

**Understanding the association between insecure attachment and emotional well-being in
Chinese adolescents: Perceived social support and help seeking behaviors as mediators**

By

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Statement of Originality

I, CHEUNG, Sin Yan Ziv, hereby declare that I am the sole author of the thesis and the material presented in this thesis is my original work except those indicated in the acknowledgement. I further declare that I have followed the University's policies and regulations on Academic Honesty, Copyright and Plagiarism in writing the thesis and no material in this thesis has been submitted for a degree in this or other universities.

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Abstract

Background

Emotional well-being is closely related to the healthy development of adolescents. A decline in the emotional well-being of Hong Kong adolescents has been observed over the past decade. More empirical research is necessary to further understand the factors related to the emotional well-being of adolescents. As the fundamental working model of social relationships, attachment style can be an important factor related to emotional well-being.

Aim

This study aims to examine the relationship between insecure attachment style and adolescents' emotional well-being in Hong Kong. Moreover, the mediating effects of perceived social support and help seeking behaviors was tested and compared. Gender differences in these relationships were also investigated.

Method

In the study, a quantitative method was used. Five hundred and seventy-nine participants (10-21 years; $M = 14.94$, $SD = 2.01$) attending secondary schools completed a Chinese version of the combined questionnaire, which investigated attachment style, perceived social support, help seeking behaviors and emotional well-being during lessons.

Results

Attachment avoidance and anxiety have significant negative relationships with emotional well-being. Perceived social support mediates the effects between attachment avoidance and emotional well-being in both genders, and between attachment anxiety and emotional well-

being in females. Perceived social support has a stronger positive relationship with emotional well-being than that of help seeking behaviors in a Chinese context. Finally, anxiety attachment was more detrimental to females' social networks than males.

Conclusion

The results indicate that the emotional well-being of Chinese adolescents is negatively associated with attachment avoidance and attachment anxiety. Perceived social support has a larger effect on emotional well-being than help seeking behaviors. It mediates the effect from attachment avoidance to emotional well-being in both genders, and attachment anxiety to emotional well-being in females. Stronger detrimental effects on emotional well-being can also be found in females. Replicating this study is suggested to confirm the findings, and hence interventions can then be suggested and its effectiveness can be tested.

Keywords: emotional well-being, help seeking behaviors, perceived social support, insecure attachment, Chinese adolescents

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Table of Contents

Statement of Originality	i
Thesis Examination Panel Approval	ii
Abstract	iii
Acknowledgements	v
Table of Contents	vi
List of Abbreviations	viii
List of Figures	ix
List of Tables	x
Chapter 1: Introduction	1
Chapter 2: Literature Review	9
Chapter 3: Methodology	37
Chapter 4: Data Analysis and Results	44
Chapter 5: Discussion and Conclusions	69
References	86
Appendix A: The English version of the combined questionnaire	119
Appendix B: The Chinese version of the combined questionnaire	128
Appendix C: The AMOS command of SEM for the first loading	135
Appendix D: The AMOS output of the model showing the goodness-of-fit	137
Appendix E: The AMOS command of SEM after modification	139
Appendix F: The AMOS output of the final model showing the goodness-of-fit	142
Appendix G: The AMOS output of the final model showing the unstandardized and standardized coefficients	144

Appendix H:	The AMOS command of SEM with equal constraints set in different genders	148
Appendix I:	The AMOS output of SEM showing the results of equal constraints set in different genders	152
Appendix J:	The AMOS output of the final model with gender difference showing the unstandardized and standardized coefficients	156
Appendix K:	The results of the item-total correlations of anxiety attachment in ECR-C	164

List of Abbreviations

AMOS – Analysis of MOment Structures
 AN – Attachment Anxiety
 AV – Attachment Avoidance
 CFI – Confirmatory Fit Index
 ESRS – The Experience in Close Relationships Scale
 ESRS-C – The Chinese version of the Experience in Close Relationships Scale
 EWB – Emotional Well-Being
 HSB – Help Seeking Behavior
 HSB_f – Help Seeking Behavior from Friends
 HSB_p – Help Seeking Behavior from Parents
 HSB_t – Help Seeking Behavior from Teachers
 HSBS – The Help-Seeking Behaviors Scale
 HSBS-C – The Chinese version of the Help-Seeking Behaviors Scale
 MI – Modification Index
 MSPSS – The Multidimensional Scale of Perceived Social Support
 MSPSS-C – Chinese version of the Multidimensional Scale of Perceived Social Support
 NFI – Normed Fit Index
 PANAS – The Positive and Negative Affect Scales
 PANAS-C – The Chinese version of the Positive and Negative Affect Scales
 PSS – Perceived Social Support
 PSS_fd – Perceived Social Support from Friends
 PSS_fm – Perceived Social Support from Family
 PSS_sig – Perceived Social Support from Significant Others
 PSS_t – Perceived Social Support from Teachers
 RMR – Root Mean Square Residual
 RMSEA – Root Mean Square Error of Approximation
 SEM – Structural Equation Modeling
 SPSS – Statistical Package for the Social Sciences
 TLI – Tucker-Lewis Index

List of Figures

Figure 1	The proposed model of the present study with hypothesized associations	35
Figure 2	The proposed model of the current study	53
Figure 3	The final model of the hypothesis showing the unstandardized coefficients (B) between variables	55
Figure 4	The final model showing the standardized coefficients (β) between variables.	56
Figure 5	The diagram showing the names of the paths between variables.	58
Figure 6	The model showing the difference of unstandardized coefficient (B) between genders.	60

List of Tables

TABLE 1	The Cronbach's Alphas of the four scales used in the current study	44
TABLE 2	The percentages of each of the ordinal variables of participants	47
TABLE 3	The means and standard deviations of the variables	48
TABLE 4	The correlations of the variables of all participants	49
TABLE 5	The correlations of the variables of different genders	50
TABLE 6	The means and standard deviations of the variables of different genders and the <i>t</i> -value in each of the variables	51
TABLE 7	The unstandardized coefficients (<i>B</i>) and standardized coefficients (β) of the paths with their standard error and <i>p</i> -value in the confirmed model	54
TABLE 8	The correlations of age, family income, father's and mother's education level to emotional well-being	57
TABLE 9	The steps of setting equal constraints for paths in the model for different genders	59
TABLE 10	The unstandardized coefficients (<i>B</i>), standardized coefficients (β), standard errors, <i>p</i> -values of the paths and their differences	62
TABLE 11	Total effects, direct effects and indirect effects for the paths from attachment avoidance and attachment anxiety to emotional well-being through perceived social support	66
TABLE 12	The results of Sobel test for the different mediating effects	67

CHAPTER 1: INTRODUCTION

Emotional well-being is important for human-beings, especially for adolescents. The amount of research on the emotional well-being of people has increased over the past few decades. It is now well known that emotional well-being is essential to an individual's overall health (Bergin & Bergin, 2012; Booker et al., 2014; Hilborn et al., 2004; Hunter et al., 2011; Kahneman & Deaton, 2010; Katz & Hunter, 2007; Lu & Buchanan, 2014). Academic performance (Goldstein & Benassi, 2006; Larsgaard et al., 1998; Patrick, Skinner, & Connell, 1993; Skinner & Belmont, 1993; Thibodeau & Hillman, 2003), psychological development, (O'Brien, 2008; Ramanathan et al., 2014) and social life (Cunningham et al., 2009; Katz et al., 2008) are all affected by emotional well-being.

Insecure attachment (i.e. attachment avoidance and attachment anxiety) is understood to have a negative association with emotional well-being (Liu et al., 2009; Mami & Ghanbaran, 2014; Riggs & Han, 2009; Shaver & Mikulincer, 2009; Yi et al., 2012). However, the mechanisms underlying between them are not clear. As attachment lays the foundation of interpersonal relationship (Bowlby, 1973; 1982; Deziz, Hamarta, & Ari, 2005; Waters & Cummings, 2000), support system may probably be the linkage between insecure attachment and emotional well-being. Perceived social support can be considered as a passive way of enhancing the emotional well-being of adolescents, while seeking help from others can be considered as an active method for individuals to overcome problems that cause distress. This study is unique as it combines perceived social support and help seeking behavior. As such, the mediation for insecure attachment and emotional well-being can be understood. In addition, the effects of perceived social support and help seeking behaviors towards emotional well-being of Chinese adolescents will be compared to see which one is more important in a Chinese context.

The mechanism of influence from insecure attachment to emotional well-being of Chinese adolescents through perceived social support and help seeking behaviors are comprehensively investigated and a model suggesting the relationships among them are proposed.

Emotional Well-Being

Emotional well-being, which is an affective component of well-being, refers to the frequency and intensity of individuals experiencing fascination, joy, anger, sadness and affection that constitutes an individual's life to be unpleasant or pleasant (Kahneman, & Deaton, 2010). It is about individuals experiencing different life events, which can have positive or negative affects (Deci, & Ryan, 2008; Graham, 2010; Kahneman et al., 2004; Kahneman, & Deaton, 2010; Kahneman, & Riis, 2005). Unfortunately, the emotional well-being of adolescents throughout the world is getting worse. In 2017, the World Health Organization found that around 20% of children and adolescents throughout the world suffered from various mental disorders (WHO, 2017). Moreover, empirical evidence has also shown that early onset of mental disorders in adolescents has increased over the past 20 years (Burke et al., 1990; Kovacs et al., 1994; Lee et al., 2014; Lewinsohn et al., 1994; Zisook et al., 2004). Such a large number of children experiencing poor well-being could be due to an exertion of pressure accumulating from peer interactions, daily life and school. Combined with the stage of development for adolescents, they also have to face rapid psychosocial, physiological and cognitive changes (Bailey, 2011; Ge et al., 2011; Goodyer et al., 2000; Hauser, & Bowlds, 1990; Johnson, & Greenberg, 2013; Patterson, & McCubbin, 1987). These adolescent changes increase the potential for substance abuse, violence against themselves or others, risky behavior, poor school attendance and academic performance (Albano, Chorpita, & Barlow, 2003; Crocetti et al., 2009; Hammon, & Rudolph, 2003). Many studies have found

that emotional well-being declines during adolescence (Csikszentmihalyi, & Hunter, 2003; Paradis et al., 2006; Pine, Cohen, Johnson, & Brook, 2002; Rohed et al., 2013; Rutter, Kim-Cohen, & Maughan, 2006). These factors show that there is an urgent need for investigating the emotional well-being of adolescents and also the underlying factors affecting it.

Every year, an organization called Baptist Oi Kwan Social Service (BOKSS) investigates the mental health of secondary school students in Hong Kong. Although the rate of reporting the occurrence of depressive symptoms and high anxiety conditions are more or less the same, the rates are still high; especially in the occurrence of depressive symptoms – in which nearly half of the participants reported that they were suffered from different severities of depression (53% in 2017 – the highest among the studies) (BOKSS, 2016, 2017). Although the total number of suicides is decreasing (the suicide rate in 2003 was 18.8 and in 2016 was 12.6 per 100,000 people), the total number of youth suicide is on the rise (the suicide rate in 2005 was 7.1 and in 2016 was estimated at 8.9 per 100,000 people) (Yip, 2017). This shows the emotional well-being of Hong Kong adolescents is deteriorating; with more attention and funding required to improve the situation.

From a Chinese perspective in Hong Kong, problems related to emotional well-being are rooted in geographic, economic, and academic constraints, as well as differing political views. Hong Kong is a well-known and relatively compact city with a population of over seven million people. Conflict between family members can easily occur due to crowded living spaces. As a global economic and financial hub, Hong Kong's working environment can be stressful. After the British handover to the People's Republic of China in 1997, different political views have emerged and there is now constant political conflict, which in turn has led to a decline in Hong Kong's political harmony. In addition, academic stress is a major issue for adolescents in Hong Kong. As a knowledge-based society, vigorous competition for bachelor degree admissions exists, even though the number of places

available has continuously been increasing over the years. Adolescents experience a high level of pressure in their academic performance as they try to cope with peer competition (CFSF, 2015).

Due to these factors, emotional well-being is crucial for a healthy development of adolescence. A clear understanding of this issue is required so that the emotional well-being of Chinese adolescents can be enhanced.

A large amount of research has already been done to find the relationship between emotional well-being and attachment style; as well as to prove that attachment influences the emotional well-being of individuals (Mami & Ghanbaran, 2014; Shaver & Mikulincer, 2009). Securely attached individuals are found to have a better emotional well-being because of their high self-esteem and confidence (Foster, Kernis & Goldman, 2007), in addition to being able to cope with stress using successful strategies (Bartholomew & Horowitz, 1991; Buote et al., 2009). However, individuals with insecure attachment tend to have poorer emotional well-being, as their level of self-confidence is relatively low; and because they feel lonely, they go for more problematic social relationships (Odacı & Çıkrıkçı, 2014). Therefore, attachment style is essential when studying the emotional well-being of adolescents.

Attachment Style

Attachment was firstly proposed by Bowlby and then further defined as the relationship established between a child and their caregivers (usually their mother) that make the child safe, protected and secure (Bowlby, 1982). Children can use this secure base provided by caregivers to explore their everyday lives, which also acts as their source of comfort and safety (Waters & Cummings, 2000). It is important for individuals to establish strong relationships as a guide for their future interpersonal relationships (Bowlby, 1973; Deziz, Hamarta & Ari, 2005).

Attachment style is crucial for understanding the emotional well-being of individuals. It affects the interpersonal relationships between individuals, since their childhood (Bowlby, 1982) and stress accumulated from peer interactions is a major component that causes poor emotional well-being (Bailey, 2011). A large amount of research has found that attachment style influences emotional well-being of individuals (for example, Mami & Ghanbaran, 2014; Shaver & Mikulincer, 2009). For instance, insecure individuals tend to have poor emotional well-being (Liu et al., 2009; Riggs & Han, 2009; Shaver & Mikulincer, 2009). More specifically, avoidant attached individuals often have poor emotional well-being (Mikulincer & Florian, 1998; Monti & Rudolph, 2014); however, the underlying mechanism between attachment anxiety and emotional well-being is inconsistent (Mak et al., 2010; Monti & Rudolph, 2014; Yi et al., 2012). Therefore, there is a need to investigate the relationship between attachment anxiety and the emotional well-being of adolescents.

Perceived Social Support and Help Seeking Behaviors as Mediators

Interpersonal relationships are crucial for the growth and development of adolescents. Perceived social support and help seeking behaviors should be studied together as both are constructs related to interpersonal relationships. As there are no previous studies on social support and help seeking behaviors together for the emotional well-being of adolescents, it is vital to understand the relationship among these constructs as a whole. In this study, perceived social support and help seeking behaviors are proposed to be the mediators from attachment avoidance and attachment anxiety to the emotional well-being of Chinese adolescents. Hence, an investigation will be conducted to test the aforementioned hypothesis.

Perceived social support can be defined as an expectation evaluation of adequate care and assistance that others will provide to an individual in need (Procidano & Heller, 1983). As the

same time, it also involves a relationship transaction between individuals (Zimet et al., 1988).

Previous studies found that adolescents with a higher level of attachment avoidance and attachment anxiety perceived less social support (Bernardon et al., 2011; Pascuzzo, Cyr, & Moss, 2013; Vogel & Wei, 2005; Zhang et al., 2017).

Perceived social support helps to promote emotional well-being (Carson et al. 2012; Greenglass, & Fiksenbaum, 2009; Lakey, & Orehek, 2011; Lee et al., 2014; Oh, Ozkaya, & LaRose, 2014; Tian et al., 2012; Taylor, 2011). Thus, if effective and helpful, provides a buffering effect when an individual experiences stress (Corsano, Majorano & Champretavy, 2006; Gottlieb, 2000). Therefore, if individuals have more perceived social support, their emotional well-being would be better. On the contrary, if individuals have less perceived social support, their emotional well-being would be poorer. Mak et al. (2010) and Bernardon et al. (2011) suggested that perceived social support is not only directly related to the emotional well-being but also serves certain mediating effects for attachment to emotional well-being.

