ruining the mood. These barriers will be considered further in the next section.

Reliance on non-verbal cues was thus perceived to predominate in practice. This was seen to pose difficulties, with some young people said to be inept at reading such cues, or perhaps conveniently overlooking them.

> *"I don't think a lot of young people know how to read cues like that. They're just so tunnel vision into the outcome that they forget that to get to it, you have to have the consent" (P15, M, age 16-17)*

Another participant reiterated this point when she raised how people may *"get ahead of themselves or get 'too turned on'"* (P5, F, age 18-20) and that this mindset would contribute to not getting consent. The framework of Upadhyay et al. (2014) directs attention to communication and empowered decision-making in ensuring reproductive autonomy; the contrast with situations in which non-verbal cues are not discerned or attended to is striking, with subtle forms of coercion clearly a possibility.

6.6.2 The mutable nature of consent

When discussions shifted to what consent would look like in reality, there was a range of factors from the individual level and the immediate context, to peer expectations and reactions, then broader society and norms that were seen to contribute to navigating and negotiating consent. Some of these factors were foreshadowed by the literature and included in the interview guide (i.e. relational context, gender, and alcohol) while others emerged when participants were invited to consider specific factors that might influence identifying consent (e.g., age and experience, sexual act).

The roles of age, experience and familiarity

There were two repeated thoughts from participants regarding the influence of age and maturity on consent. One reflected a view of younger people as more self-orientated, for example *"you do everything for yourself first, you won't really think for others"* (P8, F, age

18-20), suggesting a lack of consideration for others. The other perspective saw confidence as something gained with age and experience, contributing to someone's ability to recognize their own physical and emotional boundaries and readily establish them in a relationship or sexual scenario.

Confidence was raised by some participants as a key factor in ability to ask for consent, *"young people don't have much experience and don't know what to do, keep going instead of directly asking. Because asking directly, this does need courage"* (P4, F, age 18-20). The courage required may entail not just vocalizing interest or a request, but dealing with the threat of rejection which would also then be more explicit. Several other participants also spoke of the high social and emotional stakes. For example:

> *"… it's quite hard for someone to, like, indicate how they're feeling about the situation, because of either not wanting to ruin the moment, or not wanting to irritate the other person, or not wanting to embarrass themselves, that kind of thing. So that's probably what makes it hard to express, you know, one's own feelings, and actually get a good indication of what is okay, and what isn't okay, at the given moment" (P13, M, 18-20).*

Differences in young people's ability to identify consent cues were said to be strongly linked with familiarity, referred to by participants as 'knowing someone'. All participants stated that in a sexual encounter with a stranger or during a one-night stand, asking was the only way to know if consent was established. This was attributed to not knowing '*what their norm is'*, that is, not having understanding of their non-verbal and intrinsic cues. Contrastingly, in an established relationship or between people with a shared sexual history, there was the belief that the notion of *knowing* would assist in identifying these cues. Knowing someone was linked to understanding the other person's reactions, comfort or discomfort, likes and dislikes, as well as the ability to pick up changes in mood.

The idea of assumed consent in a relationship was raised by some participants who were older or had relationship experience. These participants were quick to express their disagreement with the idea that sex was an expectation in a relationship, raising this as a 'misconception' as *"you still have the right to stop at any point no matter how long you've been together"* (P1, TGD, age 16-17). Several participants mentioned this assumption in connection with exploring new sexual acts in an established relationship. For example:

> *"I think consent still needs to be given but sometimes it isn't just because you've been in that relationship for so long, and it's kind of just like, you know, like a given…" (P14, F, 18-20)*

This suggests that although the participants felt strongly that a relationship does *not* equal consent, translating these attitudes into reality remain a challenge. Two other older participants, a female and male, similarly raised the complexity of navigating consent for different sexual acts and the need to recognise the mutable nature of consent and to continually renegotiate it; *"it's like don't do sex without consent, but what about everything else that comes with it? Like a lot of people might not see that as something that needs consent"* (P3, F, age 18-20); *"just because you've done it once in a relationship doesn't mean they're down to do it again"* (P16, M, 18-20). Drawing on the reproductive anatomy framework, skill development and promotion of communication and shared decision-making in sexual encounters on an ongoing basis are needed to challenge this idea of assumed consent.

Enacting and rejecting gender scripts

The majority of participants expressed the view that gender *should not* affect someone's ability to identify and navigate consent. For example, participants acknowledged the existence of gender stereotypes but rejected the idea that these stereotypes influence sex and consent, either referring to people they know who 'fall out of that sort of stereotype' or voicing the

belief that there should be the ‘same expectations’ regardless of gender. But, as will be seen, gendered scripts were readily apparent in participants’ depictions of interactions and encounters.

Participants articulated beliefs that individual factors had a greater contribution than gender stereotypes, including an individual’s receptiveness to peer and societal pressure to engage in sex, as well as their upbringing. Some participants interpreted the question on gendered expectations as asking how someone *should* act. This produced two lines of thinking, one reinforcing that every gender should have the same expectations, and the other that males should approach sexual situations more calmly and less forcefully.

> *“They should be like, "hey, let's do this. If you want to, but I'm totally okay, if you don't", more than "let's do it, let's do it. Let's do it" a bit pushy about it. I think that's, that's really hard. It's a big ask for someone our age to do that. But it shouldn't be a big ask, it should just be the norm…” (P15, M, age 16-17)*

The above quote indicates that this young man believes that, ideally, young men should engage in consensual interactions, involving communication and without pressure. He reinforces age and maturity as the major relevant factors.

A number of other accounts provided reflected traditional gender scripts of male desire and female passivity. Regarding female sexuality, several female participants were quick to raise the sexual double standard, and how if girls engage in sex they are called a ‘slut’ or ‘ho’ in comparison to *“if a guy does that, you get claps on the back and ‘oh, he’s a king’”* (P17, F, age 18-20). Inability to express and communicate desire permeated the beliefs around female sexuality. This inability was attributed to the traditional notion of female passivity and girls’ inability to communicate their desires and boundaries.

"I think it might be hard for people to understand that as the girl might not be, not give... the girl might be too like, shy, or doesn't know how to say like, 'No, I don't want to do that', And the guy thinks it's like, completely fine. So I think that could be tricky for the guy to understand sometimes. 'Cause they're not getting a defined answer on some things" (P14, F, age 18-20)

"But you know, like girls, that they don't really want to show their emotions. It's just like 'oh yeah, I like it. You can do it'. But they don't really want to say, (enthusiastically) 'oh you can do it'. You know what I mean? Like they want, they want the other person to, to do it. But they just don't want to say" (P8, F, age 18-20)

These two quotes illustrate the different ways that passivity can affect consent and sexual relations for young women: it can mean she feels unable to voice objections, but can also mean she cannot express enthusiasm. Both can be seen as aspects of reproductive autonomy, with communication and participation in decision-making necessary to achieving them.

Several young men also touched on the expectation of girls and women to be passive and the recipient of sexual advances; one participant suggested this was *"wired into their head"*. There was wide disagreement with this idea, again, with many participants voicing that this should not be the case. A male participant noted that girls can *"want as much as a guy does"*, but that media portrays girls and women as *"just there"* and that males are typically portrayed as the initiator.

The script of the male initiator was reflected in several female participants' accounts of everyday happenings. They typically referred to social settings with alcohol (clubs or parties), and described how boys were usually the ones to approach girls, either to initiate conversation or physical contact.

"And then he makes a move, and then it just happens. So it's like whether or not you let that move occur? Let's say a guy grabs your ass. And then you're like, 'Oh, no'. But if he grabs your ass and you lean into it. It's like, well, are you giving consent? Possibly" (P17, F, age 18-20)

This description further reiterates the gendered idea of the male as sexually forward, which is suggested to be acceptable in this context. In contrast when discussing how consent is interpreted across genders, one male participant discussed how a male initiator may come across as *"extremely creepy"*, whereas *"if it's a girl going after a guy then that's just fair play"* (P10, M, age 16-17).

This intersects with another sexual script encapsulating the idea that males are sex-driven and indiscriminate when the opportunity for sex arises. Discussion of male sexuality by some female participants reflected this script. Again, there was tension between whether this idea of *"teenage men [...] tend to be horny a lot of the time"* was inevitable or just a stereotype. One of the younger male participants raised the 'issue' of male desire and control when prompted on expectations of boys and consent.

"...just like being caution of like, having control of yourself [...] Because like, if you don't have control, you can obviously - like get things heat up and like, it's sometimes just get out of control and it can lead like to, like, big problems that can, like do like, like very bad impacts on like, your future life, and where you're currently standing and all of that" (P12, M, age 14-15)

While a previous comment by a slightly older male participant (P15) spoke about the need for boys to slow down and not be pushy, interpreted as part of respect in an intimate encounter, this participant was aware there might be future repercussions.

As described throughout this section, gendered scripts were readily apparent although typically rejected when referring to oneself or one's experiences. Discussions with

trans/gender-diverse participants revealed that gender scripts were widely applied. Both participants acknowledged witnessing the influence of gender stereotypes on their peers, while the older participant (P18, 18-20) noted the gender norms and expectations attributed to them depending on how they presented and others assumptions of their gender (e.g., whether they were perceived as masculine or feminine).

6.6.3 Informal learning, positive experiences and problematic pop culture

When exploring whether participants had previous conversations or experiences that contributed to their knowledge of consent, personal experience and media were most commonly invoked. For participants nominating their own personal experiences, the majority of those expressed were positive, with male participants offering positive examples of their own approach while female participants often voiced thankfulness for having comfortable and positive experiences.

> *"…from my experience it has [been a clear yes or no], I feel as though I've been lucky though, I haven't been put in any positions where I haven't felt comfortable to give consent or refuse consent" (P3, F, age 18-20)*

> *"I've only ever had like people who are very understanding, and who – not do too much but who go out of their way to say 'are you ok' 'is this ok' 'am I allowed to do this' 'are you comfortable with this' which I think is pretty like pretty good for you know like – it's not something you would, like I ever think – thought would like happen" (P2, F, age 18-20)*

Strikingly, these two female participants expressed their surprise around having such explicit consent within sexual encounters. Feeling 'lucky' and not expecting open and continuous communication illuminates the context in which young women navigate their first intimate experiences, against a backdrop of sex not being an arena of shared decision-making, and potentially risky or dangerous.

Conversations about consent were scarcely experienced between participants and their families or friends. A few older female participants noted some conversations with their mothers or sisters around safety or checking whether there had been pressure to engage in a sexual relationship. These conversations were typically triggered by participants starting their first relationship, and occurred after commencing a sexual relationship, not before. All participants noted that there was never direct conversations with friends around consent. However, several female participants raised that consent was a peripheral topic when discussing friends' experiences of stopping non-consensual experiences or the ongoing impact of sexual assault on their friends' wellbeing and relationships.

In view of the lack of conversations about consent (noteworthy among this articulate and pro-social group of young people), it is unsurprising that participants believed that young people relied on the media to learn about consent. Television shows and movies (i.e. traditional media) were suggested as a likely source for first exposure to the topic, through viewing sex scenes. Many participants considered this problematic, as sex was often portrayed as 'just happening' without any communication, and reinforced ideas of male promiscuity and female passivity. As previously mentioned, one young man(P16, age 18-20) described how media presents males as the initiator while for females *"there's a lot of media portrayal puts them as there, just there, and then they can be approached"*. A young woman explained how teenage-targeted movies can normalise non-consensual situations.

> *"…you see movies, like, for example, 'the kissing booth', where like, she could have said no to things, but she was scared, so she said yes. It's like, you make that look so normal" (P17, F, age 18-20)*

Fewer participants raised social media as a source for learning about consent, with online exposure usually consisting of advocacy. For example, one younger female participant raised how recently signing up to social media had increased her awareness of gender-based

violence and the recent media attention to consent in Australia. Friends and peers had shared this information on their social media platforms, which had then translated to discussions at school. Social media posts had led to disagreement among peers, typically around posts that led to sexist comments as described below:

> *"Well I saw some posts that I thought were very wrong. That were like, "Never blame the man; they're always right." But that's because they were – they were posts of kind of silly people. And they're all getting so much hate on any of those posts…" (P11, F, age 14-15)*

6.6.4 The need for reality and skills in consent education

Within this theme, participants offered a variety of experiences concerning school-based education on consent, either occurring as a once-off presentation by a counsellor or guest speaker, or within a few lessons within their health or sex education classes. While some participants noted some memorable elements of their educational experiences, a greater number discussed the challenges of implementing this education within a classroom setting. Most commonly, these challenges related to peer attitudes and behaviour, specifically, *"not taking it seriously"*, and perceiving the lesson *"as a joke"*. The two youngest participants (age 14-15) had not received any education on consent, and while they thought it would be important to learn about, the female participant considered it more relevant for peers interested in dating or more likely to engage in a sexual relationship.

There were considerable variation in educational content received by participants, often reflected in the recommendations for what they believed should be included in education on consent. Some participants noted a major lack of content on consent in their school education, and wanted to have received at least a foundational level of understanding, for example, *"what does consent look like?"* and *"how can you really tell when someone has given consent?"*. Several participants reported that they had seen the "tea video", and spoke positively of its

simplistic and humorous approach: *"there was that video where they make the analogy to drinking tea, so that's, that was a funny way of putting it. And it's honestly sticks pretty well and it's quite easy to apply that scenario to whatever it is"* (P16, M, age 18-20). While there has been discussion on how the simplistic nature of this video is problematic (e.g., (Brady and Lowe 2020)), participants in this study appreciated the use of the video as an approach to establish basic knowledge. For those that considered their education too *"surface-level"* or *"black and white"*, there was usually a request for greater depth and exploration of the realities of consent.

Recommendations for what needs to be included in young people's education comprised three main categories; 1) redirecting education to focus on reality, 2) enhancing skills to navigate consent, and 3) discussing consequences and responsibility. First, participants expressed that the education they had received was too artificial. This was particularly true when discussing the activities and resources used during consent discussions, especially the use of consent scenarios.

> *"…it was just taught in such a clinical way. Like no one goes up to you and is like 'can I put my penis in your vagina' like people don't talk like that about sex but that's the way it was kinda taught…" (P1, TGD, age 16-17)*

> *"We didn't get any kind of discussions, we just got little exercises that said 'this is consent, this is not consent' you know 'if a person's drunk, not consent', 'if a person's this, not consent', when in real life it's not just right or wrong it's yeah, it's complicated" (P9, F, age 16-17)*

One participant specifically raised the issue of language, and how it was not representative of a real life sexual encounter. Another reiterated the idea that it was too black and white. Instead of the use of activities with clear-cut answers, participants suggested the use of more realistic examples, with greater complexity.

"Clearly they had the answer and then wrote the question, when real life things come up and you have to work it out, and so I feel like the real life examples, the explanations in class discussions, those help touch on those things… it's better to be taught how to work these things out for yourself, rather than being told the answer" (P10, M, age 16-17)

This young man recognizes the need to embed not only open discussions in education, but skill development as well. Some of the key skills alluded to by participants to include in consent education included bodily awareness, in the sense of identifying (non)consent cues, such as body language, and understanding your own body's reactions. A more prominent suggestion was female participants' emphasis on learning that *"you can say no"*. For some female participants, desired learning went beyond learning they could say no but having the ability do so in a sexual situation.

"I think that's a big part of consent as well, like knowing that you can say no and being able to say it in the situation - not feeling intimidated" (P3, F, age 18-20)

Female participants linked 'saying no' to rights and autonomy, rather than safeguarding female sexuality. Most important in the above quote is *"not feeling intimidated"* which ties into the earlier finding of girls' lack of ability to communicate their wishes and boundaries. This concept of 'saying no' was further explored when older participants of all genders raised the revisable, mutable aspect of consent and how this needs to be emphasised in education. This aspect of consent was described as the ability to *"stop even after it's started"* and understanding that consenting to one sexual act, either previously or during a sexual interaction, does not translate to consent in further interactions.

The majority of male participants raised the need for education to include the consequences of non-consent. Rationales for including discussions of consequences often invoked the legal ramifications of non-consent. Beyond the need for being held accountable,

some male participants thought it would be important for their peers to understand the impact of non-consent on their relationships and future standing.

> *"I just think examples about, you know, of where not giving consent leads to people, you know, going getting sent to juvenile detention centres and stuff, like, those are the things that I remember, because it was confronting, and it made me think about how quickly you know, your life could change…" (P13, M, age 18-20)*

This idea of 'confronting' content was also raised by a female participant, who thought, *"fear might work"* to ensure peers in a classroom environment recognise consent as a serious topic.

Emphasis on male-focussed education was raised by two culturally and linguistically diverse female participants, who framed their reasoning around protection, specifically, *"…instead of tell[ing] us how to protect ourselves".* The desire of these female participants to shift the narrative to male responsibility resonates with one of the younger male participants, also from a culturally and linguistically diverse background, who noted, *"as boys, we have to, like, look out for girls"*.

6.7 Discussion

The current study explored the topic of consent with a sample of young people aged 14 to 20 years. Key findings are that: with increasing age and experience, the concept of consent appears to become more complex for young people; most young people were said to be unlikely to seek explicit, verbal consent in practice; gendered scripts were well recognized by participants and appeared to be widely drawn upon by peers; there were limited avenues for learning about consent in forms that countered portrayals in traditional media; understanding gained through school-based sex education was highly variable, but often minimal and not seen to reflect the complexities of real-life sexual encounters.

Young people in this study expressed understandings of consent that varied in degree of complexity. Younger participants (less than 16 years) and those with less relationship and/or sexual experience were (at least initially) more reliant on binary descriptions of consent comprising a verbal question and response, corresponding to “no means no” and “yes means yes”. Further, such participants suggested that consent should not be difficult to understand or enact, being similar to requesting access to someone else’s possession. This is consistent with results of other work (Coy et al. 2013), while acknowledging that there is greater understanding of consent among current generations of young people compared with previous generations (Graf and Johnson 2021).

Definitions provided by older (16 years or more) and more experienced participants in this study tended to reflect affirmative consent ideals of explicit, enthusiastic and active consent (Beres 2014; Graf and Johnson 2021). However, these participants also expressed great awareness of the tension between these definitions and the ability to apply them in real life situations, and they did not believe that other young people would actually request consent verbally. They described a range of social, emotional and sensual dynamics that inhibited explicit, verbal requests. Similarly, in other research with young people (Coy et al. 2013; Righi et al. 2019), abstract consent definitions provided by participants were often different from their accounts of how real life sexual encounters were navigated, with a much greater reliance on intrinsic and non-verbal cues to discern consent in practice. Along with appreciation of complexity, most older and more experienced participants in our study also understood consent as an evolving process that is conditional or transient and thus mutable. Simple messages around consent thus lack relevance to their lived experiences, whereas ideas of reproductive autonomy as an ongoing expectation and accomplishment may be more useful.

Gendered scripts and the stereotypes embedded in them appeared to have a profound influence on consent in real life situations, from participants’ accounts, even though

participants repudiated gender norms or distinctions. The concept of 'swivelling' has been developed by Thompson (2014) (Thompson 2014) and used by Papadelos et al. (2021) to describe dissonance between gender equitable attitudes and other gender-relevant perspectives or descriptions of practice. Swivelling refers to the concurrent existence of two (or more) incompatible discourses, with a person turning back and forth between these (Papadelos, Beasley, and Treagus 2021). A number of our participants might be seen to be swivelling between a denial of the relevance of gender, while at the same time describing and being readily able to interpret gendered sexual scripts. Following Papadelos et al. (2021), we suggest this is evidence of the conflicting social currents in which young people are immersed, with essentialist discourses of male sex drive and feminine passivity still strong, while there are more tentative discourses of gender equity and women's positive sexuality. Other researchers have discerned these currents in relation to sex education (Jackson and Weatherall 2010).

Focussing on the scripts themselves, these were clearly evident to young people in traditional media, which was typically participants' main source of learning about consent, with the problematic nature of this source for consent knowledge reported elsewhere (see (Jozkowski et al. 2019)). Participants' accounts of what commonly occurred between young people often reproduced the gendered norms and expectations encapsulated in sexual script theory, which has been reported by others (Wiederman 2005; Holmström, Plantin, and Elmerstig 2020). Restrictive gender norms - both reluctance of women to assert boundaries and negative judgements of their permissiveness - have been linked to sexual coercion (Eaton and Matamala 2014) and their persistence is thus concerning. Young women need to feel entitled to withhold consent, and capable of that, and also entitled to and capable of desiring and determining sexual activity. This is where the model of reproductive autonomy (Upadhyay et al. 2014) that emphasises resisting coercion, gender equity and communication may be especially useful.

More broadly, at least some young people appear to be looking for insights and skills that would facilitate respectful sexual experiences. The competencies set out by Upadhyay and colleagues (2014) as underpinning reproductive autonomy would appear to provide resources and skills to address a variety of issues participants recognized in identifying and navigating consent (Upadhyay et al. 2014). Self-efficacy, described as confidence in one's ability to execute a desired behaviour (Bandura 2006), can be built through skill development as well as social modelling. In the current study, participants described what can be conceptualised as quite varying degrees of self-efficacy among peers in relation to sexual relations which supports the argument that self-efficacy is important for young people's perceptions of their ability to obtain consent (Edison et al. 2021).

Closely related to self-efficacy in this context is communication ability, emphasised by participants when exploring the challenges of real life consent. It is clear that the potential for coercion is heightened in the absence of explicit verbal communication and Upadhyay et al. (2014) present the management of coercion as requiring specific competencies, beyond communication - recognizing it as well as addressing it. In this light, the ideas and sexual script in which boys and men haves excess and uncontrollable sexual desire can be seen as limiting young peoples' autonomy (Wiederman 2005), with 'tunnel vision' or 'getting carried away' demeaning for those involved.

These competencies develop over time through social learning and personal experiences and are supported by resources such as positive family and other relationships (e.g., (Osher et al. 2020)), but it cannot be assumed that all young people possess them when first engaging in sexual relationships. Considering the evidence that young people derive most of their understanding of consent from traditional media and that communicating explicitly about sex is not normative in most cultures (Marston and King 2006); it is difficult to see how young people could be assertive and enact affirmative consent during a period when identity is

nascent and the influence of peers and norms is at a peak (Sumter et al. 2009; Nagaoka et al. 2015). This is not to say that young people do not understand the idea of consent, as this study and others demonstrate they do (Righi et al. 2019; Graf and Johnson 2021), it is the challenge of translating this knowledge into practice, when there is a void of good examples and skills.

