

Perceptions of Personality That Can and Cannot Be Change

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Abstract

According to Seligman, there are some aspects of personality that can be changed, some that are more difficult to change and some that are impossible to change. This is contrary to Costa and McCrae's empirical findings that personality is relatively stable over the life course and accordingly does not change very much. So, can people really change their personality or certain aspects of it? Ninety-Four university students completed the IPIP-NEO-120, a measure of the Big Five personality domains and their facets, to determine if personality influences their evaluation of how difficult they believe it would be to change different aspects of those Big Five personality domains and their associated facets, whether they have tried to change any of those characteristics and if so, how successful they believe they have been. Participants perceived every trait to be changeable to some extent but some more than others, and they viewed themselves as having successfully changed some of these more changeable traits in a positive way. It was also found that the success of some of these changes was related to participants' particular personality profiles. Most of the changes made by the university student participants were related to personal and interpersonal issues associated with the transition from high school to university. These findings have implications for more effective counselling based on knowledge of the perceived relative difficulty of changing personality characteristics and the influence that an individual's own personality may have in determining the extent to which they can change a particular aspect of their personality.

Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any University, and, to the best of my knowledge, this thesis contains no materials previously published except where due reference is made. I give permission for the digital version of my thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the Library Search and through web search engines, unless permission has been granted by the School to restrict access for a period of time.

Signature

Chryso Costa

October, 2018

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CHAPTER 1

Introduction

1.1 Defining Personality

Personality traits are often defined as relatively enduring, automatic patterns of thoughts, feelings and behaviours that characterise typical ways of responding to different situations (Roberts, 2009). Contemporary personality psychologists tend to categorise personality traits in the form of Costa and McCrae’s (1999) Five Factor Model (FFM) to measure the major dimensions of normal personality and individual differences in personality traits. The FFM (see Figure 1) organises most personality traits into five broad categories: Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness (Costa & McCrae, 1999). These five factors are broad and each consist of six facets that provide a suitable framework for understanding and measuring trait changes in personality (Ardelt, 2000).

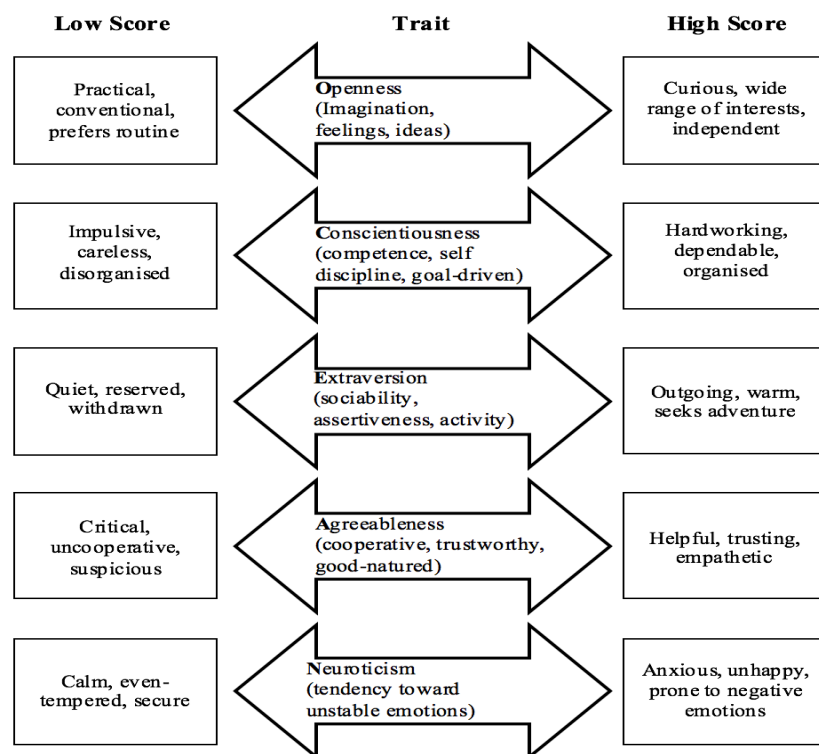


Figure 1: The Classification of the Domains of the Five Factor Model. Adapted from OpenStax Psychology, 2014.

1.2 Do People Want to Change their Personality?

People tend to want to change at least one aspect of their personality and these changes are typically in respect to each of the Big Five personality domains (Hudson & Roberts, 2014). Most people who desire to change their personality want to become less neurotic and more conscientious, extraverted, agreeable or open (Hudson & Roberts, 2014). Hudson and Roberts (2014) found that 91% of participants wanted to increase in conscientiousness and 87% wanted to become more extraverted. Only 13% of participants wanted their personality to remain the same (Hudson & Roberts, 2014).

The motivation to seek personality change typically stems from intrinsic or extrinsic sources (Hennecke, Bleidorn, Denissen & Wood, 2014). Self-regulation, the act of modifying one's own behaviour, thoughts and feelings, occurs when individuals experience a sense of cognitive dissonance (Hennecke et al., 2014). That is, when individuals notice a discrepancy between their behaviour and their internalised standards, goals to change personality surface (Hennecke et al., 2014). Intrinsic motivation also occurs when individuals become distressed with aspects of their lives, and believe that changing their existing characteristics will alleviate their dissatisfaction (Deci & Ryan, 1985; Hudson & Fraley, 2015). Extrinsic pressures, such as environmental demands and social norms, may increase desires to change particular traits (Deci & Ryan, 1985). Whilst the desire to change aspects of one's personality is common, the question is whether volitional trait change is achievable.

1.3 The Fluidity of Personality

Self-improvement literature has thrived and profited from the proposal that people can change their personality if they really want to (Hennecke et al., 2014). With respect to this proposal, Seligman (1994) suggests that half of personality is genetically determined, making changes, in spite of effort, impossible (Seligman, 1994). The other half of personality "comes

from what you do and from what happens to you- and this opens the door for therapy and self-improvement” (Seligman, 1994, p. 4). Seligman proposes that changes can be made to emotionality such as anger, depression and anxiety; all of which are facets of Neuroticism and are typically perceived to be stable across the life course (Donnellan & Lucas, 2008). However, he cautions that adult personality problems in these domains are difficult to change if they stem from childhood trauma (Seligman, 1994). Seligman concludes that “there are some things about ourselves that can be changed, others that cannot, and some that can be changed only with extreme difficulty” (Seligman, 1994, p. 4).

In agreement with Seligman’s conclusions, personality has been found to keep changing across the life course due to life experiences (Helson, Jones, & Kwan, 2002; Helson & Kwan, 2000; Srivastava, John, Gosling, & Potter, 2003). Mean level increases in Agreeableness and Conscientiousness have been established, with the most significant change occurring between the age of 18 until over the age of 60 years (Donnellan & Lucas, 2008; Roberts, Robins, Trzesniewski, & Caspi, 2003). Measures of Openness tend to increase in early young adulthood and continue increasing in the later portions of life (Roberts et al., 2003). Neuroticism, decreases with age, and plateaus in old age (Roberts et al., 2003). Roberts, Walton and Viechtbauer (2006) reported increases in Openness, Agreeableness and Conscientiousness and decreases in Neuroticism in middle and old age are as a result of the goals individuals pursue across the life course, as well as age-normative changes (Hennecke et al., 2014). Traits that show mean level increases with age also become increasingly valued with age (Hennecke et al., 2014). Wortman and Wood (2013) found that older adults report traits related to Agreeableness and Conscientiousness as more desirable than young adults, and these differences likely manifest into age-related increases in personality (Roberts et al., 2006).

Despite a significant portion of people expressing desires to become more extroverted (Hudson & Roberts, 2014; Seligman, 2014), there are no significant findings that indicate that Extraversion changes across the life course (Roberts et al., 2003). In fact, it has been found to be strongly related in identical twins reared apart (Seligman, 1994), suggesting that extraversion may be genetically predisposed and resistant to change.

1.4 A Three-Part Framework for Self-Regulated Personality Development across Adulthood

Recently, researchers interested in the fluidity of personality have recognised the role of motivation and self-regulation to explain why personality changes occur across the life course. Hennecke et al. (2014) proposed a three-part framework for self-regulated personality development across adulthood (see Figure 2) to explain how individuals volitionally shape their own personalities by protecting dispositional tendencies that they consider fundamental to their goals and ceasing dispositional tendencies that they consider undesirable and problematic.

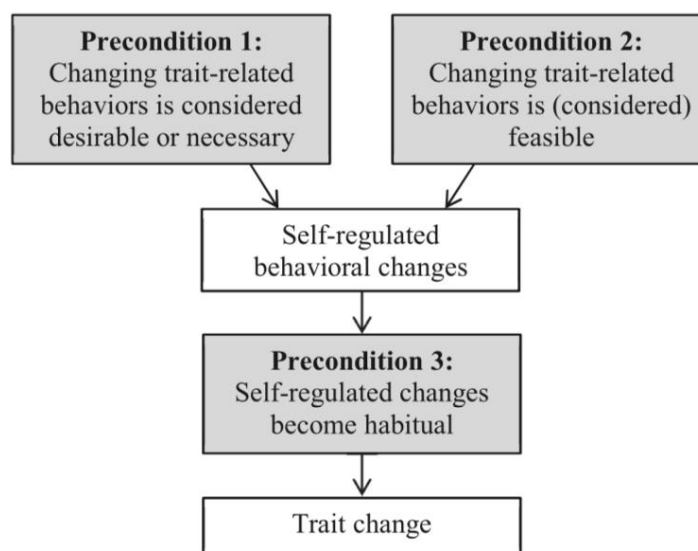


Figure 2. Three-Part Framework for Self-Regulated Personality Development. Precondition 1 and 2 are necessary to initiate the process. Precondition 3 is necessary for crystallising the behaviour into a stable trait (Hennecke et al., 2014).

1.4.1 Precondition 1: Changing Trait-Related Behaviour is Considered Desirable or Necessary

The first precondition proposes that an individual must consider the changes they want to make as desirable ends in themselves, or as a fundamental mean to advance to a superordinate goal (Hennecke et al., 2014). If personality can be volitionally changed across the life course, it should follow the direction that is considered desirable (Hennecke et al., 2014). For example, an individual may desire to be friendlier and more agreeable as a necessary means for accomplishing the superordinate goal to better get along with colleagues at work (Hennecke et al., 2014). Bleidorn et al. (2010) found that trait change goals predicted personality changes in Conscientiousness and Openness over a five-year period, suggesting that individuals volitionally change their traits to pursue their goals. A limitation to this finding is the lack of causality. That is, whether change goals impact trait changes or trait changes impact goals.