Therefore, further investigation on the mediating effects of perceived social support is necessary to reveal the underlying mechanism from insecure attachment to the emotional well-being of Chinese adolescents. In this study, we hypothesize that perceived social support will show mediating effects on attachment avoidance and attachment anxiety to the emotional well-being of Chinese adolescents.

Help seeking behaviors can be classified as active and actual behaviors. For example, observing how others reach their goals, directly asking for help or discussing events with others. Individuals use this when their resources or abilities are insufficient to cope with the demands of a task; hence the problems can be more easily overcome (Chan, 2013; Cramer, 1999; DePaulo & Fisher, 1980).

Help seeking behaviors is crucial to emotional well-being. The problems presented could be solved directly by asking for help, and eventually might diminish. Meanwhile, help seeking behaviors should be something related to the social network of individuals. This is the reason why it should be studied alongside attachment (Arslan, Arslan & Ari, 2012; Evraire, Ludmer & Dozois, 2014; Hill et al., 2012).

Due to these factors, help seeking behaviors might show certain mediating effects from attachment avoidance and attachment anxiety to emotional well-being, which are proposed to be one of the hypotheses in this study.

Traditional Chinese culture emphasizes social support (Fuligni, Tseng, & Lam, 1999; Yeh & Bedford, 2003) but discourages seeking help (Anyon et al., 2013; Huang, Yu, & Ledskey, 2006; Lee & Rotheram-Borus, 2009; Taylor et al., 2004). It seems that the association between perceived social support and emotional well-being is stronger than that of help seeking behaviors in a Chinese context. However, there is limited research has been conducted on social support and help seeking behaviors together for their effects on emotional well-being. Therefore, there is a need to study them together and see which one has a stronger association with emotional well-being in Chinese context. This is one of the hypotheses of this study that will be investigated. Following this, ways to enhance the emotional well-being of Chinese adolescents will be suggested and eventually be tested so that the current situation of deteriorating emotional well-being of adolescents can be improved.

Gender Differences

Previous studies have suggested that females are more relationship-oriented and report more interpersonal problems than males (Friedman, 1991; Gallagher et al., 1992; Hui, 2000; Stark

et al., 1989). It was also reported that females have more help seeking behaviors than males (Biddle et al., 2004; Black et al., 2008; Leavy et al., 2011; Raviv et al., 2000; Wilson, 2013). With insecure attachment, females may have comparatively less perceived social support than males, which further lower their emotional well-being (Prinstein et al., 2005). Although the help seeking behaviors of attachment anxiety is not clear, we expect that insecure females would have even poorer emotional well-being through the effect of help seeking behaviors, which is closely related to social relationships. Therefore, we hypothesize that insecure females may have a stronger detrimental effect on emotional well-being.

In this respect, fully understanding the emotional well-being of adolescents in a Chinese context is vital. Research must be conducted to understand the emotional well-being of Chinese adolescents as well as to investigate the factors affecting them. Hence, a better understanding of the emotional well-being of Chinese adolescents and the factors affecting them can help future research to find ways of enhancing the emotional well-being of Chinese adolescents. This study aims to investigate the effects of attachment avoidance and attachment anxiety of Chinese adolescents towards their emotional well-being. We will also examine whether perceived social support and help seeking behaviors mediates the effects of attachment avoidance and attachment anxiety towards Chinese adolescents' emotional well-being. Hence, testing whether perceived social support has a larger effect on the emotional well-being of Chinese adolescents than that of help seeking behaviors or not. Furthermore, the differences in the gender of adolescents will be investigated to see if females have a stronger detrimental effect in insecure style towards emotional well-being. Finally, some suggestions for enhancing Chinese adolescents' emotional well-being will be discussed and future research directions will be suggested.

CHAPTER 2: LITERATURE REVIEW

Emotional Well-Being

Positive and negative affects had been extensively used as indicators of emotional well-being by previous studies (Watson, Clark, & Tellegen, 1988). These two mood factors are strongly negatively correlated. The positive affect shows the personality factors of extraversion, and the negative affect shows the personality factors of neuroticism or anxiety (Tellegen, 1985; Watson & Clark, 1984). According to Kahneman and Deaton (2010), emotional well-being is the quality of the emotions shown in the daily experiences of individuals. These experiences include the intensity and frequency of joy, enjoyment, hope, excitement, interest, happiness, pleasure or pride that makes individuals feel pleasant in their lives.

As mentioned previously, positive and negative affects are the two opposites in a double-ended dimension. They are highly negatively correlated to each other and hence are highly distinctive for the study of affect (Watson, Clark, & Tellegen, 1988). Watson et al. (1988) defined the meanings of positive affects and negative affects. Positive affects show to what extent an individual feels alert, active, and enthusiastic which is related to the frequency of pleasant events, social satisfaction, and social activity (Beiser, 1974; Bradburn, 1969; Clark & Watson, 1988; Watson, 1988). Negative affects show unpleasurable engagement and subjective distress, which is related to the frequency of unpleasant events (Stone, 1981; Warr, Barter & Brownbridge, 1983), poor coping and self-reported stress (Clark, & Watson, 1986; Kanner et al., 1981; Wills, 1986), and health complaints (Beiser, 1974; Bradburn, 1969; Tessler & Mechanic, 1978). It includes a variety of undesirable states of mood such as nervousness, contempt, guilt, anger, fear, and disgust. With high positive affectivity, individuals experience a state of high energy, full concentration, and pleasurable engagement.

In addition, individuals experience a state of calmness and quiet, with low negative affectivity. Both of these elements help to enhance the emotional well-being of adolescents. Emotional well-being is crucial for the development of a person, especially during adolescents. It is important to investigate adolescents' emotional well-being. During development, in the transition stages from child to adult, different types of psychological and physiological changes occur throughout puberty. Adolescents usually become more impulsive than when they were children, especially when facing different negative affects (Evraire, Ludmer, & Dozois, 2014). Impulsive behavior may further be a result of suppressing the level of emotional well-being of adolescents. For example, arguments may arise after disagreements with parents, or violent actions might occur as a result of negative comments from peers. The emotional well-being of adolescents directly affects academic performance, which is a large part of their lives. In a school setting, the better emotional well-being an adolescent has, the better their academic performance (Bergin, & Bergin, 2012; Malecki, & Elliott, 2002). Positive emotions help promote learning as well as the adolescents' performance at school; whilst negative emotions do more harm than good in learning and school performance (Bergin & Bergin, 2012). If the emotional needs of the adolescent in school are satisfied, they will achieve higher attendance rates, experience more effective learning in their studies, and have better employment opportunities after graduation. However, if their emotional needs are not fulfilled, school performance will decline and their lives after graduation will have negative impacts. If an adolescent experiences poor performance at school, they find it harder to engage in school life, which in turn lowers their attendance rates, increases their chances of dropping-out, and subsequently increases their chances of being unemployed (Malecki, & Elliott, 2002). In extreme cases, crime, violence, and substance abuse can occur as a result (Adi et al., 2007; Sulkowski, Demaray, & Lazarus, 2012). With a better emotional well-being, adolescents may possibly have a better school

performance and hence, their socio-economic status will be higher in adulthood (Bøe et al, 2014; Bradley & Corwyn, 2002; Poulton et al., 2002). These long-term impacts in their adulthood will consistently strengthen the emotional well-being of the individuals throughout their lives. Therefore, it is crucial to study the emotional well-being of adolescents.

There is literature to support the claim that emotional well-being can be influenced by attachment style (Mami & Ghanbaran, 2014; Shaver & Mikulincer, 2009). With different types of “internal working models” developed during the growth, the ways that individuals interact with each other varies (Bowlby, 1973). This results in the establishment of different levels of confidence, relationships with others, attitudes of closeness, and the connections of emotions (Gray & Steinberg, 1999). These can be influential on emotional well-being due to the different levels of attachment security of individuals. Therefore, the association between attachment style and emotional well-being of adolescents should be jointly studied.

Attachment Style

Attachment style can be a critical factor that is related to emotional well-being. A large number of previous studies have found that social relationships are vital for emotional well-being. Healthy relationships can protect emotional well-being (Mami & Ghanbaran, 2014). Simons et al. (2014) investigated the association between family relationships and the mental health of individuals. They concluded that stronger family cohesion resulted in a better emotional well-being in individuals. However, maladaptive relationships can harm emotional well-being. Evraire, Ludmer and Dozois (2014) attempted to investigate the relationship between attachment and interpersonal relationships in the sense of reassurance and negative feedback from others. They found that individuals with high levels of attachment anxiety and attachment avoidance had more excessive reassurance seeking and more negative feedback seeking respectively, which both resulted in a decreased level of emotional well-being of

individuals. In the sense of support and caregiving, Collins and Feeney (2000) found that more avoidant individuals tended to pursue ineffective support seeking while anxious individuals tended to provide poor care to the others.

Therefore, attachment style, as a fundamental theory explaining interpersonal relationships, can be a very important factor affecting adolescents' emotional well-being.

Bowlby (1973) explained that during growth and development, people develop their own "internal working model", and their interactions with their caregivers can also vary. These types of "internal working models", which is very stable, reflect the predictable characteristics of attachment style, which is the fundamental basis of attachment theory.

Bowlby (1982) further explained that, during the development of the individual, their attachment experiences will be internalized and they will create mental representations of themselves and other people (this is the internal working model which Bowlby earlier suggested). As the importance of the internal working model is apparent, Gray and Steinberg (1999) suggested that the establishment of people's level of confidence, the success of reciprocal reasonable relationships with others, the closeness of attitude, and the connections of emotions are all guided by the internal working model of the individual. Therefore, attachment is an important component in building a person's relationships, firstly with their caregivers during the early stages of growth, and then for their relationships in later life.

Arslan (2010) suggested that attachment theory can be used to find out why and how the emotional connection people have to their first caregivers is formed. Thus, this relationship of attachment developed in childhood can be used to explain the influences on the interpersonal relationships and personality of the individual. This is consistent with the previous understanding of attachment that suggested the relationship quality of people, which is established at an early age with their caregivers, can be a guide to their future interpersonal relationships (Bowlby, 1973; Deniz, Hamarta, & Ari, 2005).

As discussed earlier, the attachment between parents and children helps to develop relationships between individuals and peers through the internal working model. It can also improve the individual's future relationships (Ladd, & Pettit, 2002). With a physically and psychologically secure environment provided by parents, the autonomy of the adolescent can easily be fostered while they are exploring the world (McElhaney et al., 2009). The way someone's significant other views them throughout their development has a strong impact on how the individual views themselves. Therefore, parent-child attachment also helps to develop one's sense of self (Morley & Moran, 2011). Pinquart, Feußner, and Ahnert (2013) investigated the stability of attachment style and found it to be rather stable if fully developed during adolescence.

Attachment style was initially proposed very categorically and assertively, but has gradually become a two-dimensional view. Ainsworth and his colleagues (1978) firstly proposed three different types of attachment style for an infant: secure, anxious-resistant (preoccupied), and avoidant (dismissive). These three attachment styles can be categorized by using the Adult Attachment Interview (AAI), which was developed by George, Kaplan and Main (1987). Mothers were first classified into these three different attachment styles by using their corresponding childhood attachment. Following this, they were paralleled with their children and observed by the interviewers to see interaction between the mothers and their children as well as the security of the children's attachment.

As attachment styles can be continuously developed as an adult, Hazan and Shaver (1987) developed another scale to measure the attachment style of adults. The direct self-reported questionnaire consisted of three statements categorizing individuals as secure, avoidant or anxious/ambivalent.

Griffin and Bartholomew (1994) then developed a scale for categorizing individuals into four attachment styles; this was first introduced by Bartholomew and Horowitz (1991). The four

attachment styles are secure, dismissive, fearful, and preoccupied. The scale consisted of a semi-structured interview and a self-reported questionnaire, which consisted of choosing the most suitable statement out of four, representing the four different types of attachment styles to describe oneself.

Later, Brenna, Clark, and Shaver (1998) proposed the now-familiar two-dimensional scheme for attachment style by measuring the degree to which the individual exhibits avoidance and anxiety. In this two-dimensional view, people who were at the low end of both dimensions were considered secure. When someone's avoidance and anxiety levels increase, they can be considered insecure. For individuals with attachment avoidance, autonomy is very important, and they will seek independence and control in their relationships with others (Mikulincer & Florian, 1998). They have a strong sense of avoiding close relationships in order to protect themselves against any negative events that may happen. They also tend not to trust others and are often overly reliant on themselves. Compared with secure attachment and anxious attachment, these people are relatively invulnerable and independent.

However, another type of insecure attachment – attachment anxiety, shows different characteristics towards relationships with others. These types of people have a strong sense of security and fear abandonment (Mikulincer, & Florian, 1998). They also believe that they are unlovable and therefore try to gain acceptance from their significant others. In order to strive for self-acceptance, they overly rely on the others. In the field of attachment orientation, this is not the only conceptualization, but attachment style is now widely applied in modern research and assessment (Fraley & Phillips, 2009). This study has adopted the idea of the two-dimensional view for measuring and presenting the attachment style of individuals.

In this study, the two-dimensional scheme for attachment suggested by Brenna, Clark and Shaver (1998) will be applied, as it is a common scale used in research nowadays, viewing anxiety and avoidance as two continuous dimensions. In this case, individuals are not divided

into arbitrary groups, but instead receive a score on each of the two dimensions. With high scores in either one of the dimensions, or in both dimensions, individuals can be described as insecurely attached. On the other hand, individuals receiving low scores in both of the dimensions are described as securely attached. Therefore, the score represents both secure and insecure attachment at the same time.

A great deal of research has been conducted on the theory of attachment, the effects of attachment style in relation to other factors, and the influence of attachment styles to emotional well-being. It has been found that secure attachment promotes emotional well-being. For insecure attachment, attachment anxiety and attachment avoidance both negatively influenced the emotional well-being of adolescents (Shaver & Mikulincer, 2009) and hence leads to an increase and severity of depressive symptoms (Hankin, Kassel, & Adela, 2005; Liu et al., 2009; Lopez & Fons-Scheyd, 2008; Riggs & Han, 2009). Kobak and Sceery (1998) stated that different types of attachments show different responses to distress. A working model with rules and representations is likely to be developed by secure individuals. This allows them to acknowledge the distress they experienced and hence value the support and comfort given by others. Concerning attachment avoidance, people of this type restricts the acknowledgement of distress and also restricts seeking comfort as well as support from others. Individuals with attachment anxiety display different strategies when experiencing distress. They tend to direct attention towards distressing factors in a hypervigilant manner. Thus, the role of attachment can be viewed as a risk factor for a psychological disorder (Bifulco et al., 2002).

Relationship between secure attachment and emotional well-being For secure attachment in adolescents, this type of individual exhibits less depressive symptoms and better emotional well-being when compared with insecure individuals (Carnelly,

Pietromonaco, & Jaffe, 1994; DeFronzo, Panzarella, & Butler, 2001; Hankin, Kassel, & Abela, 2005; Mami & Ghanbaran, 2014; McElhaney et al., 2009). Secure attachment usually leads to adolescents having higher self-esteem and the ability to overcome stressful events by effectively using different coping methods (Bartholomew & Horowitz, 1991; Berant, Mikulincer, & Shaver, 2008; Ryan, Deci, & Grolnick, 1995).

Relationship between insecure attachment and emotional well-being Previous studies have placed attachment avoidance and attachment anxiety together as insecure attachment. This shows consistently negative relations to the emotional well-being of adolescents (Hankin, Kassel, & Adela, 2005; Liu et al., 2009; Lopez & Fons-Scheyd, 2008; Mami & Ghanbaran, 2014; Merlo & Lakey, 2007; Moran, 2007; Rholes & Simpson, 2004; Riggs & Han, 2009; Schimmenti et al., 2014; Simpson et al., 2003; Shaver & Mikulincer, 2009; Yi et al., 2012). This is due to insecure individuals generating and sustaining maladaptive emotion regulation strategies that are formed in their internal working model, which always causes them to repeatedly have negative experiences. As a result, the individual's emotional bonds are destabilized and subsequently weakened (Collins & Allard, 2001; Hankin et al., 2005; Pistole, 1989; Simpson, Rholes, & Phillips, 1996).