Sex education has been raised as a key strategy to address high rates of non-consensual sexual experiences and harmful gender attitudes (Haberland 2015; Makleff et al. 2020). Sex education may be able to support young people in the challenge of applying the affirmative consent model to real life encounters, by building awareness and skills. In these endeavours, it is important to use or apply more realistic language that is more reflective of their lived experiences, which has been suggested by other scholars in this area (Whittington and Thomson 2018; Cense 2019; Bragg et al. 2020). For example, the Australian mental health campaign 'R U OK? Day' supports normalising conversations around help seeking and support for mental health using relevant language (Mok et al. 2016; Ross and Bassilios 2019). Evaluations have shown that an exposure to this community awareness campaign increased people's intentions, confidence and actions in communicating with and helping friends that appeared to be struggling with mental health problems (Ross and Bassilios 2019). It should be possible to develop some communication lines around consent that are not seen as intimidating or likely to "kill the mood", as well as encouraging greater use of language in the realm of sex and sexuality to enable more positive and pleasurable experiences.

Participants' accounts of sex education and suggestions for improvement concord with other research finding such education was highly variable and often minimal (Ezer et al. 2019; Waling, Bellamy, et al. 2020). Participants endorsed an age-appropriate approach, consistent with the principles of comprehensive sex education (Thomas and Aggleton 2016). Age-appropriate consent education should start within the family context and be supported in primary schooling, and include building children's understanding of bodily autonomy (e.g.,

(MacIntyre and Carr 1999; Brown 2017)). Bodily autonomy, using the model of Upadhyay et al. (2014), can thus be seen as an extension of the right to determine what happens to one's body, with education a means to making informed choices (Upadhyay et al. 2014).

There are three specific recommendations for consent education derived from participants' interviews. First, education needs to engage with the complexity of consent, that is, the reality that gender, relationships, and situational factors contribute to how consent is perceived and navigated (Willis et al. 2019; Holmström, Plantin, and Elmerstig 2020). Second, consent should be understood as a process requiring continual updating, which might be supported by Whittington's (2020) conceptualisation of consent as a continuum which also allows for greater consideration of contextual factors (Whittington 2020). A continuum also fits with consent applying broadly to all sexual behaviours (i.e. not just penetrative sex), which is important considering the typical progression of adolescents engagement in sexual activity becoming increasingly 'intimate' and 'sexual' (Kubicek et al. 2010). Finally, participants emphasised the need to be provided with the skills to support navigating encounters and consent. Related to this point, there is a need to engage more deeply with what young people need to develop affirmative consent skills.

Young people could see the contradictions in the consent messages presented in their social world, with traditional media perpetuating the sexual double standard and inequitable sexual scripts, and families and peers largely silent on discussions around consent. Given that media and interpersonal relationships are key sources for appropriate sexual behaviour (Bleakley et al. 2018; Jozkowski et al. 2019), providing parents with consent knowledge and guidance on consent communication may assist in delivering positive consent messages to young people (Padilla-Walker et al. 2020). Opportunities are also needed for young people to challenge messages that are widespread in the media, potentially through media literacy education (Shafer, Bobkowski, and Brown 2013; Jozkowski et al. 2019), an approach that has

seen success in changing substance use attitudes in early adolescents (Kupersmidt, Scull, and Austin 2010).

This study sought to describe young people's understandings of consent and related matters. Further, this study is one of only a few to explore the acquisition of consent knowledge and recommendations on how sex education can contribute to the development of this knowledge and support positive, consensual experiences from the voices of young people. A number of limitations are recognized. Although we were able to achieve some diversity in the sample, the majority of participants in this study were female and identified as Caucasian. It is likely that, relative to peers, study participants were more comfortable and familiar with the topic of consent, and held gender-equitable/egalitarian attitudes, thus supportive of affirmative consent (Javidi et al. 2020). Future research engaging with groups that may be less likely to hold egalitarian values (perhaps recruited through specific venues) would be beneficial to expand understanding. Of note, among the participants that provided details of schooling, only one female student had attended a single-sex school. Considering the emerging evidence that some boys' schools can reinforce gender roles and norms reflecting hegemonic masculinity (Lingard, Mills, and Weaver-Hightower 2012), research with participants from these settings would be valuable. As well as future research to explore in greater depth how school ethos and characteristics (e.g., socioeconomic status, gender) relate to consent understanding and related attitudes is an important avenue for future research.

6.8 Conclusion

This study provides further evidence that young people understand consent and may support an affirmative model, but translating this into practice is challenging in contexts that are socially laden, including the presence of strong gender scripts. Sex education could provide greater depth of understanding around the complexities of consent and support relevant skill development for young people.

CHAPTER SEVEN: DISCUSSION & CONCLUSION

This thesis considers the contribution of interpersonal relationships to adolescent sexual and reproductive health and wellbeing, including the relevance of related content in sexuality education from the perspectives of young people and teachers. A critical aspect of this thesis has been the privileging of youth perspectives throughout each component, which is an important contribution to the field of adolescent sexual health research moving forward. New evidence generated from this thesis addresses key gaps in understanding about young people's conceptualisations, experiences, and educational needs regarding healthy relationships and consent. These results will help to inform ways to integrate youth voices into the delivery of comprehensive sexuality education. This final chapter provides an overview of the key findings from each study, a discussion linking these findings, the strengths and limitations of this body of evidence, and concludes with recommendations for sexuality education and future research.

7.1 Programmes that focus on strengthening interpersonal relationships, including through social connectedness initiatives, are highly valued by young people and can improve adolescent sexual and reproductive health and wellbeing

Chapter 2 of this thesis collated and synthesised evidence concerning the effectiveness of school-based programmes that incorporate strategies to strengthen social connectedness to promote sexual and reproductive health outcomes. The synthesis of 10 programmes (comprising of 18 papers) revealed improvements in condom use, delayed initiation of sex, and reduced pregnancy rates among participating youth. Further, participants in several programmes reported a strengthened sense of personal agency and thus autonomy (e.g., (Hagen et al. 2012)). Characteristics of successful programmes included those with multiple social connectedness constructs (e.g., partner and community connectedness (Hagen et al. 2012)), greater programme intensity, and were less likely to be abstinence-based. These programme

characteristics reinforce the importance of several of Kirby's (2001) seminal recommendations about effective sexuality education programmes (Kirby 2001). Further, the finding that successful programmes embodied multiple connectedness constructs provides additional support of the contribution of the socio-ecological model on adolescent sexual health and wellbeing (Tolman 2016).

Programme effectiveness was influenced by ethnicity and gender, with greater improvements in health and wellbeing reported among African American youth (e.g., (Hawkins et al. 1999)), and some programme specific gender differences identified (e.g., improved contraception use for males but not females (Flay et al. 2004)). This is consistent with research in other fields that have demonstrated that social connectedness may be especially important for young people whose origins are associated with collectivist cultures due to a heightened value placed on belonging (see (Townsend and McWhirter 2005)). Additionally, other research has shown that social connectedness and cultural connectedness (including ethnic pride) can be protective against stressors associated with experiencing racism (Wong, Eccles, and Sameroff 2003; Rose, McDonald, et al. 2019) and is associated with increased self-esteem amongst students of Mexican origin (Hernández et al. 2017). The ethnic, cultural and gender differences in programme effectiveness found in Chapter 2 further supports the need for inclusive approaches in sexuality education. This recommendation is consistent with other views that sexuality education should recognise intersectionality among identities and commonalities amongst cultures to minimise 'othering' (Bittner and Meisert 2020; Goldfarb and Lieberman 2021).

Similarly, within Chapter 3, feedback from secondary students on their sexuality education programme further highlights the need for cultural, and sexuality diversity to be recognised in school-based sexuality education. Whilst the majority of secondary students provided 'good/excellent' ratings for the classroom environment and overall programme, those

that considered the programme 'poor/satisfactory' also regarded the programme as less inclusive and respectful of cultural and sexuality diversity. Additionally, Chapter 3 demonstrated that secondary students consistently rated the inclusion of 'relationships' as important, which is a foundation of social connectedness. In line with other research internationally (Pound, Langford, and Campbell 2015; Kantor and Levitz 2017; Burns and Hendriks 2018; Pound, Langford, and Campbell 2016), Chapter 3 confirms that the inclusion of socio-emotional topics in sexuality education is important and supported by secondary students. Chapters 5 and 6 build on this further, providing evidence for the inclusion and refinement of relationships and consent in sexuality education and beyond (described in 7.2 and 7.3).

7.2 Socio-emotional topics are relevant and valued by school students and teachers as a part of sexuality education, but require ongoing refinement to consider the evolving social contexts of adolescents' lives

Chapters 3, 5, and 6 address a key gap in the literature concerning the value, content and depth of information young people want in sexuality education. Chapter 3 demonstrated an increasing appreciation of the inclusion of socio-emotional topics among secondary students. In particular, the number of secondary students selecting 'consent' as the most important topic has consistently increased over the last 5 years (2013-2017). Further in-depth explorations with young people, as described in Chapter 6, identified a desire for education to include real life examples and discussions about consent, and provide opportunities to develop communication and negotiation skills to help young people apply their knowledge about consent to their own experiences. Further, some recommendations for changes in content were gendered, with male participants generally wanting greater emphasis on the consequences of non-consent and sexual assault, and female participants expressing the need for bodily autonomy and the confidence to say no to unwanted sexual encounters. The evidence presented

in Chapter 6 is one of the first to capture these recommendations from young people on the desired content and depth on the topic of consent in sexuality education.

Similar to the consent topic, Chapter 3 demonstrated that the inclusion of relationships in the sexuality education curriculum was highly valued by students participating in the programme over the last five years. Further exploration into the depth of this topic (Chapter 5) revealed that although young people have a foundational understanding of healthy relationships, they want more exploration of feelings associated with sex and relationships, and a balance of open discussions on healthy and unhealthy relationships. Additionally, discussions of participants' social environments identified the prevailing impact of social and peer pressure on young people's perceptions and behaviours, and other research has demonstrated the impact of peer pressure on adolescent behaviours (Farrell et al. 2015). Therefore, sexuality education should provide another avenue to support students to deconstruct social and gender norms related to dating and sexual expectations, which has emerged recently as a potentially effective strategy for adolescent sexual and reproductive health and rights (Haberland 2015; Plourde, Thomas, and Nanda 2020).

Chapters 3 and 4 revealed that discussions on socio-emotional topics need to be supported by safe and supportive classroom environments and teacher training. In Chapter 3, a small proportion of secondary students considered the classroom environment and overall programme to be of 'poor/satisfactory' quality. Further exploration of these students' responses revealed that they were more likely to have fewer sexuality education lessons, suggest a greater range of programme improvements, and considered the programme as less inclusive and respectful of cultural and sexuality diversity.

The classroom environment and school ethos have been identified as key criteria to ensure the successful implementation of sexuality education (Thomas and Aggleton 2016;

Pound et al. 2017), and a number of efforts have been made to generate safe and supportive classroom environments (see (Shackleton et al. 2016)). In Australia, for example, *Safe Schools* was a programme developed to support teachers to combat homophobia and transphobia in schools and support a more inclusive and safe environment for LGBTQ+ students and staff (Radcliffe et al. 2015). Unfortunately, media and political backlash portraying *Safe Schools* as 'heterosexist' and 'sexualising' children led to this programme being dissolved in late 2017 (Law 2017). Historically, debates around exposing young minds to 'deviant' ideas were once directed towards including safer sex practices in sexuality education, such as lessons on contraception and condoms (Lamb 2013; Leung et al. 2019). The inclusion of topics such as sexuality and gender diversity, in sexuality education is the new focus of contention and moral outcry (Gibson 2007; Thompson 2019). In Australia, opponents of inclusive sexuality education, referred to as the 'Christian right' or 'conservative Christians' (Carden 2019), reinforce this idea of adolescence being an inherently risky and vulnerable time, which conflicts with Positive Youth Development ideals and young people's rights to education (Haberland and Rogow 2015; Plourde et al. 2016).

Findings from Chapter 5 reinforce the need for safe and supportive classroom environments for LGBTQ+ and gender-diverse students. Participants in Chapter 5 who identified with diverse sexualities and/or genders noted the negative impact that heteronormative sexuality education had on their identity, self-acceptance, and the irrelevance of content. The unsuitability of existing sexuality education for LGBTQ+ youth is consistent with earlier research (Hillier et al. 2010; Mitchell et al. 2013), suggesting there have been minimal shifts in this space. Other research has shown the importance of having inclusive and supportive schools for sexuality and gender-diverse students (Ullman 2015, 2017), with inclusive curricula associated with feeling safer for LGBTQ+ students as well as reduced reports of suicidal ideation (Snapp et al. 2015; Proulx et al. 2019). Reinstating and

strengthening initiatives like *Safe Schools*, and finding methods to ensure these programmes and efforts have longevity should be a priority for Australian education and youth policy.

Given the content, depth and issues identified by young people in sexuality education (Chapters 3, 5 and 6; (Pound, Langford, and Campbell 2015)), a range of knowledge and competencies is necessary for teachers to successfully implement this education. In Chapter 4, an evaluation of teacher training feedback was undertaken to identify key training content that is relevant and useful to teachers' knowledge and confidence teaching sexuality education. This study found that teachers valued a wide range of content, with both quantitative and free-text analysis revealing the greatest appreciation for guidance on topics related to gender and power, same-sex attraction, and violence in relationships.

Analysis of free-text responses revealed that teachers perceived that training equipped them with positive and appropriate language to address sexual health topics (including sexuality and gender diversity), with an opportunity to strengthen skills, and the confidence necessary to teach sexuality education. Some conflict remains around what topics teachers considered to be age-appropriate, which is an area previously shown to influence the topics covered in sexuality education (Alldred, David, and Smith 2003; Carrion and Jensen 2014; Burns and Hendriks 2018). Teachers in Chapter 4 typically referred to safer sex as not being age-appropriate for year 5 students (age 10-11 years), though there has been acknowledgement that sexual behaviour outside of penetrative sexual intercourse may commence at younger ages (e.g., deep kissing as reported in national surveys (Fisher CM et al. 2019)). While additional research is needed on teacher training, including follow-up studies to determine lasting effects of training (first highlighted by (Wight and Buston 2003)), regular pre-service training and ongoing professional development should continue to be implemented alongside sexuality education.

7.3 Young people want to have real conversations about consent and relationships along with skill development

In order for sexuality education to be effective, it needs to be reflective of young people's lived experiences and be relevant to their needs (Aggleton and Campbell 2000). Chapters 5 and 6 explored young peoples' understanding of healthy relationships and consent, including informal and formal education that has contributed to their understanding. While the diverse young people interviewed in this research demonstrated strong foundational knowledge and awareness of social norms that influence relationships and, to some extent, consent, young people expressed a number of challenges that they need to navigate.

Contemporary young people have to manage multiple conflicting messages across their social landscape, including problematic depictions of sex and relationships in pornography and popular media (see (Cookingham and Ryan 2015)). Promisingly, studies conducted as part of this thesis (Chapters 5 and 6) and other research demonstrate that young people have substantial critical literacy when navigating online spaces and critically appraising information in the media (Taba et al. 2020; Byron et al. 2021). However, conversely, there is evidence from other research with young people that images and messages that promote unequal gender relationships can affect related beliefs, attitudes and behaviours (Peter and Valkenburg 2016). Therefore, educational programmes need to support the development of critical thinking skills and related competencies and provide young people with the opportunity to openly and safely discuss these topics. There is emerging evidence that the combination of honest conversations along with socio-emotional learning and skill development are important factors that contribute to strengthening relationship literacy. For example, Crooks and colleagues (2015) evaluated a healthy relationships programme that integrates socio-emotional learning, and found that eighth grade students participating in the programme had greater critical thinking capabilities

regarding the impact of violence, and could identify more coping strategies compared to the control group (Crooks et al. 2015).

'Real' conversations refer to young peoples' emphasis on the need for open and honest conversations about the realities of relationships and consent, including real life examples and discussions from people with diverse lived experiences. When discussing consent (described in Chapter 6), participants detailed the content of these desired conversations, their thoughts on why this is an important and effective strategy, and acknowledged the need for consistent messaging across their social landscapes. Participants believed that in sexuality education, providing students with real life examples would introduce them to an understanding of the mutable nature of consent, that is, the influence of situational factors on identifying and enacting consent in sexual encounters. This recommendation is consistent with other scholars who have expressed how regarding consent as a binary idea (e.g., a no or yes) is unhelpful to real life application (Hirst 2008; Brady et al. 2018).

Some participants raised the idea of using 'scare tactics' and focusing on consequences to ensure young people take the topic of consent seriously. However, 'scare tactics' further reinforce the framing of adolescent sexuality as 'risky' and 'problematic', and has shown to not as effective as providing accurate information (Kantor 1993; Bay-Cheng 2003). Instead, integrating reality into socially construed topics like consent and relationships, providing safe and supportive environments to explore these topics through discussion, and supporting skills that align with Positive Youth Development, including socio-emotional learning (Taylor et al. 2017) and reproductive autonomy (e.g., self-efficacy; (Upadhyay et al. 2014)), needs further exploration in sexuality education and may provide young people with a foundation of skills and confidence needed to navigate and negotiate their relationships.

The recommendation to integrate skill development into school-based health education is not a new concept, and in fact, has been successful for substance use education (e.g., developing skills to combat peer pressure (Wolfe et al. 2012)) and other areas of sexual health (e.g., communication skills as protective against human immunodeficiency virus (Pick et al. 2007)) in children and young people. Additionally, international bodies such as UNESCO and WHO recommend the inclusion of skill development in sexuality education and life skill development (i.e., socio-emotional learning) as a strategy to improve health and wellbeing more broadly (World Health Organization 2003; Women UN and UNICEF 2018; Cahill and Romei 2020).

Skills emphasised by participants in Chapters 5 and 6 include communication, negotiation, and learning to identify and articulate their own emotions. Further discussions identified the need for young people to deconstruct and critically analyse norms especially regarding gender, and have opportunities to develop self-efficacy, which may be supported through rights-based and/or empowerment-focused models as demonstrated by other research (Berglas, Constantine, and Ozer 2014; Rohrbach et al. 2015; Haberland and Rogow 2015). It is important to note that skill development is an ongoing process that occurs at different rates across individuals, and needs to be supported not only by educational institutions but also by interpersonal relationships, such as peer relationships which provide opportunities for bi-directional practice and refinement of self-regulation and communication skills (see (Osher et al. 2020)). However, the research contained in this thesis highlights that there continues to be major gaps in implementation of skill development strategies in sexuality education as recommended by international bodies (World Health Organization 2003; Women UN and UNICEF 2018).

In addition to incorporating skill-based learning into sexuality education, this thesis and other research (Ollis and Harrison 2016; Pound et al. 2017) reiterates the importance of a

whole-of-school approach to school-based health programmes. The whole-of-school approach goes beyond the curriculum, in this case, sexuality education, to target and address the broader school environment inclusive of all staff members, parents, and the wider community (Weare 2013a). Several features of the whole-of-school approach have demonstrated particular success in addressing school-based health programme aims, such as positive staff-student relationships, ongoing professional development, active involvement of parents, local community, and key local organisations, and are directed by the needs of students and are culturally sensitive (Weare 2013b).

Programmes that have embodied a whole-of-school, age-appropriate and skill-based approach have been shown to be successful in promoting respectful relationships education (Harris et al. 2015). In Victoria, Australia, the 'Resilience, Rights, and Respectful Relationships' programme addresses gender-based violence within a socio-emotional learning framework for primary and secondary school (Cahill et al. 2016; Cahill et al. 2019). This programme implements age-appropriate learning, which is essential for comprehensive sexuality education success (Goldfarb and Lieberman 2021), and includes topics reflecting socio-emotional learning, such as emotional literacy, positive coping, and problem-solving (Cahill et al. 2019). Evaluations of respectful relationships education have demonstrated improvements in student attitudes, knowledge and confidence in discussing gender equity and respectful relationships (Kearney et al. 2016). Research with young people in Canada (Buote and Berglund 2010; Wolfe et al. 2012) has also demonstrated gains in socio-emotional competencies (e.g., ability to express thoughts and feelings), negotiation and communication skills following implementation of a respectful relationships education programme. Given that socio-emotional learning and gender-equity is a focus of many respectful relationship education programmes (e.g., (Cahill et al. 2019)), and the relevance of these frameworks to sexuality education, building on existing programmes and integrating these complimentary

educational efforts within a whole-of-school approach should be explored in other jurisdictions across Australia.

Sexual health approaches that span beyond school to incorporate multiple socio-ecological levels of an adolescent's environment are needed to support healthy sexuality development and subsequent positive sexual health and wellbeing. Chapters 5 and 6 illuminate the contribution of informal learning opportunities to developing understanding, beliefs and skills that attribute to healthy relationships and consent. The role of personal experience, interpersonal relationships and interactions with family, peers and community, and influence of popular and social media all contribute to young people's conceptualisation of these components of sexual health. Furthermore, the quality of these relationships also contributes to young peoples' sexual health outcomes, as detailed in Chapter 2.

Ideally, sexual health messages would be consistent across these socio-ecological levels and support positive sexuality, including healthy relationship development and consensual, equitable and pleasurable relationships (as outlined by (Kågesten and van Reeuwijk 2021)). However, given sexuality is framed by social and cultural norms of the time and place (see (Padgug 2007)) and messages can be unique to the media engaged with (e.g., pornography in online media (Walker et al. 2015)); young people are left with an abundance of conflicting messages that require navigation. This provides the perfect argument for comprehensive, skill-based sexuality education employed within a whole-of-school approach and supported by family and community efforts. Without this collective effort, adolescents are left to filter through inaccurate and potentially harmful depictions of sexuality that may leave them with unrealistic expectations of romantic and sexual relationships. Sexuality education that is provided consistently across educational and community sites, that is age-appropriate and complimentary to developmental stages, incorporates critical thinking and skill development,

and is supported by prosocial relationships (e.g., social connectedness) is fundamental to adolescent sexual health, which was endorsed by participants in Chapters 5 and 6.

7.4 Strengths and Limitations

The strengths and limitations of each individual study are discussed in corresponding chapters (Chapters 2-6). The strengths and limitations detailed here relate to the thesis overall, including data sources and methodological considerations.