1.4.2 Precondition 2: Changing Trait-Related Behaviour is Considered Feasible

The second precondition for achieving volitional personality change is that it needs to be considered feasible (Hennecke et al., 2014). Individuals' beliefs about the extent to which personality can change may be more or less accurate reflections of their capacity to make the desired changes (Hennecke et al., 2014). For example, a study that increased children's beliefs of the changeability of aggression successfully reduced their aggressive behaviour when compared to a control group without treatment (Yeager, Trzesniewski & Dweck, 2013). Thus, an individual must consider the desired change as being feasible in order to increase capability, ultimately determining commitment and likelihood of success (Hennecke et al., 2014).

1.4.3 Precondition 3: Self-Regulated Changes Become Habitual

The final stage of the framework proposes that the process of habit formation aids individuals to maintain the desired trait change across time, and consequently, crystallise into enduring personality traits (Hennecke et al., 2014). All trait changes require intentional repetition and experience, and pairing this with goal-directed behaviour, ensures the changes manifest into lasting characteristics without the need for conscious intervention (Hennecke et al., 2014). For example, desires to increase Conscientiousness may initially require detailed planning and a strict schedule, but over time, become a habit (Hennecke et al., 2014). This context-behaviour pairing eventually develops into automatic and unconscious characteristics (Hennecke et al., 2014).

1.5 Factors That Facilitate Personality Trait Change

A number of factors have been found to increase the process of personality trait change. These factors are discussed in the following section.

1.5.1 Critical Period of Adolescence and Early Adulthood

Late adolescence to early adulthood is understood to be a time where most change in personality traits occur (Donnellan & Lucas, 2008; Erikson, 1964; Pals, 2001; Roberts et al., 2006; Robins, Nofhle, Trzesniewski, & Roberts, 2005; Terracciano, McCrae, Brant, & Costa, 2005). The transition into a new environment, such as work or university, creates shifts in social norms, expectations and interactions, forcing changes in personality traits (Erikson, 1964). For example, moving out of home, attending university or entering the workforce requires greater self-efficacy, orderliness and self-discipline; all of which are associated with increases in Conscientiousness (Hormuth, 1990, Sarbin, 1964; Roberts et al., 2006). Erikson (1964) characterised this time period as the critical juncture during which individuals face a

crisis of identity versus role confusion, in which the individual must commit to one identity. Thus, individuals explore and shift into new roles and senses of identity, which crystallise into enduring personality traits (Erikson, 1964).

1.5.2 Gender

According to the cross-over hypothesis, men and women experience change differently due to the gender roles associated with each sex (Guttman & Zohar, 1987). Men become more nurturing with age, particularly from young adulthood to middle age, due to the shift from the self to the more family-oriented individual (Guttman & Zohar, 1987; Vaillant, 1977). Women, however, become more confident and dominant, due to the shifting focus from family to a potential career (Guttman & Zohar, 1987). There is very little evidence that supports this hypothesis. In fact, several lines of research have found that gender plays no role in changes of personality (Roberts et al., 2006; Robins et al., 2005; Schuerger, Zarrella, & Hotz, 1989; Woodruff & Birren, 1972). That is, there are no standardised mean change differences in any of the Big Five domains between the two genders (Costa & McCrae, 1988; Roberts et al., 2006).

1.6 The Stability of Personality

Costa and McCrae (1994) propose that personality traits are fixed characteristics that remain relatively stable over the life course. People do not change very much because such change and in particular, marked changes, are very difficult due to personality traits having biological and genetic components (Costa & McCrae, 1997; Donnellan & Lucas, 2008). The literature in this respect, however, is limited, as when personality peaks and stops changing is less clear. Empirical findings of the consistency of the Big Five factors indicates that by the

age of 30, once adulthood has been reached, there is no substantial change to an individual's personality (Costa & McCrae, 1994). Thus, an individual's personality at the age of 30 is a good predictor of their personality at the age of 80 (Costa & McCrae, 1994). Similarly, Bloom (1964) found that at the age of 20, personality traits reached their highest level of stability and that, despite the possibility of small changes, traits were for the most part stable after young adulthood.

Mean level increases in Agreeableness, Conscientiousness, Openness and decreases in Neuroticism across the life course tend to be small to medium (Roberts & Del Vecchio, 2000). Hennecke et al. (2014) have related this finding back to their three-part framework, such that all three preconditions must be fulfilled for significant and stable changes in personality to occur. Failure to fulfil all three preconditions may be why changes in personality tend to be limited (Hennecke et al., 2014).

1.6.1 Factors that Increase the Stability of Personality

Genetic and biological components have been proposed as factors that increase the stability of personality (Costa & McCrae, 1994; Donnellan & Lucas, 2008; Jang, Livesley, & Vernon, 1996). The fact that traits have been found to remain stable in adulthood categorises them as temperaments and “endogenous dispositions that follow intrinsic paths of development essentially independent of environmental influences” (McCrae et al., 2000, p. 173). Shiner (1998) found that temperaments observed at birth can also be identified in the same individual later in life, suggesting that changes to personality over the lifespan are limited. Twin studies have reinforced this point. McGue, Bacon, and Lykken (1993) administered personality tests to monozygotic and dizygotic twins over a 10-year period. They concluded that 80% of the personality consistency demonstrated by their sample of twins was attributable to genetic predisposition (McGue et al., 1993). Out of all of the Big

Five Factors, Extraversion tends to be the most stable, and is understood to be so due to genetic factors; those who are born more sociable, tend to remain sociable across the lifespan (Roberts & Del Vecchio, 2000; Terracciano et al., 2005). Additionally, the biological disposition of an introvert may render their ability to act more extraverted, even in situations where they recognise the benefits of being extraverted (Hennecke et al., 2014).

Living in a consistent environment during adulthood has been found to increase the stability of personality (Caspi & Bem, 1990; Caspi & Roberts 1999). Genetic and biological predisposition does not result in a stable personality, but rather, these factors respond to the individual's environment and thus, nurture adapts to nature (Ardelt, 2000). Individuals naturally select environments that are consistent with their existing genetic dispositions (Caspi & Bem, 1990). For example, a sociable individual may be more inclined to associate with other sociable people, therefore increasing their tendency to remain extraverted (Caspi & Bem, 1990). This stabilises the traits that led individuals to seek out the environment in the first place (Hennecke et al. 2014). Environmental circumstances, such as getting a job, may modify personality in a particular direction. For example, most people become more conscientious in that they tend to arrive to work on time, but that the relative differences between people remain in terms of their fundamental dispositions.

1.7 Perceptions of Personality Change

Research has shown that individuals hold different beliefs about whether personality is fixed or changeable (Dweck, 2008; Hennecke et al., 2014) and, consequently, may not be very good at reporting changes to their personality (Costa & McCrae, 1989; Wilson & Ross, 2001; Woodruff, 1983). Woodruff (1983) found that there was only a moderate relationship between individuals' perceptions and their actual personality change. Additionally, there was a tendency for participants to report themselves as being more poorly adjusted in the past

than they actually were. Similarly, Wilson and Ross (2001) found that when people were asked to report on their past personality, they would report themselves more negatively than when asked to report on their current personality. This suggests that people derogate past selves in order to make their current selves feel better and perceive positive changes in personality as occurring over time (Wilson & Ross, 2001). Costa and McCrae (1989) conducted a study in which participants were asked to report on the degree to which their personality traits had changed over time. There was little correlation between self-perceived changes and actual changes in personality scores (Costa & McCrae, 1989). They concluded that self-perceived changes in personality are misperceptions and not accurate reflections of the change that had occurred (Costa & McCrae, 1989).

Other studies have found that individuals report that they have changed significantly over the course of their lives and these changes are often in line with actual changes in personality (Heckhausen, Dixon, & Baltes, 1989). Individuals tend to perceive themselves as changing in a positive direction. Robins et al., (2005) found that 87% of participants reported that they had deliberately changed an aspect of their personality, and more than 50% believed they had either increased or decreased on every Big Five domain (Robins et al., 2005). Individuals particularly tend to see themselves as having increased in Agreeableness, Conscientiousness, Extraversion and Openness and decreasing in Neuroticism (Fleeson & Heckhausen, 1997; Hudson & Fraley, 2015; Robins et al., 2005). This pattern indicates a tendency for people to believe they are becoming more mature, competent and well-adjusted (Roberts et al., 2003; Robins et al., 2005). Change correlations were significant in that individuals who thought they had changed a particular Big Five domain did indeed show change on that factor (Hudson & Fraley, 2015; Robins et al., 2005).

1.8 The Role of Self-Help Books in Personality Change

The beliefs about what aspects of personality can and cannot change are fundamental to understanding the nature of the methods individuals use to make changes to their own personality. Self-help books tend to promise answers on how to change particular behaviours, from serious problems like curing addictions, to increasing general health and happiness (Bergsma, 2007). Self-help books on personality change have been shown to produce actual changes in personality (Linder, 2009). Wilson and Cash (2000) explored the patterns of people that use self-help books, and their respective attitudes towards self-help books in a sample of university students. They found that females were more likely to have a positive attitude to self-help books. Factors like enjoyment of reading, psychological mindedness, strong self-control orientation and greater life satisfaction predicted a positive attitude to self-help books (Wilson & Cash, 2000). It is interesting to note that unhappy individuals or those with mental health issues were no more inclined to use self-help books than the rest of the sample (Wilson & Cash). The research literature in this area, however, is limited and there are no studies that explore the extent to which self-help books, as well as other behavioural change methods, attract different types of individuals in terms of their personality traits.

1.9 The Current Study

This study is particularly interested in individuals' evaluation of how difficult they believe it would be to deliberately change different personality traits and the extent to which people would like to change any of The Big Five factors. It also aims to investigate whether people have tried to change any of these characteristics and if so, how successful they perceive they have been. Given the lack of literature regarding the extent to which individuals differ in their perceptions of personality change, there is scope for investigation of the personality profiles

that determine whether individuals believe that people can or cannot deliberately change their personality. All of the aims are exploratory, so no hypotheses have been inferred.