In viewing attachment avoidance as a separate attachment dimension, some studies suggest that individuals with attachment avoidance show a negative effect on the emotional well-being of adolescents. Monti and Rudolph (2014) identified that avoidance indirectly affects depression through the emotional awareness of adolescents. Mikulincer and Florian (1998) further concluded that the symptoms of depression should be originated primarily from non-relational sources, for example, problems with health, financial matters, or work.

A link between attachment anxiety and depression has been discovered by different studies (Laibl, Carlo, & Raffarlli, 2000; Rosenstein & Horowitz, 1996; Shaver, Schachner, &

Mikulincer, 2005). Attachment anxiety is directly correlated to depression with a positive effect. That is to say, the higher the anxiety level of an individual, the more depressive symptoms the individual will have (Mak et al., 2010; Yi et al., 2012). However, emotional awareness does not show a significant indirect effect from attachment anxiety to emotional well-being (Monti & Rudolph, 2014). Vogel and Wei (2005) suggested that anxiously attached people are positively related to the acknowledgment of distress and help-seeking behavior. The problems in the relationships of anxious individuals should be primarily due to their depressive symptoms.

As mentioned previously, the underlying mechanism of the relationship between attachment style and emotional well-being through self-esteem, emotional regulation and emotion awareness had been studied. However, during adolescence, interpersonal relationships play a more important role in the growth and development of adolescents. It is proposed that perceived social support and help seeking behaviors are the two mediators for relationships, as both are more closely related to the interpersonal relationships than the other constructs mentioned previously. These have been tested in this study and will be discussed later.

Perceived Social Support

Social support is essential for emotional well-being. It provides an opportunity for people to share their negative emotions, which is good for recovering and maintaining emotional health. Objectively measured social support is less predictable for emotional well-being than subjective perceived social support (Barrera, 1981; Brandt & Weinert, 1981; Sarason et al., 1985; Schaefer et al., 1981; Wilcox, 1981). The actual size of the support system and the satisfaction of the support gained from that system are different (Sarason et al., 1983).

Several definitions have been provided for perceived social support by various studies.

Procidano and Heller (1983) defined perceived social support as a cognitive expectation and

evaluation that adequate care and assistance will provided when needed. Shumaker and Brownell (1984) further defined it as a two-way concept that perceived social support should be at least two individuals exchanging resources to enhance the well-being of the recipient. Later, Lin (1986) extended this to a larger group, which perceived social support as an extremely important factor in a confiding partner, social network, and community. Zimet et al. (1988) suggested that perceived social support between individuals should involve a certain type of relationship transaction. Various definitions across these studies has tried to explain the difference in network size, specific direction of giving or receiving support, description of support, evaluation of satisfaction with support, availability of support, support resource utilization, and content of support (Tardy, 1985).

Zimet et al., (1988) developed a scale for measuring the perceived social support of individuals. This was named as the Multidimensional Scale of Perceived Social Support (MSPSS). The scale was designed for assessing the individuals' perceptions of social support from three specific sources. These sources include family, friends and significant others. This scale provided a distinct and separate subgrouping that previous scales, such as the scale from Procidano and Heller (1983) and Holahan and Moos (1983), failed to do so (Zimet et al., 1988).

Relationship between attachment and perceived social support Shahyad et al

(2011) found that there is a positive association between attachment style and perceived social support. Vogel and Wei (2005) suggested that the perceived social support of insecure attached individuals is low, which leads to an increase in the frequency of distressing experiences. Pascuzzo, Cyr, & Moss (2013) and Zhang et al. (2017) found that attachment avoidance has a negative relationship to perceived social support, as it is not easy for avoidant individuals to develop a stable social network, as they avoid others (social distance)

to protect themselves in a sense of comfort. Attachment anxiety is also expected to have a negative association with perceived social support. Although they are eager to establish a social network to increase security, they usually tend to overreact to relationship problems, which might be harmful to their social network.

Relationship between perceived social support and emotional well-being The

relationship of individuals towards others influences the emotional well-being of adolescents (Caron et al., 2012; Lee et al., 2014; Oh, Ozkaya, & LaRose, 2014; Tian et al., 2012). Peer support also plays an important role in their emotional well-being. It is suggested that perceived social support has certain relationship with the depressive symptoms of adolescents (Au et al., 2009; Lakey, & Orehek, 2011; Taylor, 2011). With the development of self-identity, adolescents also suffer more pressure within their own peer groups (Allen, Porter, & McFarland, 2006; Jenson & Fraser, 2011; Poulin, Dishion, & Hass, 1999; Prinstein & Dodge, 2008; Prinstein, Brechwald, & Cohen, 2011; Williams & Anthony, 2015). As suggested by McGraw et al. (2008), peer connectedness is an important predictor of the emotional well-being of the adolescent. A sense of peer connectedness is correlated negatively to mental health problems, for example, anxiety, stress, and depression.

Social support can provide a buffering effect during stressful periods if it is effective and useful to those receiving help (Barbee, 1990; Cobb, 1976; Cohen & Wills, 1985; Gottlieb, 2000; Lee et al., 2014; Oh, Ozkaya, & LaRose, 2014; Tardy, 1994; Teelan, Herzog, & Kilbane, 1989; Weiss, 1974; Zimet, 1988). However, if the social support provided is not helpful or effective, it can lead to negative outcomes for the individual (Cohen & Syme, 1985). Perceived social support is directly related to the severity of physical or psychological symptoms reported by individuals experiencing the buffering effect (Andrews et al., 1978; Barrera, 1981; Brandt & Weinert, 1981; Corsano, Majorano, & Champretavy, 2006; Gore,

1978; Lin et al., 1979; Monroe et al., 1983; Procidan & Heller, 1983; Sarason et al., 1983; Sarason et al., 1985; Schaefer, Coyne, & Lazarus, 1981; Wilcox, 1981).

Perceived social support from different sources The relationship between adolescents and their parents significantly affects their emotional well-being (Caron et al., 2012; Newman et al., 2007; Shek, 2007). The ways in which parents react to their children helps children develop their own characteristics in the attachment to others (Bowlby, 1973). During adolescent development, although parental interaction lessens, parents still have a powerful effect on their well-being (Ainsworth, 1989). Parents are the authority in the family structure and adolescents must obey them, especially in traditional Chinese culture. Parents usually show a high level of control, especially psychologically, which is harmful to the emotional well-being of adolescents (Shek, 2007). This sense of losing control over the environment also further decreases an adolescent's emotional well-being (Pearlin, et al., 1981). Caron et al. (2012) suggested that a good relationship between adolescents and parents is positively related to their emotional well-being. Wang and Castañeda-Sound, 2008) suggested that the support from family can predict the stress level of the adolescents. The quality of adolescent-parent relationships is one of the most significant factors that predicts the social roles, interpersonal relationships, and symptoms of distress that form the three foundations of the psychological well-being of adolescents. In addition, the confidence in parental commitment is an important factor that affects emotional well-being during adolescent development (Bretherton, 1985). With higher confidence, an adolescent's emotional well-being is better. Although the adolescent may be mature enough to live independently, emotional, financial, and housing support from the parents may still need to be provided (Fraley & Davis, 1997). These support mechanisms are no doubt beneficial for adolescent development.

Peer support is another factor affects the emotional well-being of adolescents. Lin (2002) found that less dysfunctional attitudes and depression were present as peer social support increased. Backed by previous studies (Noack & Puschner, 1999; Noom, Dekovic, & Meeus, 1999), Chong et al. (2006) also stated that support from peers had positive associations with academic and social competence and negative associations with depression, anxiety and withdrawal. Problematic behaviors and depression in adolescents has been documented as a result of high peer stress and poor peers support. Vulnerable adolescents have a higher score on daily stress levels and depressive symptoms than those with better peer support. (Dumon & Provost, 1999; Wenz-Gross et al., 1997; Chong et al., 2006). Suárez-Orozco, Rhodes and Milburn (2009) also suggested that social support at school from peers is important to the emotional and psychosocial development of adolescents. Some studies state that perceived social support could benefit emotional well-being, as it helps to develop the self-efficacy and self-esteem of adolescents (Axelsson & Ejlertsson, 2002; Harter, 1993). Newman et al. (2007) also confirmed that support from peers is positively related to depressive symptoms in the transition to high school of adolescents. Therefore, peer is one of the important sources of social support for adolescents.

Supported by previous findings, a strong student-teacher relationship is expected to increase the chance of having better emotional well-being (Suldo et al., 2009). Adolescents with more support from their teachers have greater social skills, academic competency, and school satisfaction (Malecki & Demaray, 2003; Richman, Rosenfeld, & Bowen, 1998). At the same time, support from teachers is also related to the adolescents' level of depressive symptoms (Brajsa-Zganec, 2005; Richman et al., 1998). In this study, the subgroup of teachers was added into the scale as teachers are essential for the social support of adolescents, and this is theoretically important.

Mediating effects of perceived social support

Some studies have concluded that social support provides a mediating effect for the relationship between attachment style and mental health problems (Bernardon et al., 2011; Lapsley, Varshney, & Aalsma, 2000; Larose et al., 1999; Larose & Bernier, 2001). Mak et al. (2010) suggested that in Hong Kong, emotional well-being of adolescents can be mediated not only by perceived social support, but also by the satisfaction of relationships, which also directly serve as a positive effect on emotional well-being. Bernardon et al. (2011) found that the increase of the security of adolescents' attachment leads the lower level of the loneliness and this effect is mediated by perceived social support. Other studies have even suggested that perceived social support is directly related to attachment. For secure individuals, their quality of friendship is usually higher (Bartholomew & Horowitz, 1991). More often, they have a greater availability of support from people, whether it is from friends and family (Kobak & Sceery, 1988) or other close acquaintances (Sarason, Sarason, & Pierce, 1990). However, insecurely attached individuals are different. Insecure attachment is negatively related to the orientation of the social network (Larose et al., 1999) and is also negatively associated with perceived social support. However, the latter is not significant for anxiously attached people (Mallinckrodt & Wei, 2005). Within a group of insecure individuals, avoidant adolescents perceive a lower availability of support from their friends than those of anxious individuals (Mak et al., 2010). However, perceived social support has various effects on different levels of anxious people. Even if the perceived social support is high, the health of more anxious individuals is worse. Conversely, higher perceived social support is more beneficial to the health of less anxious people (Stanton, & Campbell, 2014). For a better understanding of the mediating effect, an investigation has been conducted in this study to determine whether perceived social support serves as a mediator for attachment to emotional well-being.

Help Seeking Behaviors

Help seeking is essential, as it serves as a mechanism for coping when someone is unable to fulfill the demands of a task on their own (Cramer, 1999). Help seeking can be achieved by directly asking for help, observing how others reach their goals, or by discussing similar experiences with others (DePaulo & Fisher, 1980). When the demands of tasks are more than that of the individual's resources and ability to cope, the need for help seeking is triggered, which then allows the difficulties to be overcome more easily (Cramer, 1999; Nelson-Le Gall, Gumerman & Scott-Jones, 1983). Chan (2013) further suggested that the major events triggering the need to seek help are usually related to achievement problems, which cannot be tackled by the adolescents on their own. Some studies have suggested that help seeking behavior can be further divided into different types of relationships, these being help seeking behavior towards parents, friends, and significant others of the individual. However, differentiating these problems is not recommended, as the variations are not significant (Caron et al., 2012; Leavy et al., 2011; Pham et al., 2014).

Reasons for not seeking professional help

Previous studies have mainly focused on professional help. However, this does not suit the context of Hong Kong's adolescents. It may not be able to accurately reflect the real help-seeking behavior of adolescents, and therefore the results might not be applicable because of cultural, practical, and the specific reasons of adolescents.

Regarding cultural factors, the situation in Hong Kong for people not seeking professional help is more obvious. It has been suggested that help-seeking behavior varies between different cultural and contextual backgrounds (Chen et al., 2014; Cheng, Kwan, & Sevig, 2013; Pham, McWhirter, & Murray, 2014). Some studies have suggested that Asian cultures discourage people from seeking professional help.

When suffering from various forms and levels of emotional distress, Asians do not prefer to seek help from mental health services compared to Westerners (Han, & Pong, 2015; Huang & Spurgeon, 2006; Leong & Lau, 2001; Liu et al., 2016; Logan, Steel, & Hunt, 2017; Sun et al., 2016; Witt et al., 2011). Many studies have attempted to explain this phenomenon. They summarize the reasons as either a feeling of shame or losing 'face', having conflict of values with professionals, stigmatization for having a mental disorder, showing negative attitudes towards the act of seeking psychological help, having difficulties in accessing the services, not being familiar with the mental health service which originated in Western countries, or expressing somatic symptoms to psychological help (Blignault et al., 2008; Chang, 2007; Chen, Sullivan, Lu, & Shibusawa, 2003; Leong, & Lau, 2001; Mok, & Mak, 2009; Park, 2011; Spencer, & Chen, 2004; Sue & Sue, 2008; Yeh, 2002).

According to Ang and Yeo (2004), in general, Asians hesitate in seeking help from mental health professionals, and would rather seek help from informal social support. Especially in Hong Kong, there are many barriers that force people to seek help from informal social networks rather than from professionals. As a characteristic of traditional Chinese culture, Hong Kong individuals prefer to hide negative issues that might harm the reputation of their family.

Moreover, the subjective usefulness belief of people to help-seeking behavior also influences the preference of individuals seeking help from professionals (Chan, 2013). Psychotherapy is rooted in Western cultures and it is relatively new to the East. Not all Chinese people believe in its effectiveness, and therefore would rather seek help from non-professionals when suffering from negative emotions.

From a practical standpoint, people might be affected by the perceived levels of difficulty in performing the required help-seeking (Ajzen & Fishbein, 2005). As a fast-moving city concerned with efficiency, the lifestyle of Hong Kong's inhabitants is non-stop. If people

want to receive help from professionals in the government services, the waiting period for referral is very long indeed. In general, Hong Kong's citizens can be impatient. They prefer rapid solutions to problems and do not like to waste time waiting for help.

In addition, private sector professional consultation fees are very expensive. A consultation normally costs over HK\$1,000 per hour, and with the average monthly wage in 2015 being HK\$ 15,500 (CSD, 2015), people tend to avoid using private psychiatrists or psychologists. The location of these private clinics in Hong Kong is also a factor that discourages people from seeking professional help. Most are located in urban areas, such as Central or Causeway Bay, which is inconvenient for the majority of those who live far away. As a result, they may choose to not seek help from professionals.

With regard to the specific reasons of adolescents, they generally prefer seeking informal help from their parents or peers in their existing social network rather than seeking help from formal sources, such as psychologists, counselors, psychiatrists, or social workers (Ashely & Foshee, 2005; Black et al., 2008; Leach & Rockwood, 2009; Leavy et al., 2011). As they are professionals, many believe that those seeking help have severe mental issues. This can serve as an obstacle for some people when seeking help from professionals.

Due to these reasons, seeking informal help from social networks may be more useful in the daily life of Hong Kong's adolescents and may be more influential to the emotional well-being of adolescents in Hong Kong. In this study, the help seeking behavior of adolescents towards non-professionals (i.e., friends, teachers, and parents) will be examined.

Although a number of studies have investigated the help seeking intentions of individuals, this has not been chosen for this study. This is because help seeking intentions does not show the real situations behind why people use help-seeking actions. Rather, this study will be similar to previous research, which focuses on the actual behavior of help seeking (Chan, 2013; Cramer, 1999; Han, & Pong, 2015; Logan, Steel, & Hunt, 2017; Liu et al., 2016; Sun et

al., 2016). Help seeking behavior has been chosen, as it is more explicit and more readily measurable than the intentions of help seeking. In addition, it is because differences exist between the influences of help seeking behavior and help-seeking intentions in the emotional well-being of adolescents. This also encourages an investigation on the help seeking behavior of adolescents and the relationship between the emotional well-being and help-seeking behavior of adolescents.