First, Chapters 3 and 4 utilised datasets that were not originally designed for research but instead were developed for providing feedback on sexuality education curriculum and training to SHINE SA staff. I would like to acknowledge the substantial effort that has gone into the ongoing development and maintenance of these feedback surveys produced by SHINE SA. These surveys have provided SHINE SA with the opportunity to undertake ongoing improvements to their Relationships and Sexual Health Programme since 2006, which considering the amount of social and technological change during this period (e.g., the emergence of social media, and greater access to pornography), it is imperative to continue these to maintain the relevance of their services to young South Australians. The survey data provided by SHINE SA comprises of simple categorical data and questions considered relevant to SHINE SA's curriculum development. Therefore, analysis was limited to descriptive statistics and logistic regressions, exploring questions pre-determined by SHINE SA. Greater depth concerning students' comprehension and perceptions of the programme could not be captured by the survey method used, and this may have provided greater insight as to why some students considered the programme to be poor/satisfactory. However, there are also strengths in using this dataset. For example, this dataset allowed an exploration of the local context and led to an integrative research approach that involved in-depth engagement with young people residing in South Australia in subsequent chapters of this thesis. Another strength is the extent

of coverage achieved by the surveys across schools implementing the programme, with more than 4,000 secondary students across South Australia's metropolitan and regional areas participating in the 2017 survey.

Second, half of my candidature was undertaken during the emergence of COVID-19, which caused a number of delays and challenges with engaging with youth-based organisations and young people. While I was able to facilitate semi-structured interviews with 18 young South Australians (Chapters 5 and 6), developing new collaborations with youth-based organisations to support the recruitment of young people was challenging given the changing landscape and redirection of priorities amongst organisations. While SHINE SA and some youth-based organisations shared recruitment material through their social media platforms, more direct collaboration with these organisations may have resulted in a greater number and more diverse participants. For example, the inclusion criteria for this project meant that any South Australia resident aged 14-20 years was eligible including from regional, remote, and rural areas, even so, all participants resided in metropolitan areas.

However, there was still engagement with a diverse group of young people for this research, including diversity of gender, age, and cultural background. Another strength pertaining to Chapters 5 and 6 is the depth achieved during semi-structured interviews with young people. These interviews explored sensitive and sometimes embarrassing topics, and the young people involved were forthcoming with their perspectives, including their personal experiences, even though sharing their personal relationship and sexual experiences were not a requirement of participation. I would like to acknowledge the young people who participated in the interviews, whose invaluable insights were imperative to Chapters 5 and 6 and my PhD experience. It was a privilege to listen to every participant's thoughts and experiences about relationships and consent.

7.5 Implications for research, theoretical implications, future directions, and recommendations for sexuality education

This thesis identified that incorporating social connectedness into school-based sexual health initiatives is an appropriate approach to support adolescent sexual and reproductive health and wellbeing. Additionally, this thesis champions young peoples' voices and views on their sexual health and wellbeing, including recommendations for the content and depth for exploring relationships and consent in sexuality education. Implications for sexuality education and programmes and future research on this thesis work have been discussed in detail earlier in each study chapter (Chapters 2-6); nonetheless, some implications and recommendations are presented below.

Collectively, this thesis provides several recommendations for sexuality education regarding relationships and consent, including approach and content (see Figure 7.1). Moving forward, approaches to sexuality education should support relationship literacy through socio-emotional learning and skill development, open classroom discussions supported by safe classroom environments, and recognition and appreciation of diversity and inclusivity. Sexuality education could and should be supported by family and community efforts and relationships, as employing multiple constructs of social connectedness can support adolescent sexual and reproductive health (Chapter 2). While employing social connectedness in school-based health programmes has been attempted in Australia to improve mental health (Patton et al. 2006), greater adaptation of these approaches is needed to support sexuality education and respectful relationships education and is feasible.

The content of relationships and consent to be discussed in comprehensive sexuality education is expansive, this broad scope reflects the need for a whole-of-school and engagement with parents, and community to ensure these messages and information reach

students and young people more broadly. This thesis supports the application of framing of consent and relationship qualities as a continuum (Tharp et al. 2013; Whittington 2020) to provide space for class discussions, facilitate appreciation for the complexity of these constructs, and enable the applicability of this approach to real life experiences. The acceptability, applicability and efficacy of these continuum approaches alongside production of materials requires further development and evaluation, as it has received limited attention in existing education programmes. For both relationships and consent, a greater exploration of affect ('feelings') related to sexual behaviour and relationships are needed, as well as the provision of real life examples and open conversations about the realities of relationships and consent. More content specific information is presented in Figure 7.1.

Figure 7.1: Summary of recommendations for improving South Australian sexuality education arising from this research

Strengthening the approach to programme delivery

- Improve support for relationship literacy through socio-emotional learning and skill development (including self-efficacy)
- Include open classroom discussions in safe classroom environments to permit exploration of the realities of interpersonal relationships (e.g., romantic and/or sexual relationships), including consent. This could include presentations from people with lived-experiences to facilitate the integration of discussing realities in the classroom
- Improve recognition of the strengths of cultural, gender and sexuality diversity, and building an appreciation and respect for differences and similarities. Ideally, this should be supported by initiatives from non-government organisations and community (e.g., *Safe Schools*)
- Continue to create opportunities for family and community to support and communicate positive sexuality, which will allow sexuality education to occur across socio-ecological levels and provide consistent messages across different contexts.
- Continue to support tailored and ongoing professional development for teachers on topics relevant to their schools ethos, supported by a whole-of-school approach to facilitating comprehensive sexuality education

Content

- Take heed of young people's perspectives that support the age-appropriate approach of comprehensive sexuality education, and introduce consent discussions before sexual activity/intercourse typically occurs (e.g., 14-15 years as described by participants in studies in this thesis)

- Tailor content that frames consent and relationship behaviours as continuums instead of binary ideas of good/bad and black/white to allow for greater adaptability to different, real world contexts
- Strengthen topics that explore the diversity of sexual behaviours and emotional elements of sexual relationships
- Specific relationship content areas for improvement: include a balance of discussions on unhealthy ('red flags') and healthy relationships; the feelings associated with healthy/positive relationships and sexual experiences; discussions that facilitate the deconstruction of gender and social norms including relationship expectations; promote inclusivity when discussing all sexuality education topics, that is, ensure sexuality and gender-diverse students are reflected in the curriculum
- Specific consent content areas for improvement: introduce the foundational understanding of consent early including nonsexual consent in primary years and 'simplistic' understandings of sexual consent before typical ages of any sexual behaviour; develop the curriculum to recognise that consent applies to all sexual behaviours and include discussions of the continual aspect of consent; introduce open discussions on the complexity of consent in later year levels complimentary to development (e.g., year 9/10) including the role of gender, relationship and situational factors; adapt and incorporate accurate and realistic language that are reflective of young people's language; having content and activities that is reflective of reality instead of using 'unrealistic' scenarios

7.5.1 Implications and recommendations for future research and theory

The majority of this research, with the exception of the systematic review (Chapter 2), was undertaken within the South Australian context. In particular, much of this research was undertaken in collaboration with SHINE SA, with a focus on their secondary school Relationships and Sexual Health Programme curriculum. Therefore, it was out of the scope of this project to explore other Australian states and territories. Therefore, future research should involve direct collaboration with diverse young people residing in these geographical locations and specific communities to provide young people a platform to articulate their specific needs, especially regarding consent. Although SHINE SA provides the programme curriculum to any school that undertakes training, the majority of these schools are in the government/public sector. However, interviews with young people (Chapters 5 and 6) revealed discrepancies in sexuality education content across all schooling experiences, which speaks to the need of a national sexuality education curriculum that provides clear guidelines, objectives and avenues for supporting teachers and schools, echoing other research in Australia (Ezer et al. 2019; Ezer et al. 2020). Importantly, there were consistent recommendations provided by the interview participants on the content and depth needed in sexuality education, regardless of their schooling contexts.

This thesis successfully engaged with young people on sensitive topics including consent and provided an avenue to facilitate youth voices in debates that directly concerns them (e.g., consent education, Appendix 3). The use of scenarios in Chapter 6 provided participants with a reference point to facilitate in depth conversations on consent. Without the inclusion of these scenarios, participants may not have had the opportunity to critically reflect on the influence of situational factors on consent or the relevance of scenarios as an approach in their sexuality education. In addition, the use of consent scenarios provided participants with a hypothetical situation and detached approach that allowed them to safely and comfortably

discuss consent and sexual activity. While the scenarios were a successful approach in Chapter 6 and have been used in other work engaging young people in discussions on consent (e.g., (Coy et al. 2013)), additional methods are needed to engage young people in sensitive or taboo discussions, including very young adolescents (aged 10-14 years). Possible approaches to engage very young adolescents in these topics could include arts-based approaches (Blaisdell et al. 2018; Tumanyan and Huuki 2020). Arts-based methods, such as body mapping (see (de Jager et al. 2016)), provide the space for young people and children to provide their perspective and share experiences that may be difficult to express verbally (Tumanyan and Huuki 2020). Incorporating this approach with interviews could be an appropriate method in engaging younger adolescents in this conversation on relationships and consent, which appears especially prudent given the prevailing beliefs and expectations of adolescents aged 14 years old to be sexual (see Chapter 5 and (Coy et al. 2013)).

More broadly, other methods are needed to ensure young people have the opportunity to actively engage and participate in research that concerns them. Regarding consent and sexuality education, young people are already actively engaging in these discussions and advocating for their needs, as demonstrated by the response of secondary students and young people regarding sexual assaults in Australian schools (e.g., school walkouts, Appendix 3). Providing a space for young people to shape the directions of research and policy, with appropriate recognition of their contribution, is paramount for ensuring their voices are heard and those with the power for change are held accountable. Youth advisory groups have been identified as a strategy to ensure research accurately reflects young people's perspectives and needs through active engagement in the research process (Sellars et al. 2021). While Sellars and colleagues (2021) describe several levels young people can be engaged in health research, youth-led and co-production may be most relevant for ensuring research on and development

of sexual health interventions, such as sexuality education, is accurately interpreted, relevant and reflective of young people's needs (Sellars et al. 2021; Templeton et al. 2017).

The majority of this thesis addressed school-based sexuality education, but as Chapter 2 demonstrates and young people in Chapters 5 and 6 voiced, more collective approaches to adolescent sexual health and wellbeing (in particular relationships and consent) are needed across young peoples' social environments. Future research should explore approaches to strengthen consent and relationships skills outside of formal school-based education, in particular to ensure that young people disengaged from school have the opportunity to access sexuality education. In fact, UNESCO and other researchers have recommended that comprehensive sexuality education should also occur outside of school, including in community settings and across media platforms (Engel et al. 2019; Women UN and UNICEF 2018). Opportunities for young people to develop knowledge and skills to support positive sexuality may be facilitated through peer-led activities (e.g., which have been shown as effective in changing sexual health knowledge and attitudes (Sun et al. 2018)), and community approaches (Patton et al. 2016b), including supporting greater youth engagement and involvement with community-based organisations (Fisher et al. 2011). As previously noted, involving young people through youth advisory groups in interventions efforts, such as evaluating and guiding social media campaigns (e.g., (Jones, Milnes, and Turner-Moore 2021)), would ensure the goals these campaigns seek to address are accessible and appropriate for the intended audience. Further, participatory research is warranted to assist in identifying other effective and accessible avenues for relationship and consent skill development.

To ensure the successful translation of the thesis findings and the implementation of comprehensive sexuality education that embodies the needs and wants of young people, further work is needed across government and policy levels of South Australia. Given the jurisdictional power of schools on the provision of sexuality education, the standard and content of this

education varies extensively (Fisher CM et al. 2019; Ezer et al. 2020). Despite the ACARA recommendations, there is a lack of monitoring of the depth of education provided as well as constraints for teachers to develop the required knowledge, confidence, and skills needed to translate these recommendations into practice confidently (Ezer et al. 2020; Ezer et al. 2021). An important future step in this space, is the direct engagement and collaboration with people in policy and government to determine what is feasible and acceptable in bringing skill development and reality of relationships and consent more successfully into the classroom environment.

This thesis further emphasises the appropriateness of the socio-ecological model as relevant to contemporary young peoples' lives and experiences that impact on their sexual health (Bronfenbrenner 1979; Tolman 2016). Chapters 3, 5 and 6 draw specific attention towards the role of social media in young peoples' social ecology, and how this is embedded across their friendships, romantic and sexual relationships, and more broadly, their opportunities to learn about sexuality and sexual health. In addition, the qualitative research presented in this thesis (Chapters 5 and 6) shows the acceptability and desire of young people to develop negotiation skills to support experiences of consent and relationships (Tolman 2016). The gendered findings from these chapters, in particular the conflict between challenging and enacting gendered stereotypes and pressures around being sexually active, reflects the need to support young people to develop the competencies outlined by Kågesten and van Reeuwijk's framework of adolescent sexual wellbeing (Kågesten and van Reeuwijk 2021).

While this project has demonstrated the importance, desired content, and approach of relationships and consent in sexuality education from young people, future research needs to evaluate the effect of this content on adolescent sexual behaviours and skill development. Concerning skill development, additional research is needed to identify which skills are most

beneficial and achievable in the context of school-based sexuality education for young people to develop and support affirmative consent, positive sexual experiences, and healthy relationships.

7.6 Overall conclusions

The research contained in this thesis supports the inclusion of socio-emotional topics, including healthy relationships and consent, as essential components of sexuality education through the perspectives of young people. These findings provide evidence that constructs of positive interpersonal relationships, such as social connectedness, can support outcomes typically targeted by traditional sexuality education and sexual health campaigns (e.g., increased condom use and reduced STIs). While research in this thesis demonstrates that young people can often articulate healthy relationships and define consent, there is a need to explore the realities and complexities of these experiences, provide positive and accessible language, and facilitate opportunities to challenge norms and develop skills through sexuality education.

These findings can support further development and implementation of sexuality education within schools, incorporating improved content, depth, and approaches that young people consider relevant and impactful. This includes the need for consistent sexual health messages and developmental opportunities across young peoples' social landscapes, spanning family, peers, school, and community to challenge harmful gender norms, promote healthy relationship qualities and support young people's agency.

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APPENDICES

Appendix 1: Interview Guide – healthy relationships and consent as described by young people

Appendix 2: Consent scenarios used in semi-structured interviews with young people

Appendix 3: Media coverage of young people and consent education during 2021, Australia*

Appendix 4: A systematic review of school-based programmes to improve adolescent sexual and reproductive health: Considering the role of social connectedness (Publication)

Appendix 5: Student perspectives on a state-wide relationships and sexual health programme in South Australian schools, 2006–2017 (Publication)

Appendix 1: Interview Guide – healthy relationships and consent as described by young people

Topic: Relationships

1. What words or examples would you use to describe a good relationship between friends/family/partners? [Prompt: are there any common issues?]
2. How do you know if a relationship is respectful?
3. Can you think of an experience where you have learnt about relationships – something that stood out and made you think this is a good relationship? [prompt: what a good one looks like? How they should treat you?]
4. Where do young people find out about how relationships work? [prompt: how a relationship *should* be? Where they find out how sex works?]
    a. Are there any other sources/places you can think of that young people learn about relationships?
5. What is something you wish you had known/would want to know about relationships?
6. What have you learnt about relationships from school? (e.g., sex education)
    a. Prompts: What was missing? Was anything helpful/unhelpful? What should be included? Is there anything in particular about relationships or consent you think should be taught? Who should teach this?

Topic: Consent

1. What does consent mean to you? Why might some people find consent tricky to define?

Use **Scenario** to ease into more in-depth conversation

Scenario Questions:

a. What did you think of this situation? [prompt: how did it make you feel?]
b. Were there any signs of consent? [prompt: what did they look like?]
c. Would the situation change if there was no drinking?

2. Compared to the scenarios – how do you think consent *actually* looks like in real life?
    a. How can someone tell another person is providing their consent? [prompt: do people usually ask – why/why not?]
    b. How would someone show they are giving their consent?
    c. What could consent look like between strangers/partners?
    d. Can you think of any examples of situations where consent would be harder to identify?
3. How are **boys** expected to act when they are in these kinds of situations? [prompt: if 'idealistic' answer – do you think that actually happens in reality? Some example?]
4. How are **girls** expected to act when they are in these kinds of situations? [prompt: if 'idealistic' answer – do you think that actually happens in reality? Some example?]
5. Can you think of any experiences/conversations where you have learnt about consent (or pressure/boundaries)? [prompt: what was it? What did you learn? Learnt from friends, family or partner?]
6. What is something you wish you had known/would want to know about consent?
7. What have you learnt about consent from school? (e.g., sex education)

Appendix 2: Consent scenarios used in semi-structured interviews with young people

Scenario for 14-17 year olds:

Jo is going to a party tonight and knows that Taylor will be there, who Jo has liked for ages. Jo has some pre-drinks with mates before heading to the party, and continues drinking there until Jo feels confident enough to approach Taylor. Jo gets quite drunk and then approaches Taylor, and constantly hangs around trying to talk to Taylor. Eventually Jo keeps trying to kiss Taylor and doesn't realise that Taylor isn't responding and looks upset. Jo doesn't remember any of this until the next day when Jo's mates are laughing about it.

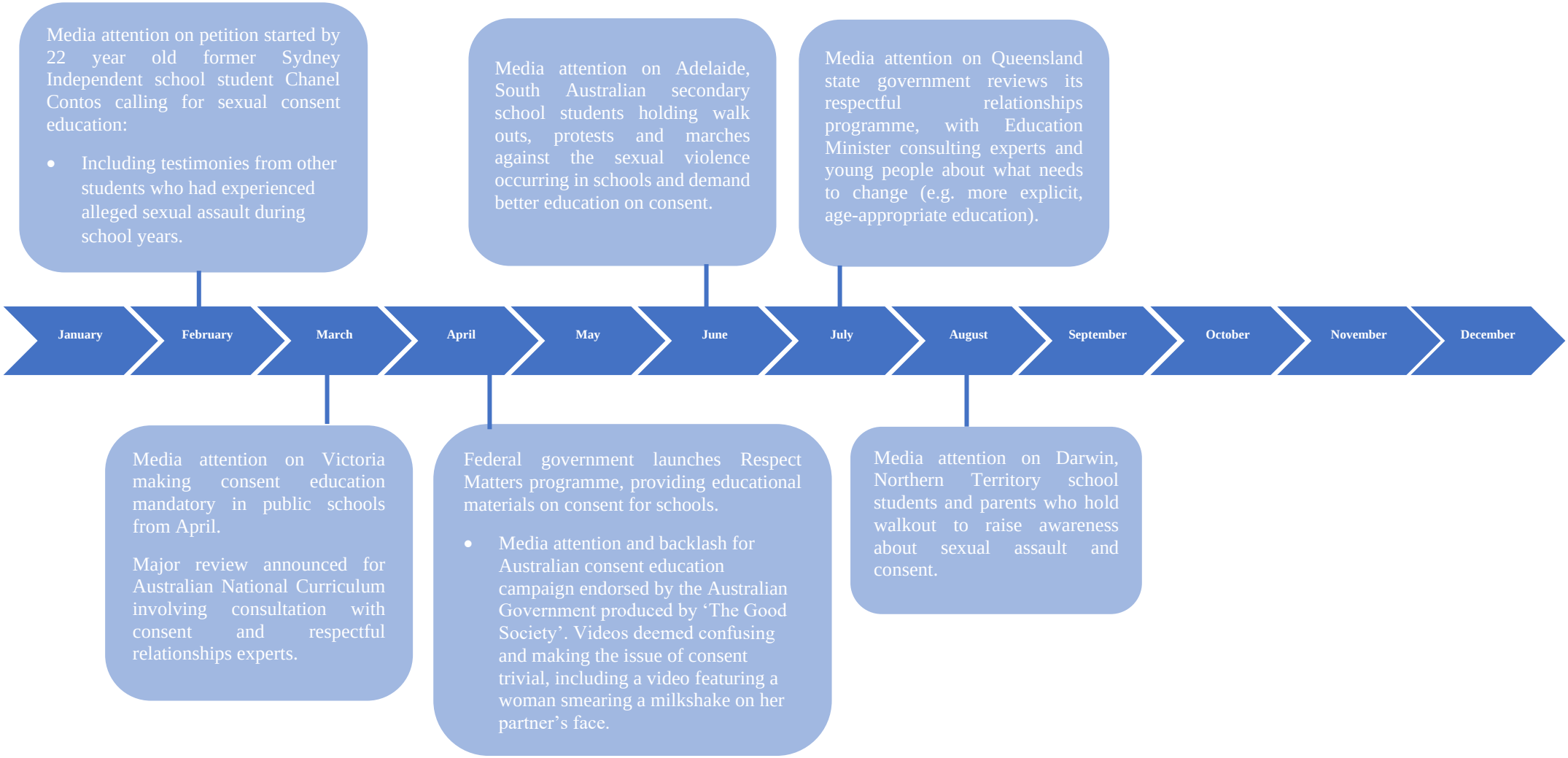
Scenario for 18-20 year olds:

Lei is out with some mates at a club and is dancing with someone they just met. Lei has just gotten out of a relationship and wants some fun without worrying about feelings. Lei meets Sid at the club, and they dance together. After some time dancing, Lei can feel that Sid has an erection. Lei leads Sid to the bathroom to make out and starts giving them a hand job. Sid keeps saying that they shouldn't do this where they can get caught but Lei continues until Sid cums. Lei then goes back out to see friends, leaving Sid alone.

Scenario for all participants:

Rio and Tan have been messing around together for a few months. One night they are hooking up and Rio can tell Tan isn't being as forward as usual. Rio slows down and asks what is wrong, Tan says they are having some issues at home. Understanding that Tan just needed a break from home they decide to stop and just hang out instead. Although Rio is a little frustrated with being left turned on, they know they have a better time when Tan is being as enthusiastic as they are.