Table 1

Aims and Hypotheses for the Current Study

Aim 1	To determine which personality facets individuals perceived people can and cannot deliberately change. Facets were chosen rather than major domains, assuming that individuals would be more likely to think of changing particular dispositions like being more friendly, rather than general domains, such as being more extraverted (Hennecke et al., 2014). Given no relevant theory or research evidence about deliberate changes as opposed to change due to circumstances, this aim was exploratory, so no hypotheses were inferred.
Aim 2	To determine the extent that personality influences evaluations of the perceived relative difficulty of changing personality facets.
Aim 3	To determine which methods individuals use to change aspects of their personality and whether different methods attract different personality types
Aim 4	To determine the relationship between gender and perceptions of change.
Aim 5	To determine which personality traits individuals perceived to be the easiest and hardest to change and whether they believed they had been successful or unsuccessful at making any desired changes.

CHAPTER 2

Method

2.1 Participants

A total of 94 participants (female= 73, male= 21), aged between 18 and 23 years ($M (SD) = 19.20 (1.33)$) took part in this study. First year psychology students ($n = 82$) enrolled in the course *Psychology 1B* were recruited from the University of Adelaide SONA Research Participation System. Members of the general community of South Australia ($n = 12$) were recruited via Facebook and snowball sampling. Although most participants were first year psychology students, they had not completed any topics related to personality that may have primed their responses at the time of participating in this study. Inclusion criteria for the study specified that participants must be between 18 and 23 years of age and be currently enrolled in and undertaking a university degree. The majority of the participants were female, enrolled in their first year of university and were either casually employed or unemployed (see Table 2). Thirteen participants were excluded from the study; six of whom did not complete the study and seven of whom did not meet the inclusion criteria.

Table 2

Participant Demographics (N = 94)

Characteristic	<i>N</i>	%
Gender		
Male	21	77.66%
Female	73	22.34%
Age		
18	38	40.43%

19	24	25.53%
20	19	20.21%
21	6	6.38%
22	4	4.26%
23	3	3.19%
 University Level		
First Year	74	78.72%
Second Year	8	8.51%
Third Year	7	7.45%
Fourth Year	4	4.26%
Fifth Year	1	1.06%
Sixth Year	0	0%
 Employment Status		
Full Time	7	7.44%
Part Time	13	13.83%
Casual	38	40.43%
Unemployed	36	38.30%
 Degree		
Bachelor of Psychology	39	41.94%
Other	54	58.06%

2.2 Materials

An online survey (Appendix A) was used to collect information for this study using two questionnaires. The following information was collected.

2.2.1 Demographic Information

Participants' age, gender, university level, degree and employment status were requested in the first part of the questionnaire.

2.2.2 Personality Profile

The IPIP-NEO-120 (see Appendix A; Johnson, 2014) is a public domain inventory and a modified version of the IPIP-NEO, derived from Costa and McCrae's (1992) Big Five Factor Inventory; a widely used measure of personality structure in psychology. The IPIP-NEO-120 consists of 120-items and it measures the 30 facets that comprise the Big Five Personality Dimensions of Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. Participants rate the degree to which they agree with the statements on a 5-point Likert-type scale (1 = strongly disagree, 2 = disagree, 3 = neither agree or disagree, 4 = agree, 5 = strongly agree). Examples of statements include "I get angry easily", "I worry about things a lot" and "I do a lot in my spare time" (Johnson, 2014). The IPIP-NEO-120 has high convergent validity with the IPIP-NEO and acceptable to good reliability, with Cronbach's Alpha of all facets ranging from .63 to .88 (Johnson, 2014; Maples, Guan, Carter & Miller, 2014).

2.2.3 Perceptions of Personality Change

A questionnaire consisting of both qualitative and quantitative answer-type questions was designed to measure the participants' perceptions of personality change. The questionnaire

investigated how difficult the participants thought it would be to change a general aspect of personality, how much external support they believed most people need to successfully change an aspect of their personality, which personality facets they thought were the easiest and hardest to change and whether they believed age influenced personality change. These questions were all applicable to each of the 30 facets. The quantitative questions required participants to rate their answer on a 7-point Likert-type scale (1 = impossible, 2 = extremely difficult, 3 = very difficult, 4 = moderately difficult, 5 = moderately easy, 6 = very easy and 7 = extremely easy). An example question is “how difficult do you think it is for most people to change aspects of their personality if they really want to?”

The final part of this section of the questionnaire measured participants’ evaluations of their own personality changes. The participants were able to select more than one answer for each of the 30 IPIP-NEO personality facets (Johnson, 2014). Examples of facets included self-efficiency (completing tasks successfully, knowing how to get things done), friendliness (make friends easily, feel comfortable around people) and immoderateness (not overindulging, resisting temptations easily). A 6-point Likert-type scale was used for these questions (1 = “I have tried to change and have been successful”, 2 = “I have tried to change and have been unsuccessful”, 3 = “I don’t believe change is possible”, 4 = “I believe change is possible”, 5 = “I am willing to implement strategies to try to change this” and 6 = “I do not want to change this”). Qualitative questions were utilised to extract more detail. For example, “Please comment on the personality traits that you believe you have been successful at changing. In particular, please elaborate on why you believe you have been successful”.

2.2.3.1 Nature of Pilot Testing

The survey was pilot tested using three participants, who took 24, 28 and 23 minutes respectively to complete. Participants’ feedback included ambiguity surrounding the

definition of the thirty facets and repetitiveness. The questionnaire was adjusted, so that examples of the facets, derived from the IPIP-NEO facet descriptions (Johnson, 2014), were provided. For example, the facet ‘Cautiousness’ was described as “making well thought out and calculated decisions; not rushing into things”. The survey repetitiveness was not changed, as the nature of the questionnaire meant that the same set of items was asked for each facet. The modified questionnaire was presented to the same participants and they believed their feedback had been effectively implemented.

2.3 Procedure

Participants accessed a link to the SurveyMonkey™ questionnaire at their convenience. Participants were informed of the nature of this mixed-methods exploratory design and their role in the study via the information sheet (Appendix B) provided on the survey preamble. Prior to the commencement of the study, participants provided consent by agreeing to the information presented in the information sheet. First-year psychology students were asked to supply their unique identification number in order for necessary course credit to be rewarded.

The survey consisting of three parts as described above: demographic questions; second, completion of the Personality Inventory; questions regarding opinions about the relative difficulty of changing personality characteristics, any changes participants may have made or tried to make to their personality, and whether or not they were successful, took approximately 30 minutes to complete.

Participants were given the option of providing an email address if they wished to receive a summary statement of the group results at the culmination of the study. The survey remained available online for a duration of nine weeks (07/06/2018 – 14/08/2018). Data from the Personality Inventory and data from the Perceptions of Change questionnaire were paired for each participant, along with participants’ demographic data. Data yielded from the IPIP-

NEO-120 were totalled to calculate participants' respective scores on each of the five domains, which determined their personality profile. Fifty-five negatively-keyed items were reversed in order to have a consistent scale of norms between the negatively-keyed and positively-keyed items. For example, scores on the negatively-keyed item "I easily resist temptations" were reversed, such that a score of '1' would be reversed to a '5', a score of '2' would be reversed to a '4' and a '3' would remain the same due to being the middle number. Norms for the IPIP-NEO-120 to classify domain functioning as low, moderate or high on each domain were not found in the literature. The categories utilised in this study were: low (1.00 - 1.99), moderate (2.00 – 3.99) and high (4.00 – 5.00).

2.4 Ethical Considerations

Ethics Approval was obtained through the Human Research Ethics Subcommittee at the University of Adelaide. Participation in the study was voluntary. The participants were assured that they could withdraw from the study at any time without any consequences up until the submission of their survey. All data was stored on password protected computers, with the privacy and confidentiality of the participants being protected through the use of participant identification numbers, resulting in non-identifiable data. The results were combined for reporting purposes to ensure anonymity, with only group results reported. This study was only concerned with attempts to change normal aspects of personality. The participants were asked that, if they were dealing with personality problems or receiving counselling services, to not participate in the study in order to avoid any potential harm or distress. For individuals who may have been dealing with personality related issues, they were advised that the University of Adelaide provides counselling services that could be used.

CHAPTER 3

Results

3.1 Data Screening and Preliminary Quality Analysis

The data were analysed using the statistical program SPSS Statistics (25.0). Boxplots were utilised to identify any outliers in the data. Outliers were observed for the participants' personality facets of emotionality, adventurousness, intellect, morality, achievement striving, self-consciousness, activity level and excitement-seeking. Inspection of the 5% trimmed means, however, revealed no significant difference to total mean scores, therefore outliers were not removed from the data set.

Significant results on Shapiro-Wilk tests indicated that the variables were not normally distributed, so further examination of histograms and Q-Q plots was conducted. Histograms revealed that the data was both positively and negatively skewed (e.g., variable __; Appendix C), except for the facets of imagination, artistic interest, adventurousness, dutifulness and cheerfulness, which had a normal distribution. Q-Q plots revealed normal distributions, except for the facets of emotionality, intellect, liberalism and cooperation, which were heavy-tailed. Non-parametric tests were therefore decided on, as the data was generally not normally distributed.

3.1.2 Power Analysis

Priori power analyses was conducted using G*Power (3.1.9.3). The results indicated that a sample size of $N = 94$ was necessary to achieve a power level of .80 when adopting a significance criterion of $\alpha = .05$, a medium effect size, and running a Mann-Whitney U Test with two independent groups. Additionally, a sample size of $N = 46$ was necessary to achieve sufficient statistical power for correlational analyses, when adopting the same criteria.

Therefore, the study had sufficient statistical power for the primary analyses.

3.2 Descriptive Statistics

The mean, standard deviation, minimum score, maximum score and Cronbach's Alpha were calculated for the scores on the independent variables: Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness (shown in Table 3). Cronbach's Alpha indicated good internal consistency. With regard to the sample scores, similar mean scores have been reported for a sample of university students who were administered a short form of the IPIP-NEO: Neuroticism ($M = 2.72$), Extraversion ($M = 3.36$), Openness ($M = 3.63$), Agreeableness ($M = 4.00$), Conscientiousness ($M = 3.57$) (Donnellan, Oswald, Baird & Lucas, 2006).

Table 3

Descriptive Statistics of the IPIP-NEO-120 Domain Scores (N = 94)

	M	SD	Min	Max	α
Neuroticism	3.06	0.61	1.33	4.17	0.90
Extraversion	3.08	0.56	2.00	4.71	0.88
Openness	3.35	0.42	2.17	4.58	0.81
Agreeableness	3.76	0.44	2.75	4.88	0.86
Conscientiousness	3.58	0.50	2.75	4.83	0.86

Note. M = mean; SD = standard deviation; Min = minimum; Max = Maximum; α = Cronbach's Alpha.