Pham, McWhirter, and Murrery (2014) developed a Help-Seeking Behaviors Scale (HSBS) for measuring the behaviors of help seeking from three different groups, which include parents, friends and teachers. This scale was adopted in this study to measure the help seeking behaviors of Chinese adolescents.

Relationship between attachment and help seeking behaviors

Attachment styles

lay the foundation for understanding relationships. It is well documented as one of the key factors that influence the decisions of adolescents in seeking help from their social networks (Arslan, Arslan, & Ari, 2012; Collins & Feeney, 2000; Evraire, Ludmer & Dozois, 2014; Hill et al., 2012; Larose, Boivin, & Doyle, 2001; Moran, 2007; Vogel & Wei, 2005). Those who are securely attached show significantly more help seeking behavior than insecurely attached people (DeFronzo, Panzarelli, & Butle, 2001; Larose & Bernier, 2001; Larose et al., 1999; Moran, 2007). Zhao et al. (2015) explained this phenomenon is due to the negative effect from secure attachment to the self-stigma of help seeking. Insecurely attached individuals generally have poor support-seeking skills (Lopez, 2009), which as a result directly relates to poor help seeking behavior. Due to this reason, attachment style may influence the help-seeking behavior of individuals.

Insecure individuals generally show less help seeking behavior. Those with insecure attachment reported that limited support was available, or that they were not satisfied with the

received support. They believed there was a large gap between what they needed from the helpers and what they receive from the helpers (Collins & Feeney, 2000). No matter how stressful the perceived problems, avoidant attachment individuals prefer not to seek help from others (Collins & Feeney, 2000). They tend to deny their distress as a strategy for coping (Vogel & Wei, 2005). However, for individuals with a low avoidance level, the more stress or problems they perceived, the more support they would seek from others (Collins & Feeney, 2000).

Results regarding the relationship between anxiety attachment and help seeking behaviors are more inconsistent. Vogel and Wei (2005) found that individuals with anxiety attachment showed increased help seeking behavior, as they perceived positive benefits from help seeking (Larose et al., 1999; Vogel & Wei, 2005). However, Larose et al. (1999) found that higher levels of attachment anxiety is related to more help seeking, provided that they have a positive network orientation. On the contrary, higher levels of attachment anxiety can also be associated with less help seeking. They explained this finding by denying the usefulness of people's social networks in providing help, which then lowers their help-seeking capacity (Larose et al., 1999). Individuals with anxious attachment desire other people's help, but lack the confidence in interpersonal interactions. This type of ambiguity may lead to inconsistent help seeking behaviors.

Relationship between help seeking behaviors and emotional well-being Help

seeking behaviors is a key element in the emotional well-being of individuals. It is an active process to obtain support from one's social network. Chen et al. (2014) found that there is a positively association between help seeking behaviors and emotional well-being of Chinese adolescent. If a person has a poor social network, they might struggle to find someone with whom to share and get help from when they are facing problems (Newman, 1998; Ryan &

Pintrich, 1998). A person may try and use their own coping strategies to deal with problems. They might attempt to make more of an effort and tackle their problems head on. However, if the problem is not resolved, the emotional well-being of the individual might be harmed, as it directly lowers their self-esteem. In turn, they might doubt their abilities and try to avoid similar issues in the future (Chan, 2013; Lee, 1997; Tessler & Schwartz, 1972). Over time, this gradually reduces the level of the individual's emotional well-being. Furthermore, as others may expect the failure to be led by individual and so this person might back away from problems in an attempt to avoid failure. This imagined incompetence from others may reduce the connection between the individual and others, thereby weakening their social network (DePaulo & Fisher, 1980; Lee, 1997). Once the size of their social network reduces, the opportunity for the individual to find support decreases (Coates & Winston, 1987; Kahn & Hessling, 2001). There will be no resolution for issues, and they will have no way of venting their frustration, anger, worry, or sadness through their social network. Eventually, the emotional well-being of the individual will weaken. Therefore, help-seeking is very important for individuals, especially adolescents who are not mature enough to deal with everyday challenges, to reduce their negative emotions. This suggests that the emotional well-being of adolescents should be influenced by their help seeking behavior. An investigation on help seeking behavior should be carried out in order to enhance the emotional well-being of Chinese adolescents.

Mediating effects of help seeking behaviors As attachment style and emotional well-being are related to help seeking behaviors respectively, mediating effects from attachment to emotional well-being through help seeking behaviors may exist. Although limited research has been conducted for investigating help seeking behavior as a mediator for attachment to emotional well-being of individuals, several findings have supported this linkage.

As mentioned previously, secure attachment of individuals is positively associated with help seeking behaviors (DeFronzo, Panzarell, & Butle, 2001; Larose & Bernier, 2001; Larose et al., 1999; Moran, 2007). Individuals with avoidant attachment seek less help from others (Vogel & Wei, 2005). For anxiety attachment, it shows inconsistent relationships with help seeking behaviors (Larose et al., 1999). Furthermore, help seeking is found to be related to emotional well-being (Biddle, 2004; Chung, Kan, & Yeung, 2014; Yakunina et al., 2010). Additional help seeking behaviors can help to reduce the problems that affect individuals' emotions, and hence better emotional well-being will occur. Therefore, help seeking behaviors can serve as a mediating factor for attachment avoidance to emotional well-being but it may not be the mediator for attachment anxiety to emotional well-being (Larose et al., 1999). This will be further investigated later in this study. For a better understanding of the emotional well-being of Chinese adolescents, two research questions have been proposed. The first question is related to the mediating effects of perceived social support and help seeking behaviors for attachment to emotional well-being. It is hypothesized that both are the mediators for attachment avoidance to emotional well-being. The second question explores the relationships between attachment anxiety to emotional well-being in both direct and indirect effects. It is hypothesized that attachment anxiety is negatively associated with emotional well-being for Chinese adolescents. In addition, perceived social support, but not help seeking behaviors, is expected to mediate the effect from attachment anxiety to emotional well-being.

Perceived Social Support VS Help Seeking Behaviors

A unique contribution of this study is that it includes both perceived social support and help seeking behaviors, reflecting the subjective evaluation and behavioral indicator of social support respectively. Perceived social support can be considered as a passive and implicit

way for individuals to enhance their emotional well-being (Taylor, 2011). As peer connectedness is important for emotional wellbeing (McGraw et al., 2008), emotional well-being will be enhanced automatically once a peer connection is established. On the contrary, help seeking behaviors can be considered as an active and explicit way for enhancing emotional well-being (Taylor, 2011). If individuals are unable to accomplish certain tasks, they will actively ask for help, observe how others reach their goals or discuss similar experiences with others (DePaulo & Fisher, 1980) and the emotional well-being will improve after tackling existing problems. Surprisingly, there are limited studies that have placed social support and help seeking behaviors together to investigate the effects of emotional well-being as a whole. There is a need to compare their effects towards the emotional well-being of adolescents to see which is more important in order to design a plan for enhancing the emotional well-being for adolescents.

In a Chinese context, perceived social support is encouraged to a great extent among people (Fuligni, Tseng, & Lam, 1999; Lee, Suchday, & Wylie-Rosett, 2012; Yeh & Bedford, 2003), but the help seeking behaviors of adolescents is discouraged (Anyon et al., 2013; Huang, Yu, & Ledsky, 2006; Lee & Rotheram-Borus, 2009; Taylor et al, 2004). In traditional Chinese culture, individuals usually consider a group as a basic unit in society, rather than the individuals (Fuligni, Tseng, & Lam, 1999; Hsu, 1981; Leung, 2010; Yeh & Bedford, 2003). This group-oriented belief system strengthens the perceived social support of Chinese individuals. As a result, social relationships and roles become important to the core of ‘the self’ (Bond & Hwang, 1986; Hofstede, 1980; Hsu, 1971; Hsu, 1981; Hwang, 1987, 2000; King, 1991; Leung, 2010).

On the contrary, the help seeking behaviors for adolescents is not favorable in traditional Chinese culture (Anyon et al., 2013; Huang, Yu, & Ledsky, 2006; Kim, Sherman, & Taylor, 2008; Lee & Rotheram-Borus, 2009; Taylor et al, 2004; Tien, & Konnert, 2014). Emotional

and personal issues are not important for many Chinese individuals (Kim, Sherman, & Taylor, 2008; Kung, 2003; Mau, & Jepsen, 1990; Tracey, Leong, & Glidden, 1986) as there are some negative potential consequences like they seem to disclose a lack of will power, bad thoughts, and immaturity of individuals. Therefore, solving one's problems and self-control rather than seeking help is encouraged (Kung, 2003; Leong, 1986; Sue, & Morishima, 1982). Moreover, repressing emotional vulnerability and feelings is also common in Chinese culture (Bui, & Takeuchi, 1992; Kung, 2003; Mau, & Jepsen, 1990; Snowden, & Cheung, 1990). Disclosing family conflict or personal distress to others is discouraged, as it may only be perceived as bringing shame to one's family (Anyon et al., 2013; Huang, Yu, & Ledsky, 2006; Kung, 2003; Lee & Rotheram-Borus, 2009; Uba, 1994). Shea and Yeh (2008) also suggested that when the Asian value of individuals decreases, they prefer to seek more help. Some studies had tried to explain the phenomenon. Mok et al. (2008) found that losing face is one of the reasons hinders Chinese individuals to seek help and this action can disturb others at the same time. Stigmatization of mental illness and emotional distress are also another reasons why Chinese individuals seek less help (Leong & Lau, 2001; Witt et al., 2011). Kim, Sherman and Taylor (2008) suggested that Asian have a strong belief that individuals have responsibility to tackle their own problem. Criticism from others and damage of group harmony will be resulted.

Based on the findings above, perceived social support probably plays a more important role towards emotional well-being of Chinese adolescents than help seeking behaviors. Further studies should be carried out in order to compare these two constructs in a Chinese context, and hence their relationships with the emotional well-being of adolescents.

As discussed previously, Chinese individuals have different beliefs on perceived social support and help seeking behaviors. They emphasize perceived social support more than help seeking behaviors. Therefore, the third research question will compare the association of

perceived social support and help seeking behaviors to emotional well-being. It is hypothesized that the association between perceived social support to emotional well-being is stronger than help seeking behaviors in a Chinese context. This will help to clearly understand how to improve the emotional well-being of adolescents in a Chinese context.

Gender Difference in the Relationship Between Attachment and Emotional Well-Being

Many previous studies have found that gender differences exist in different constructs.

Females show a comparatively poorer emotional well-being (Hui, 2000; Impett & Peplau, 2006; Vandeleur, Jeanpretre, Perrez, & Schoebi, 2009), report more perceived social support (Chong et al., 2006; Demaray & Malecki, 2002; Malecki & Demaray, 2002; Prinstein et al., 2005; Prinstein et al., 2005), and more help seeking behaviors (Biddle et al., 2004; Black et al., 2008; Leavy et al., 2011; Raviv et al., 2000; Wilson, 2013) than males.

Meanwhile, the relationship between different constructs also shows certain gender differences.

Females are more relationship-orientated (Friedman, 1991; Gallagher et al., 1992; Hui, 2000; Stark et al., 1989) than males, and they report more interpersonal problems which suggests that less perceived social support leads to even worse emotional well-being for females. This is consistent with the findings of Prinstein et al (2005), concluding that the association between perceived social support and emotional well-being of females is larger than males.

This is also observed during adolescence. Benenson and Christakos (2003) conducted a study of 120 adolescents aged 10 to 15 years old, from Grades 5 to 9, to investigate the difference between friendships in different genders. They found that females within these ages had a shorter duration of current friendships, more former friendships were ended, that they were more distressed when imagining the termination of a friendship, and were more able to do something to hurt a friendship than males in the same age group. This reflects that

interpersonal relationships are more important in female adolescents than males; and that this would probably affect the emotional well-being of female adolescents more than male adolescents.

Females tend to seek more help from others compared to males (Addis, & Mahalik, 2003; Biddle et al., 2004; Black et al., 2008; Leavy et al., 2011; Morgan, Ness, & Robinson, 2003; Raviv et al., 2000; Shea, & Yeh, 2008; Shek, 1992; Taylor et al., 2000; Wilson, 2013), which as a result, leads to a better emotional well-being. It is suggested that males tend to internalize problems as a copying method (emotional regulation) when facing difficulties with their family, work, or marriage. However, females prefer to use external coping methods (seeking help from others) when facing difficulties in various aspects (Shek, 1989). Gender-role norms are also suggested as another reason for this gender difference. Males tend not to express their weaknesses in stereotypically masculine roles, to avoid showing incapability. Conversely, females showing incapability in stereotypically feminine roles is more acceptable (Boldero & Fallon, 1995; Rickwood & Braithwaite, 1994). Hence, more help seeking behaviors in females should have a larger effect on their emotional well-being, compared to males. adolescence, females also show more help seeking behavior than males (Benenson & Koulkazarian, 2008; Eliot et al., 2010; Fröjd et al., 2007). Eliot et al. (2010) performed comprehensive research on the willingness to seek help for bullying and threats of violence. The study consisted of 7318 participants aged under 18, from Grade 9 to 12, in 291 high schools. They found that among the participants, girls were more willing, and seeking more help, than boys. Fröjd et al., (2007) also conducted a two-year longitudinal study of 3278 Grade 9 participants (mean age = 15.5 in the first wave of data collection), investigating the help seeking for depression. Besides suggesting that subjects associated with help seeking for depression, they found that female adolescents who suffered from depression sought more help than those of male adolescents.

To summarize, relationships have been found to be more influential to females' well-being compared to males (Cross, & Madson, 1997; Hay, & Ashman, 2003; Ma, & Huebner, 2008; Taylor et al., 2000). With different behavioral patterns in relationships of both genders, males tend to be more independent, while females seem to be more attached to others (Claes, 1992). Females are more likely to draw support from others than males, for actively obtaining the relatedness in their peer relations (Bokszczanin, 2012; Cross, & Madson, 1997). Therefore, it is expected that attachment can be more influential to girls' emotional well-being.

The last research question is proposed and supported by relevant literature to investigate whether insecure styles have stronger detrimental effects on emotional well-being for females, and it is hypothesized that insecure females have a stronger detrimental effect on emotional well-being compared to males.

Objectives and Hypothesis

To conclude, the aim of this research is to discover the relationships between the emotional well-being of Chinese adolescents and attachment. The effects of perceived social support and help seeking behaviors from non-professionals in mediating the effect of attachment style on emotional well-being must also be investigated and compared. Gender differences in the model will also be analyzed to see whether insecure females have a stronger effect on emotional well-being. In short, the relationship of attachment to emotional well-being of Chinese adolescents will be fully investigated. All the relationships between the key variables are presented in Figure 1 below.