Appendix 3: Media coverage of young people and consent education during 2021, Australia*



**Note: This is by no means an exhaustive list of references or events, and focuses on media related to consent education. This appendix is to contextualise the social environment during my PhD and most relevant the qualitative work on relationships and consent*

Appendix 4

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SYSTEMATIC REVIEW

A Systematic Review of School-based Programs to Improve Adolescent Sexual and Reproductive Health: Considering the Role of Social Connectedness

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Abstract
Schools are an important source of information about sexuality, but programs that focus on promoting knowledge alone generally have limited impact on sexual health. Schools also provide a space for relationship and social skill development, which are critical for social connectedness or a sense of belonging. Enhancing social connectedness among adolescents has been associated with improved mental health, but whether this is a beneficial strategy for sexual health is unclear. The aim of this systematic review was to determine the impact of school-based programs that promote social connectedness on adolescent sexual and reproductive health. Following a search of major databases, 18 studies of ten distinct programs were identified. Overall, improved condom use, delayed initiation of sex, and reduced pregnancy rates were demonstrated. Program effectiveness was influenced by ethnicity and gender, for example, greater improvements in condom use were often reported among African American students. Programs that were most effective incorporated multiple constructs of social connectedness, included social skill-building and had a sustained intensity. Future research should examine gender- and culture-sensitive ways to promote social connectedness, and the optimal program intensity. This review provides promising evidence that programs that promote multiple aspects of connectedness can improve adolescent sexual and reproductive health.

Keywords Social connectedness · Adolescent health · Sexual and reproductive health · Interpersonal relationships · Belonging

Introduction

Contemporary conceptualizations of sexual and reproductive health encompass not only biological processes and associated diseases, but also social, emotional and spiritual aspects of relationships that influence sexual outcomes across the lifespan (Wellings and Johnson 2013). For adolescents, however, discourses surrounding sexual and reproductive health have generally focused on reducing the risk of sexually transmissible illnesses (STIs) and teenage pregnancy, by promoting risk-aversion and abstinence-based education. Only recently have discourses around adolescent sexual and reproductive health changed to more holistic and positive approaches, which reflect contemporary conceptualizations of sexual and reproductive health.

Relationships are at the core of sexual health, and have an influence on social norms, attitudes, knowledge, and behavior. A range of interpersonal relationships, including family, peer and school, are known to be influential for adolescent

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health behaviors (Viner et al. 2012). Furthermore, relationships are an essential component of social connectedness or belonging, which is considered a fundamental human need. Social connectedness is a core component of Positive Youth Development approaches (Lerner et al. 2005) and has been utilized in programs to improve adolescent mental health. Enhancing social connectedness may also be an important strategy for promoting adolescent sexual and reproductive health, through strengthening of positive interpersonal relationships. This is the focus of the current review, which aims to synthesize the evidence on school-based programs that seek to improve sexual and reproductive health outcomes through the inclusion of social connectedness approaches.

The Place of School in Health Interventions

It is well recognized that the social environment, including social norms promoted by peers and family, and relationships with individuals and institutions, are highly influential in promoting adolescent development, health and wellbeing (Bundy et al. 2018). For example, Bronfenbrenner's renowned Ecological theory describes the significance of interactions between individuals and their environment for health, wellbeing, and behavior (Bronfenbrenner, 1994).

In high-income countries, adolescents typically experience the majority of their social development in school environments. For some adolescents, school provides a safe environment to develop the academic and social skills needed to successfully transition to adulthood. School settings are an important site for the development of social relationships, and previous research demonstrates that school students are more likely to employ healthy behaviors if they feel connected to their school (Centers for Disease Control and Prevention 2009; McNeely and Falci 2004). The successful implementation of school-based programs that encourage engagement between adolescents, their peers, and teachers have been linked to reduced substance misuse, violence, and other antisocial behaviors (Bowring et al. 2018; Bundy et al. 2018).

Sexual and reproductive health is a core part of the curriculum in most high school settings, and is frequently implemented in health classes. However, evidence suggests that school-based programs which focus on promoting sexual and reproductive health knowledge alone have limited impact on health outcomes like unplanned pregnancy (Lopez et al. 2016; Mason-Jones et al. 2016). While schools are a trusted source of guidance about sexuality and relationships, with almost ubiquitous access to the internet and social media, contemporary adolescents do not have a lack of access to information about sexuality and sexual health outside of their school curriculum. As such, support may be required to navigate the multitude of, and often conflicting information, available, and to apply this knowledge to build sexual self-efficacy (Weissbourd et al. 2017).

Transition from Risk-Aversion to Positive Adolescent Sexual and Reproductive Health

Sexual health is an important component of health and wellbeing. For some, adolescence marks the beginning of romantic and sexual relationships, signifying this as a critical time for sexuality development (Manning et al. 2014; Tolman and McClelland 2011). During this transition, adolescents will often have to navigate complex peer-related decisions and develop capabilities for foresight and planning to manage unintended consequences such as pregnancy. However, the development of skills needed for adolescents to navigate and negotiate their sexual relationships has not always been incorporated into the education, services, and programs they are provided.

Sexuality education in school is greatly influenced by the social and cultural context in which the school exists. Historically, sexuality education has been focused on abstinence-based education and a risk-aversion models (Bay-Cheng 2003). These approaches often focus on the physical and biological aspects of sex, including pregnancy, STIs, and reducing an adolescents' number of sexual partners and frequency of sexual intercourse (Goesling et al. 2014). Although considerable amounts of time and funding has been invested in these traditional approaches, they have limited impact on key sexual health outcomes (Lopez et al. 2016; Mason-Jones et al. 2016). A recent review noted that sexuality education and related research tends to embody two paradigms: (1) the conservative abstinence-based model previously mentioned, or (2) the non-conservative/liberal path (Roien Line et al. 2018), often coined comprehensive sexuality education. Holistic and comprehensive approaches to sex education, acknowledging elements such as relationships, love, pleasure, sexuality, gender diversity, and rights are critical and relevant for adolescents as they are developing their identity and pursuing relationships. In numerous studies in HICs and low-middle-income countries, adolescents have expressed the need for sexuality services and information to include these psychological and emotional aspects of sex (Braeken and Rondinelli 2012). For some students, these may in fact be considered the most important aspects of sexuality education (Hogben et al. 2017).

Healthy and positive relationships are strongly linked to sexual and reproductive health and positive wellbeing (Anderson 2013; Tharp et al. 2013). A recent increase in the investigation of enabling environments and empowerment (especially for girls) has taken shape in the field of adolescent sexual and reproductive health, as strategies for development of positive health and wellbeing. These approaches show promise, such as the established method of Positive Youth

Development, which involves programs that strengthen family and community support for youth development, help build life skills, communicate expectations for positive behavior of youth, provides opportunities for recognition, and fundamentally empowers youth (Gavin et al. 2010; Roth and Brooks-gunn 2003). These programs have been shown to promote adolescent sexual and reproductive health (such as decreased sexual risk taking and increased contraceptive use), as well as improve academic achievement and decrease levels of substance use and violence. Within the positive sexuality space there have also been investigations into particular individual attributes which help navigate sexual relationships and health. For example, studies by Hensel and Rostosky examining adolescent sexual self-concept and sexual behavior found that higher levels of self-esteem, autonomy, sexual assertiveness, comfort, and openness were correlated with less risky behavior as well as increased capacity for sexual satisfaction (Hensel et al. 2011). Thus, it is now well understood that much more than knowledge is needed to help adolescents have healthy relationships and positive sexual health experiences.

Social Connectedness as a Sexual Health Strategy

Previous research in adolescent health has demonstrated the complexities of adolescent development and how it spans beyond physical changes, like puberty, to include socioemotional adaptations as well (Patton et al. 2016). Adolescent and psychology-based literature has noted just how influential social connections are to ourselves, others, and environment, leading to social connection being considered a fundamental human need, critical for promoting health and wellbeing (Berkman et al. 2000). As adolescents develop independence, their range of connections will often expand rapidly, beyond family to include peers, and individuals in the school and wider community. Interactions across this social network can have an important influence on identity formation, including sexual identity, and provide opportunities to hone skills in decision making around health and relationships.

Considering the multitude of developmental changes that adolescence brings, having stable and supportive relationships can greatly assist students in navigating the changes that occur during this time (Allen and Kern 2017). In fact, different constructs of social connectedness have been associated with an array of positive health and wellbeing outcomes in adulthood (Carmichael et al. 2015). One study using data from the National Longitudinal Study of Adolescent to Adult Health investigated different constructs of social connectedness (family, peer, school), the degree to which it was experienced during adolescence, and the impact on health outcomes later in adulthood (Steiner et al. 2019). Notably for sexual health, school connectedness was associated with reducing multiple sex partners and STI diagnosis, while family connectedness was also shown to be protective of these outcomes in addition to protecting against intimate partner violence. This study also suggested a number of valuable and relevant conclusions to the current review, specifically that by promoting these factors (school and family connectedness) through preventative strategies involving the social ecology of adolescents, there is potential to promote overall health in adulthood. Although it is clear that successful health prevention in schools need to involve all the levels of an adolescent's socioecological environment, how to appropriately enhance the feeling of social connectedness through these programs is an area in need of more research.

A previous review demonstrated an association between social connectedness and healthier sexual and reproductive behavior among adolescents (Markham et al. 2010). Social connectedness was found to be protective, specifically for delaying sexual initiation and preventing early sexual debut. Family and school connectedness was protective of early sexual debut, and partner connectedness was associated with an increase in condom and contraceptive use. While this review demonstrates an association between social connectedness and adolescent reproductive health outcomes, it is unclear whether programs designed to improve social connectedness actually enhance these. Beyond this, it is also unclear whether social connectedness can be implemented successfully within school-based programs to result in positive adolescent sexual health.

Current Study

To date, there are few reviews examining social connectedness as a health promotion and prevention strategy for sexual and reproductive health in adolescents. While there is evidence of using social connectedness in school programs to improve mental health (Garcia et al. 2013), the focus of research on social connectedness and sexual health has predominantly been observational (Markham et al. 2010). The current review attempted to look beyond what has been shown in observational studies to include school-based programs that either explicitly or theoretically integrated enhancing social connectedness in their approach. The review focuses on the impact of school-based programs in particular, as adolescents typically have most of their social development in school.

Methods

The review was registered with PROSPERO prior to commencement (registration number: CRD42019125261). The following electronic bibliographic databases were searched

until July 2019: PubMed, CINAHL, Embase, PsycINFO, ERIC, and Scopus. The search strategy included terms related to the population (adolescents, teen), the program (school-based, connectedness, relationship building), and the outcomes (reproductive health, sexual health, empowerment, self-esteem, sex*), with the use of Booleans and MeSH terms when appropriate (see Table 1 for example of terms used). Additional studies were retrieved by hand searching of reference lists of individual papers.

Eligibility Criteria

English language studies were considered eligible if they met the following criteria: (a) focused on adolescents (aged 10–19 years) attending primary or secondary school in high-income countries; (b) evaluated a school-based program that involved children receiving lessons/training to enhance any aspect of social connectedness to their social environment; (c) included a control/comparison group in the form of no program or a pre-existing program; and (d) reported on at least one outcome related to sexual and/or reproductive health.

For the purpose of this review, the conceptualization of social connectedness was derived from the outline by Barber and Schluterman (Barber and Schluterman 2008), who described the following two key elements of social connectedness:

> a relational component, that encompasses "the connection or bond that youth experience with socializing agents"; and
> an autonomy component, that depicts the "extent to which youth feel that their individuality is validated or supported by their socialization agents".

Programs that considered one or both of the above components were considered for inclusion. This was operationalized as any programs that included a focus on promoting positive relationships, bonding, a sense of belonging, and/or being cared for, between adolescents and their family, peers, partners, school community and/or the wider community. Programs could target specific constructs of connectedness (e.g., school connectedness, described as feeling like part of the school and being cared for by the school), or multiple constructs (e.g., bonding with family, peers and the school), and be facilitated by teachers, peers, parents, mentors and/or out of school professionals (e.g., counsellors).

The following study designs were included: randomized controlled trials, non-randomized controlled trials (including quasi), controlled before-after (pre-/post-) interrupted time series, and program evaluations. Program evaluation without a control group were eligible if they reported on outcomes pre- and post- program implementation.

Study Selection and Data Extraction

Titles and abstracts of studies retrieved using the search strategy and those from additional sources (mainly systematic reviews) were screened independently by two review authors (SK and ZL) using the COVIDENCE software ("Covidence systematic review software, Veritas Health Innovation, Melbourne, Australia,"). The full texts of these studies were retrieved and independently assessed for eligibility. After confirming eligibility, multiple review authors (SK, ZL, JM, and TO) then extracted data independently on key characteristics of the program (e.g., duration, intensity, connectedness constructs) as well as primary and second outcomes of program effectiveness. Any disagreements concerning eligibility or data were resolved through discussion with the inclusion of a third reviewer where necessary.

Quality Assessment

The risk of bias in each study was assessed using standard tools developed by the Cochrane Collaboration for assessing randomized controlled trials (Higgins and Green 2011) and non-randomized studies (Cochrane Effective Practice and Organisation of Care & (EPOC) 2017). In addition to these standard tools, the authors also assessed qualitatively the degree to which there was a pedagogical or theoretical basis to the program to understand the extent to which programs

Table 1 Basis of the search terms utilised and adapted to each database

Population	Teen[a] OR adolescen[a] OR high school OR secondary school OR middle school OR senior school
Intervention	Intervention OR program[a] OR prevention OR school program OR school-based intervention AND Connectedness OR bonding OR belonging OR affiliation OR sense of belonging OR relationship building OR interpersonal relation[a]
Primary outcomes	Health risk behavio[a] OR risk taking OR risk behavio[a] OR violence OR delinquency OR alcohol OR injury OR substance use OR reproductive OR sexual OR adolescent sexual and reproductive health OR sex[a] OR contraception OR sexual intentions OR STIs
Secondary outcomes	Empowerment OR communication skills OR negotiation skills OR power OR self-esteem OR equality OR equity OR agency OR autonomy OR relationship quality OR relationship satisfaction OR decision making OR confidence

[a]Combinations of the terms above were used in the following format: Population AND Intervention AND Primary Outcomes OR Secondary Outcomes. Note: the intervention column had two subsections that were combined (type of intervention AND focus of intervention)

draw on relevant theories that align with constructs of connectedness, as proposed by Barber and Schluterman (Barber and Schluterman 2008).

Results

After duplicates were removed, 4994 citations underwent initial title and abstract screening (Fig. 1). From these, full-texts were assessed for 102 citations; this included 13 identified through reference lists and review papers. Overall, 18 studies met the inclusion criteria, these assessed ten separate school-based programs (Aarons et al. 2000; Allen et al. 1994, 1990; Allen and Philliber 2001; Flay et al. 2004; Graves et al. 2011; Hagen et al. 2012; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991; Jorgensen et al. 1993; Lonczak et al. 2002; Moberg and Piper 1998; Patton et al. 2003, 2006, 2000; Piper et al. 2000; Schanen et al. 2017). The most common reason for excluding studies was that they did not report a sexual or reproductive health outcome (the primary reason in 58% of excluded citations).

Description of included studies

Family and/or peer connectedness were the two most common aspects of social connectedness examined, present in seven programs (Aarons et al. 2000; Allen et al. 1990; Flay et al. 2004; Graves et al. 2011; Hawkins et al. 1999;

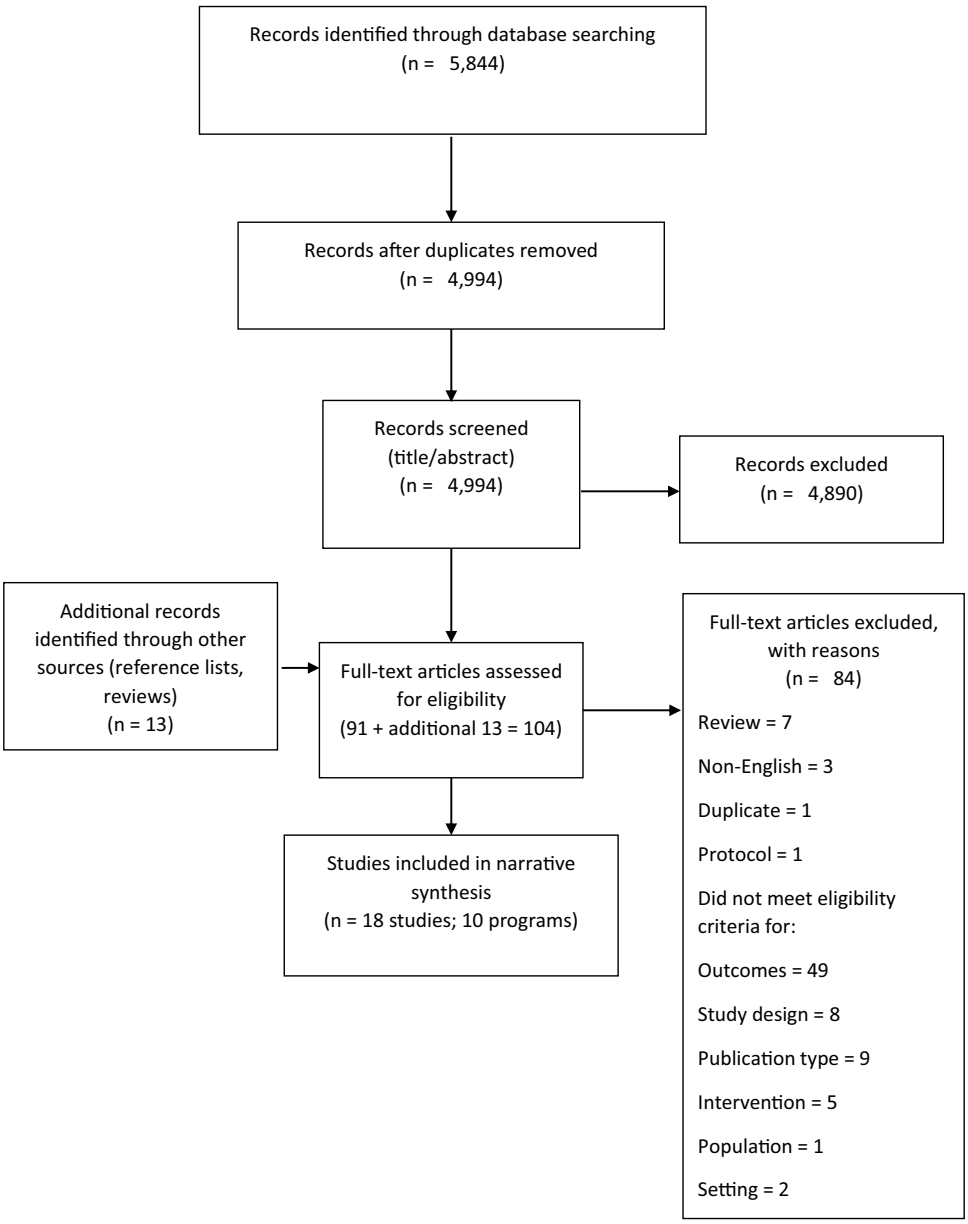

Fig. 1 PRISMA flow diagram

Jorgensen 1991; Moberg and Piper 1998) (see Table 2). Only three studies focused on a single construct, either school (Harrington et al. 2001; George. Patton et al. 2006) or family (Graves et al. 2011) connectedness, with the remaining studies targeting a combination of family, peer, partner, school and/or community connectedness activities. In all studies connectedness was an element of the program rather than the main focus. Subsequent searches for further information to ascertain the amount of time spent on initiatives relevant to social connectedness, only detailed information about the curriculum for four programs only was obtained. Of these, only one reported the proportion of lesson time dedicated to social connectedness (Graves et al., 2011), which comprised of 1.3 h.

The nature of the programs varied widely, as did the duration and intensity of each (described in detail in Table 2). In seven studies, the program had an explicit focus on improving sexual and reproductive health, of these, three (Aarons et al. 2000; Hagen et al. 2012; Jorgensen 1991) promoted abstinence from sexual activity, three focused on skill building to avoid risky behaviors (Flay et al. 2004; Graves et al. 2011; Moberg and Piper 1998), and one focused predominantly on changing perceptions and attitudes towards sex (Harrington et al. 2001). Of the remaining three studies that did not focus on sexual and reproductive health, one (Allen and Philliber 2001) aimed to promote youth autonomy, one (Hawkins et al. 1999) examined building cooperation skills and one (George. Patton et al. 2006) aimed to promote a more positive school social environment. Eight out of ten programs identified were derived from a theoretical basis. The most common theories informing the programs were the Social Cognitive Theory (reported in (Aarons et al. 2000; Flay et al. 2004; Graves et al. 2011)) and the Social Development Model (Hawkins et al. 1999; George. Patton et al. 2006).

All except one study was undertaken in the United States (Aarons et al. 2000; Allen and Philliber 2001; Flay et al. 2004; Graves et al. 2011; Hagen et al. 2012; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991; Moberg and Piper 1998), the remaining study occurred in Australia (Patton et al. 2006). The sample size of included studies ranged from 52 to 1637. Eight studies focused on students in 6th–8th grades (Aarons et al. 2000; Flay et al. 2004; Graves et al. 2011; Hagen et al. 2012; Harrington et al. 2001; Jorgensen 1991; Moberg and Piper 1998; Patton et al. 2006), one on 5th grade students (Hawkins et al. 1999) and one program included students across grade levels (9th grade–12th grade) (Allen and Philliber 2001). Most studies (90%) included mixed-gender samples (Aarons et al. 2000; Allen et al. 1994, 1990; Allen and Philliber 2001; Flay et al. 2004; Hagen et al. 2012; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991; Jorgensen et al. 1993; Lonczak et al. 2002; Moberg and Piper 1998; Patton et al. 2003, 2006, 2000; Piper et al. 2000; Schanen et al. 2017), majority (60%) of the studies also focused on a mixed-ethnicity cohort (Allen and Philliber 2001; Graves et al. 2011; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991; Patton et al. 2006), though two had a higher African American population (Aarons et al. 2000; Flay et al. 2004), 1 had a greater Caucasian population (Moberg and Piper 1998) and 1 program focused on a predominantly Native American population (Hagen et al. 2012).

Outcomes reported could be categorized into 7 broad categories encompassing (a) contraception use, (b) intercourse (frequency or another outcome as defined by authors), (c) risk of adolescent pregnancy and birth, (d) rates of sexually transmissible infections (STIs), (e) attitudes, beliefs and knowledge about sex and reproductive health, (f) autonomy and (g) connectedness. The most common outcome category was intercourse, with 80% of programs reporting on one or more measurements relating to intercourse. Studies used a variety of assessment tools to measure each outcome, with little consistency reported between each study. For this reason, a meta-analysis could not be performed, and results are instead summarized narratively.