Participants tended to score in the moderate range for each of the five personality domains, with a low percentage of participants scoring in the extreme divisions (see Table 4). There

were no participants who scored low in Extraversion, Openness, Agreeableness and Conscientiousness.

Table 4

Descriptive Statistics for the Low, Moderate, and High Category Groups on the IPIP-NEO-120 Domains (N = 94)

Norms	Mean	SD	Min	Max	%
Low Neuroticism	1.76	0.25	1.33	1.96	5.32%
Moderate Neuroticism	3.07	0.50	2.04	3.92	89.36%
High Neuroticism	4.10	0.07	4.00	4.17	5.32%
Low Extraversion	-	-	-	-	-
Moderate Extraversion	2.98	0.45	2.00	3.92	92.55%
High Extraversion	4.27	0.27	4.04	4.71	7.45%
Low Openness	-	-	-	-	-
Moderate Openness	3.30	0.35	2.75	3.96	90.43%
High Openness	4.14	0.19	4.00	4.58	9.57%
Low Agreeableness	-	-	-	-	-
Moderate Agreeableness	3.54	0.32	2.75	3.96	70.21%
High Agreeableness	4.26	0.21	4.00	4.88	29.79%
Low Conscientiousness	-	-	-	-	-
Moderate Conscientiousness	3.40	0.38	2.75	3.96	77.66%
High Conscientiousness	4.27	0.21	4.00	4.83	22.34%

Note. For instance, low Neuroticism captures all participants who scored between 1.00-1.99 for Neuroticism; *M* = mean; *SD* = standard deviation; Min = minimum; Max = Maximum.

3.3 Perceptions of Changeability of Personality

The following section explores the five aims of this study. The analyses below were conducted using non-parametric tests as the assumption of normality was violated. The significance criterion was set at .05 and r was employed as a measure of effect size.

3.3.1 Aim 1: Determining Which Facets Are Perceived to be Changeable

The first aim of the study was to explore which personality facets participants perceived individuals could deliberately change. Participants were provided with a list of the 30 facets that comprise the IPIP-NEO-120 and asked to indicate whether or not they believed an individual could deliberately change that facet. Table 5 displays the frequencies of the participants' beliefs regarding personality facets they can and cannot change, as well as their perception of whether they have been successful at changing that particular facet. Analyses revealed that participants tended to assume that they could change all personality facets, although some more than others. Cochran's Q test indicated that there was a statistically significant difference in the proportion of participants who believed change was possible across the 30 facets ($\chi^2(29) = 154.81, p = .00$).

Facets of Conscientiousness, such as self-efficacy, orderliness, dutifulness, achievement-striving, self-discipline and cautiousness, were perceived as the most changeable personality facets. Imagination, a facet of Openness, was perceived to be the hardest to change. Self-report scores of actual changes indicated that participants considered they had been most successful at changing self-efficacy and the least successful at changing imagination and artistic interest. Spearman's Rho showed a positive and moderate correlation ($r = .48, p = .01$) between the percentages of participants in each facet who perceived change to be possible and the percentages of participants who considered they had successfully changed

on each facet. This suggests that the more people perceive they can change a facet, the more they perceive themselves as having made successful changes in that facet.

Table 5

Frequencies and Percentages of Personality Facets that are Perceived to be Changeable and have been Successfully Changed (N=94)

Facet	Can Change		Perceived Actual Change	
	N	%	N	%
Neuroticism				
Anxiety	78	82.98%	17	18.28%
Anger	80	85.11%	19	20.21%
Depression	82	87.23%	24	25.53%
Self-Consciousness	76	80.85%	18	19.15%
Immoderation	84	89.36%	8	8.51%
Vulnerability	76	80.85%	23	25.00%
Extraversion				
Friendliness	81	86.17%	27	28.72%
Gregariousness	72	76.60%	17	18.28%
Assertiveness	76	80.85%	19	20.21%
Activity Level	83	88.30%	18	19.35%
Excitement Seeking	67	71.28%	8	8.51%
Cheerfulness	80	85.11%	12	12.77%
Openness				
Imagination	63	67.02%	7	7.45%
Artistic Interests	76	80.85%	7	7.45%

Emotionality	68	72.34%	12	12.77%
Adventurousness	77	81.91%	12	12.77%
Intellect	71	75.53%	12	12.77%
Liberalism	71	75.53%	12	12.77%
Agreeableness				
Trust	80	85.11%	8	8.51%
Morality	74	78.72%	14	14.89%
Altruism	75	79.79%	9	9.68%
Cooperation	87	92.56%	19	20.21%
Modesty	76	80.85%	14	14.89%
Sympathy	71	75.53%	14	14.89%
Conscientiousness				
Self-Efficacy	92	97.87%	38	40.43%
Orderliness	90	95.74%	22	23.40%
Dutifulness	85	90.43%	11	11.83%
Achievement-Striving	89	94.68%	29	30.85%
Self-Discipline	86	91.49%	19	20.21%
Cautiousness	84	89.36%	8	8.51%

Note. Can Change refers to the number of participants who believed the facet could change; Perceived Actual Change refers to the number of participants who indicated they had been successful at changing the facet.

3.3.2 Aim 2: Determining if Personality Influences Evaluations of the Perceived Relative Difficulty of Changing Personality

This aim firstly explored the relationship between participant scores on the 30 facets and participant perceptions of how difficult it would be to change personality in general.

Spearman's Rho correlations were conducted between facet scores and perceptions of capacity to change personality generally; however, only four significant correlations were found amongst the variables. Anger weakly and negatively correlated with perceptions of how difficult it would be to change personality in general ($r = -.20, p = .03$). This indicates that as Anger decreases, the easier individuals perceive changing personality to be. Secondly, there was a very weak and negative correlation with Excitement Seeking ($r = -.19, p = .03$), suggesting that as individuals decrease in Excitement Seeking, the easier they believe it is to change general personality. Two positive relationships were also found to be significant. Artistic Interest weakly correlated ($r = .23, p = .01$), suggesting that as Artistic Interest increases, the easier individuals perceive changing personality to be. Secondly, there was a weak correlation for Self-Discipline ($r = .22, p = .02$), indicating that as Self-Discipline increases, the easier people perceive changing personality to be. The remaining correlations were weak ($r = < .23$) and non-significant. Given the 30 facets and weak nature of the correlations, it is likely that some of the correlations were significant by chance, despite seeming plausible.

The second part of this aim intended to explore whether participants differed in the extent to which they believe a facet of personality can change depending on their score on that facet. It seemed plausible that there might be a difference between the means of the participants who perceived a particular facet as being changeable and the participants who believed that particular facet could not be changed. Thirty Mann-Whitney U tests were conducted to explore this (see Table 6); however, the results generally did not explore this assumption, as there was only a significant mean difference between the groups for assertiveness ($U = 390.00, p = .00, r = .31$). Assertiveness was higher in the group who believed assertiveness could be changed ($M = 3.11, SD = .85$) than the group who believed assertiveness could not be changed ($M = 2.47, SD = .64$). This had a medium effect.

Table 6

Comparisons of Facet Means Between the 'Can' and 'Can't Change' Groups (N=94)

Facet	Group	<i>N</i>	<i>M</i>	<i>U</i>	<i>p</i>	<i>r</i>
Neuroticism						
Anxiety	Can't Change	16	3.58	547.00	.44	.08
	Can Change	78	3.39			
Anger	Can't Change	13	2.87	519.50	.94	.01
	Can Change	81	2.80			
Depression	Can't Change	12	2.58	458.00	.70	.04
	Can Change	82	2.70			
Self-Consciousness	Can't Change	18	3.18	633.00	.62	.05
	Can Change	76	3.26			
Immoderation	Can't Change	10	3.58	306.00	.16	.14
	Can Change	84	3.13			
Vulnerability	Can't Change	18	2.93	662.00	.83	.02
	Can Change	76	3.05			
Extraversion						
Friendliness	Can't Change	13	3.06	465.50	.50	.07
	Can Change	81	3.26			
Gregariousness	Can't Change	21	2.61	647.50	.28	.11
	Can Change	73	2.85			
Assertiveness	Can't Change	19	2.47	390.00	.00	.31
	Can Change	75	3.12			
Activity Level	Can't Change	11	2.91	418.50	.65	.05
	Can Change	83	2.76			

Excitement Seeking	Can't Change	27	2.96	748.00	.19	.14
	Can Change	67	3.21			
Cheerfulness	Can't Change	14	3.54	530.00	.75	.03
	Can Change	80	3.53			
Openness						
Imagination	Can't Change	31	3.65	933.00	.73	.04
	Can Change	63	3.66			
Artistic Interest	Can't Change	18	3.00	649.00	.73	.04
	Can Change	76	3.05			
Emotionality	Can't Change	26	2.91	842.00	.72	.04
	Can Change	68	2.94			
Adventurousness	Can't Change	18	3.44	548.50	.19	.14
	Can Change	76	3.33			
Intellect	Can't Change	23	2.40	733.00	.46	.08
	Can Change	71	2.54			
Liberalism	Can't Change	23	3.10	806.00	.925	.01
	Can Change	71	3.14			
Agreeableness						
Trust	Can't Change	14	3.36	464.00	.31	.11
	Can Change	80	3.14			
Morality	Can't Change	20	4.29	571.50	.12	.16
	Can Change	74	4.03			
Altruism	Can't Change	19	3.96	638.50	.48	.07
	Can Change	75	4.13			
Cooperation	Can't Change	7	4.00	297.00	.91	.01

	Can Change	87	4.46			
Modesty	Can't Change	18	3.50	636.00	.64	.05
	Can Change	76	3.63			
Sympathy	Can't Change	23	3.71	806.50	.93	.01
	Can Change	71	3.76			
Conscientiousness						
Self-Efficacy	Can't Change	2	4.25	65.00	.51	.07
	Can Change	92	3.90			
Orderliness	Can't Change	4	3.88	122.50	.29	.11
	Can Change	90	3.36			
Dutifulness	Can't Change	8	4.09	323.00	.77	.08
	Can Change	86	4.05			
Achievement-Striving	Can't Change	5	3.90	174.00	.41	.08
	Can Change	89	3.65			
Self-Discipline	Can't Change	8	3.13	321.50	.76	.03
	Can Change	86	3.10			
Cautiousness	Can't Change	10	3.33	394.50	.80	.03
	Can Change	84	3.42			

Note. Facet (DV) = Scores on Facet; Group= belief if that facet could or could not change; *M* = Mean; *U* = Mann-Whitney U Statistic; *p* = Significance Criterion (.05); *r* = effect size.