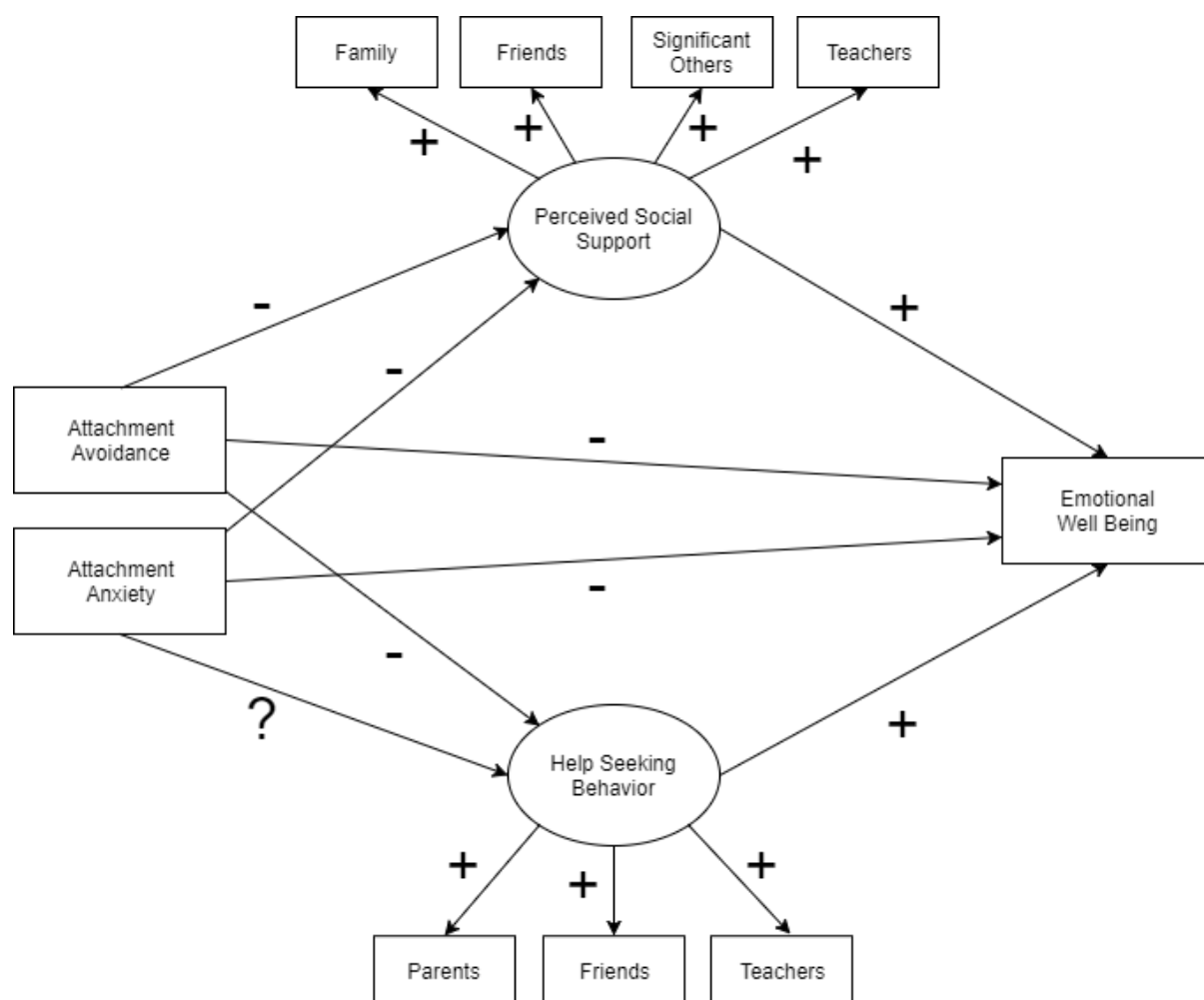


Figure 1. The proposed model of this study with hypothesized associations (gender differences in all the paths are also tested).

The four research questions of this study have been stated again with corresponding hypotheses.

Research question 1: To examine the relationship between attachment avoidance and adolescents' emotional well-being and whether perceived social support and help seeking behaviors mediate the relationship.

Hypothesis 1: Attachment avoidance is negatively associated with emotional well-being. Perceived social support and help seeking behaviors are mediators for the effect of attachment avoidance on emotional well-being.

Research question 2: To examine the relationship between attachment anxiety and adolescents' emotional well-being and whether perceived social support and help seeking behaviors mediate the relationship.

Hypothesis 2: Attachment anxiety is negatively associated with emotional well-being. Perceived social support, but not help seeking behavior, is a mediator for attachment anxiety to emotional well-being.

Research question 3: To investigate whether perceived social support has a stronger effect on emotional well-being than help seeking behaviors in a Chinese context

Hypothesis 3: The association between perceived social support and emotional well-being is stronger than help seeking behaviors in a Chinese context.

Research question 4: To investigate gender difference in the effect of insecure attachment styles on adolescents' emotional well-being.

Hypothesis 4: Insecure styles may have stronger detrimental effects on emotional well-being for females.

CHAPTER 3: METHODOLOGY

Procedures

Invitation letters were first sent to the principals of four schools, together with the consent forms of the current research study. Only two schools agreed to join the study. School A is located in Ma On Shan, New Territories, Hong Kong and was established in September 1998. It is an aided co-educational school with a Christian background. School B is located in Yuen Long, New Territories, Hong Kong. It is a co-educational school with a Christian background and it joined the direct subsidy scheme,

After approval from the principals, the signed consent forms from the schools were collected. Invitation letters and consent forms for students and parents were then sent to the schools. After collecting the signed consent forms from the students and their parents, the combined questionnaires were sent to the schools. With the assistance of their class teachers, students had around 30 minutes to complete the questionnaires during the lesson time. Once they had finished, the administrator collected the questionnaires and started data entry immediately.

Participants

All students from Secondary One to Secondary Six were invited to participate in the study. At the end of the data collection, there was a total of 603 completed questionnaires returned by the schools. There were 229 questionnaires from School A and 374 questionnaires from School B. During data entry, some invalid questionnaires (3 from School A and 21 from School B) were eliminated due to missing data from a whole subscale of the questionnaires. Eventually, 226 questionnaires from School A and 353 questionnaires from School B were included for further data analysis.

Measures

With the current study being carried out in a Hong Kong context, Chinese was used as the mother-tongue. Because of this, a Chinese version of the combined questionnaire was needed. Some of the questionnaires had already been translated into Chinese for previous research. For those that had not, the questionnaires were first translated into Chinese by the administrator, then were translated back into English by the other two administrators who worked as translators. The differences of the wordings in the translations were then discussed and compromised by the two translators for ensuring the consistence of linguistic. After all, a final Chinese version of questionnaire was administered.

Demographics Participants were asked to report their age, level of study (Secondary One to Secondary Six), gender (male or female), the socio-economic status of their families using family income ($\leq \$10000$, $\$10001-\20000 , $\$20001-\30000 , $\$30001-\40000 , $\$40001-\50000 , $> \$50000$, or not sure), and the education levels of their parents (Primary or below, Primary One to Primary Six, Secondary One to Secondary Three, Secondary Four to Secondary Five, Secondary Six to Secondary Seven, bachelor's degree, master's degree or above, or not sure).

Attachment style The Experience in Close Relationships Scale (ECRS; Brennan et al., 1988) was used to measure the attachment style of the respondents in a two-dimensional model. The scale had 36 statements in total and used a seven-point Likert scale (1 = disagree strongly, 2 = disagree, 3 = a bit disagree, 4 = neutral/mixed, 5 = a bit agree, 6 = agree, to 7 = agree strongly). The participants had to report how well the items described their feelings of close relationships. The scale was used to measure the continuous dimensions of anxiety and avoidance of the participants. With high scores in either one of the dimensions, or in both

dimensions, individuals can be described as insecurely attached. On the other hand, individuals receiving low scores in both of the dimensions are described as securely attached. This scale simultaneously reflects the level of avoidance and anxiety attachment, and the security of attachment. The sample statements of anxiety were: *“I prefer not to show a partner how I feel deep down”*, *“Just when my partner starts to get close to me I find myself pulling away”*, and *“I am nervous when partners get too close to me”*. The sample reverse statement of anxiety was: *“I am very comfortable being close to romantic partners”*, *“I tell my partner just about everything”*, and *“I feel comfortable depending on romantic partners”*. The sample statements of avoidance were: *“I worry about being abandoned”*, *“I worry a lot about my relationships”*, and *“I worry that romantic partners won’t care about me as much as I care about them”*. The sample reverse statement of avoidance was: *“I do not often worry about being abandoned”*. The anxiety subscale and avoidance subscale had .91 and .94 Cronbach’s alphas respectively, which showed a good reliability for the ECRS.

The Chinese version of the ECRS (ECRS-C) was translated by Mallinckrodt and Wang (2004). It was also used to measure the continuous dimensions of anxiety and avoidance of the participants. The Cronbach’s alphas of the ECRS-C were .92 and .94 for anxiety and avoidance subscales respectively, which were close to the original English version made by Brennan et al (1988) and demonstrated a good reliability. Some wording of the ECRS-C was changed in order to be more suitable and understandable for the participants at the Secondary level. The words ‘partner’ and ‘romantic partner’ were changed to ‘others’ as this can assess the attachment style of the adolescent in general instead of to a specific person.

Perceived social support The Multidimensional Scale of Perceived Social Support

(MSPSS; Zimet et al., 1990) was adopted to measure the perceived social support of the participants. There were in total twelve items on a five-point Likert scale (1 = strongly

disagree, 2 = disagree, 3 = a bit disagree, 4 = neutral/mixed, 5 = a bit agree, 6 = agree, to 7 = strongly agree) measuring the three sources of social support. These were family, friends, and significant others. The sample statements of perceived social support from family, friends, and significant others were: *“My family really tries to help me”*, *“I can count on my friends when things go wrong”*, and *“There is a special person in my life who cares about my feelings”* respectively. The MSPSS showed a good internal reliability with a Cronbach’s alpha of .88 for the whole scale. The internal reliability for the subscales of family, friends, and significant others were .81, .85 and .91 respectively.

A Chinese version of the MSPSS (MSPSS-C) was translated by Chow (2000). This was used to measure the perceived social support of participants. It showed a good reliability as the Cronbach’s alpha for the MSPSS-C was .89. Four items were intentionally added to the scale in order to measure the perceived social support from the teachers of the participants, which could be echoed with help seeking behavior of the participants. The four items were: *“I can talk about my problems with my teachers”*, *“My teachers are willing to help me make decisions”*, *“My teachers really try to help me”*, and *“I get the emotional help and support I need from my teachers”*.

Help seeking behavior The Help-Seeking Behaviors Scale (HSBH: Pham, McWhirter, & Murray, 2014) was adopted to measure the help seeking behaviors of the participants in the current study. The scale measured the behaviors of help seeking from parents, friends, and teachers of the participants, with fifteen items in total on a five-point Likert scale (1 = almost never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = very often). Sample statements of help seeking from parents, friends, and teachers were: *“Asked your parents for help?”*, *“Talked to a friend about problems at school?”*, and *“Talked to a teacher about personal issues?”*. The

Cronbach's alphas of the HSBS were .88 for the full scale, .88 for parents, .84 for peers, and .84 for teachers in the subscales, which showed good internal consistency.

A Chinese version of the HSBS (HSBS-C) was used to measure the help seeking behaviors of the participants. This version was translated by the administrator and the two other translators using the back-translation procedure.

Emotional Well-being The Positive and Negative Affect Scales (PANAS; Watson, Clark, & Tellegen, 1988) was adopted to measure the emotional well-being of the participants in the current study. This scale consisted of twenty words describing different feelings and emotions for measuring the positive and negative affects of the participants in different time frames. "The past one to two weeks" was chosen in the current study, on a five-point Likert scale (1 = very slightly or not at all, 2 = a little, 3 = moderately, 4 = quite a bit, and 5 = extremely). The 10 positive affect words were "*interested*", "*excited*", "*strong*", "*enthusiastic*", "*proud*", "*alert*", "*inspired*", "*determined*", "*attentive*", and "*active*". The 10 negative affect words were "*distressed*", "*upset*", "*guilty*", "*scared*", "*hostile*", "*irritable*", "*ashamed*", "*nervous*", "*jittery*", and "*afraid*". The scale showed a good internal reliability where the Cronbach's alphas ranged from .86 to .90 for positive affects to .84 to .87 for negative affects. The time instruction used did not affect the reliability of the scale. PANAS was translated into Chinese (PANAS-C) by Huang, Yang, and Ji (2003) for measuring the emotional well-being of the participants. Good reliability of the scale was shown by the Cronbach's alpha of .82, with Cronbach's alphas of .85 and .83 for the subscale of positive affects and negative affects respectively.

Ethical Considerations

Following the university's ethical review, information and consent forms were distributed to the schools, parents, and participants after getting formal approval from the university's human research ethics committee. Following the information and consent forms, questionnaires were distributed to the participants by their class teachers. Without writing the names of the participants, the completed questionnaires were collected in a sealed envelope by the class teachers during the class period. After the administrator had collected all the questionnaires, reference numbers were assigned to each questionnaire to maintain anonymity. To maintain security, all hard copies of the questionnaires were stored in a locked drawer in the supervisor's room. In addition, all information collected will be destroyed five years after submission of the study.

Plan of Analysis

The reliability of each of the scales, ECRS-C, MSPPSS-C, HSBS-C and PANAS-C, would be analyzed by finding each of their Cronbach's alphas. Furthermore, the composite scores of the combined scales were calculated by averaging the rating of individual items after confirming the reliability of the scales.

Descriptive statistics about the participants for all variables were calculated. For school, gender, level of education, family income, education level of father, and education level of mother, the percentages of different groups were calculated. For age, attachment avoidance, attachment anxiety, perceived social support, help seeking behaviors, and emotional well-being, the means and standard deviations were calculated.

Correlations between the attachment avoidance, attachment anxiety, perceived social support, help seeking behaviors, and emotional well-being of the adolescents were calculated.

SPSS-AMOS 22 was used to construct the Structural Equation Modeling (SEM) for testing the goodness of fit of the proposed mediation model by checking the root mean square residual (RMR), Tucker-Lewis index (TLI), the comparative fit index (CFI), the normed fit index (NFI), and the root mean square error of approximation (RMSEA). After confirmation of the proposed model, model comparison for gender differences was done so that the differences between genders could be examined.

Finally, the indirect effects between attachment style (for both attachment avoidance and attachment anxiety) and emotional well-being through perceived social support and help seeking behaviors were examined using the Sobel test.

CHAPTER 4: DATA ANALYSIS AND RESULTS

Reliability

Before analyzing the collected data, the reliability of the four scales in the questionnaires was examined so that the data could be satisfied and used in the process which followed. The reliability of each scale was calculated using the IBM SPSS Statistics Version 21. Table 1 shows the Cronbach's alphas of the four scales in the current study, including the Experience in Close Relationships Scale – Chinese version (ECRS-C; for subscales of avoidance; $\alpha = .73$; and anxiety; $\alpha = .89$), the Multidimensional Scale of Perceived Social Support – Chinese version (MSPSS-C, $\alpha = .93$; for subscales of family, $\alpha = .92$; friends, $\alpha = .91$; significant others, $\alpha = .89$; and teachers, $\alpha = .90$), the Help-Seeking Behavior Scale – Chinese version (HSBS-C; $\alpha = .73$; for subscales of parents, $\alpha = .92$; friends, $\alpha = .90$; and teachers, $\alpha = .91$), and the Positive and Negative Affect Scales – Chinese version (PANAS-C; $\alpha = .83$). All the Cronbach's alphas of the scales were larger than .70 which shows satisfactory reliability (Nunnally, 1978).

TABLE 1

The Cronbach's alphas of the four scales used in the current study

Scale	Cronbach's alpha, α
The Experience in Close Relationships Scale – Chinese version (ECRS-C)	
For avoidance	.73
For anxiety	.89
The Multidimensional Scale of Perceived Social Support – Chinese version (MSPSS-C)	.93
From family	.92
From friends	.91
From significant others	.89
From teachers	.90
The Help-Seeking Behavior Scale – Chinese version (HSBS-C)	.73
From parents	.92
From friends	.90
From teachers	.91
The Positive and Negative Affect Scales – Chinese version (PANAS-C)	.83

Descriptive statistics

With satisfactory reliability of the questionnaires established, the collected data was then analyzed.

The descriptive statistics were then analyzed. The mean age of the 565 participants (of which 14 did not indicate their age) in the sample was 14.94 years ($SD = 2.01$). The percentages of dichotomous variables were calculated by IBM SPSS Statistics Version 21 and are shown in Table 2. Out of a total of 579 participants, 44% of the participants were female and 56% were male.