Quality of the Included Studies

Of the ten programs (18 studies) identified, five were quasi-experimental designs including pre- and post-test evaluations (Allen and Philliber 2001; Graves et al. 2011; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991), three were randomized controlled trials (Aarons et al. 2000; Flay et al. 2004; Patton et al. 2006), the remaining trials were either a quasi-randomized design (Moberg and Piper 1998) or program evaluation with control (Hagen et al. 2012). The main risks of bias per program are detailed in Table 2, and more detailed evaluations can be found in Fig. 2.

Four studies were evaluated using the Cochrane Risk of Bias Assessment (Aarons et al. 2000; Flay et al. 2004; Moberg and Piper 1998; Patton et al. 2006) and 6 by the EPOC criteria (Allen and Philliber 2001; Graves et al. 2011; Hagen et al. 2012; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991). The most common risks of bias across studies and programs were related to selection (Allen and Philliber 2001; Graves et al. 2011; Hawkins et al. 1999; Jorgensen 1991) and attrition (Flay et al. 2004; Hagen et al. 2012; Moberg and Piper 1998; Patton et al. 2006). Selection bias was a key concern arising from inadequate randomization and/or allocation concealment. Regarding random sequence allocation, six studies were rated as high risk (Aarons et al. 2000; Allen and Philliber 2001; Graves et al. 2011; Hagen et al. 2012; Hawkins et al. 1999; Jorgensen 1991), one as "unclear" (Moberg and Piper 1998) and three as low risk (Flay et al. 2004; Harrington et al. 2001; Patton et al. 2006). Whereas for allocation concealment, three were deemed high risk (Allen and Philliber 2001; Graves et al. 2011; Jorgensen 1991), four as "unclear" risk (Aarons et al. 2000; Hagen et al.

Table 2 Description of included programs

Program name (timeframe) (references) *=primary study	Program details	Sample & comparison	Connectedness component and Properties	Reported outcomes	Tools, measurements & scales	Main source of bias
Combined: Postponing Sexual Involvement (PSI) and the Self Centre (February 1996 – April/May 1997) (Aarons et al. 2000)	*Strategy, Theoretical Basis* Abstinence Social Cognitive Theory *Aim:* enable students to postpone sexual involvement by improving their attitudes towards abstinence, self-efficacy to refuse sex, knowledge of reproductive health *Intensity and Duration* Phase 1: 7th graders, 3 reproductive health sessions of local curriculum, five sessions of PSI curriculum. Presented during regular 45 min classes Phase 2: 8th graders, same three reproductive health sessions, and booster sessions *Mode of Delivery* Classroom curricula Booster sessions: brown bag – informal voluntary group discussions of 1 topic per week for 8 weeks 8th grade assembly on STIs and consent Contest for 8th graders	*Sample* 7th grade students (follow up at end of 7th grade, beginning and end of 8th grade), from 6 Junior High Schools, majority of students were African American (84%) *Comparison* random assignment of schools to control condition, no further explanation provided	Family and peer connectedness Focused on: Communication with parents and peers about sexuality Teaching assertive responses to resist pressure to engage in sex	*Primary* "Virginity" (age at first sexual intercourse) Birth control use at last intercourse Ability to refuse sex in relationships and brief encounters Attitudes: toward postponing sex, delaying childbirth Knowledge: birth control, of reproductive health services *Secondary* Intention to have sex in the next 6 months Beliefs about sexual activity of peers Parent communication Girlfriend/boyfriend communication	Self-administered, 75-item questionnaire, adapted from previously validated instruments (Centres of Disease Control & Prevention core questionnaire, the Youth Risk Behaviour Survey, evaluation instruments from PSI and Self Centre programs)	Adherence to the intervention 74% of girls and 73% of boys participated in 3/5 PSI sessions

Table 2 (continued)

Program name (time-frame) (references) *=primary study	Program details	Sample & comparison	Connectedness component and Properties	Reported outcomes	Tools, measurements & scales	Main source of bias
Teen outreach program (4 year period – not specified) (Allen et al. 1994, 1990; Allen and Phillliber 2001; [a])	*Strategy/theoretical basis* Developmental theory Helper therapy *Aim:* to enhance students' sense of autonomy and relatedness *Intensity and Duration:* Classroom discussions occur once weekly throughout the academic year Volunteer program: minimum ½ hour per week for a year *Mode of Delivery:* Administered as part of the regular school curriculum (in class for credit) Classroom-based discussions (group exercises, films etc.) Volunteer work in community	*Sample* Students in 9th–12th grade (mean grade = 10th) *Comparison* The comparison group of students were closely matched on various background characteristics from the same schools	Family, peer, partner, and community connectedness Focused on: Promoting autonomy and relatedness Teaching students how to manage family relationships, close friendships and romantic relationships	*Primary* Pregnancy (females and males)	Brief self-report survey. 1-item question about pregnancy	Selection bias arising from the methods used to select the comparison students through nomination by facilitators or intervention students

Table 2 (continued)

Program name (timeframe) (references) *=primary study	Program details	Sample & comparison	Connectedness component and Properties	Reported outcomes	Tools, measurements & scales	Main source of bias
The Aban Aya Youth Project (1994–1998) (Flay et al. 2004)	*Strategy/theoretical Basis* Social development curriculum Included Nguzo Saba principles (culturally based teaching methods) *Aim:* to teach cognitive-behavioural skills to build self-esteem, manage stress and anxiety, develop interpersonal relationships, resist peer pressure and develop related skills to avoid unsafe sexual behaviour *Intensity and Duration:* 16–21 lessons per year in grades 5 through to 8 (4 years) *Mode of Delivery:* Classroom-based Two approaches to intervention: The social development curriculum (SDC) SDC plus school/community intervention (SDC + SCI) – formed a local school task force	*Sample* 8th grade students from 12 Metropolitan Schools, 91% of schools were African American *Comparison* Students received a health enhancement curriculum of equal intensity	Family, peer and partner connectedness Focused on: Skills to develop interpersonal relationships Skill building to promote problem solving and conflict resolution in interpersonal relationships	*Primary* Sexual activity Condom use	Self-reports: single-item scores for sexual behaviours. Measures were based on instruments previously used with inner-city populations and modified for grade 4 readability and cultural sensitivity through feedback of focus groups and piloting	Attrition, there was an average turnover of 20% each year and students were not followed up

Table 2 (continued)

Program name (timeframe) (references) *=primary study	Program details	Sample & comparison	Connectedness component and Properties	Reported outcomes	Tools, measurements & scales	Main source of bias
Smart girls (2003–2004) (Graves et al. 2011)	*Strategy/Theoretical Basis* Kirby's best practice guidelines Bandura's Social cognitive theory *Aim:* promoting health behaviours to reduce the risk of teen pregnancy by teaching positive life skills *Intensity and Duration:* 8 week curriculum *Mode of Delivery:* Activity used varied depending on class size and time allotted Classroom discussions, role-plays	*Sample* 7th grade female students from 17 public schools (pre-test, post-test, 6-month follow up) *Comparison* Every third participant with consent were pulled to form the control group. This group did not receive the curriculum or any other information regarding sexual responsibility	Family connectedness Focused on: Strengthening family connections Developing decision making and assertiveness skills Recognising qualities of a healthy relationship	*Primary* "Level of sexual activity" Frequency & types of contraception use *Secondary* Social sexuality expectations Personal/self-sexuality expectations Perceived susceptibility Parent-adolescent communication about sex and boys	Self-report 25-item Likert scales on a 5-point scale, included 9 multichoice questions to provide descriptions on "level of sexual activity" and frequency/type of contraceptive use. Social Sexuality Expectations scale (Cronbach's alpha = .67); Person/self sexuality expectations (Cronbach's alpha = .84); Perceived susceptibility scale (Cronbach's alpha = .58)	Selection bias due to inadequate randomisation method that could easily be manipulated

Table 2 (continued)

Program name (timeframe) (references) *=primary study	Program details	Sample & comparison	Connectedness component and Properties	Reported outcomes	Tools, measurements & scales	Main source of bias
Discovery dating (2002–2007) (Hagen et al. 2012; [a]; Schanen et al. 2017)	*Strategy/theoretical Basis* Abstinence based (Community Based Abstinence Culture Program) Culturally relevant program Ecological Framework *Aim:* to teach healthy relationships and encourage abstinence *Intensity and Duration:* Education presented in classroom twice weekly for 2 h each session for one academic year. (total dosage = 72 h) *Mode of Delivery:* Strong mentor component (parent or other significant adult) Native American guest speakers Face-to-face interactions in classroom, after-school club, conferences Interactive learning activities, reflection opportunities Summer camp (2-weeks—Native Dreams Camp)	*Sample* 8th grade students from a rural tribal school, 93% identified as Native American in the intervention group *Comparison* Attended the public high school who did not attend the tribal middle school	Partner and community connectedness Focused on: Developing healthy relationship skills Developing personal agency and decision making skills Enhancing community connectedness	*Primary* Number of pregnancies Had had sexual intercourse Age at first intercourse (missing data) Number of partners (missing data) Contraceptive use *Secondary* Partner's age at first intercourse Whether first intercourse was planned Whether alcohol/drugs were used at first intercourse (missing data) Whether intercourse were forced If they were "glad" they started having sex Resilience Self-efficacy Personal agency	Online survey, which was pilot tested but did not have reliability and validity testing Pregnancy Statistic Collection—centre reported number of pregnancies Resilience scale: 15-item questionnaire using a 7-point Likert scale (internal consistency (α) ranging from .72 to .94); Generalised Self-Efficacy Scale: 10-item questionnaire, 4-point scale (Cronbach alphas (α) obtained ranging from .87 to .94); Behaviour Identification Scale: 25-item questionnaire to measure personal agency, respondents determine which of 2 options is "more like" the prompt—1 option demonstrates higher level personal agency than other (internal consistency (α) is .85,)	Attrition resulting in selective reporting of outcomes 40.1% of the intervention group completed the behaviour survey

Table 2 (continued)

Program name (timeframe) (references) *=primary study	Program details	Sample & comparison	Connectedness component and Properties	Reported outcomes	Tools, measurements & scales	Main source of bias
All stars (not specified – 1 year) (Harrington et al. 2001)	*Strategy/Theoretical Basis* Social learning theory *Aim:* to help students identify their ideal desired lifestyle & influence of their perceptions of risk behaviours (e.g. sex), increase students beliefs about peer norms and have students make personal commitments *Intensity and Duration:* Program specialist and teacher versions—same content but teacher version is divided into shorter sessions for home room periods Approximately 6 months of implementation *Mode of Delivery:* Whole-classroom sessions, small group sessions outside of class, 1-on-1 sessions between instructor and student Interactive; includes debates, games, general discussion, homework to increase interaction between students and parents	*Sample* 6th and 7th grade students from 14 middle schools in a Midwestern state *Comparison* Six schools were allocated to control condition, no further details were provided	Targeted school connectedness Focused on: Developing stronger feelings of attachment and acceptance to school	*Primary* Sexual activity *Secondary* Bonding	Self-report questionnaire; Sexual activity was assessed using the 10-item Adolescent Sexual Activity Index (ASAI) which measures the frequency of sexual intercourse and number of partners during the last 30 days (Coefficient alpha = .89. The test–retest correlation was r = .68.). Mediating variables (e.g. bonding) assessed with 43-item scale—half the items were written in the negative to avoid potential response bias Bonding (nine items) pretest coefficient alpha = .77, posttest coefficient alpha = .79; Test–retest correlations were r = .61 for bonding	Baseline outcomes not reported, therefore cannot ensure that differences in sexual activity were related to the program

Table 2 (continued)

Program name (timeframe) (references) *=primary study	Program details	Sample & comparison	Connectedness component and Properties	Reported outcomes	Tools, measurements & scales	Main source of bias
Seattle Social Development Project (1985—follow up 1993) (Hawkins et al. 1999; [a]; Lonczak et al. 2002)	*Strategy/Theoretical Basis* Child skill development Social development model *Aim:* to develop children's skills for involvement in cooperative learning groups and other social activities, without resorting to aggressive or other problem behaviours *Intensity and Duration:* Full intervention: 1st–6th grade Late intervention: 5th and 6th grades only When in 6th grade received 4 h of training from project staff in skills to recognise and resist social influences Participants in full intervention received program for at least one semester in grade 1, 2, 3, or 4, and at least 1 semester in grade 5 or 6 *Mode of Delivery:* Interactive teaching Voluntary parent training classes: 1st & 2nd grade: 7-session curriculum "Catch 'Em Being Good" 2nd & 3rd grade: 4 session curriculum "How to Help Your Child Succeed in School" 5th and 6th grade: five session curriculum "Preparing for the Drug (Free) Years"	*Sample* 5th grade students (follow up at 18 and 21 years), from 18 Public Elementary schools serving high-crime areas *Comparison* received no special intervention	Family, peer and school connectedness Focused on: developing interpersonal problem solving skills with an emphasis on social interaction promoting bonding to school by teachers promoting bonding to family and school by training parents	*Primary* Had engaged in sexual intercourse Pregnancy Birth STDs Age of sexual onset Number of sexual partners Condom use *Secondary* Bonding to school	Self-reported data from interviews. Sex questionnaire was completed as a separate paper & pencil instrument and included one question per outcome (e.g. "how many sexual partners have you had in your lifetime?" (response choices: 0, 1, 2, 3, 4, 5, or 6 or more))	Selection bias, the schools were purposively selected by investigators to focus on students from poor families that live in high-crime neighbourhoods

Table 2 (continued)

Program name (timeframe) (references) *=primary study	Program details	Sample & comparison	Connectedness component and Properties	Reported outcomes	Tools, measurements & scales	Main source of bias
Project taking charge (1989) (Jorgensen 1991; [a]; Jorgensen et al. 1993)	*Strategy/Theoretical Basis* Abstinence based *Aim:* to promote strong family values and abstinence from sexual activity *Intensity and Duration:* 6-week curriculum for 7th grade students in home economics class, as part of the normal school day Three parent-youth sessions *Mode of Delivery:* Classroom-based	*Sample* 7th grade students (pre- and post- test; sister study included a 6-month follow-up for 2 sites), from 3 sites targeting areas with high proportion low income families *Comparison* A different home economics class at the same schools	Family and peer connectedness Focused on: Promoting strong family values Skills for adolescents to "take charge" of their relationships with parents and peers Parent–child communication	*Primary* Knowledge: consequences of teen pregnancy; anatomy, sexuality & STDs Clarity of sexual values Sexual attitudes and intentions Initiation of sexual intercourse *Secondary* Self-esteem Communication about sex with parents	Self-administered questionnaire (pre and post). Relevant measure scales: 1. self esteem—10-item Rosenberg self-esteem scale. 2. knowledge: consequences of teen pregnancy—4-item test = average. 3. knowledge: anatomy, sexuality, STDs—matching exercise for anatomy & 15-item test = average score. 4. clarity of sexual values—4-item Kirby, Alter & Scales (1979) scale. 5. Sexual attitudes & intentions (permissiveness)—seven items analysed individually. 6. sex communication with parents: frequency & comfort—4-item index for mother, 4-item index for father	Selection bias due to local teachers delivering the program selecting which class would receive the intervention and which was the comparison

Table 2 (continued)

Program name (timeframe) (references) *=primary study	Program details	Sample & comparison	Connectedness component and Properties	Reported outcomes	Tools, measurements & scales	Main source of bias
Healthy for Life Project (not specified) (Moberg and Piper 1998; [a]; Piper et al. 2000)	*Strategy/Theoretical Basis* Social influences model *Aim:* to equip young teens with the social competences, including peer pressure resistance skills, necessary to positively manage social situations in which high risk behaviours are expected by others *Intensity and Duration:* Sexuality issues were the primary focus during 16 class periods out of 4 core lessons Age appropriate condition: 3 year period, ongoing program exposure for 4 weeks each year of middle school. Lessons were delivered in sequence every day for four weeks to the entire grade in a 43 min class Intensive condition: 12-week curriculum in 1 block in the 7th grade *Mode of Delivery:* Active learning Use of an incentive system Included parent, community and peer leader components 8 teaching strategies were utilised: social inoculation/refusal skill training, use of peer leaders, use of parent/adult interviews by students, health advocacy, emphasis on short-term effects of targeted health behaviours, analysis of advertising/media influences, public commitments, feedback of peer norms	*Sample* 6th–8th grade students (follow up 9th grade), from 21 schools, majority of participants across groups were white *Comparison* "usual programming", continued with whichever pre-existing curricula was in place at the comparison schools	Family, peer, school and community connectedness Focused on: Developing social competencies, such as the ability to positively manage social situations (e.g. resistance skills)	*Primary* Intercourse (lifetime & past month) Frequency of condom use *Secondary* "normative beliefs"—perception of sexual activity among peers Perceived attitudes towards sexual intercourse of one's parents, peers and self	Self-report survey. Key questions for sexuality: past month & lifetime intercourse, frequency of condom use among sexually active teens, perception of the extent of sexuality activity amongst peers ("normative beliefs"), single items on perceived attitudes (approval/disapproval of having intercourse) of one's parents, peers, and self. Did not include sexual behaviour items until 8th grade—in surveys from 6th–10th grade included a proxy measure of "involvement with the opposite sex" which ranged from "talking at lunch time" to "going steady"	Attrition, for 9th grade students 80% provided data whereas 68% of the original 6th grade cohort provided data in 10th grade

Table 2 (continued)

Program name (timeframe) (references) *=primary study	Program details	Sample & comparison	Connectedness component and Properties	Reported outcomes	Tools, measurements & scales	Main source of bias
The Gatehouse Project (1997–2001) (Patton et al. 2003; G. Patton et al. 2006;[a] Patton et al. 2000)	*Strategy/Theoretical Basis* Social development program Attachment theory Whole school strategy *Aim:* prevent/delay the onset of depressive symptoms through the promotion of a more positive school social environment *Intensity and Duration:* Taught in 8th grade during a 10-week period in English, Health, or Personal Development Classes *Mode of Delivery:* Small group work, class discussion, interactive teaching Establishment of an adolescent health team of staff to take a formal place within the school's organisational structure Program was adapted to each intervention school depending on results from social climate profile generated from student pre-test survey results	*Sample* 8th grade students from secondary schools in Victoria, Australia (number of schools fluctuated per study; range 12–26) *Comparison* Control condition by school, no further details provided	School connectedness Focused on: Developing social and emotional skills Strategies to promote inclusive relationships within the classroom Promotion of a positive school social environment	*Primary* Initiation of sexual intercourse *Secondary* School commitment	Self-administered survey. Early initiation of sexual intercourse- single item about ever having had sexual intercourse. School commitment was assessed with a questionnaire comprising 23 items and 5 subscales reflecting school attachment, student–teacher communication, perceived opportunities for participation, disincentives, and rewards for participation	Attrition, there was lower response from control students in 1997 and 1999, which may have led to underestimation of intervention effects

[a]Not all included studies reported on an outcome and were instead used as sister studies to expand on the understanding of the individual programs

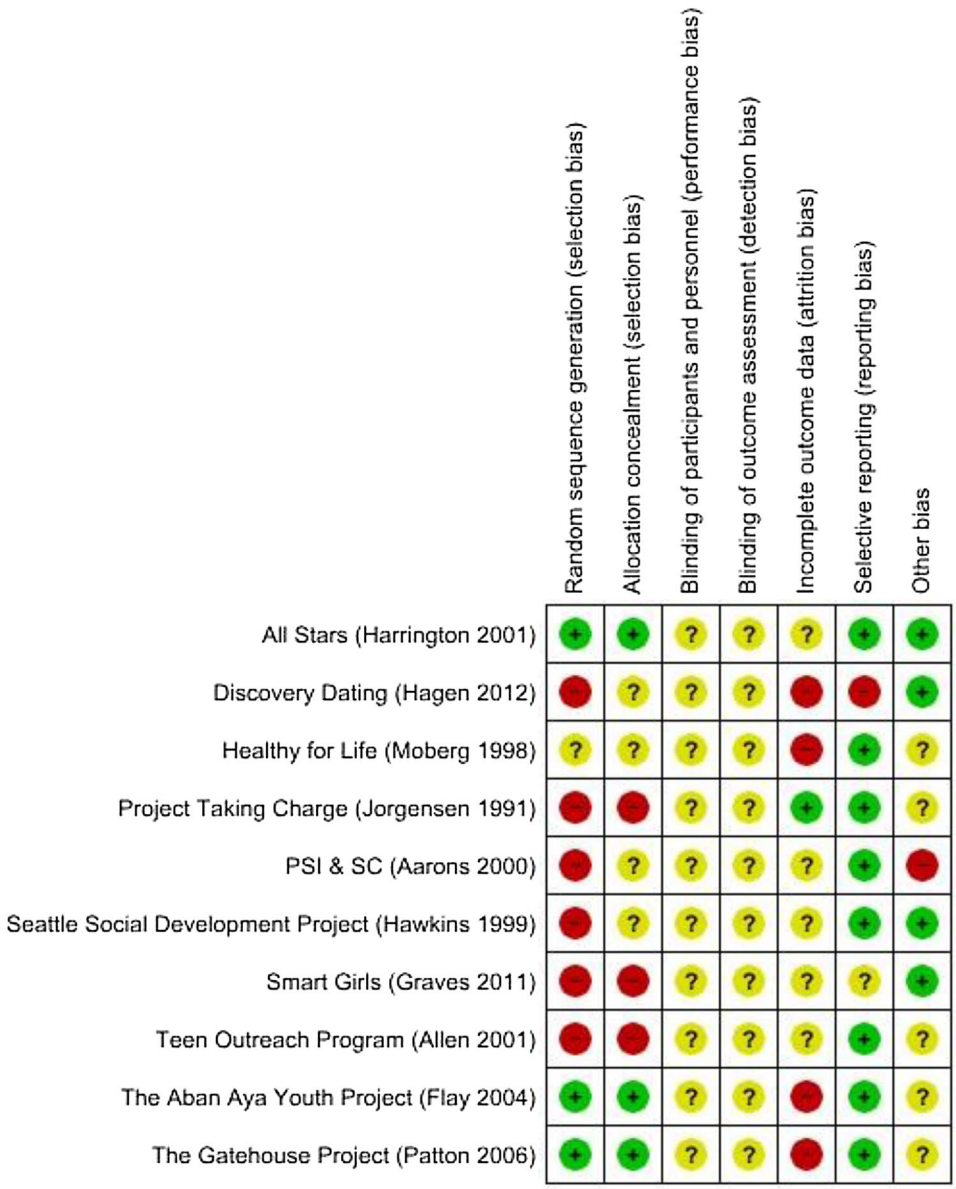

Fig. 2 Risk of Bias summary: review authors' judgments about each risk of bias item for each included primary study. *PSI & SC* Postponing Sexual Involvement & the Self Centre. Note: EPOC categories were adapted to the Cochrane RCT Risk of Bias categories to be inputted into Review Manager

2012; Hawkins et al. 1999; Moberg and Piper 1998) and three as low risk (Flay et al. 2004; Harrington et al. 2001; Patton et al. 2006). In all studies there was no blinding of either allocation or outcome assessment, there was also insufficient information regarding blinding therefore all studies were deemed at "unclear" risk for these categories.