Mann-Whitney U Tests were further conducted (see Table 7) to explore the extent to which individuals differ in personality profile depending on what they believed they had been successful or unsuccessful at changing. Participant perceptions of what they had been successful or unsuccessful at changing for these analyses were derived from responses to the

qualitative questions used in the survey (see sections 3.4.5 and 3.4.6). Three of the four comparisons conducted were significant. Individuals who perceived they had been successful at changing aspects of Conscientiousness ($M = 3.68$) were no more or less conscientious than the rest of the sample ($M = 3.68$) ($U = 717.50$, $p = .38$, $r = .18$). However, individuals who perceived they had been unsuccessful at changing Conscientiousness ($M = 3.22$) were significantly lower in Conscientiousness than the rest of the sample ($M = 3.64$) ($U = 266.50$, $p = .00$, $r = .62$). Additionally, individuals who believed they had been successful at changing Extraversion ($M = 3.24$) were higher in Extraversion than the rest of the sample ($M = 3.00$) ($U = 585.50$, $p = .04$, $r = .43$). Furthermore, individuals who believed they had been unsuccessful at changing Neuroticism ($M = 3.16$) were higher in Neuroticism than the rest of the sample ($M = 3.02$) ($U = 829.00$, $p = .04$, $r = .31$). This suggests that perceptions of change tend to be reflected in personality profiles.

Table 7

The Extent to Which Individuals Differ in Personality Profile Depending on What They Believed They Had Been Successful and Unsuccessful at Changing ($N = 94$)

Facet	Group	<i>N</i>	<i>M</i>	<i>U</i>	<i>p</i>	<i>d</i>
Conscientiousness	Rest of Sample	71	3.68	717.500	.38	.18
	Did Change	23	3.56			
Extraversion	Rest of Sample	71	3.00	585.500	.04	.43
	Did Change	23	3.24			
Neuroticism	Did not Change	34	3.16	829.000	.04	.31
	Rest of Sample	60	3.02			
Conscientiousness	Did not Change	13	3.22	266.500	.00	.62
	Rest of Sample	81	3.64			

Note: These aspects of personality have been derived from qualitative analysis (see section 3.4.5 and 3.4.6); Group = Participants who believed they had been successful or unsuccessful compared to the remainder of the sample; *M* = Mean; *U* = Mann-Whitney U Statistic; *p* = Significance criteria (.05); *r* = effect size

3.3.3 Aim 3: Determining Which Methods Are Used to Change Personality and Whether Different Methods Are Used by Different Personality Types

The third aim determined the frequency (see Table 8) with which participants used the following methods to change their personality and their perceptions of respective success rates: self-help books, joining a club, classes, online guides and tutorials and sessions with a specialist. These categories were derived from a review of the literature on behaviour change (Bergsma 2007; Starker, 1988). It can be seen in Table 8 that although participants tended to favour use of self-help books, online guides and tutorials, and specialist help, joining a club and attending classes had the highest perceived success rates.

Table 8

Frequencies and Percentages of Methods Used and Success Rates (N= 94)

Method	<i>N</i>	%	Success Rate
Self-Help Books	29	30.85%	68.97%
Joining a Club	14	14.89%	78.57%
Attending Classes	12	12.77%	75.00%
Online Guides/Tutorials	31	32.98%	64.52%
Specialist Help	28	29.80%	60.71%

Note: Success rate is based on participants' own perceptions.

This aim further explored the extent to which individuals differ in personality based on the change method they used. It seemed plausible that those who had perceived themselves as having made a successful change because of a particular method might differ in traits to those who were unsuccessful. It was found that people who were successful at using self-help books differed on all of the Big Five domains (see Table 9); being higher in Extraversion, Openness, Agreeableness, Conscientiousness but lower in Neuroticism, with medium to large effect sizes found. There were no significant differences between those who perceived successful or unsuccessful change for any of the other change methods.

Table 9

Extent to Which Participants Differed in Personality Depending on Change Methods Used (N = 94)

Method	Facet	Group	N	Mean	U	p	r
Self-Help Books	Neuroticism	Successful	20	2.64	47.00	.04	.38
		Unsuccessful	9	3.71			
Self-Help Books	Extraversion	Successful	20	3.28	30.50	.01	.52
		Unsuccessful	9	2.64			
Self-Help Books	Openness	Successful	20	3.43	10.00	.00	.70
		Unsuccessful	9	2.71			
Self-Help Books	Agreeableness	Successful	20	3.85	28.50	.00	.54
		Unsuccessful	9	2.72			
Self-Help Books	Conscientiousness	Successful	20	3.77	41.50	.02	.43
		Unsuccessful	9	2.75			
Joined a Club	Neuroticism	Successful	11	3.31	9.00	.08	.44
		Unsuccessful	3	3.27			
Joined a Club	Extraversion	Successful	11	3.62	9.50	.10	.42

		Unsuccessful	3	3.39			
Joined a Club	Openness	Successful	11	3.69	16.00	.43	.20
		Unsuccessful	3	3.48			
Joined a Club	Agreeableness	Successful	11	2.89	15.00	.36	.06
		Unsuccessful	3	3.36			
Joined a Club	Conscientiousness	Successful	11	3.18	16.50	.47	.15
		Unsuccessful	3	2.77			
Classes	Neuroticism	Successful	9	2.54	13.00	.44	.22
		Unsuccessful	3	3.10			
Classes	Extraversion	Successful	9	3.09	8.00	.12	.43
		Unsuccessful	3	2.55			
Classes	Openness	Successful	9	3.26	16.50	.82	.06
		Unsuccessful	3	3.24			
Classes	Agreeableness	Successful	9	3.73	10.50	.25	.32
		Unsuccessful	3	3.41			
Classes	Conscientiousness	Successful	9	3.71	11.00	.28	.30

		Unsuccessful	3	3.50			
Online	Neuroticism	Successful	20	2.94	105.00	.56	.13
Guides/Tutorials		Unsuccessful	11	3.04			
Online	Extraversion	Successful	20	3.23	68.50	.05	.35
Guides/Tutorials		Unsuccessful	11	2.78			
Online	Openness	Successful	20	3.56	69.00	.05	.35
Guides/Tutorials		Unsuccessful	11	3.18			
Online	Agreeableness	Successful	20	3.72	95.00	.33	.17
Guides/Tutorials		Unsuccessful	11	3.51			
Online	Conscientiousness	Successful	20	3.79	92.00	.28	.19
Guides/Tutorials		Unsuccessful	11	3.58			
Specialist Help	Neuroticism	Successful	17	2.93	77.00	.44	.15
		Unsuccessful	11	3.10			
Specialist Help	Extraversion	Successful	17	3.31	54.50	.06	.35
		Unsuccessful	11	3.00			
Specialist Help	Openness	Successful	17	3.42	82.50	.60	.10

		Unsuccessful	11	3.30			
Specialist Help	Agreeableness	Successful	17	3.95	73.50	.35	.18
		Unsuccessful	11	3.75			
Specialist Help	Conscientiousness	Successful	17	3.64	88.50	.82	.04
		Unsuccessful	11	3.61			

Note. Group = Participants who perceived they had been successful at changing through the use of the specified method compared to participants who had perceived they had been unsuccessful; *M* = Mean; *U* = Mann-Whitney U statistic; *p* = Significance criterion (.05); *r* = effect size

3.3.4 Aim 4: Determining the Relationship Between Gender and Perceptions of Change

A series of Chi-Square tests were performed to explore the fourth aim: to determine the extent that males and females differ in perceptions of the ability to change a facet. There were no significant associations between gender and perceptions of change for any of the 30 facets.

3.4 Qualitative Content Analysis

Qualitative data was obtained from ten open-format survey questions. Frequency analysis was used to identify themes.

3.4.1 Which Aspects of Personality Are Perceived to Be the Easiest to Change

The first open-format question explored which aspects of personality the participants thought were the easiest for a person to change if they really wanted to. This question yielded 74 responses. Most of the answers were in line with the Big Five Factor Model. One participant thought that any personality trait can be changed:

(#75, F, 18) *“Any aspect of personality can be changed.”*

Another participant thought that personality traits cannot be easily changed:

(#17, F, 22) *“I believe that there aren’t any aspects of personality that can be changed easily.”*

Some participants (4.26%) believed that personality change was dependent on how much that person wanted to change:

(#56, F, 19), *“I think that the parts of a personality which is easiest for a person to change is the ones which they consciously notice and want to change. If you don’t want to change anything or don’t notice it then you won’t make the effort to change it.”*

As can be seen in Table 10, the percentage of participants indicating characteristics that could be changed varied from 18.92% and 17.57% respectively for aspects of Conscientiousness and Extraversion to 4.05% for various habits and attitudes to only 2.71% for various maladaptive behaviours. This reinforces the finding from this study that individuals perceived some facets to be easier to change than others. Additionally, participants were not as optimistic with respect to decreasing negative behaviours, such as smoking, as they were with increasing more positive behaviours, such as work ethic and confidence.