The percentages of the other ordinal level variables were also calculated using IBM SPSS Statistics Version 21 and are also shown in Table 2. For the education level of the participants, 14.2% came from Secondary One, 16.2% came from Secondary Two, 20.0% came from Secondary Three, 18.5% came from Secondary Four, 18.8% came from Secondary Five, 11.7% came from Secondary Six, and 0.50% failed to report their level of education. For monthly family income, 4.0% of the participants were lower than \$10000, 4.7% were between \$10001 and \$20000, 4.8% were between \$20001 and \$30000, 3.6% were between \$30001 and \$40000, 1.6% were between \$40001 and \$50000, 6.2% were more than \$50000, and 75.1% failed to report their family income. For the father's education level, 2.6% of the participants reported that their fathers were below primary school level, 3.5% were between Primary One and Primary Six, 7.8% were between Secondary One and Secondary Three, 8.1% were between Secondary Four and Secondary Five, 13.6% were between Secondary Six and Secondary Seven, 9.0% held bachelor's degrees, 8.8% held master's degrees or above, and 46.6% failed to report the education level of their fathers. For the mother's education level, 3.3% of the participants reported that their mothers were below primary school level, 4.1% were between Primary One and Primary Six, 8.3% were between Secondary One and Secondary Three, 7.3% were between Secondary Four and Secondary

Five, 15.7% were between Secondary Six and Secondary Seven, 9.0% held bachelor's degrees, 7.8% held master's degrees or above, and 44.6% failed to report the education level of their mothers. The high amount of missing data for family income and parent education level may be due to the poor communication between parents and adolescents in the Chinese context. Usually, Chinese parents are quite busy and it is difficult for them to talk to their children (Kwok & Shek, 2010). Because of this, it is common for adolescents to know nothing about their own family background and hence, maybe why they failed to report as much in the current study.

TABLE 2

The percentages of each of the ordinal variables of participants (gender, education level, family income, father's and mother's education level. N = 579)

	N	Percentage
Gender		
Female	255	44.0%
Male	324	56.0%
Missing	0	0%
Education level		
S1	82	14.2%
S2	94	16.2%
S3	116	20.0%
S4	107	18.5%
S5	109	18.8%
S6	68	11.7%
Missing	3	0.50%
Family income		
=<\$10000	23	4.0%
\$10001 - \$20000	27	4.7%
\$20001 - \$30000	28	4.8%
\$30001 - \$40000	21	3.6%
\$40001 - \$50000	9	1.6%
>\$50000	36	6.2%
Missing	435	75.1%
Father's education level		
Below primary school	15	2.6%
P1 to P6	20	3.5%
S1 to S3	45	7.8%
S4 to S5	47	8.1%
S6 to S7	79	13.6%
Bachelor	52	9.0%
Master or above	51	8.8%
Missing	270	46.6%
Mother's education level		
Below primary school	19	3.3%
P1 to P6	24	4.1%
S1 to S3	48	8.3%
S4 to S5	42	7.3%
S6 to S7	91	15.7%
Bachelor	52	9.0%
Master or above	45	7.8%
Missing	258	44.6%

The means and standard deviations of the rest of the variables were also calculated using

IBM SPSS Statistics Version 21 and are shown in Table 3. The mean scores of the

attachment avoidance of 579 participants was 3.85 ($SD = 0.71$), attachment anxiety was 3.73 ($SD = 0.99$), perceived social support was 19.17 ($SD = 4.78$), help seeking behaviors was 9.29 ($SD = 2.26$), and emotional well-being was 3.23 ($SD = 0.49$).

TABLE 3

The means and standard deviations of the variables

	<i>N</i>	Mean	Standard deviation
Attachment avoidance	579	3.85	0.71
Attachment anxiety	579	3.73	0.99
Perceived social support	579	19.17	4.78
Family	579	4.71	1.66
Friends	579	5.05	1.46
Significant others	579	5.22	1.45
Teachers	579	4.20	1.51
Help seeking behavior	579	9.29	2.26
Parents	579	3.12	1.11
Friends	579	3.50	0.99
Teachers	579	2.66	1.04
Emotional well-being	579	3.23	0.49

The inter-correlations among the study variables are displayed in Table 4 and 5.

TABLE 4

*The correlations of the variables of all participants (**: $p > .01$; *: $p > .05$; $N = 579$)*

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1 Attachment avoidance	1											
2 Attachment anxiety	.112**	1										
3 Perceived social support	-.414**	-.141**	1									
4 Family	-.323**	-.209**	.771**	1								
5 Friends	-.400**	-.070	.850**	.465**	1							
6 Significant others	-.398**	-.082*	.822**	.416**	.869**	1						
7 Teachers	-.186**	-.071	.706**	.492**	.375**	.343**	1					
8 Help seeking behaviors	-.371**	-.013	.615**	.523**	.452**	.431**	.520**	1				
9 Parents	-.264**	-.113**	.478**	.656**	.253**	.253**	.306**	.744**	1			
10 Friends	-.418**	.055	.472**	.200**	.572**	.551**	.189**	.684**	.250**	1		
11 Teachers	-.127**	.038	.377**	.248**	.165**	.140**	.626**	.729**	.314**	.265**	1	
12 Emotional well-being	-.407**	-.348**	.450**	.369**	.395**	.400**	.251**	.310**	.256**	.297**	.117**	1



TABLE 5

*The correlations of the variables of different genders. (Upper right: female, lower left: male) (**: $p > .01$; *: $p > .05$; $N = 255$ for F, 324 for M)*

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1 Attachment avoidance		.170**	-.409**	-.376**	-.393**	-.349**	-.148*	-.414**	-.379**	-.415**	-.088	-.412**
2 Attachment anxiety	.063		-.284**	-.320**	-.199**	-.189**	-.156*	-.195**	-.250**	-.052	-.102	-.382**
3 Perceived social support	-.417**	-.032		.794**	.837**	.793**	.679**	.723**	.597**	.530**	.423**	.473**
4 Family	-.274**	-.114*	.755**		.490**	.403**	.492**	.642**	.781**	.275**	.283**	.439**
5 Friends	-.403**	.029	.858**	.447**		.853**	.311**	.540**	.360**	.636**	.176**	.408**
6 Significant others	-.434**	-.005	.846**	.433**	.881**		.279**	.496**	.321**	.604**	.152*	.388**
7 Teachers	-.225**	-.004	.732**	.494**	.431**	.406**		.547**	.327**	.175**	.686**	.226**
8 Help seeking behaviors	-.336**	.121*	.538**	.437**	.386**	.379**	.512**		.754**	.713**	.685**	.351**
9 Parents	-.161**	-.007	.389**	.561**	.166**	.190**	.302**	.734**		.311**	.251**	.358**
10 Friends	-.418**	.135*	.429**	.146**	.524**	.505**	.213**	.661**	.192**		.259**	.296**
11 Teachers	-.163**	.139*	.352**	.225**	.165**	.145**	.585**	.769**	.369**	.283**		.089
12 Emotional well-being	-.410**	-.321**	.438**	.313**	.394**	.427**	.267**	.290**	.191**	.313**	.131*	



In order to see if there was any significant difference between genders in the variables, a *t*-test was carried out. All the differences were not significant, therefore no gender differences in the variables. The means, standard deviations of the variables of difference genders and the *t*-values in each of the variables, are shown in Table 6.

TABLE 6

*The mean and standard deviations of the variables of different genders and the t-value in each of the variables. (**: $p < .01$, *: $p < .05$)*

	Female		Male		<i>t</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>	
Age	14.90	2.13	14.97	1.92	-0.39
Level of study	3.46	1.63	3.48	1.56	-0.08
Family income	3.27	1.76	3.70	1.81	-1.44
Father's education level	4.64	1.76	4.69	1.62	-0.23
Mother's education level	4.48	1.73	4.62	1.67	-0.74
Attachment avoidance	3.80	0.75	3.88	0.68	-1.19
Attachment anxiety	3.75	1.01	3.73	0.98	0.22
Perceived social support	19.38	4.66	19.00	4.86	0.93
Help-seeking behavior	9.47	2.15	9.14	2.33	1.78
Emotional well-being	3.20	0.48	3.25	0.49	-1.25

Confirmation of the Proposed Model

In order to test the hypothesis of the current study, the proposed model shown in Figure 2 was designed using structural equation modeling (SEM). The latent factors, perceived social support, and help seeking behaviors, were indicated by observed variables, perceived social support from family, friends, significant others, and teachers, as well as help seeking behaviors towards parents, friends, and teachers respectively. Emotional well-being was predicted by attachment avoidance and attachment anxiety with the direct effects then estimated. The indirect effects of attachment avoidance and attachment anxiety through perceived social support and help seeking behaviors to emotional well-being were also estimated.

Moreover, based on the proposed model, perceived social support and help seeking behaviors are both related to social relationships. Perceived social support may predict help seeking behaviors, as more perceived social support provides a higher chance for individuals to seek help. Help seeking behaviors may also predict perceived social support, as seeking help from others may be able to strengthen the social network of individuals (Vogel et al., 2007).

Therefore, a bidirectional relationship fits better than setting either perceived social support or help seeking behaviors as a predictor. As such, covariances were added between the disturbances of the two latent factors, as well as between the error terms of corresponding observed variables from the same source (e.g., perceived social support from family and help seeking behaviors towards family).

All of the data was put into AMOS and the structural equation modeling (SEM) was loaded. The commands loaded in AMOS are shown in Appendix C. Regression weights for perceived social support from teachers and help-seeking behaviors from teachers were set to 1.00. The root mean square residual (RMR), the norm fit index (NFI), the Tucker-Lewis index (TLI), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA) was .130, .931, .891, .940, and .103 respectively (The output of the goodness-of-fit is shown in Appendix D). These values showed a poor model fit. Therefore, modifications were considered in order to improve the goodness of fit for the current model.

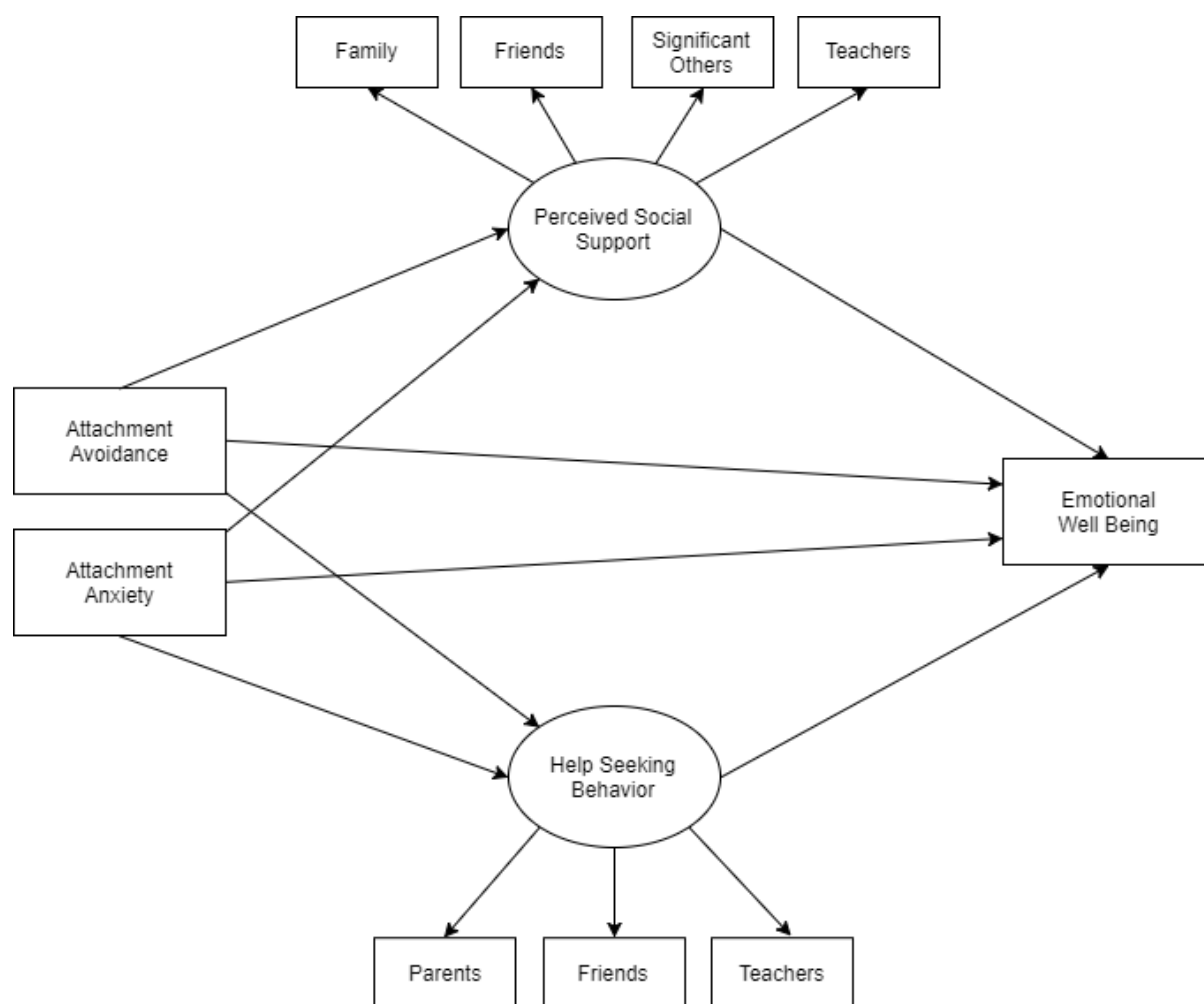


Figure 2. The proposed model of the current study

The modification indices suggested potential covariance between perceived social support and help seeking behaviors for teachers and parents. One possible reason could be that parents and teachers are both important adult figures in adolescents' lives. It is reasonable that perceived social support and help seeking behaviors for the two sources are interdependent. Thus, four more covariances were added to the model: between the error terms of perceived social support from family and that of perceived social support from teachers; between the error terms of help seeking behaviors towards parents and that of help seeking behaviors towards teachers; between the error terms of perceived social support from family and that of help seeking behaviors towards teacher; and between the error terms of perceived social support from teachers and that of help seeking behaviors towards parents.

After modification, the model was loaded again with the commands shown in Appendix E.

As seen in Appendix F, the goodness of fit improved. The RMR became .065, the NFI became .971, the TLI became .954, the CFI became .978, and the RMSEA became .067. For RMR, the value close to .05 indicates a good fit of the model (Hu, & Bentler, 1999). For NFI, TLI and CFI, the values of them close to .95, indicating a good fit (Hu, & Bentler, 1999). For RMSEA, the value near .05 indicates a good fit (Browne & Cudeck, 1993). In addition to the literature support, the final model of hypothesis was accepted because the goodness of fit had been satisfied. The unstandardized coefficients (B) and standardized coefficients (β) of the paths, with their standard errors and p -values in the confirmed model, are shown in Table 7 (the original output of AMOS is shown in Appendix G). The final model of the hypothesis was constructed, as seen in Figure 3 and Figure 4, with the unstandardized and standardized coefficients added between the corresponding variables respectively.