Four studies were at high risk for attrition bias due to loss of follow-up and attrition between waves of data (20–60% loss) (Flay et al. 2004; Hagen et al. 2012; Moberg and Piper 1998; Patton et al. 2006), one study was rated low risk (Jorgensen 1991), and the remaining five studies were rated as "unclear" due to insufficient information being provided (Aarons et al. 2000; Allen and Philliber 2001; Graves et al. 2011; Harrington et al. 2001; Hawkins et al. 1999). Overall, programs (Aarons et al. 2000; Allen and Philliber 2001; Flay et al. 2004; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991; Moberg and Piper 1998; Patton et al. 2006) were rated as low risk for bias attributed to selective reporting, one was "unclear" risk (Graves et al. 2011) and another was high risk due to missing data not allowing all outcomes to be reported on (Hagen et al. 2012).

Due to insufficient detail being provided, few studies could be assessed for potential bias related to blinding of students, personnel and outcome assessors, and other sources of bias. Regarding confounding factors, not all studies reported on or provided sufficient information for baseline characteristics. Of the primary studies that reported on baseline characteristics, the majority of characteristics (including household composition) were similar across treatment and comparison groups and if not they were appropriately investigated.

Program Effectiveness on Outcomes

The most common outcomes investigated were behavioral, with eight reporting on an aspect of the initiation, frequency or age of first intercourse (Aarons et al. 2000; Flay et al. 2004; Hagen et al. 2012; Harrington et al. 2001; Hawkins et al. 1999; Jorgensen 1991; Moberg and Piper 1998; Patton et al. 2006) and five programs reporting on contraceptive use (Aarons et al. 2000; Flay et al. 2004; Hagen et al. 2012; Hawkins et al. 1999; Moberg and Piper 1998). Half of the programs included an outcome related to knowledge, attitudes or beliefs (Aarons et al. 2000; Graves et al. 2011; Hagen et al. 2012; Jorgensen 1991; Moberg and Piper 1998); fewer programs included outcomes related to reproductive autonomy (Aarons et al. 2000; Graves et al. 2011; Hagen et al. 2012; Jorgensen 1991) or connectedness (Harrington et al. 2001; Hawkins et al. 1999; Patton et al. 2006). The findings of each program are detailed in Tables 3 and 4.

Of the ten programs included, five reported on contraceptive use. Of these, one program demonstrated a clear improvement in use of condoms between comparison groups (71% vs 59% condom use at most recent intercourse) (Hagen et al. 2012), three reported improvements in specific subgroups only including females (Aarons et al. 2000), males (Flay et al. 2004), and among African American students (Hawkins et al., 1999), and one reported no difference between comparison groups (Moberg and Piper 1998). One program reported on age of sexual debut, and demonstrated a small delay in the intervention group (16.3 vs 15.8 years) (Hawkins et al. 1999). A further two studies (Jorgensen 1991; Patton et al. 2006) reported fewer students in their intervention group had initiated first sexual intercourse compared with the control group (e.g., a 27% difference reported by (Jorgensen 1991)). Three studies reported on a range of outcomes related to frequency of sexual activity (Flay et al. 2004; Harrington et al. 2001; Moberg and Piper 1998), with highly variable findings spanning clear improvements to potential risks, in part reflecting inconsistency in the way outcomes were defined and measured (see Table 3).

Three programs reported on outcomes relating to pregnancy and birth. All three showed important reductions in the risk of teen pregnancy and/or birth (Allen and Philliber 2001; Hagen et al. 2012; Hawkins et al. 1999); for example the teen pregnancy rate was halved in one study (Allen and Philliber 2001), and intervention participants in another study were eightfold less likely to become pregnant (3.2% vs. 24.2%) (Hagen et al. 2012). A further study reported that fewer female participants in the intervention group had been pregnant or given birth by age 21 (Hawkins et al. 1999); however, there was no difference in teen fatherhood.

One program reported on prevalence of STIs (Hawkins et al. 1999), and found no overall difference between groups. However, when analyses were stratified by ethnicity, fewer African American students in the intervention group had a STI diagnosis than African American students in the control group.

Four programs investigated outcomes related to reproductive autonomy (Aarons et al. 2000; Graves et al. 2011; Hagen et al. 2012; Jorgensen 1991), such as having the ability to refuse sex and development of skills related to autonomy (e.g., self-efficacy). Two programs demonstrated improvements in some but not all outcomes related to autonomy; for example one program demonstrated an improvement in personal agency (Hagen et al. 2012) and another for personal/self sexuality expectations (Graves et al. 2011). The remaining two programs did not demonstrate any long-lasting effects between comparison groups across the outcomes. Two critical areas related to autonomy, parent communication and self-esteem, demonstrated no improvements across the programs.

Five programs reported on measures of knowledge, attitudes and beliefs (Aarons et al. 2000; Graves et al. 2011; Hagen et al. 2012; Jorgensen 1991; Moberg and Piper 1998). Improved knowledge was reported in two studies; in one there were improvements in knowledge about birth control in males only, and improved knowledge of available reproductive health services in females only (Aarons et al. 2000), and the other program reported improvements in knowledge of anatomy, sexuality and STIs (Jorgensen 1991). The remaining programs did not report any clear difference between comparison groups.

Three programs (Harrington et al. 2001; Hawkins et al. 1999; Patton et al. 2006) reported on an outcome related to connectedness, expressed as bonding/attachment with the school, or the degree to which students felt committed to the school. Improved bonding with the school was seen in one study, and particularly significant among children from economically deprived backgrounds ($p = 0.001$) (Hawkins et al. 1999); the other study reported on school bonding found no overall differences (Patton et al. 2006). A further study reported improved bonding among African American and Hispanic students in the intervention group (but not White students) (Harrington et al. 2001).

An overall summary of the impact of each program on each outcome category is presented in Table 5.

Discussion

Interventions that address adolescents' social environments have emerged as effective strategies for promoting health and wellbeing across a range of areas (Kia-Keating et al. 2011). While the acquisition of sexual and reproductive health knowledge is important, the ability to navigate relationships, in which sexual health behaviors and attitudes occur and are formed, is just as critical. Enhancing

Table 3 Range of effects of programs by clinical outcome

Outcome (references)	Range of effects
Category: contraception	
Condom use (Flay et al. 2004; Hagen et al. 2012; Hawkins et al. 1999; Moberg and Piper 1998)	The Aban Aya Youth Project: Relative improvement in condom use for boys compared to control (95% increase in use for SDC group, 165% increase in use for SDC + SC) Discovery Dating: More 8th grade intervention students reported condom use during recent intercourse compared to controls (71.4% vs. 59.4%) Seattle Social Development Project: Results (for 21 year olds): Past-year use frequency: not a clear effect for sample as a whole. After controlling for poverty, 50% of single African American participants in the full-intervention reported always using a condom compared to 12% of African American participants in the control Use at first intercourse: no clear effect of the intervention (OR 1.42; 95% CI 0.87–2.30) (intervention 73/131 vs. control 66/192) Use during last intercourse: 66% of full intervention participants compared to 44% of control (OR 1.88). Ethnicity difference was found; 79% of African Americans in the intervention compared to 36% African Americans. 56% of non-African American participants compared to 47% of non-African American controls Healthy for Life: No clear difference of always using a condom during sex between groups (9th grade: control 58%, age appropriate 56%, intensive 58%). Significant increase of always using condom use for 9th grade participants that had involvement with opposite sex during earlier grades (e.g. holding hands; OR 1.12, $p < .05$), but this was not dependent on group assignment
Birth control use at last intercourse (Aarons et al. 2000)	Postponing Sexual Involvement & the Self Center: Significant difference between intervention and control group at each time-point for female participants (3–5.5 times higher odds of using some form of birth control at last intercourse). For male participants there was no significant effect of the intervention on the use of birth control
Category: intercourse	
Age at first intercourse (Hawkins et al. 1999)	Seattle Social Development Project: Mean age of full intervention was 16.3 years compared to 15.8 years for control ($p < .05$)
Initiation of sexual intercourse (Jorgensen 1991; Patton et al. 2006)	Project Taking Charge: 23% of intervention students became sexually active compared to 50% of control students between pre and post-test ($p = .051$) The Gatehouse Project: Lower rates by students in the intervention schools, and the changes were apparent across subsequent cohorts. This was most pronounced for the 2001 cohort (OR 0.55; CI 0.37, 0.83)
Had engaged in sexual intercourse (Hagen et al. 2012; Hawkins et al. 1999; Moberg and Piper 1998)	Discovery Dating: 66.7% of the intervention students compared to 74.2% if the control students Seattle Social Development Project: 18 year olds: no clear difference between full intervention, late intervention and control participant (72.1%, 76.1%, 83%) Healthy for Life: The intervention conditions increased the likelihood of students engaging in sexual intercourse by 1.3–1.4 times compared to control

Table 3 (continued)

Outcome (references)	Range of effects
Level of sexual activity (recent/frequency) (Flay et al. 2004; Harrington et al. 2001; Moberg and Piper 1998)	The Aban Aya Youth Project: 44% of combined intervention male participants compared to 65% of comparison male participants. Recent sexual intercourse was not defined All Stars: Sexual activity increased over time (especially between post-test and follow-up), but the increase did not vary across condition Specialist condition: African American students demonstrated less of an increase of sexual behaviour when paired with an African American specialist compared to a White specialist; F(2,598) = 2.93, p = .05 Healthy for Life: For 9th grade students there was no clear difference between groups for past month intercourse (control = 11%, age appropriate = 13%, intensive = 15%). Compared to controls, there was an increased risk of having intercourse in the last month by 45% for 10th grade students in the age-appropriate intervention
Number of sexual partners (Hawkins et al. 1999)	Seattle Social Development Project: 18 years: more control participants had had multiple sex partners compared to full intervention participants (61.5% vs 49.7%). No clear difference between control and late intervention (61.5% vs. 59.1%). (multiple sex partners were not defined) 21 years: full intervention reported significantly less partners than control (32% vs. 43%; p < .05)
Partner's age at first intercourse (Hagen et al. 2012)	Discovery Dating: Fewer intervention students reported a first sexual partner's relative age as 2 ± years than themselves (11.9% vs. 19.1%)
Intention to have sex in the next 6 months (Aarons et al. 2000)	Postponing Sexual Involvement & the Self Center: For female intervention participants there was only a significant difference at the end of 7th grade related to sexual intent for the next 6 months compared to control (57.3% vs. 45.9%). There was no clear difference between males either group across any time point (example: beginning of 8th Grade; OR 0.62 (0.30, 1.28))
Whether first intercourse was planned (Hagen et al. 2012)	Discovery Dating: Of participants that had engaged in sex, 7.1% in the intervention group planned it compared to 13.1% in the control. More intervention participants selected the response "I didn't plan it but I wanted to do it" (81% vs. 57.6%)
Whether intercourse was forced (Hagen et al. 2012)	Discovery Dating: Two response choices related to coercion: "I didn't want to do it but he or she convinced me", fewer intervention students selected this option (9.5% vs. 27.3%). Similar percentage of intervention and control students selected the response "I was forced into it" (2.4% vs. 2%)

positive relationships and a sense of social connectedness (founded on feeling cared for, respected and supported), have been used as successful strategies in Positive Youth Development and particularly for mental health. Given sexual health develops, and is influenced by, interpersonal relationships with individuals and institutions, it appears imperative to investigate whether school-based programs have the capacity to enhance social connectedness, and consequently improve sexual health in adolescents. The purpose of this review was to determine whether school-based programs designed to enhance social connectedness, either actively or passively, improve adolescent sexual and reproductive health.

In this review, ten programs or interventions were identified that had specific curriculum-based activities to enhance adolescent social connectedness and reported on sexual and reproductive health outcomes. Of these, there were four programs with clear evidence of positive impact on sexual and reproductive health behaviors (Table 6). Notably, these programs targeted more than one aspect of social connectedness. For example, the *Aban Aya Youth Project* (Flay et al. 2004) covered family, peer, and partner

Table 3 (continued)

Outcome (references)	Range of effects
Category: pregnancy and birth	
Pregnancy (Allen and Philliber 2001; Hagen et al. 2012; Hawkins et al. 1999)	Teen Outreach Program: Intervention participants demonstrated only 53% the risk of pregnancy demonstrated by the comparison group Nonteenage parents in the intervention group had odds ratios or pregnancy approx. two-thirds the ratios of comparison Teenage parents in the intervention group had 1/5th the risk of pregnancy compared to teen parents in the comparison (OR = .18) (presented in a figure/graph—numbers not provided) Discovery Dating: Reported as the number of pregnancies, 5/157 and 32/136 of participants in the intervention and control ($p < .001$) Seattle Social Development Project: Been or gotten someone pregnant 18 years: 26.4% of control compared to 17.1% of the full intervention (ns). No clear difference between control and late intervention 21 years: 38% of female participants in the full intervention had been pregnant by 21 compared to 56% of control females ($p < .05$). There was no clear difference between groups for male participants (intervention 34% vs. control 36%)
Birth (Hawkins et al. 1999)	Seattle Social Development Project: 18 years: 14.7% of control participants had had a baby or fathered a baby compared to 9.5% of full intervention participants (ns) 21 years: 38% of females in the full intervention compared to 56% of control females ($p < .05$). There was no clear difference between groups for male participants (intervention 23% vs. control 20%)
Category: STIs	
STI diagnosis (Hawkins et al. 1999)	Seattle Social Development Project: No clear effect of the intervention on STI diagnosis (intervention = 13% vs. control = 18%). Ethnicity difference was found; 7% African American intervention participants compared to 34% African American controls, and 14% Non-African American intervention participants compared to 11% of non-African American controls

Includes outcome results from primary studies and sister studies if applicable. Results are reported as either percentages (%), odds ratios (OR), or p values (ns = not significant)

connectedness and reported delayed sexual activity and improved condom use among male participants. *Discovery Dating* (Hagen et al. 2012), a program developed for Native American adolescents, targeted partner and community connectedness, and led to increases in condom use and fewer teen pregnancies. Finally, two other successful programs, the *Seattle Social Development Project* (Hawkins et al. 1999) and *the Gatehouse project* (Patton et al. 2006), had a focus on school connectedness in conjunction with other aspects (peers, family, etc.), with both programs reporting delayed initiation of sexual activity.

In addition, among the four successful programs, all included lessons and curriculum dedicated to building social skills for developing and managing interpersonal relationships, such as responding to peer pressure, addressing sexual coercion, and building self-efficacy. Importantly, all four programs were implemented in a sustained approach, with the intensity of the program ranging from weekly lessons for at least one term, through to two lessons per week for an entire school year. Of note, only one program had an explicit focus on promoting abstinence (Hagen et al. 2012), and two programs were specifically designed sexual and reproductive health programs or interventions (Flay et al. 2004; Hagen et al. 2012). The commonalities identified across these successful multicomponent programs are in alignment with best practice for comprehensive sexuality education (Kirby 2007).

Notably, across all of the studies, program effects often varied by ethnicity, with positive effects particularly seen for African-American, Hispanic, and Native American students. Similarly, program outcomes also varied by gender, but there were no consistent patterns observed. For example, some studies reported improved contraception use in males but not females (Flay et al. 2004), whereas others reported reduced teen pregnancy in females but no impact on teenage fatherhood (Hawkins et al. 1999). It is promising that these programs may be particularly beneficial to groups that disproportionately experience discrimination and marginalization. This reiterates the positive effects of connection to

Table 4 Range of effects of programs by holistic/psychosocial outcome

Outcome (references)	Range of effects
Category: attitudes, beliefs and knowledge	
Attitudes: postponing sex (Aarons et al. 2000)	Postponing Sexual Involvement & the Self Center: No clear difference between groups for either sex. Odds ratio for female students at the end of 8th grade = 0.06 (−0.06, 0.18); for males at the end of 8th grade = −0.002 (−0.25,0.25) (regression coefficients)
Attitudes: delaying childbirth (Aarons et al. 2000)	Postponing Sexual Involvement & the Self Center: No clear difference for female participants at any time point (example: end of 8th grade; −0.03(−0.15,0.11). Males in the intervention group were more likely to indicate positive attitudes towards delaying childbirth compared to control males at the end of 7th grade (0.24(0.06, 0.43)) and beginning of 8th grade (0.21(0.03, 0.38))
Attitudes: sexual attitudes and intentions (Jorgensen 1991)	Project Taking Charge: No significant difference between groups
"normative beliefs"—perception of sexual activity among peers (Aarons et al. 2000; Moberg and Piper 1998)	Postponing Sexual Involvement & the Self Center: A higher percentage of intervention females believed that most girls their age were not having sex at all time-points, only significant at then of 7th grade (17 times more likely to report girls their age were not having sex). For males, at the end of 7th grade intervention males were 3x more likely to believe boys their age were not having sex compared to controls Healthy for Life: Rates increased significantly over time across all groups, and there was no clear difference between groups
Clarity of sexual values (Jorgensen 1991)	Project Taking Charge: No clear differences between groups for pre-/post-test or the 6-month follow up (pre/post-test F(df) = 0.20 (1132)
Social sexuality expectations (Graves et al. 2011) *Defined in legend*	Smart Girls: The degree of change did no differ across the experimental and control groups (pre-post difference by group; F = 0.79, p = .37). Post-test control group's mean score = 4.61 vs. intervention group's mean score = 4.64
If they were "glad" they started having sex (Hagen et al. 2012)	Discovery Dating: Response options ("wish I would have waited", "glad I started", "in some ways, both") were reported equivalently across the two groups (intervention: 28.6%, 31% & 40.5% vs. control: 29.2%, 30.2%, & 39.6%)
Knowledge: birth control (Aarons et al. 2000)	Postponing Sexual Involvement & the Self Center: No clear difference for female participants (End of 8th grade; OR 0.02 (−0.16, 0.27)). Intervention male participants had higher birth control knowledge scores compared to the control group across all time-points (Difference: T1 = 34%; T2 = 21%; T3 = 23%)
Knowledge: reproductive health services (Aarons et al. 2000)	Postponing Sexual Involvement & the Self Center: Females in the intervention group scored higher on knowledge (difference; 0.19, CI − 0.02, 0.39)
Knowledge: consequences of teenage pregnancy (Jorgensen 1991)	Project Taking Charge: No clear difference between group's knowledge gains at post-test (F(df) = 0.21(1,133)). At 6-months follow-up the treatment group had significantly higher knowledge scores than the control group (F value = 3.33, df (1,90) (p < .05)
Knowledge: anatomy, sexuality & STDs (Jorgensen 1991)	Project Taking Charge: Intervention participants reported greater knowledge (F = 20.97, df (1,113); p < .001; F = 49.08, df (1,133);p < .001) compared to controls. At follow-up, intervention participants had more correct responses compared to control for their knowledge on anatomy (71% vs 20%). Intervention participants on average had more correct answers relating to sexuality and STDs at 6-months post intervention (71% vs. 50%)

Table 4 (continued)

Outcome (references)	Range of effects
Category: autonomy	
Ability to refuse sex (Aarons et al. 2000)	Postponing Sexual Involvement & the Self Center: More females in the intervention group reported that they could refuse sex with their boyfriend at all time-points compared to control females. Only significant at the end of 7th grade (12% more intervention females stating they could refuse sex)
Communication with parents (Aarons et al. 2000; Graves et al. 2011; Jorgensen 1991)	Postponing Sexual Involvement & the Self Center: No change in reported levels of communication about sex with parents across any time point for male or female participants (End of 8th grade: females OR 0.04(−0.19, 0.27); males OR −0.19(−0.41,0.04)) Smart Girls: No clear difference between groups relating to frequency of communication about sex (pre-post difference by group: F = 1.15, p = .28). There was a significant difference by group related to pre-post-test communication about boys (F = 6.45, p < .01) Project Taking Charge: No clear difference at any time-point or at 6-month follow-up (F values were not high enough to attain statistical significance)
Girlfriend/boyfriend communication (Aarons et al. 2000)	Postponing Sexual Involvement & the Self Center: No change in reported levels of communication about sex with girlfriends or boyfriends across any time point. (End of 8th grade: females OR −0.09(−0.28, 0.11); males OR 0.03(−0.19, 0.25))
Personal agency (Hagen et al. 2012)	Discovery dating: For the scale used to measure Personal Agency, a 7.93% improvement was observed for the intervention group between pre and post-test (p < .05), compared to a 1.21% improvement between pre and post-test for control
Personal/self sexuality expectations (Graves et al. 2011) *Defined in legend*	Smart Girls: Significant difference between intervention group and control at post-test (p < .001); intervention group had greater gains related to this outcome (mean score: intervention group = 4.51 vs. control group = 4.36). Some of these gains remained at 6-month follow up (ns)
Resilience (Hagen et al. 2012)	Discovery dating: Increase in resilience observed in both groups (4.79% vs. 5.27%; ns)
Self-efficacy (Hagen et al. 2012)	Discovery dating: Increase for both intervention group (3.31%) and control group (3.12%) (ns)
Self-esteem (Jorgensen 1991)	Project taking charge: There was no clear difference for self-esteem at pre-/post-test (F = 0.04, df (1,134)) or at 6-month follow-up (F = 0.00, df (1,84))

identity and how strong social connections can buffer against stressors (Brondolo et al. 2009; Wong et al. 2003).