Table 10

Frequencies and Percentages of Personality Traits that are Perceived to be the Easiest to Change (N=74) by Category

Category	Frequency	%	Quotation
Conscientiousness	14	18.92%	<i>Improve work ethic</i>
Extraversion	13	17.57%	<i>More confident and outgoing</i>
Agreeableness	9	12.16%	<i>Being kind to others</i>
Neuroticism	8	10.81%	<i>Anger and temper</i>

Openness	7	9.46%	<i>Willingness to try new things</i>
Empathy	6	8.11%	<i>The ability to care about others</i>
Optimism	3	4.05%	<i>Positivity towards life</i>
Attitude	3	4.05%	<i>View of self and world</i>
Habits	3	4.05%	<i>Smoking and biting nails</i>
Maladaptive Behaviours	2	2.71%	<i>Laziness and being late</i>
Other	6	8.11%	<i>Happiness, mannerisms, motivation</i>

3.4.2 Which Aspects of Personality Are Perceived to Be the Hardest to Change

The second open-format question explored which aspects of personality the participants thought were the hardest to change if they really wanted to. A total of 80 responses revealed a diverse set of personality traits. As can be seen in Table 11, aspects of neurotic behaviour were considered by one third of participants as being the most difficult domain to change. Some participants (11.70%) believed that personality traits that were learnt would be the hardest to change:

(#93, F, 20) *“Their opinions and things that they have been taught by their parents from a young age on how to act”*

Other participants (9.57%) also believed that personality traits tied to childhood experiences and inherited from their parents were the hardest to change:

(#56, F, 19) *“Parts of your personality which have grown with you, or you ‘got’ from your parents (inherited?). By this, I mean the parts of your personality which are essential to who you are and have been a part of you since you were a child and have grown and developed with you.”*

Table 11

Frequencies and Percentages of Personality Traits that are Perceived to be the Hardest to Change (N=80) by Category

Category	Frequency	%	Quotation
Neuroticism	27	33.75%	<i>Impulsivity and anger control</i>
Openness	18	22.50%	<i>Opinions and ways of thinking</i>
Extraversion	17	21.25%	<i>Being shy</i>
Opinions engrained in childhood	11	13.75%	<i>Learnt behaviour from when they are little</i>
Agreeableness	3	3.75%	<i>Trust</i>
Conscientiousness	2	2.5%	<i>Organisation</i>
Other	2	2.5%	<i>Empathy and laziness</i>

3.4.3 Participants' Perceptions of Successful Changes to their Own Personality

Participants were asked to comment on whether they believed they had been successful at changing any aspect of their own personality. A total of 74 responses were categorised in seven

themes (see Table 12), five of which have been well captured by the literature (Fleeson & Heckhausen, 1997; Robins et al., 2005; Hudson & Fraley, 2015). Nearly one third of participants perceived the transition from high school to university as the reason for noticing changes in Conscientiousness (31.80%) and Extraversion (31.80%):

(#78, F, 20) *“Self-discipline, achievement-striving and conscientiousness all came as I moved from school to university and developed these naturally as I started to enjoy the structure and content of my learning.”*

(#91, F, 22) *“Friendliness - Before university, I wasn't really comfortable with/ enjoyed talking to strangers, even to a certain extent with friends/family. But during the years at uni, it has changed me in that regard where I do feel comfortable talking to any one and hopefully I am friendly.”*

Some participants (3.19%) also perceived their success as being a result of self-reviewing their personality and acknowledging that their personality could benefit from changes:

(#39, M, 19) *“I don't think that any of them were necessarily difficult to change, but I only began to change them when I acknowledged and appreciated that my personality was flawed in these respects and that I really did want to change them.”*

(#85, F, 21) *“I think just recognising the origins of a trait helps you to understand why you act that way and then how to change it.”*

Table 12

Frequencies and Percentages of Personality Traits that have been Successfully Changed (N=74) by Category

Category	Frequency	%	Quotation
Conscientiousness	23	31.08%	<i>Self-discipline and orderliness</i>
Extraversion	23	31.08%	<i>Friendly, outgoing, gregarious and busy</i>
Neuroticism	12	16.21%	<i>Immoderateness and self-control</i>
Agreeableness	6	8.11%	<i>Feel sympathy towards those who are suffering more than me</i>
Openness	5	6.76%	<i>Imagination</i>
Outlook on life	4	5.41%	<i>Being positive</i>
Intellect	1	1.35%	<i>Reading and research has developed my intellectual ability</i>

3.4.4 Participants' Perceptions of Unsuccessful Changes to their Own Personality

Participants were then asked to comment on the personality traits they believed they had been unsuccessful at changing. Six themes were identified from 74 responses (see Table 13). About one fifth of participants (19.15%) perceived their failure to change a specific trait due to biological predisposition, particularly the facets associated with Neuroticism such as depression,

anxiety and immoderation:

(#45, F, 18) *“Depression, as it’s a chemical imbalance.”*

(#49, M, 18) *“I think this may be due to biological factors as there is a family history of depression and anxiety.”*

Participants (10.81%) perceived that they had been unsuccessful at changing trust, a facet of Agreeableness, due to external factors such as it being out of the individual’s control who breaks their trust:

(#59, F, 18) *“Trust - I think that trust is not something you can have a full control over. It also depends on the other person.”*

Table 13

Frequencies and Percentages of Personality Traits that have not been Successfully Changed (N=74) by Category

Category	Frequency	%	Quotation
Neuroticism	34	45.95%	<i>Can't control my cravings</i>
Conscientiousness	13	17.57%	<i>Self-efficiency</i>
Extraversion	11	14.86%	<i>Not socially active</i>
Agreeableness	8	10.81%	<i>Trust issues in others</i>
Openness	4	5.41%	<i>Spontaneity</i>

Self-Consciousness	4	5.41%	<i>Don't have great self-esteem</i>
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CHAPTER 4

Discussion

4.1 Overview of the Current Study

The primary purpose of this study was to explore participants' perceptions of the extent to which they can deliberately change their personality, whether they have tried to change their personality in the past and whether or not they were successful. Given the lack of literature of the associated role of individual differences, this study aimed to determine the extent to which personality, measured using the IPIP-NEO-120, influenced participants' decisions as to whether or not personality could change. The results indicated that all personality traits were perceived to be changeable, however, some more than others. Personality profile also influenced participants' perceptions of their own personality changes. The results and their limitations, along with methodological strengths and practical implications are discussed below.

4.2 Aim 1: Determining Which Facets Are Perceived to be Changeable

The first aim of this study was to determine which personality facets people perceived they can and cannot change. Every facet was perceived to be changeable; however, some were believed to be more changeable than others, indicated by a statistically significant result between the proportions of participants who believed a particular facet could change. This finding is in agreement with Seligman (1994), who suggested that there are some aspects of personality that are harder to change than others. In this study, facets associated with Conscientiousness were perceived to be the most likely to change, whilst facets associated with Openness were perceived to be the least changeable. A positive and moderate correlation was found between perceived

changeability and perceived success rate, suggesting that the more individuals perceive a facet to be changeable, the more they perceive themselves as having made successful change. This finding has been inferred by Hennecke et al. (2014), who as part of their three-part framework, suggested that individuals who consider personality change more feasible, should change more in the direction they consider feasible.

It is worth noting that the perceived changeability of Conscientiousness and its associated perceived success rate may be influenced by participants being university students, as increases in Conscientiousness are common amongst this population due to its obvious relevance to successful study (Hormuth, 1990). Thus, respondents' answers may have been tailored towards their own desires to become more conscientious or their responses may have been reinforced by changes they have noticed in themselves.

4.3 Aim 2: Determining the Extent to Which Personality Influences Evaluations of the Perceived Relative Difficulty of Changing Personality

The second aim of this study was to determine the extent to which individual differences influence the subjective perceived feasibility of personality trait change. Firstly, the relationship between facet scores and how difficult participants considered it would be to change personality in general was explored. Significant positive correlations between perceived changeability and artistic interest and self-discipline suggested that as scores on these variables increase, the easier individuals consider changing personality to be. Anger and Excitement Seeking correlated negatively, suggesting that as scores on these variables decrease, the easier personality change is considered to be. Although these results are part of a large set of correlations and there may be some chance effects, the significant factors seem plausible in terms of their likely influence on

perceived changeability. Whilst there is no research literature on these effects, Hennecke et al. (2014) have suggested that facet scores may be more accurate representations of the perceptions individuals hold on the fluidity of personality.

The second part of this aim was to explore whether participants differ in the extent to which they believe a facet of personality can change depending on their personality. The 30 facets that encompass the FFM were measured against the perceptions of change for that respective facet. It seemed plausible that there might be a difference in personality between the means of the participants who perceived a particular facet as being changeable and the participants who believed it could not be changed. No significant relationships were found, except assertiveness, such that individuals who perceived assertiveness to be changeable were higher in assertiveness. As with many other findings in this exploratory study, there is no relevant research.

Mann-Whitney U Analyses indicated that individuals differed in personality profile depending on what they believed they had been successful and unsuccessful at changing. Individuals who perceived they had been unsuccessful at changing aspects of Conscientiousness, were lower in Conscientiousness than the rest of the sample. Additionally, individuals who believed they had been successful at changing aspects of Extraversion, were higher in Extraversion than the rest of the sample. Finally, individuals who believed they had been unsuccessful at changing aspects of Neuroticism, were higher in Neuroticism than the rest of the sample. Although these significant results are part of a large set of comparisons and some chance effects are possible, the significant personality variables do seem to be plausible in terms of their possible influence on change. These findings, like others in this exploratory study, have not previously been reported in the research literature.

4.4 Aim 3: Determining Which Methods Are Used to Change Personality and Whether Different Methods Are Used by Different Personality Types

The third aim determined the frequency with which participants used self-help books, joining a club, classes, online guides and tutorials and sessions with a specialist. Participants tended to favour self-help books, online guides and tutorials, and specialist help, yet joining a club and attending classes had the highest perceived success rates. The high use of self-help books is consistent with findings from Linder (2009), who found that self-help books was the most widely used method for addressing self-improvement.

The second part of this aim explored the extent to which individuals differ in personality based on the method they used. Although research in this area is limited, Wilson and Cash (2000) identified a number of individual differences, such as being female and greater life-satisfaction, as being predictors of positive attitudes towards self-help books. It seemed plausible that those who had perceived themselves as having made a successful change because of a particular method might differ in traits to those who were unsuccessful. A difference between the means of the individuals who perceived themselves as being successful at changing their personality by using self-help books differed from the means of the individuals who perceived they had been unsuccessful, such that they were higher in Extraversion, Openness, Agreeableness and Conscientiousness and lower in Neuroticism. There were no significant differences between those who were successful or unsuccessful for any of the other change methods that were measured. This has important practical implications for therapy, as a counsellor may be more inclined to advise individuals who score in this way to use self-help books, as there is a greater possibility that they will benefit from this method and make significant and successful changes.

4.5 Aim 4: Determining the Relationship Between Gender and Perceptions of Change

The fourth aim of this study was to determine the relationship between gender and perceptions of change. It was found that there was no significant difference between males and females concerning whether a particular personality facet could or could not change. This finding, however, is limited by the much larger proportion of females in the sample. This, along with other limitations, are discussed in section 4.4.