Table 7

*The unstandardized coefficients (B) and standardized coefficients (β) of the paths with their standard error and p -value in the confirmed model (**: $p < .05$).*

Paths	Unstandardized coefficients (B)	Standard error	Standardized coefficients (β)	p
AV → PSS	-.373**	.048	-.425**	***
AV → HSB	-.227**	.039	-.479**	***
AV → EWB	-.155**	.028	-.227**	***
AN → PSS	-.024	.025	-.038	.338
AN → HSB	.040**	.015	.117	.009
AN → EWB	-.150**	.017	-.305**	***
PSS → EWB	.200**	.045	.256**	***
PSS → PSS_fm	1.210**	.107	.462**	***
PSS → PSS_fd	2.225**	.203	.952**	***
PSS → PSS_sig	2.107**	.193	.912**	***
PSS → PSS_t	1.000		.411	
HSB → EWB	.111	.086	.077	.196
HSB → HSB_p	1.123**	.158	.340**	***
HSB → HSB_f	2.633**	.403	.896**	***
HSB → HSB_t	1.000		.323	

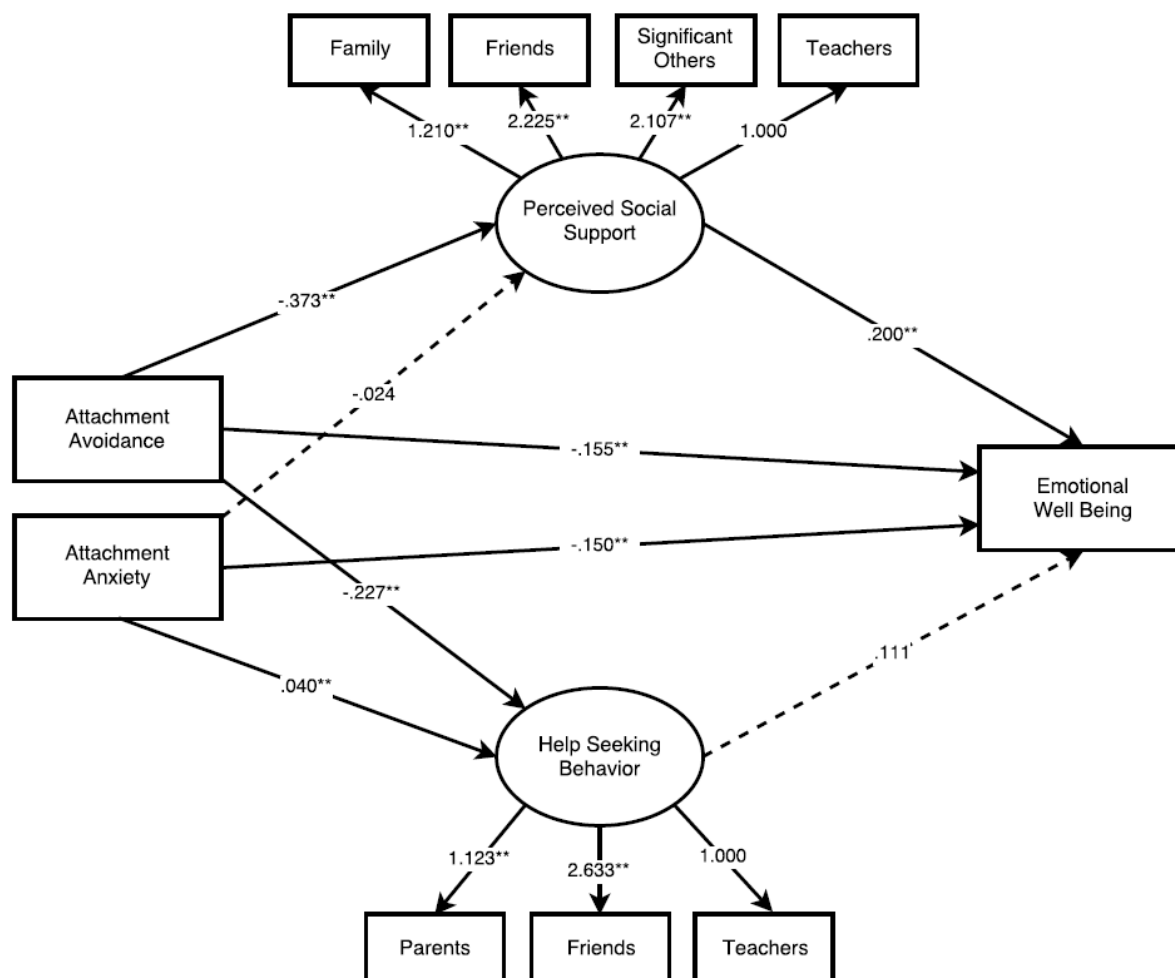


Figure 3. The final model of the hypothesis showing the unstandardized coefficients (B) between variables (**: $p < .05$) (dotted lines mean the paths are not significant.)

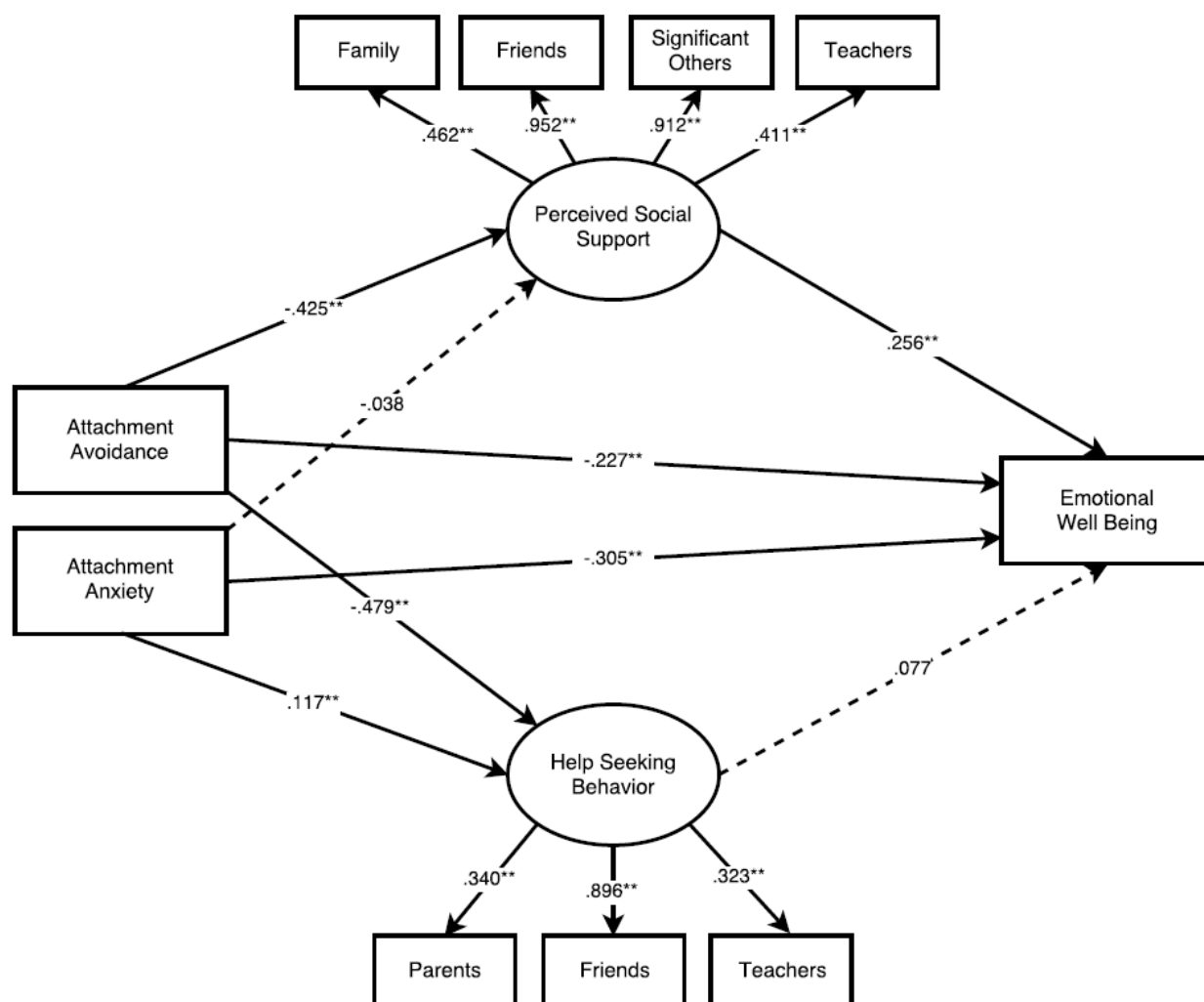


Figure 4. The final model showing the standardized coefficients (β) between variables. (**: $p < .05$) (dotted lines mean the paths are not significant.)

In order to observe the effect of certain demographic information (age, family income, and father's and mother's education levels) on emotional well-being – the major concern of the current study – correlations among them were checked and are shown in Table 8. Only age, and the father and mother's education levels had any significant correlation with emotional well-being. Age has a significantly negative relationship to emotional well-being, the father's and mother's education levels had significantly positive association with the emotional well-being of adolescents. Therefore, these were set as predictors for the emotional well-being of the above model. The multi-group analyses were repeated, however, the pattern of results did not change. As the percentage for missing data is high for the background variables, in order

to retain the sample size and testing power of the analyses, the model without the control variables was reported.

TABLE 8

*The correlations of age, family income, and father's and mother's education levels to emotional well-being (**: $p > .01$; *: $p > .05$; $N = 579$)*

Variables	1	2	3	4	5
1 Age	1				
2 Family income	-.165	1			
3 Father's education level	-.251**	.561**	1		
4 Mother's education level	-.225**	.446**	.643**	1	
5 Emotional well-being	-.090*	.136	.202**	.176**	1

Testing Gender Differences: Multi-group Analysis

As gender difference is crucial in the current study, comparisons were made in AMOS between genders within the same model to see if there was any difference. In order to check, different models were made by setting equal constraints on the same path in the male and female sample. The paths were tested one by one. If the equal constraint on a path was accepted, it would be kept in the model and a new constraint for the next path would be added and tested again. However, if the constraint was not accepted, it was removed and a new constraint was added before being tested again. All the paths were named as seen in Figure 5.

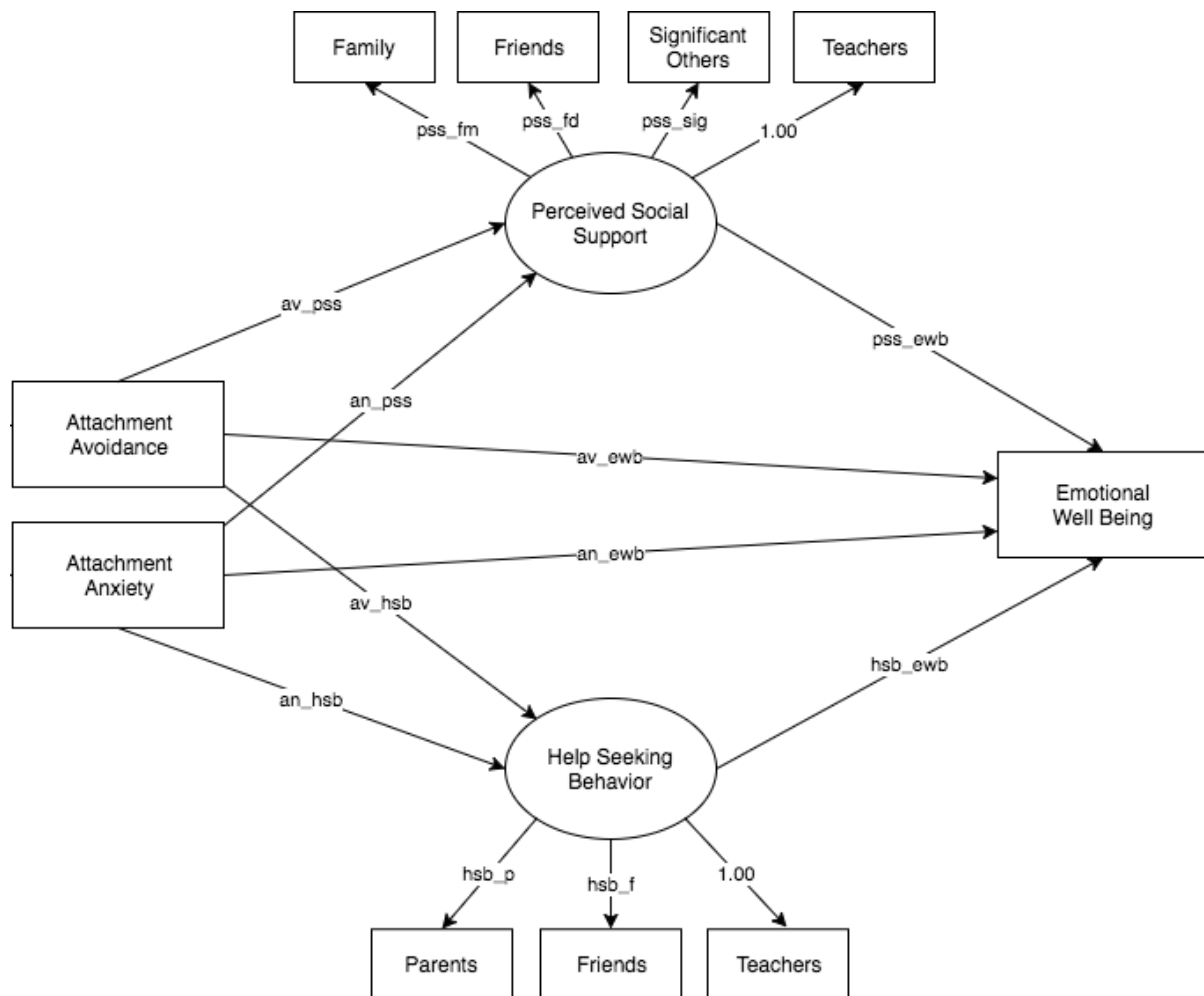


Figure 5. The diagram showing the names of the paths between variables.

Differences between genders in the model

Firstly, the paths between general perceived social support and perceived social support from family (pss_{fm}) were set as equal to the baseline model. The equal constraint was rejected ($\Delta\chi^2 = 3.803, p < .05$) [Model A]. The paths between general perceived social support and perceived social support from friends (pss_{fd}) were then set as equal. The equal constraint was accepted ($\Delta\chi^2 = 2.654, p > .05$) [Model B]. Based on Model B, the paths between general perceived social support and perceived social support from significant others (pss_{sig}) were set as equal. The equal constraint was accepted ($\Delta\chi^2 = 3.219, p > .05$) [Model C]. Following the same steps one by one to set the constraints of the paths as equal (the commands are shown in Appendix H), the results are shown in Table 9 (the original output is shown in Appendix I).

TABLE 9

The steps of setting equal constraints for paths in the model for different genders

Model	Constraints set	Chi-square change, $\Delta\chi^2$	p	Decision for equal constraint
A	Baseline model + pss_fm_1 = pss_fm_2	3.803	.048	Rejected
B	Baseline model + pss_fd_1 = pss_fd_2	2.654	.103	Accepted
C	Model B + pss_sig_1 = pss_sig_2	3.219	.073	Accepted
D	Model C + hsb_p_1 = hsb_p_2	2.382	.123	Accepted
E	Model D + hsb_f_1 = hsb_f_2	0.760	.383	Accepted
F	Model E + av_pss_1 = av_pss_2	2.705	.100	Accepted
G	Model F + av_hsb_1 = av_hsb_2	0.057	.811	Accepted
H	Model G + av_ewb_1 = av_ewb_2	0.228	.633	Accepted
I	Model H + an_pss_1 = an_pss_2	4.589	.032	Rejected
J	Model H + an_hsb_1 = an_hsb_2	4.810	.028	Rejected
K	Model H + an_ewb_1 = an_ewb_2	1.158	.282	Accepted
L	Model K + pss_ewb_1 = pss_ewb_2	0.173	.677	Accepted
M	Model L + hsb_ewb_1 = hsb_ewb_2	3.072	.080	Accepted

In the end, only three paths were rejected. These were the paths between general perceived social support and perceived social support from the family (pss_fm: $\Delta\chi^2 = 3.803$, $p < .05$), attachment anxiety and general perceived social support (an_pss; $\Delta\chi^2 = 4.589$, $p < .05$), and attachment anxiety and general help seeking behaviors (an_hsb; $\Delta\chi^2 = 4.810$, $p < .05$).

Hence, gender differences did exist in the relationship between general perceived social support and perceived social support from the family, attachment anxiety and general perceived social support, and attachment anxiety and general help seeking behaviors. These are also shown in Figure 6.