Several theories concerning social connectedness may explain how interventions in this review positively influenced adolescent sexual and reproductive health. In the adult health literature (Greenaway et al. 2016; Haslam et al. 2014), some have argued that social connectedness promotes health via exposure to an increased social network which brings positive role modeling, engagement in pro-social activities, increased access to resources and health information, a sense of belonging, and active engagement in the community (Cohen and Wills 1985). Arguably, these factors could contribute to improved self-esteem, empowerment, and autonomy, all of which influence capabilities for sexual self-efficacy.

Notably, despite programs aiming to actively or passively promote social connectedness, few studies attempted to measure any specific aspect of social connectedness (e.g., student's sense of belonging or bonding to school) or assess related outcomes, such as autonomy, self-esteem, or communication skills. It is especially important that future research describes all program components in detail, and engage with tools that measure social connectedness (Lee and Robbins

Table 4 (continued)

Outcome (references)	Range of effects
Category: connectedness[a]	
Bonding to School (Harrington et al. 2001; Hawkins et al. 1999)	All Stars: No differences in means at pre-test and post-test between groups, control students had lower mean scores than either treatment condition at subsequent follow-up ($p < 0.05$) Teacher condition: African American and Hispanic students had a clear increase in bonding to school from each time point, whereas for White students bonding remained constant from pre-test to post-test and then declined at follow-up Seattle Social Development Project: On a 4-point scale for school commitment there was a 0.15 difference between full intervention students compared to control students ($p = .03$) On a 4-point scale for school attachment there was a 0.20 difference between full intervention compared to control students ($p = .006$). Economical difference; intervention students from poor families were significantly more attached to school than control students from poor families ($p = .001$) There was no clear difference on either bonding measures between control and late intervention groups
School commitment (Patton et al. 2006)	The Gatehouse Project: No clear difference found in the follow-up surveys, but a potential trend developing for improved student–teacher communication in 1999 (ns)

Includes outcome results from primary studies and sister studies if applicable. Definitions (as defined by study author): Social Sexuality Expectations: related to social pressures to have sex (e.g. "you should stay with your boyfriend if…he pressures you to have sex"). Personal/Self Sexuality Expectations: related to personal attitudes about having (e.g. "I feel that I don't have to have sex if I don't want to"). Results are reported as either percentages (%), odds ratios (OR), or p values (ns = not significant)

[a]Includes direct measures of connectedness, rather than singular components such as autonomy and communication

Table 5 Summary of the impact of each program on each outcome category overall

Program (references)	Contraception	Intercourse	Pregnancy and birth	Attitudes, beliefs & knowledge	STIs	Autonomy	Connectedness
Postponing Sexual Involvement & the Self Center (Aarons et al. 2000)	+*	o		+*		o	
Teen Outreach Program (Allen and Philliber 2001)			+				
The Aban Aya Youth Project (Flay et al. 2004)	+*	+*					
Smart Girls (Graves et al. 2011)				o		+	
Discovery Dating (Hagen et al. 2012)	+	+	+	o		+	
All Stars (Harrington et al. 2001)		o					o*
Seattle Social Development Project (Hawkins et al., 1999)	+*	+	+*		+*		+*
Project Taking Charge (Jorgensen 1991)		+		+		o	
Healthy for Life Project (Moberg and Piper 1998)	o	-		o			
The Gatehouse Project (Patton et al. 2006)		+					o

+ = statistically significant impact at final data collection point for at least one outcome in the category; o = no statistically significant impact; — = negative impact; Blank boxes = not available, outcome was not reported on. * = significant effects in a subgroup only (based on ethnicity, gender, SES etc.)

Table 6 Characteristics of successful programs

Program (references)	Connectedness construct	Intensity	Focus	Abstinence-based	Outcomes
The Aban Aya Youth Project (Flay et al. 2004)	Family Peer Partner	16–21 lessons	Developing interpersonal relationships	No	Increase in condom use for boys
Discovery Dating (Hagen et al. 2012)	Partner Community	2 lessons per week during school year	Healthy relationships	Yes	Increase in condom use Fewer pregnancies reported
Seattle Social Development Project (Hawkins et al. 1999)	Family Peer School	At least 1 school semester	Interpersonal problem solving skills	No	Increase in condom use at last intercourse Fewer pregnancies by 21 years for female participants
The Gatehouse Project (Patton et al. 2006)	Peer Teacher School	On average 20 lessons	Positive school social environment Social and emotional skill development	Yes	Lower rates of initiation of sexual intercourse

1995) and related outcomes. This includes both the extent of social relationships across different domains (e.g., peers, teachers, family, and community) as well as the quality of these relationships. This will improve understanding of the specific aspects of social connectedness that are pertinent to promoting adolescent sexual health (Markham et al. 2010). Further, this is necessary to build the evidence base for multicomponent interventions and shift the focus away from simple educational programs, given such programs have been examined extensively, and generally only demonstrate modest effects on important sexual and reproductive health outcomes (Lopez et al. 2016; Mason-Jones et al. 2016).

The ability to directly compare effects of programs included in this review was inhibited by a number of issues. Foremost, there was substantial heterogeneity across the programs, given they were all multicomponent. Furthermore, inadequate reporting of interventions often made it difficult to determine the intensity and duration of the social connectedness component, relative to other components, which has consequences for guiding the design of future programs. The quality of the evaluations varied between programs, with only three studies (Aarons et al. 2000; Flay et al. 2004; Patton et al. 2006) employing a randomized controlled design. The remainder were quasi-experimental, utilizing either a historical control group or non-randomized control group that may not have been comparable. Where there was a clear difference in baseline characteristics between study groups, these were addressed in the analyses of some studies (Allen and Philliber 2001; Harrington et al. 2001; Moberg and Piper 1998), but for several other studies there was insufficient reporting of participant characteristics to determine whether this was a key source of bias.

An additional problem was the differential attrition rates across studies, which can bias program outcomes. Higher rates of attrition were typically noted in intervention groups (Hagen et al. 2012; Patton et al. 2006), which may have ultimately overestimated the effects of programs as students who dropped out may have been those who were more likely to engage in risk behaviors (Hooven et al. 2011; Patton et al. 2006). In addition, the risk of attrition bias could not be assessed in half of all programs due to incomplete reporting. Furthermore, none of the programs provided sufficient details to assess the degree of blinding (e.g., of outcome assessors). This is potentially problematic as nearly all outcomes were self-reported. A common issue with school-based interventions is program fidelity, which is often attributed to a lack of time and resources. Some programs in this review ensured adequate support to the school and program mediators, but whether each class received the exact same intensity and duration of the program is unclear due to insufficient reporting.

Unsurprisingly, few studies in this review focused on primary school students. Despite this, there is evidence supporting the presence of comprehensive sexuality education from an early age (Cameron et al. 2019; United Nations Educational Scientific and Cultural Organization 2015), before gender norms have formed for instance (Fund 2015). As such, there is scope for future age-appropriate programs for this cohort, which incorporate elements of social connectedness, perhaps through discussions of what makes a healthy relationship in the context of peers and family.

The majority of studies in this review were undertaken prior to, or during, the early 2000s, when internet technology and social media was not as accessible or ingrained in the lives of adolescents as it is today (Tsitsika et al. 2014). Online platforms offer another avenue for adolescents to seek out and maintain social connections, and they are doing so at increasingly younger ages. For example, 20% of children

aged 8–11 years who access the internet have a social media profile (Ofcom 2019). Some evidence suggests that interactions in the digital landscape can enhance adolescents' feelings of belonging and promote autonomy and identify formation (Borca et al. 2015; Davis 2012; Grieve et al. 2013). However, there are also concerns about the impact of digitally-mediated socialization on mental health, with several studies indicating online activities, particularly when they displace real world experiences, can contribute to feelings of loneliness as well as anxiety and depression (Best et al. 2014). How online connections influence other constructs of social connectedness, and whether this is beneficial or detrimental to adolescent sexual and reproductive health, is unclear. This is a critical area for future research.

The systematic process of searching across a range of health, psychological, and educational databases was a strength of this review. In addition, two or more reviewers independently assessed studies for eligibility, extracted data, and assessed study quality, maximizing the objectivity of these processes. A limitation is that, despite the comprehensive search strategy, relevant programs may have been missed if they were not published in academic literature. In addition, it was not possible to perform a meta-analysis due to heterogeneity in outcomes reported. Consequently, a formal assessment of publication bias was not possible. By restricting the inclusion criteria to school-based settings, it was not possible to assess the impact of social connectedness interventions on outcomes for adolescents not in school, who typically reflect a group that are vulnerable to risk behaviors (e.g., incarcerated youth, teenage mothers etc.). This may underestimate the potential of programs with a focus on social connectedness, as it has been shown that youth at higher risk often benefit the most from the presence of positive relationships (Animosa et al. 2018).

Conclusion

School-based programs that enhance social connectedness across adolescents' socioecological environments, involving peers, parents, and school, have shown to be successful in improving adolescent mental health. Whether this strategy can be utilized for adolescent sexual health is less clear, as a majority of recent studies and reviews have been observational in nature. Social relationships are relevant to adolescence beyond sexual health, as they provide a blueprint for social norms, identity development, and establishing health behaviors. Although the social environment is known to be critical for adolescent development, the majority of the literature surrounding social connectedness has been for older populations and from a counselling perspective. This review evaluated school-based interventions with intentions to actively or passively enhance social connectedness to improve adolescent sexual and reproductive health.

The available evidence suggests that school-based programs that incorporate activities and strategies to enhance adolescent social connectedness may assist in promoting positive sexual and reproductive health behaviors, including contraception use and delayed initiation of sexual activity. Almost all available studies were undertaken in the USA and, in some programs, findings were more pronounced among African American and Hispanic students. The impact of these strategies on outcomes related to reproductive autonomy, while promising, is less clear. Common features of successful programs included curriculum and/or activities that target multiple constructs of social connectedness (e.g., family, peer, partner, and school connectedness) and include strategies to promote social skill development. As the current body of evidence is limited by a lack of rigorous evaluations, and incomplete assessment of social connectedness, program outcomes cannot be directly attributed to the social connectedness component. Future, well-designed studies are needed to examine the specific impact of different domains of social connectedness on adolescent sexual and reproductive health. Such research should engage adolescents early in the study design process, include populations outside of the USA, and pay attention to gendered and cultural differences, as well as the influence of connections in the online social environment.

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Compliance with Ethical Standards

Conflict of interest All authors declare that they have no conflict of interest.

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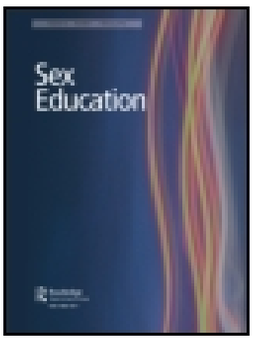

Appendix 5

Sex Education

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Student perspectives on a state-wide relationships and sexual health programme in South Australian schools, 2006–2017

Sophie GE Kedzior, Helen Calabretto, Heidi Drummond, Tassia K Oswald, Zohra S Lassi, Vivienne M. Moore & Alice Rumbold

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Student perspectives on a state-wide relationships and sexual health programme in South Australian schools, 2006–2017

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ABSTRACT

Relationships and sexual health education is an accepted part of the school curriculum to support adolescent development. In recent years, the nature of this education has expanded to include topics encompassing a social model of health (e.g. with a focus on gender roles). There has, however, been limited exploration of student views about the inclusion of these topics. This paper presents student feedback on South Australia's Relationships and Sexual Health Programme, a state-wide curriculum produced by the state's major sexual and reproductive health organisation. The findings are drawn from an annual survey conducted from 2006 to 2017, involving 29,533 secondary school students aged 12–16 years. Regression analyses were used to assess the relationship between the year the survey was conducted and student ratings of the programme ('good/excellent' vs 'poor/satisfactory') and, separately, the individual topics students' considered most important. There was a positive association between survey year and rating the programme as 'good/excellent' with regard to providing a 'safe and supportive classroom environment', and a small negative association between survey year and 'overall rating' as 'good/excellent'. Over time, there was an increase in the number of students selecting the topic 'consent' as the most important. These findings demonstrate student support for the inclusion of a range of social health topics in relationships and sexual health education.

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relationships and sex education; secondary school students; relationships; consent; programme

Introduction

Adolescence is a critical life stage for the development of relationship skills and sexual health knowledge and behaviours (Viner et al. 2012; Collins, Welsh, and Furman 2009). The school environment is influential in supporting students to build skills in these areas, providing both informal and formal learning opportunities. Indeed, students regularly report that schools are a trusted source of information about relationships and sexuality, and for some students, where they receive most of their information (Mitchell et al. 2014; Fisher et al. 2019).

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The provision of comprehensive relationships and sexual health education within the curriculum is considered best practice in a school setting (UNFPA 2014; UNESCO 2015; Women UN and UNICEF 2018). Evidence suggests that this approach is associated with increased knowledge and skills related to sexual health, can delay first sexual intercourse, and may decrease the number of sexual partners during adolescence (UNESCO 2009). However, while there is general agreement about the need for a comprehensive approach, there is considerable debate about the range of topics considered appropriate for adolescents (Bearinger et al. 2007; Roien Line, Graugaard, and Simovska 2018).

In recent years, increasing importance has been placed on the inclusion of discussions about gender roles and power and how they influence sexual practices, with some evidence that this approach can improve sexual health outcomes, including reduced sexually transmitted infections (STIs) (Haberland 2015), and help to address underlying social issues, such as gender-based violence. In doing so, schools need to provide supportive and safe environments to discuss these topics, to minimise harassment and coercion, and bullying of students who do not conform to conventional gender roles (Haberland and Rogow 2015). However, there has been limited prior research investigating student experiences surrounding the inclusion of these topics in the curriculum, and the value they place on them (Pound, Langford, and Campbell 2016). This occurs despite consistent acknowledgement that the perspectives of students need to be captured to ensure programmes are relevant, engaging and reflect desired information (Aggleton and Campbell 2000; Allen 2005b).

The limited research that is available has generally found that students appreciate topics that reflect positive sexuality, including healthy relationships and sexual pleasure (Pound, Langford, and Campbell 2016; Johnson et al. 2016; Larkin et al. 2017). However, existing research is subject to a number of limitations. The vast majority of previous studies have been undertaken in the USA, and may have limited generalisability beyond this setting. In addition, existing research has tended to focus on selected samples of students, often those with a specific interest in sexual health topics, and with potential for recall bias, as evaluations are often undertaken after students have completed schooling (Pound, Langford, and Campbell 2016; Giordano and Ross 2012; Unis and Sällström 2020). Contemporary surveys of students undergoing school-based relationships and sexual health education are needed soon after participation to adapt programmes to the current social contexts of young people, and to respond to the diversity of young people's needs.

This study focuses on the Relationships and Sexual Health Programme implemented in a large number of secondary schools in South Australia. The objective of the study was to assess students' satisfaction with the programme, the content areas they considered important and useful, and determine whether there were any changes in how they rated these aspects of the programme over time.

Method

Overview of SHINE SA

SHINE SA is the peak body for sexual health services in South Australia for young people. This organisation is the main source for relationships and sexual health education curriculum and teacher training within the state and is responsible for the creation of the

Relationships and Sexual Health Programme. Schools that have opted to provide this programme's curriculum receive ongoing support from SHINE SA for their educators, as well as access to a resource library, which includes interactive materials to facilitate learning.

Programme curriculum

The SHINE SA curriculum is used by the majority of the South Australian Department for Education schools that have a secondary component (e.g. for students aged 13–16 years). These are schools that are predominantly in the public school system.

To support programme delivery, SHINE SA has developed a series of teacher resource handbooks that include the curriculum and activities/resources to complement the lessons. These resource handbooks have been developed for ages 13–14 years, ages 14–15 years, and ages 15–16 years and comprise fifteen, 50-minute lessons per year level. The curriculum is only available to educators who have completed a two-day training course with SHINE SA. It is adapted annually in light of both student and teacher feedback, and topics span from puberty and contraception, to the impact of popular media and gender equality on sexual health.

Survey administration

This study draws on 12 years of student feedback data that SHINE SA collects annually following the delivery of the Relationships and Sexual Health Programme. Data are collected through a survey which asks students to rate the programme, indicate the topics they consider most useful and important, specify where and who they typically seek sexual health support from, and to state whether they consider the programme to be respectful and inclusive of same-sex attraction and cultural diversity. The surveys are voluntary and anonymous.

The survey is administered throughout the school year once a class has completed the programme. Classroom teachers distribute the survey during the final lesson; the survey takes 3–5 minutes to complete. The survey was first distributed in 2006, during earlier years of survey administration (2006–2012) the surveys were provided in paper format and entered into a Microsoft Access database. From 2013 onwards, the surveys were undertaken via Survey Monkey with the option of paper copies, if preferred.

Schools that implement the curriculum enter into a formal agreement with SHINE SA that permits their students to participate in the annual student feedback survey (SHINE SA 2018). The results from this survey provide information and ideas to improve the programme. The survey data is also distributed to educators at each specific site as a school report; this provides educators with the opportunity to reflect on how they can improve their facilitation of the curriculum.

Survey measures

The survey captured demographic data such as the school name, year level (year 8 corresponding to ages 13–14 years, year 9 corresponding to ages 14–15 years, and year 10 corresponding to ages 15–16 years), gender (female/male, only for the years 2006–

2012), and number of lessons received (only from 2014 onwards). Students were specifically asked to rate two aspects of the programme: 1) the degree to which the programme was provided in a 'safe and supportive class environment', and 2) an overall rating of the programme. For both of these domains, students provided a rating on a scale of 1 to 4 (1 = poor, 2 = satisfactory, 3 = good, 4 = excellent). Students were asked what changes they would make to the programme, options included 'no change', 'more lessons', 'less lessons', 'more in-depth information', 'more information on where to go for help', 'single-sex classes', and 'better class behaviour'. There were no restrictions on the number of changes a student could select.

In addition, students were asked to rate how useful individual topics were including contraception, STIs, condom use, safer sex, the body/puberty, pregnancy options, relationships, power, gender/stereotypes, respecting difference, consent, media/technology, communication skills, and where to go for help. First, students were asked to select one or more topics that they considered 'most useful'. For this question, there was no restriction on the number of topics that students could select. A second question asked students to report the topic that was 'most important'. For this question, students could only select one topic.

Additional questions included where students sought information and support about relationships and sexual health, with the option to select as many sources as was applicable. Options included 'parent/carer', 'friend', 'health service', 'internet', 'teacher', 'school counsellor', 'magazine', and 'other'. Students were also asked whether they thought the programme was respectful and inclusive of (a) same-sex attraction, and (b) different cultures and religions with response options including 'no', 'sometimes', 'often' and 'always'.

Data analysis

Initial analyses were undertaken to describe the data. These involved calculating the frequency and percentages of each category for all variables, including demographic characteristics, ratings of the programme, suggested programme changes, useful and important topics, sources of information, and inclusivity for same-sex attraction and different cultures and religion. Relationships between these variables and the survey year were then further explored using logistic regression.

For student ratings of the programme ('safe and supportive class environment' and 'overall rating'), the scale responses were combined into two categories: 'poor/satisfactory' and 'good/excellent'. Separate logistic regressions were performed for the student rating scales, to assess the relationship between the survey years (2006 through to 2017) and rating categories. Survey year was considered a continuous variable. This approach was used to determine whether the ratings of the Relationships and Sexual Health Programme improved over the 12-year period (i.e. positive association for selecting 'good/excellent'). For all analyses, the clustering of survey responses within school was accounted for in the logistic regression models by generating robust cluster variance estimates.

The same logistic regression approach was undertaken for the following categorical data including the most useful and important topics (0 = not selected, 1 = selected). For the most useful topics question, if 'all of it' and another variable was selected for this

question (e.g. STIs), 'all of it' was recoded to be unselected to ensure this variable was not overrepresented. For the outcomes inclusiveness of same-sex attraction and cultural diversity, the responses were combined into two categories, 'no/sometimes' and 'often/always' before undertaking separate logistic regression models. These models assessed the relationship between survey year (2013–2017) and response categories.

When exploring the impact of the programme rating on whether students' considered the programme inclusive and respectful of diversity, 'safe and supportive class environment' and 'overall rating' were combined into one variable, 'total rating'. The student responses were coded as 'poor/satisfactory' for the 'total rating' variable if at least one scale was considered 'poor/satisfactory'. The relationship between 'total rating' and inclusiveness was first explored in cross tabulations. Logistic regression models were then generated to assess the relationship between total rating (either 'poor/satisfactory' or 'good/excellent') and separately, inclusivity of same-sex attraction, and cultural diversity (coded as 'no/sometimes' or 'often/always').

Individual models were generated for each source of information, to assess the relationships between year level (year 8, 9, and 10) and the source category (e.g. 'parent/carer'). Odds ratios and confidence intervals (CI) were calculated from the regression analyses, and a p-value <0.05 was considered significant.

Some limitations in the temporal use of the data exist due to the changing nature of the annual survey (e.g. exclusion/introduction of questions) which coincided with changes in the programme curriculum over time. Student gender was removed in 2013 to ensure students did not feel pressured to select a binary gender of male/female. For this reason, no analyses were undertaken separately based on student gender. Participants were able to skip any of the survey questions; therefore, the number of questions answered was not uniform within and across the years. The proportion of missing observations are reported where possible. For the outcomes of interest in this paper, data were available for the programme ratings for the years 2006 to 2017, number of lessons for 2014 to 2017, and the remaining outcomes for 2013 to 2017. All analyses were conducted using Stata version 14.0 (StataCorp 2015).

Ethics approval

The University of Adelaide's Office of Research Ethics, Compliance and Integrity's Human Research Ethics Secretariat assessed this project and determined that ethics approval was not required. The project was exempted from HREC approval as the data collected and subsequently analysed were non-identifiable and thus it was deemed there was negligible risk to the participants. Passive or active consent is collected by each school for involvement in the Relationships and Sexual Health Programme and the subsequent anonymous survey.

Results

Survey data findings

A total of 29,533 students participated in the survey between 2006 and 2017, with a range of 331 to 4,383 participants per year and survey participation typically increased per year.

Table 1. Proportion of students, by year, providing feedback on the Relationships and Sexual Health Programme (2006–2017; n = 29,533).