4.6 Aim 5: Determining Which Personality Traits Individuals Perceived to Be the Easiest and Hardest to Change and Whether They Believed They Had Been Successful or Unsuccessfully at Making any Desired Changes

The fifth aim was to explore which aspects of personality are perceived to be the easiest and hardest to change through qualitative analysis. Conscientiousness and Extraversion were perceived to be the traits that were easiest to change. These findings are consistent with those of Hudson and Roberts (2014), who found that 91% of their participants wanted to increase in Conscientiousness and 87% expressed desires to become more extraverted due to the feasibility of change. Additionally, Neuroticism was perceived to be the most difficult personality trait to change, supporting the findings of Hudson and Roberts (2014) who found that people tend to want decrease in neuroticism, but find it harder to do so.

Participants in the present study also identified other themes that deviated from the FFM including attitudes, habits, maladaptive behaviours, mannerisms, motives and interests/hobbies as the easiest to change. Personality traits are only one component of personality, as other aspects such as motives and goals influence individuals' thoughts, feelings and behaviours, independently of personality traits (McAdams & Pals, 2006). Changes in personality at these

different levels is worthy of future research to understand the extent to which they influence perceptions of change. When people report their own personality change, they may be more likely to notice changes in goals, motives and life experiences rather than just changes in personality domains (Thorne & Klohnen, 1993).

This aim also investigated the personality domains that were perceived as being successfully changed or unsuccessfully changed. Conscientiousness and Extraversion were perceived to be the domains that had undergone the most successful change. This is consistent with findings from Fleeson and Heckhausen (1997), Hudson and Fraley (2015) and Robins et al. (2005), who found that individuals tend to see themselves as having increased in domains like Conscientiousness and Extraversion in order to present positive change and an overall well-adjusted image (Robins et al., 2005).

Participants were also asked to comment on the personality traits that they believed they had been unsuccessful at changing. Whilst the literature tends to report individuals perceiving themselves to have been successful at decreasing Neuroticism (Fleeson & Heckhausen, 1997; Hudson & Fraley, 2015; Robins et al., 2005), nearly half of the participants in this study reported that they had tried but were unsuccessful at changing Neuroticism. The present finding is consistent with neuroticism requiring a greater deal of effort and time for change to be successful (Twenge, 2000). Neuroticism also comprises of the facets anxiety and depression, which are largely biologically determined, thus making sustainable change more difficult (Twenge, 2000).

4.7 Methodological Strengths

The primary strength of this study is that it explores personality at the facet level. Personality research tends to categorise personality change by the domains in the FFM. These domains,

however, are broad and such studies do not explicitly explore the facets, which provide greater insight into the different aspects of personality (Hennecke et al., 2014) that are particularly important when considering specific aspects of personality that an individual might want to change and their relative success in changing them. Thus, it is more likely that a person would like to change a facet of Extraversion, such as friendliness, rather than become “more extraverted”.

Whilst the literature has been concerned with whether personality can or cannot change, there is a gap in research on people’s perceptions of this kind of change. The present study has investigated the facets people believe they can or cannot deliberately change, which may provide an increased understanding of the relative stability of personality, particularly at the individual level.

To the best of this researchers’ knowledge, this is the first study to explore the extent that individuals differ with respect to what they perceive can be changed in terms of their own personality. This is a key strength of this study as it provides important insights into whether an individual’s personality affects their ability to perceive deliberate personality change as being possible or impossible. The implications of this are discussed below (see section 4.5).

4.8 Limitations and Future Research Directions

There are several limitations that should be taken into account when interpreting the results of this study. Firstly, the use of self-report questionnaires may have made the participants vulnerable to social desirability bias. Agreeableness measured by the IPIP-NEO-120 has low construct validity, with participants tending to report that they are more agreeable than they actually are (Johnson, 2014). Furthermore, participants may have reported successful change

where no actual change occurred in order to appear more competent and well-adjusted. There is currently no method that directly assesses personality change in an individual. The use of acquaintance ratings, however, may be particularly important in future research, where the validity of self-reports could be partly verified by confidential reporting of personality changes from friends or family. Given the limited scope and exploratory nature of the present study, it was not feasible to obtain such confidential ratings from participants' friends or family. Research has found that anxiety and impulsiveness tend to be perceived as declining in analyses of self-reports, but not in acquaintance ratings (Löckenhoff, Terracciano & Costa, 2009), supporting the idea that individuals tend to perceive positive changes in personality as occurring over time (Roberts et al., 2003; Robins et al., 2005).

The generalisability of this study is limited by the characteristics of the study participants. Firstly, the sample consisted of participants currently enrolled in tertiary education, who were between the age of 18 and 23 years. This limits the generalisability to older and non-tertiary educated populations and future research would greatly benefit from looking at the respective perceptions of different age groups. University, in particular, is associated with increases in Conscientiousness, as students become more hard-working and self-efficient (Hormuth, 1990). This was evident in the participants in this study who perceived Conscientiousness to be the easiest trait to change and the trait they had been most successful at changing. Therefore, individuals who do not attend university may not hold the same perceptions. This study also needs to be replicated with participants who are in the same age range but with normal levels of intelligence, as university students with high Intelligence Quotients (IQ) may be more inclined to believe that they have the intelligence needed to change, whilst individuals who are in the normal IQ range may not be as optimistic. It is worth noting

that scores on the IPIP-NEO-120 may have been influenced by external factors associated with university, distorting the discrimination between state and trait personality. That is, at the trait level, an individual may not score highly on anxiety, but instead, score highly on state anxiety due to the external and internal factors that are associated with university, such as the heavy workload. It is important for future research to discriminate between the two as personality at the state level, being more vulnerable to change, could distort responses to trait level personality questions.

Secondly, whilst no difference was found between gender and perceptions of change, in this study the majority of participants were female. The lack of consensus in the literature regarding the effect of gender on personality change indicates that this study needs to be replicated with a larger and more balanced gender sample.

It was considered plausible that the more extreme an individual is on a domain or facet, the harder they will believe it is to change that domain or facet. For example, an individual who is very high in Neuroticism, would perceive Neuroticism to be impossible to change. However, very few participants in this study scored in the extreme ranges of personality, making it difficult to test this possibility. Future research needs to employ a more diverse sample to explore whether the extent to which individuals who score on the extreme ends of personality differ to those who fall into the moderate range. Future research may be able to identify a critical point at which makes people perceive change to be more or less likely.

The next step for future research is to test whether individual differences in the perceived relative difficulty of personality change, as well as different personality profiles, predict actual personality trait change. People who express desires to change and believe it is possible to change, would be expected to make substantial and sustainable changes to their personality. A

longitudinal study will be most useful for future research to determine if change goals crystallise into enduring personality traits.

4.9 Practical Implications

Understanding what individuals believe they can and cannot change and what is easy, hard or impossible to change is an important first step in facilitating actual personality trait change. Counsellors and therapists may find the conclusions of this study useful when dealing with personality issues in their clients. Traits considered easier to change may be more amenable to self-help literature for certain types of personalities. Domains, such as Neuroticism and Openness, that have been perceived as being harder to change, may require more extensive professional help to implement strategies for self-improvement depending on the individual's personality. Traits that have been identified as being very difficult or impossible to change may require therapies more related to acceptance rather than change.

Knowing an individual's personality may also be useful in determining the extent to which they can change a particular aspect of their personality. For example, an individual who scores in the moderate range of Extraversion may find it easier to change an aspect of Extraversion, compared to an individual who is classified as extremely introverted. Therefore, therapy needs to be tailored to the individual in terms of realistic goals for that individual and associated strategies to achieve those goals.

4.10 Conclusion

Although relationships were only found between a relatively small number of facets and perceptions of change, the findings of this study contribute to the lack of literature surrounding

what people believe can and cannot be changed, particularly at the facet level of personality. The results help to provide an understanding of what is perceived to be more or less difficult to change, and personality differences associated with the use of different strategies for successful change, all of which has important practical implications for dealing effectively with personality related issues. This study provides a starting point for subsequent studies needed to replicate and extend the present findings and to further explore the ways in which individuals differ in their perceptions of which aspects of personality can change and the extent to which they change.

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Appendix A

Online Survey (IPIP-NEO-120 & Perceptions of Change)



1. If you are completing this survey as part of course credit for the University of Adelaide, please provide your Research Participation System ID number (you can find this on your profile page on the Research Participation System)

2. Please indicate your age (in years)

3. Please indicate your gender

- Male
- Female
- Would rather not say

4. What year of University are you currently in?

- First Year
- Second Year
- Third Year
- Fourth Year
- Fifth Year
- Sixth Year

5. What is your degree?

6. What is your employment status?

- Full Time
- Part Time
- Casual
- Unemployed



IPIP-120

The IPIP-120 Personality Inventory measures the Big Five Personality Dimensions. Each of the Big Five Personality Dimensions are broken into several smaller facets, or sub-components. The responses that you give to the statements about your thoughts, feelings and goals can be compared with those of other adults to give a description of your personality.

The IPIP-120 measures differences amongst normal individuals. It is not a test of intelligence or ability, and it is not intended to diagnose problems of mental health or adjustment. It does, however, give you some idea about what makes you unique in your ways of thinking, feeling and interacting with others.

3

Instructions

This questionnaire contains 120 statements. Please read each statement carefully. For each statement select the response that best represents your opinion. Make sure your answer is in the correct box. For example, if you strongly disagree or believe a statement is definitely false, you would select the strongly disagree option. Fill in only one response for each statement. Respond to all of the statements, making sure you fill in the correct response.

This questionnaire has been derived from Johnson, J.A. (2014). Measuring thirty facets of the Five Factor Model with a 120-item public domain inventory: Development of the IPIP-NEO-120. *Journal of Research in Personality*, 51, 78-89.

1. For each statement select the response that best represents your opinion.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I worry about things a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make friends easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a vivid imagination.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find it difficult to trust others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I complete tasks successfully.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often fear for the worst.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable around people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy wild flights of fantasy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often believe that others have good intentions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to excel in what I do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am afraid of many things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often avoid contact with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love to daydream.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often trust what people say.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I handle tasks smoothly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I get stressed out easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I keep others at a distance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to get lost in thought.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I distrust people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know how to get things done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get angry easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love large parties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe in the importance of art.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often use others for my own needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to tidy up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get irritated easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to talk to a lot of different people at parties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often see the beauty in things that others do not notice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I cheat in order to get ahead.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often forget to put things back in their proper place.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often lose my temper.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to be alone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not like poetry.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take advantage of others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I leave a mess in my room.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not easily annoyed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I avoid crowds.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not enjoy going to art museums.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I often obstruct others' plans.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I leave my belongings around.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often feel blue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to take charge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experience my emotions intensely.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love to help others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I keep my promises.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I dislike myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to lead others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel others' emotions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am concerned about others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tell the truth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am often down in the dumps.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take control of things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I rarely notice my emotional reactions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am indifferent to the feelings of others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I break rules.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable with myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wait for others to lead the way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't understand people who get emotional.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take no time for others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often break my promises.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find it difficult to approach others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I am always busy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer variety to routine.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love a good fight.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I work hard.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am afraid to draw attention to myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always on the go.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to stick with things that I know.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often yell at people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often do more than what is expected of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I only feel comfortable with friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do a lot in my spare time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I dislike change.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often insult people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do just enough work to get by.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not bothered by difficult social situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to take it easy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am attached to conventional ways.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to get back at others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I put little time and effort into my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often go on binges.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love excitement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love to read challenging material.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that I am better than others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always prepared.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I rarely overindulge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I easily resist temptations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I seek adventure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I avoid philosophical discussions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think highly of myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I carry out my plans.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to control my cravings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy being reckless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have difficulty understanding abstract ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a high opinion of myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I waste a lot of my time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I act wild and crazy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not interested in theoretical discussions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often boast about my virtues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have difficulty starting tasks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I panic easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I radiate joy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to vote for liberal political candidates.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sympathise with the homeless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often jump into things without thinking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I become overwhelmed by events.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a lot of fun.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that there is no absolute wrong or right.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I feel sympathy for those who are worse off than myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often make rash decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I am unable to deal with things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to vote for conservative political candidates.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not interested in other people's problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often rush into things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I remain calm under pressure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I look at the bright side of life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that we should be tough on crime.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try not to think about the needy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often act without thinking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Do People Believe Their Personality Can Be Changed?

There is much debate surrounding the stability of personality throughout the lifetime of an individual. The general consensus is that personality is shaped by early life experiences and tends to stay relatively stable over time, however, events can lead to a change in personality or can result in a person trying to change some aspects of their personality and associated behaviours.

Instructions

This section of the survey consists of both multiple choice answers and short answer questions. It consists of 16 statements. For each statement, either select the response that best represents your opinion or, for the short answer questions, write your answer in the corresponding comment box.

1. How difficult do you think it is for most people to change aspects of their personality if they really want to?

- Impossible
- Extremely Difficult
- Very Difficult
- Moderately Difficult
- Moderately Easy
- Very Easy
- Extremely Easy

2. How much external support and/or help do you believe most people need to successfully change aspects of their personality if they really want to? (mark all that apply)

- None
- Some support from friends and/or family.
- A lot of support from friends and/or family.
- Some professional help i.e. a counsellor.
- A lot of professional help i.e. a counsellor.
- No amount of support or help would suffice.

3. Which aspects of personality do you think are easiest for a person to change if they really want to? (leave blank if you think there aren't any aspects of personality that can be changed)

4. Which aspects of personality do you think are hardest for a person to change if they really want to? (leave blank if you think there aren't any aspects of personality that can be changed)

5. Do you believe that some aspects of personality are harder to change than others?

- Yes
- No

6. If you selected yes, why?

7. Do you believe it is easier for a person to change aspects of their personality at different ages?

Yes

No

8. If you selected yes in the answer to Question 7, what age/age range do you believe it is easier for a person to change an aspect of their personality if they want to?

9. If you answered Question 8, why do you believe it is easier to change at the age you specified?

10. If you selected yes in your answer to Question 7, at what age / age range do you believe it is more difficult to change?

11. If you answered Question 10, why do you believe it is more difficult to change at the age / age range you specified?

12. Please indicate for each of the following personality characteristics, whether you have tried to change them and been successful or not, whether you think they can't be or can be changed, whether you would be willing to try to change them or you would not want to change them (you may select more than one answer per personality trait)

	I have tried to change and have been successful	I have tried to change and have been unsuccessful	I don't believe change is possible	I believe change is possible	I am willing to implement strategies to try to change this	I do not want to change this
Imagination (imaginative, daydreaming, fantasies, lost in thought)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Self-efficiency (completing tasks successfully, knowing how to get things done, handling tasks smoothly)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Friendliness (make friends easily, feel comfortable around people, enjoy making contact with others)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trust (believe that others have good intentions and trusting what people say)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anxiousness (worry less about things, not getting stressed out easily and not being afraid)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Artistic interest (appreciating the beauty in nature, art, music, literature)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orderliness (maintaining a clean house / office, being neat and tidy)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gregariousness (enjoy attending parties/social events, talking to lots of different people at social events)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Morality (helping others and not just yourself and without expecting anything in return)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anger (staying calm without losing your temper, not getting angry, irritated or annoyed easily)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotionality (experience emotions more intensely, notice emotional reactions, feel and relate to others' emotions)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dutifulness (keep promises, tell the truth and being mindful of rules)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assertiveness (taking charge, leading others and taking control of things instead of waiting for others to lead the way)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Altruism (enjoy helping others, being concerned about others, taking time for other people)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	I have tried to change and have been successful	I have tried to change and have been unsuccessful	I don't believe change is possible	I believe change is possible	I am willing to implement strategies to try to change this	I do not want to change this
Feeling down (not feeling down or blue, not disliking yourself, feeling comfortable with yourself)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adventurousness (trying new things, being spontaneous, trying new and unconventional ways)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Achievement-striving (working hard, doing more than expected, putting more effort into work)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Active (being busy or always on the go, doing a lot in your spare time)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conscientiousness (completing tasks successfully, hard working, handle tasks smoothly)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Self-consciousness (feeling comfortable about approaching or being with people you don't know well, not being bothered by difficult social situations or about drawing attention to yourself)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intellect (reading about and understanding challenging ideas, participating in discussions about ideas)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Self-discipline (being prepared, carrying out your plans effectively, not wasting your time)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Excitement (being adventurous, taking risks, being reckless)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Modesty (being more modest about your achievements, not boasting or thinking you are better than others)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Immoderateness (not overindulging, resisting temptations easily, able to control your cravings)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cautiousness (making well thought out and calculated decisions, not rushing into things)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cheerfulness (being joyful, having fun, being optimistic, loving life, looking on the bright side of life)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	I have tried to change and have been successful	I have tried to change and have been unsuccessful	I don't believe change is possible	I believe change is possible	I am willing to implement strategies to try to change this	I do not want to change this
Sympathy (being sympathetic towards those who are worse off, being interested in other people's problem, awareness of those in need)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vulnerability (remain calm under pressure, panic less, not feeling overwhelmed, being able to deal with things)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. Please comment on the personality traits that you believe you have been successful at changing. In particular, please elaborate on why you believe you have been successful.

14. Please comment on the personality traits that you believe you have been unsuccessful at changing. In particular, please elaborate on why you believe you have been unsuccessful.

15. Please indicate if you have used any of the strategies below to change any of the personality traits listed above.

	Used this strategy and was successful	Used this strategy but was unsuccessful	Have not used this strategy
Self-help books	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Joined a club	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Classes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online guides/tutorials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sessions with a specialist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. If you selected 'other', please explain what strategy you have used and if it was successful or unsuccessful



1. Thank you for completing the survey. Please make sure that you click on the 'done' button below, in order to notify the researcher that you have completed the study and are rewarded with the necessary credit.

If you would like to receive a summary of the results of this study, please provide your email address below. Only group results will be available in order to ensure confidentiality of information.

Appendix B

Participant Information Sheet



What is this research project about?

This project is concerned with the relative stability of personality. It has been argued that personality is fluid and is subject to change throughout an individual's life. However, it has also been argued that personality is mostly biologically determined and shows little or no change throughout life.

According to Martin Seligman, there are some aspects of personality that are more difficult to change than others. He suggests that while half of our personality is genetic and thus hard to change, the other half of personality is shaped by our experiences and allows for change and self-improvement. He ultimately suggests that "there are some things about ourselves that can be changed, others that cannot, and some that can be changed only with extreme difficulty".

This study will assess the personality characteristics of university students and whether they have tried to change any of those characteristics in the past, how successful they believe they have been, the extent to which they would like to change any of these characteristics and their evaluation of how difficult they believe it would be to change their personality. The study will also assess the extent to which they believe some personality characteristics are generally more difficult to change than others. The outcomes of this research may be useful in counselling settings regarding personality change as it will be useful to know which personality traits are considered easier or more difficult to change, how successful changes can be made, and which personality traits require acceptance rather than change.

Your role in this research project will be to complete a survey of three parts; the first part will ask you demographic questions, the second part will ask you to complete a Personality Inventory and the third part will ask you questions regarding your opinions about the relative difficulty of changing personality characteristics and any changes you may have made or tried to make to your personality, and whether or not you have been successful.

This survey should take less than thirty minutes to complete. You must be between 18-23 in order to participate in this study. If you are completing this study for course credit, you will be rewarded with 0.5 credits. As this research project is only concerned with attempts to change normal aspects of personality, for example, friendliness, we ask that those who may be dealing with personality problems or receiving counselling services do not participate in this study. For individuals who may have personality related issues, the University of Adelaide provides counselling services that can be used. For those eligible to participate, there are no anticipated risks to health or wellbeing associated with taking part in this study.

Participation in this study is voluntary and if you choose not to participate, there will be no consequences to yourself in any form. You also have the right to withdraw from the study at any time without any consequences. All data collected during the experiment will be treated in the strictest of confidence and stored on password protected computers. The data will be used only for this project and once the data is no longer required, it will be deleted. You will also have the opportunity to receive a summary of the research findings. Results will be combined for reporting purposes to ensure anonymity and only group results will be reported. If you would like to receive a copy of the group results, please provide your email address in the box provided on the last page of the survey.

Should you have any concerns or questions about the way in which this study is conducted, please feel free to contact the researchers of this project:

The study has been approved by the Human Research Ethics Sub-Committee at the University of Adelaide (approval number H-2018-51). This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research (2007). For any questions concerning the ethics of this project, you may wish to contact the Human Research Ethics Committee's Secretariat on:

Phone: (08) 8313 6028

Email: hrec@adelaide.edu.au

1. If you understand the information provided above and are willing to participate in this study, please tick the box below and continue to the next page of the survey in order to begin.

I understand the information that has been provided to me and am willing to participate in this study.

Appendix C

Histogram of Morality Variable (Negatively Skewed)