	Year Level			Sample Size
	Year 8 (%)	Year 9 (%)	Year 10 (%)	
2006	82 (25)	192 (60)	48 (15)	331
2007	24 (7)	200 (59)	117 (34)	353
2008	249 (38)	322 (49)	85 (13)	750
2009	468 (39)	677 (57)	46 (4)	1,237
2010	751 (44)	769 (45)	195 (11)	1,728
2011	942 (48)	797 (41)	214 (11)	1,962
2012	1,290 (48)	1,076 (40)	314 (12)	2,705
2013	1,620 (41)	1,691 (42)	688 (17)	4,057
2014	1,769 (43)	1,580 (39)	725 (18)	4,295
2015	1,853 (45)	1,468 (36)	789 (19)	4,384
2016	1,574 (44)	1,278 (35)	757 (21)	3,674
2017	1,703 (44)	1,537 (40)	623 (16)	4,057
Total:	**12,325**	**11,587**	**4,601**	**29,533***

*Total population is different from grade as not all students disclosed this information.

Table 1 provides the proportion of students per year level, including the sample size for each year. With respect to gender (only available 2006–2012, n = 7,566; missing = 15%), more girls than boys participated in 2006 (66% n = 215 vs. 34% n = 112), although this effect was less pronounced in later years (e.g. for 2012: 51% female students vs. 49% male students). Although there was a large amount of missing data for number of lessons received (2014–2017, missing = 71%), for the 4,760 participants that reported on the number of lessons they received, on average 8% of students received 1–5 lessons, 25% received 6–10 lessons, 37% received 10–15 lessons, and 30% received 16+ lessons.

Ratings of the programme

Figure 1 depicts a timeline to illustrate the changing trends in 'poor', 'satisfactory', 'good' and 'excellent' ratings across the two criteria. Across all years, the mean of the proportion of student ratings of 'safe and supportive environment' was 48% for 'good', 38% for 'excellent', followed by 12% for 'satisfactory' and 2% for 'poor' (Figure 1(a)) (n = 28,716; missing = 3%). There was small positive association between survey year and selection of

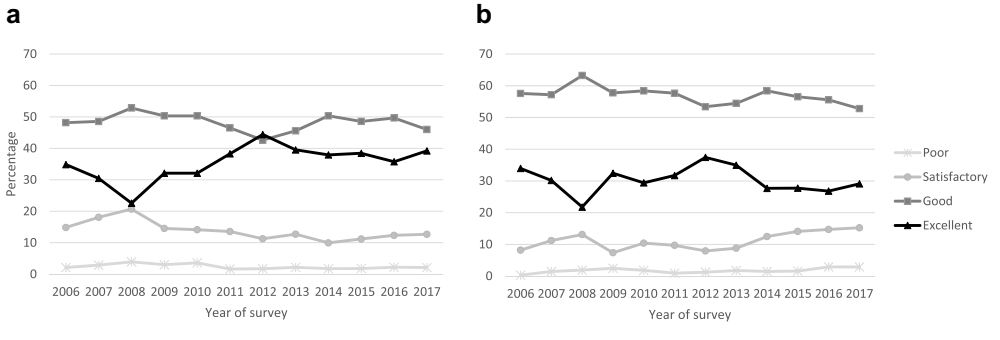

Figure 1. Trends in the proportion of secondary students that rated the Relationships and Sexual Health Programme as poor, satisfactory, good, or excellent per survey year. (a) Safe and supportive classroom environment. (b) Overall rating of the programme.

'good/excellent' for 'safe and supportive classroom environment' (OR 1.04, CI 95% 1.01 to 1.07, p = 0.0051).

For the 'overall rating' (n = 28,558; missing = 3%), the mean proportion of students rating the as 'good' was 56%, followed by 'excellent' (30%), 'satisfactory' (12%), and 'poor' (2%) (Figure 1(b)). There was a small negative association between survey year and selection of 'good/excellent' for overall programme rating, suggesting a slow decline in this rating over time (OR 0.92, CI 95% 0.89 to 0.95, p = 0.0000).

For the period of 2013–2017 (n = 20,467), less than 15% of students rated the programme as 'poor' or 'satisfactory' on the scales pertaining to 'safe and supportive classroom environment' (n = 4,182) and 'overall rating' (n = 3,939). Compared to the total sample, these students were more likely to receive 1–5 lessons (mean: 19% vs. 8% total sample) and were less likely to receive 11–15 lessons (mean: 29% vs. 37% total sample).

There were 16,410 responses available from 2014 to 2017 about possible programme changes. Overall, the most highly selected categories observed were 'no change' (41%), 'more in-depth information' (17%), 'more lessons' and 'better class behaviour' (both 16%). The subgroup of students that rated either scale as 'poor/satisfactory' in general selected more options. A greater number of these students selected 'better class behaviour' (22–30%), 'more in-depth information' (21%), 'single-sex classes' (17–18%), 'more lessons' (14–15%), 'less lessons' (13–15%), whereas fewer selected 'no change' (27–28%) in comparison to the total sample(41%).

Most useful and important topic(s) selected by students

The following results include responses from the 2013 to 2017 surveys, which reflect the addition of new survey questions, including a total sample size of 20,467.

When asked to select the topics considered most useful (Table 2) (n = 20,467), the top five responses were (1) 'relationships' (47%), (2) 'safer sex' (45%), (3) 'STIs' (39%), (4) 'condom use' (36%), and (5) 'the body/puberty' (34%). There was a positive association between survey year and selection of 'consent' (OR 1.16, CI 95% 1.11 to 1.21, p = 0.0000), as well as for selection of 'gender stereotypes' (OR 1.07, CI 95% 1.03 to 1.11, p = 0.0003) and 'media/technology' (OR 1.06, CI 95% 1.01 to 1.11, p = 0.0114), with these topics being increasingly selected over the five-year period. In contrast, there was a negative association between survey year and selecting 'contraception' (OR 0.94, CI 95% 0.89 to 0.99, p = 0.0169), which was decreasingly selected over the survey period. Some topics showed no association between survey year and being selected as useful, suggesting that these remained stable over the five years, including 'relationships', and 'all of it' which were consistently rated high, and 'the body/puberty', 'respecting difference' and 'communication skills' which were less frequently selected.

When asked to select the *one* topic considered most important (Table 2) (n = 17,631; missing = 14%), over the five-year period, there was a negative association between survey year and selecting 'STIs' (OR 0.88, CI 95% 0.83 to 0.93, p = 0.0000), 'contraception' (OR 0.87, CI 95% 0.81 to 0.94, p = 0.0003), 'pregnancy options' (OR 0.78, CI 95% 0.68 to 0.9, p = 0.0008) and 'safer sex' (OR 0.93, CI 95% 0.89 to 0.98, p = 0.0069). However, there was a positive association between survey year and selecting 'all of it' (OR 1.21, CI 95% 1.12 to 1.31, p = 0.0000), and 'consent' (OR 1.3, CI 95% 1.2 to 1.41, p = 0.0000).

Table 2. Trends in included topics in the Relationships and Sexual Health Programme that students considered most useful and most important (2013–2017).

	Year of Survey									
	2013		2014		2015		2016		2017	
Topic	Useful %	Most Impt %	Useful %	Most Impt %	Useful %	Most Impt %	Useful %	Most Impt %	Useful %	Most Impt %
Safer sex†	47	19	45	20	45	18	47	17	41	15
Relationships	44	11	47	11	50	12	51	10	44	11
STIs††	41	15	38	13	39	13	37	11	35	10
Condom use	38	7	36	7	35	6	37	7	31	7
Where to go for help	36	6	33	5	36	4	36	3	31	5
Contraception*††	34	10	32	10	30	6	32	6	27	7
All of it††	26	10	26	12	23	17	24	20	24	19
The Body/ Puberty	32	6	34	9	34	8	35	7	33	9
Gender stereotypes**	29	3	31	3	35	3	39	4	32	3
Pregnancy options††	26	2	24	1	24	1	25	1	20	1
Respecting difference	25	2	27	3	29	3	31	3	25	2
Consent**††	21	3	22	3	27	5	33	6	29	7
Communication skills	20	1	22	1	22	1	26	1	20	1
Media/ technology*	17	2	21	2	21	2	24	2	20	1
Power	17	3	19	2	20	3	24	2	17	2

Most useful topics – students could select as many topics as they considered most useful (n = 20,467): *p < 0.05, **p < 0.001. Most important topics (Most Impt) – students could only select *one* topic that they considered most important (n = 17,631): †p < .05, ††p < .001.

Sources of support and information about relationships and sexual health

Across the years 2013 to 2017, the most frequently selected sources of support observed did not change appreciably (n = 20,467). For the total responses, 60% selected 'parent/carer', followed by 'friend' (46%), 'health service' and 'internet' (both 39%), and 'teacher' (32%). Figure 2 depicts the influence of students' year level on their source selection for the total sample. Regardless of the students' year level, 'parent/carer' was the top source. There was a negative association between year level and 'parent/carer' (OR 0.83, CI 95% 0.78 to 0.88, p = 0.0000). In contrast, there was a positive association between year level and 'internet' (OR 1.29, CI 95% 1.2 to 1.38, p = 0.0000), 'health service' (OR 1.28, CI 95% 1.19 to 1.37, p = 0.0000), 'friend' (OR 1.13, CI 95% 1.06 to 1.2, p = 0.0001), and 'teacher' (OR 1.1, CI 95% 1.05 to 1.15, p = 0.0000).

Inclusiveness of same-sex attraction and different values and beliefs

Data on whether students felt the programme was respectful and inclusive of same-sex attraction were available for 2013 to 2017 (n = 18,792; missing = 8%). In total, 46% and 33% of students considered the programme 'always' and 'often' inclusive and respectful of same-sex attraction, while 16% and 5% of students selected 'sometimes' and 'no'. Logistic regression analysis demonstrated no significant association between survey year and selecting 'often/always' (OR 1.03, CI 95% 0.99 to 1.08, p = 0.15). When looking at the subgroup of students that rated at least one scale('safe and supportive class environment',

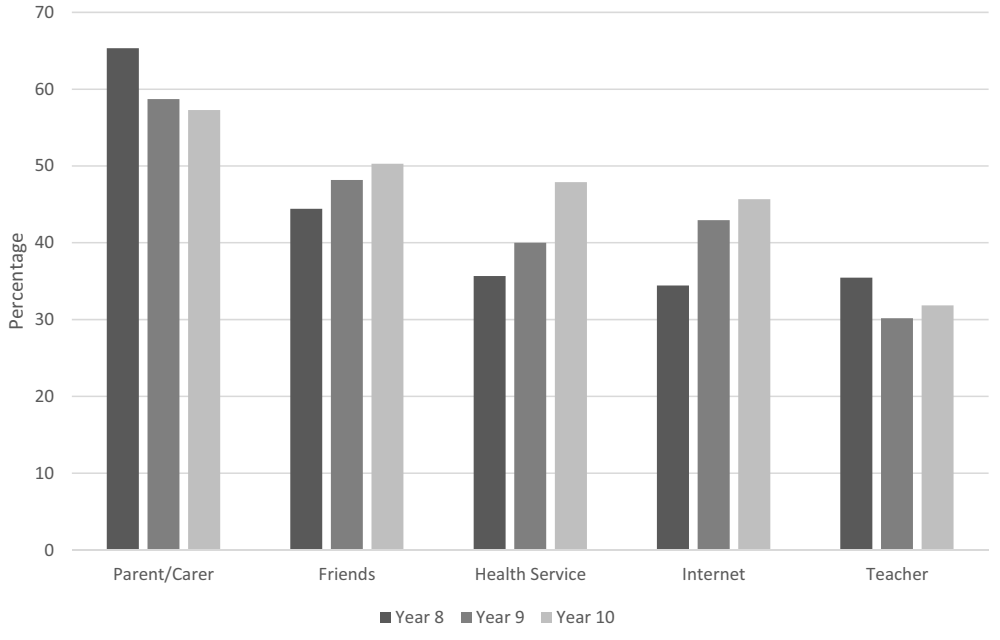

Figure 2. The most common sources that secondary students' use for information and support on relationships and sexual health, presented by year level (2013–2017, n = 20,467). Categories 'school counsellor', 'magazine', and 'other' are not presented due to low response rate.

and 'overall rating') as 'poor/satisfactory', 40% of these students selected 'no/sometimes' in response to questions about inclusiveness of same-sex attraction. The students who selected 'no/sometimes' for inclusiveness of same-sex attraction were much less likely to give the total programme rating 'good/excellent' (OR 0.29, CI 95% 0.26 to 0.32, p = 0.0000).

A similar pattern was observed from student responses about whether the course was inclusive and respectful of different cultures and religions (n = 18,763; missing = 8%), with 32% and 48% of the participants selecting 'often' and 'always', respectively. There was a positive association between survey year and considering the programme 'often/always' inclusive and respectful of cultural and religious diversity (OR 1.14, CI 95% 1.09 to 1.2, p = 0.0000). Again, for the subgroup of respondents who indicated that the programme was 'poor/satisfactory', a greater proportion of these students selected 'no/sometimes' (37%). The students that selected 'no/sometimes' for inclusiveness of cultural and religious diversity were much less likely to give a total programme rating of 'good/excellent' (OR 0.28, CI 95% 0.26 to 0.31, p = 0.0000).

Discussion

Findings from this study with over 20,000 students across South Australia revealed that students highly value the relationships and sexual health curriculum provided in secondary school. Across all years, the majority of students rated the programme as 'good' or 'excellent' and over time students were increasingly positive about the programme fostering a safe and supportive classroom environment. There was an increase in the

proportion of students who considered broader social health orientated topics, including 'consent', to be most important and useful. The findings revealed some important age differences with regards to preferences for information and support about relationships and sexual health, with older students demonstrating a shift away from parents/carers to greater reliance on the Internet for information.

This study provides a number of encouraging findings. In particular, the majority of students responded to the scales (safe and supportive class environment, and overall rating) with either 'good' or 'excellent' ratings. A greater proportion of students selected 'no change' or 'more lessons' for suggested programme changes and an increase in selecting 'all of it' for the most important topic also emerged over time. However, there was a small decline in the overall rating of the programme as 'good/excellent' over time. Thus, there is still a need for ongoing review and revision of the programme to maintain its relevance to contemporary secondary students. This can be gained by continuing the annual surveys of the curriculum, as well as by undertaking in-depth research using participatory methods to gain insight into specific experiences of the programme (e.g. Coll, O'Sullivan, and Enright 2018).

The students who rated the course as 'poor' or 'satisfactory', either overall or with regards to providing a safe and supportive environment, made up a small proportion of the sample (<15% across all years). However, it is important to look more closely at this subgroup to understand ways to improve their engagement in relationships and sexual health education. There were a number of differences between the total sample and this subgroup. In particular, individuals within this subgroup were more likely to receive insufficient lessons, and consider the course to not be inclusive and respectful of same-sex attraction and other cultures. This subgroup also selected a larger number of suggested changes to the programme in comparison to the total sample. The changes focussed on modifications to the classroom environment, including delivery of the course in single-sex environment.

The inclusion of sexuality, gender and cultural diversity has been raised as an important component of relationships and sexual health education (Women UN and UNICEF 2018), and previous research has noted that sexuality- and gender-diverse youth often feel their education is inadequate (Hillier et al. 2010; Mitchell et al. 2013). Whilst the South Australian curriculum emphasises the inclusion of teaching about sexuality and gender diversity, whether teachers are able to combat homophobic and discriminatory comments in the classroom environment is a different issue (Ullman 2015), and may have contributed to poor or satisfactory ratings in this survey. With regards to cultural diversity, previous research indicates teachers can experience difficulty navigating what sexual health information is appropriate in a culturally diverse context (Eisenberg et al. 2012). Further research is needed to investigate ways to promote awareness and respect for diverse sexualities, genders and cultures in relationships and sexual health education, to ensure the experiences of minorities are not treated as an 'add on', which may exacerbate the 'otherness' these students can experience (Haggis and Mulholland 2014).

Having an 'enabling environment' is central to student health, wellbeing and academic achievement (Svanemyr et al. 2015), and this is particularly true for relationships and sexual health education, with students needing to feel safe and comfortable in order for these programmes to be effective (Thomas and Aggleton 2016). A small minority of students rated the programme as 'poor' or 'satisfactory', and these students were less

likely to rate the classroom as being respectful and inclusive. Further research investigating ways to support educators to reduce discomfort and engage these students in relationships and sexual health education is required. To achieve this, an approach that acknowledges and respects contextual factors in students' lives is essential (Haberland and Rogow 2015). Importantly, findings from this survey demonstrate an increase in ratings of the class environment as being 'good' or 'excellent' over time. This may suggest an increasing focus among schools on promoting a positive class environment, increased confidence within teachers to facilitate, or students feeling more comfortable discussing sexual health matters.

This paper also provides important insights into the topics secondary students consider important. Of particular interest is the increase in students selecting the topic 'consent' both as the most important and one of the most useful topics. To ensure students are appropriately engaged in relationships and sexual health education the topics within the curriculum need to reflect their reality (Aggleton and Campbell 2000; Allen 2005a), and the observed increase in selecting 'consent' may reflect the current social climate (e.g. awareness of the 'Me Too' movement (Lind, Adams-Clark, and Freyd 2020; Unis and Sällström 2020). Students being increasingly open to discussions around consent is an important step towards building community awareness and challenging the norms that contribute to gender-based and family violence, sexual harassment and assault (Australian Institute of Health Welfare 2019; Australian Human Rights Commission 2017).

There is an emerging field of research investigating how consent is conceptualised and negotiated by young people (Coy et al. 2016), suggesting that although young people often understand the meaning of consent, real life contexts provide unique challenges particularly for younger adolescents which makes negotiating consent difficult (Burkett and Hamilton 2012; Coy et al. 2016). Whether the student sample in this study wanted more information, greater practical support, or assistance in developing skills around negotiating consent would be a fruitful area for further in-depth research, to ensure the programme aligns with students' lived experiences and needs. Nevertheless, the increasing interest in consent demonstrated in this study reinforces the importance of inclusion of consent and related constructs (e.g. how consent is influenced by gender (Powell 2010)) in relationships and sexual health education.

Related to 'consent', is the topic of 'relationships' which was one of the most frequently and consistently selected topics as most important and useful across the survey years. Learning about interpersonal relationships, including platonic relationships, through relationships and sexual health education is critical during early development (Hair, Jager, and Garrett 2002; Goldman 2013). It provides children with the opportunity to develop skills and identify behaviours that are appropriate across their social landscape (including abuse), while preparing them to navigate romantic and/or sexual relationships in the future.

At the forefront of the Relationships and Sexual Health Programme's curriculum is the topic of 'relationships'. This aligns with previous research demonstrating that students desire more information about the social and emotional aspects of sexual health and is reflected in this study (Giordano and Ross 2012; Johnson et al. 2016; Hogben et al. 2017; Macintyre, Vega, and Sagbakken 2015). Furthermore, in the current study there was a decline over time in the selection of more biological topics (e.g. STIs and contraception)

as the most important. This could be explained by the increase in students selecting 'all of it', or reflect the plethora of information that is available online about these topics (Doornwaard et al. 2017; Simon and Daneback 2013).

Where young people receive information and support for relationships and sexual health continuously evolves alongside accessibility to technology. In the current study, the most frequently selected source of support and information regardless of the student's year level was 'parent/carer'. This is in contrast to another Australian study where parents were reported as the sixth most frequent source of information (Giordano and Ross 2012), although this finding may be explained by the slightly older age of participants in that study. Friends were another commonly selected source, and there was an increase in the selection of friends with advancing school year level. This is consistent with previous research with young people demonstrating the strong influence of peers as a source of sexual health norms and information, as well as support (Whitfield et al. 2013; van de Bongardt et al. 2015).

Other sources that were selected more frequently as the school year level increased were health services and the Internet. The frequent use of the Internet reported in this and other studies (Doornwaard et al. 2017; Giordano and Ross 2012) identifies the need for inclusion of health literacy skill building in school curricula to equip young people with the skills to distinguish between reliable sexual health information online. With increasing recognition of the importance of providing youth-friendly health services (Ambresin et al. 2013), it is promising that almost half of students aged 15 to 16 , reported accessing health services for sexual health information and guidance. However, more research is needed to understand whether younger students (e.g. ages 13–14 years) want greater access to health services or want other avenues for support on relationship and sexual health topics.

Strengths and limitations

A major strength of this research was the use of a very large sample of students surveyed annually over a decade. Participants in the survey were broadly representative of South Australian secondary school students, as they were captured from a range of diverse school settings that covered both urban and rural locations.

There are a number of limitations relating to the data collection, however, such as discontinuing the collection of information about gender from 2012, and prior to this, the failure to allow students to select a non-binary gender. Nevertheless, based on the data that was available about gender, the gender distribution of students was representative of South Australia in the middle years of survey data collection. This is an important strength, as sexual health is often framed as a gendered issue, with more emphasis and responsibility placed on girls and women (Saewyc 2012). Nevertheless, there is an ongoing need to ensure there is adequate representation of young boys in research concerning relationships and sexual health (Starrs et al. 2018). A further limitation concerning gender is the missed opportunity to investigate whether students consider the curriculum inclusive of gender diversity, as has been done for sexuality and cultural diversity.

The data collection in the current study was designed to provide SHINE SA and participating schools with feedback on whether students considered the programme

satisfactory, and gauge interest in specific sexual health topics, to permit programme adaptation. However, additional data could be collected to further adapt and advocate for this programme, including questions to evaluate student knowledge, attitudes and skills, pre- and post-programme. The number of lessons received was introduced to the survey in 2014, while this is an improvement to the survey, more detailed data on the way the programme was delivered should be considered to assess programme fidelity, which has been noted as a limitation of other studies (LaChausse, Clark, and Chapple 2014; Denford et al. 2017).

Another possible limitation was the need to collapse the programme rating variables ('poor/satisfactory' vs. 'good/excellent') for logistic regression analysis, which may have resulted in some loss of information.

Conclusion

The results of this study demonstrate student support for and increasing interest in a diverse range of topics in sexual and reproductive health education, spanning social and biomedical topics. This provides clear evidence in support of the sustained implementation and funding of comprehensive sexual health and reproductive health curricula in secondary schools. Furthermore, while most students participating in the survey felt the curricula were delivered in a safe and supportive environment, there is a need for continued focus on creating an inclusive environment to improve engagement of gender- and sexuality-diverse, and culturally diverse, students.

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Disclosure statement

SHINE SA provided the data used in this study. The University of Adelaide researchers independently analysed the data and collectively the author group discussed the interpretation of findings.

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