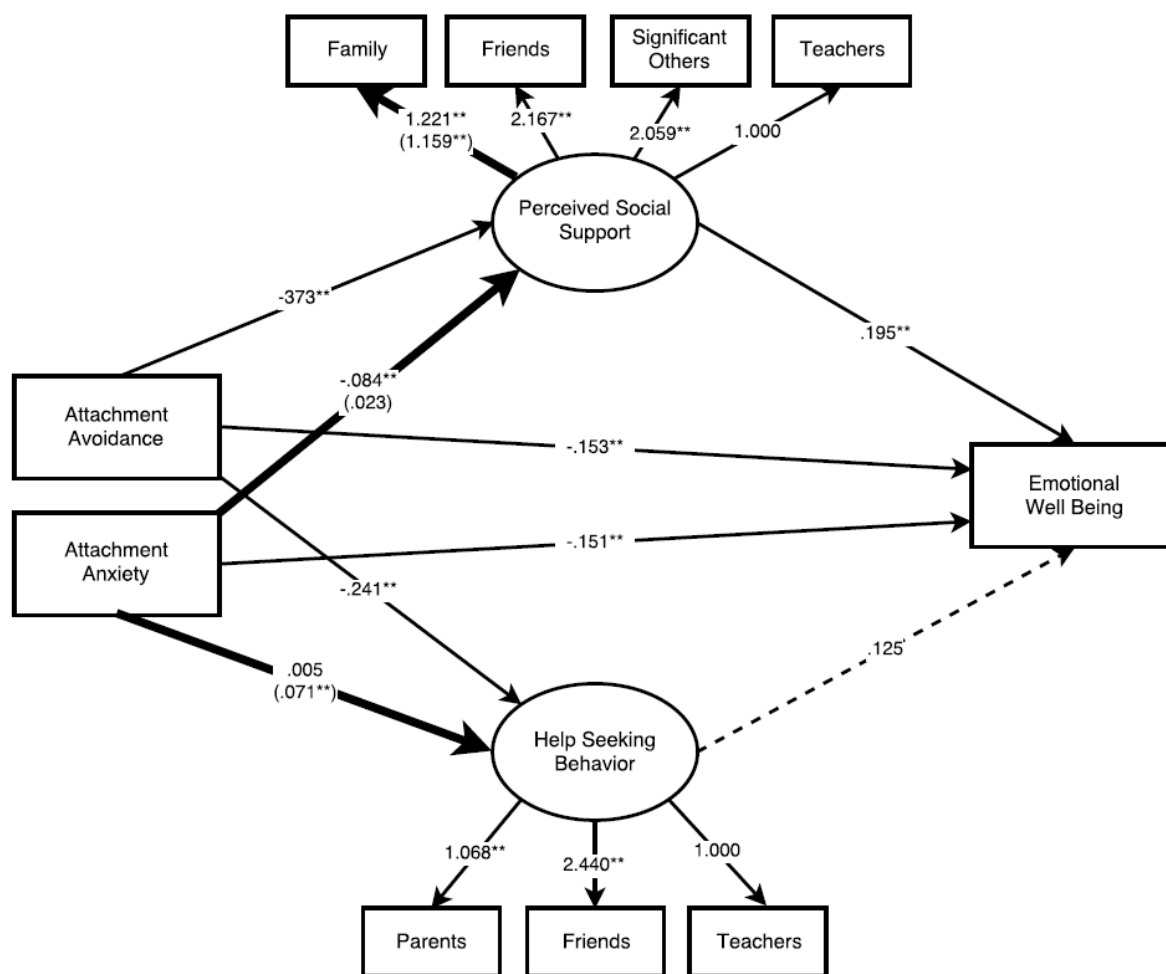


Figure 6. The model showing the difference of unstandardized coefficient (B) between genders. (**: $p < .05$; Numbers without parentheses indicate the data of females, while numbers with parentheses indicate the data of males. Thick lines indicate the presence of gender differences).

Because gender differences existed, the finally model separately presents different genders.

The unstandardized coefficient and standardized coefficient, with their corresponding standard error and p -value, of each path of the different genders are shown in Table 10 (the original output is shown in Appendix J). Gender differences existed on three paths of the model. These were the path from attachment anxiety to perceived social support (For males: $B = .023$, $SE = .035$, $p > .05$; for females: $B = -.084$, $SE = .037$, $p < .05$), the path from attachment anxiety to help seeking behaviors (For males: $B = .071$, $SE = .023$, $p < .05$; for females: $B = .005$, $SE = .022$, $p > .05$), and the path from general perceived social support to

perceived social support from family (For males: $B = 1.159$, $SE = .122$, $p < .05$; for females: $B = 1.221$, $SE = .129$, $p < .05$).

TABLE 10

*The unstandardized coefficients (B), standardized coefficients (β), standard errors, p-values of the paths, and their differences (**: $p < .05$)*

Paths	Male				Female				Gender difference
	B	SE	β	p	B	SE	β	p	
AV → PSS	-.373**	.048	-.396**	***	-.373**	.048	-.444**	***	No
AV → HSB	-.241**	.038	-.463**	***	-.241**	.038	-.508**	***	No
AV → EWB	-.153**	.028	-.219**	***	-.153**	.028	-.229**	***	No
AN → PSS	.023	.035	.035	.509	-.084**	.037	-.134**	.023	Yes
AN → HSB	.071**	.023	.196**	.002	.005	.022	.013	.828	Yes
AN → EWB	-.151**	.017	-.309**	***	-.151**	.017	-.302**	***	No
PSS → EWB	.195**	.045	.263**	***	.195**	.045	.245**	***	No
PSS → PSS_fm	1.159**	.122	.466**	***	1.221**	.129	.459**	***	Yes
PSS → PSS_fd	2.167**	.194	.950**	***	2.167**	.194	.948**	***	No
PSS → PSS_sig	2.059**	.184	.922**	***	2.059**	.184	.907**	***	No
PSS → PSS_t	1.000		.430		1.000		.407		No
HSB → EWB	.125	.085	.093	.141	.125	.085	.088	.139	No
HSB → HSB_p	1.068**	.149	.333**	***	1.068**	.149	.353**	***	No
HSB → HSB_f	2.440**	.340	.865**	***	2.440**	.340	.892**	***	No
HSB → HSB_t	1.000		.325		1.000		.361		No

AV: attachment avoidance; AN: attachment anxiety; PSS: perceived social support; PSS_fm: perceived social support from family; PSS_fd: perceived social support from friends; PSS_sig: perceived social support from significant others; PSS_t: perceived social support from teachers; HSB: help seeking behaviors; HSB_p: help seeking behaviors towards parents; HSB_f: help seeking behaviors towards friends; HSB_t: help seeking behaviors towards teachers; EWB: emotional well-being.)

All the unstandardized coefficients of the paths in the confirmed model are reported.

Attachment avoidance had a significantly negative relationship to emotional well-being ($B = -.373$, $SE = .048$, $p < .05$) in both genders. Lower levels of attachment avoidance are associated with better emotional well-being in both genders.

Attachment anxiety in males had a positive relationship to general perceived social support ($B = .023$, $SE = .035$, $p > .05$) but was not significant. It had significantly positive associations with general help seeking behaviors ($B = .071$, $SE = .023$, $p < .05$) and the negative emotional well-being ($B = -.151$, $SE = .017$, $p < .05$) of male individuals. Higher levels of attachment anxiety were associated with more general help seeking behaviors and poorer emotional well-being.

The general perceived social support of male individuals had significantly positive relationships with emotional well-being ($B = .195$, $SE = .045$, $p < .05$). Higher levels of general perceived social support are associated with better emotional well-being in males. General help seeking behaviors had a positive association with emotional well-being ($B = .125$, $SE = .085$, $p > .05$) but was not significant in males.

Attachment anxiety in females had significant negative associations with general perceived social support ($B = -.084$, $SE = .037$, $p < .05$) and emotional well-being ($B = -.151$, $SE = .017$, $p < .05$). Higher levels of attachment anxiety for individual females were related to less general perceived social support and poorer emotional well-being. However, while it was positively related to general help seeking behavior ($B = .005$, $SE = .022$, $p > .05$) it was not significant in females.

General perceived social support had a significant positive relationship with emotional well-being ($B = .195$, $SE = .045$, $p < .05$). More general perceived social support was associated with better emotional well-being of female individuals.

General help seeking behaviors of females had a positive relationship with emotional well-being ($B = .125$, $SE = .085$, $p > .05$) but it was not significant.

From the above results, Research Question One and Two were answered. Part of the hypothesis for One and Two were confirmed. Attachment avoidance and attachment anxiety showed negative associations with emotional well-being in both genders.

Gender difference in detrimental effects on emotional well-being Looking into the unstandardized coefficients of the paths of attachment avoidance to perceived social support and help seeking behaviors, attachment avoidance showed a significantly negative association to both perceived social support ($B = -.373$, $SE = .48$, $p < .05$) and help seeking behaviors ($B = -.241$, $SE = .038$, $p < .05$) in both genders. Meanwhile, emotional well-being showed a positive relationship to perceived social support ($B = .195$, $SE = .045$, $p < .05$) and help seeking behaviors ($B = .125$, $SE = .085$, $p > .05$) in both genders, in which the latter was not significant. Therefore, the higher level of attachment avoidance was related to less perceived social support and then poor emotional well-being in both genders. The higher level of attachment anxiety was also related to less help seeking behaviors and may be further related to poorer emotional well-being in both genders.

Looking into the unstandardized coefficients of paths between attachment anxiety and perceived social support, females showed a significantly negative association between them ($B = -.084$, $SE = .037$, $p < .05$), while males showed a non-significant positive association ($B = .023$, $SE = .035$, $p > .05$). At the same time, perceived social support had a significantly positive relationship to emotional well-being in both genders ($B = .195$, $SE = .045$, $p < .05$). Therefore, the higher level of attachment anxiety was associated with less perceived social support, and eventually became associated with poorer emotional well-being in females. At

the same time, the higher level of attachment anxiety has no significant association with perceived social support in males.

On the other hand, both females and males showed a positive association from attachment anxiety to help seeking behaviors but was only significant in males (for females: $B = .005$, $SE = .022$, $p > .05$; for males: $B = .071$, $SE = .023$, $p < .05$). At the same time, help seeking behaviors showed a positive correlation to emotional well-being in both genders ($B = .125$, $SE = .085$, $p > .05$) but was not significant. Therefore, the higher level of attachment anxiety of males was even associated with more help seeking behaviors, and may become associated with better emotional well-being in males. However, because the positive relationship between attachment anxiety and help seeking behaviors in females was not significant, no association can be linked between the increase in levels of attachment anxiety and help seeking behaviors in females.

From the above associations, level of attachment anxiety is only associated with emotional well-being in females through perceived social support. Therefore, based on the results of the current study, Hypothesis Four was partly supported – in that, insecure attachment had a stronger detrimental effect on emotional well-being in females than in males.

Comparing the relationships of perceived social support and help seeking behaviors to emotional well-being

From the model, the unstandardized coefficients paths between perceived social support, help seeking behaviors, and emotional well-being can be compared to test Hypothesis Three; in that, in the Chinese context, perceived social support is expected to be associated with emotional well-being more strongly than that of help seeking behaviors. Perceived social support showed a significantly positive association to emotional well-being in both genders ($B = .195$, $SE = .045$, $p < .05$). The more social support the adolescents perceived, the better their emotional well-being. On the other hand, help seeking behaviors

also showed a positive association to emotional well-being in both genders but was not significant ($B = .125$, $SE = .085$, $p > .05$). Therefore, Hypothesis Three was accepted. In the Chinese context, the association between perceived social support and emotional well-being in adolescents is stronger than between help seeking behaviors and emotional well-being in adolescents.

Mediating effects in the model Because the path from help-seeking behaviors to emotional well-being in both genders, and because attachment anxiety to perceived social support for males was not significant, when testing the mediating effects of perceived social support and help seeking behaviors in the model, only the mediating effects of perceived social support from attachment avoidance for both genders and from attachment anxiety for females was tested. Table 11 shows the total effect, direct effect, and indirect effect from attachment avoidance and attachment anxiety to emotional well-being through perceived social support. The indirect effects show that mediating effects may be driven by perceived social support. A Sobel test was conducted to determine the significance of the effects.

TABLE 11

Total effects, direct effects, and indirect effects for the paths from attachment avoidance and attachment anxiety to emotional well-being through perceived social support

	AV → EWB (for both genders)	AN → EWB (for female)
Total effect	-.256	-.167
Direct effect	-.153	-.151
Indirect effect	-.103	-.016

To investigate the mediating effect of (1) attachment avoidance to emotional well-being through general perceived social support of both genders (AV → PSS → EWB [F and M]), and (2) attachment anxiety to emotional well-being through general perceived social support of females (AN → PSS → EWB [F]), Sobel tests were carried out by analyzing the

corresponding estimates and standard errors to find out the significance of the mediating effects. The results are shown below in Table 12.

TABLE 12

*The results of the Sobel tests for the different mediating effects (**: $p < .05$)*

	Paths	<i>t</i> -value of Sobel test	<i>SE</i>
1	AV → PSS → EWB [F and M]	-3.782**	.019
2	AN → PSS → EWB [F]	-2.011**	.008

After calculation, the path of (1) attachment avoidance to emotional well-being through general perceived social support (AV → PSS → EWB [F and M]; Sobel test: $t = -3.782$, $SE = .019$, $p < .05$) showed significant mediating effects. Meanwhile, (2) attachment anxiety to emotional well-being through perceived social support of females (AN → PSS → EWB [F]; Sobel test: $t = -1.943$, $p < .05$) also showed significant mediating effects.

Therefore, perceived social support mediated the effects from attachment avoidance to emotional well-being in both genders and also mediated the effect from attachment anxiety to emotional well-being in females.

Hence, Hypothesis One was only partially supported. Only perceived social support was the mediator for emotional well-being from attachment avoidance for both genders. However, there was no mediating effect from attachment avoidance to emotional well-being through help seeking behaviors.

Hypothesis Two was also partially supported. Perceived social support mediated the effect from attachment anxiety to emotional well-being only in females. However, there was no mediating effect from attachment anxiety to emotional well-being through perceived social support in males. Meanwhile, the relationship between anxiety attachment and help seeking behaviors was unexpected and shows positive relationships in males, suggesting help seeking

behaviors may help attenuate the negative effect of attachment anxiety on the emotional well-being of male adolescents.



CHAPTER 5: DISCUSSION AND CONCLUSION

As mentioned in the previous sections, emotional well-being is important for the growth and development of adolescents. Clear relationships of emotional well-being with other constructs, such as attachment style, perceived social support, and help seeking behaviors have been investigated and will be better understood as a result of this current study.

Relationships Between Attachment and Emotional Well-Being

While previous research findings on the association between attachment anxiety and emotional well-being of adolescents are inconsistent, the current study found that attachment anxiety is significantly negative to emotional well-being of Chinese adolescents of both genders. Similar to other findings, attachment avoidance is also negatively related to the emotional well-being in Chinese adolescents with no difference regarding gender. These act as supplementary findings on the relationship between attachment and emotional well-being of adolescents, especially in the Chinese context.

The findings in this study suggests that avoidant attachment is significantly negative related to the emotional well-being of Chinese adolescents with no difference in gender. The higher level of attachment avoidance is associated with poor emotional well-being. These findings are consistent with other previous studies, for example, Monti and Rudolph (2014) suggested that attachment avoidance directly affected depression in adolescents. However, some situations may lead avoidant attached individuals to establish social support if they think others are worth trusting and are of benefit to enhance their own emotional well-being. These situations, for example, are military and war-related stressors, chronic pain, or terror of personal death (Mikulincer, & Florian, 1988). As the social network is established, it will probably provide helpful or effective social support to the individual; hence, it will enhance

the emotional well-being of the avoidant individual even if they are facing negative events (Anderson, Salk, & Hyde, 2015; Aydin et al., 2016; Mak et al., 2010; Ozpolat et al., 2014). Attachment anxiety is significantly negative related to the emotional well-being of adolescents. This is similar to a great deal of existing literature. As suggested by Mak et al. (2010), Yi et al. (2012) and Zech et al. (2006), with a high level of attachment anxiety, individuals report more psychological problems such as depression or anxiety. The reason for this maybe because anxious individuals seldom reduce their depressive feelings through disclosure to the others. Several studies have found that attachment anxiety is associated to poor emotional well-being. For individuals with a high level of attachment anxiety, they display a higher level of shame (Muris et al., 2014). Their way of thinking directly lowers their emotional well-being. Mami and Ghanbaran (2014) directly pointed out that attachment anxious individuals usually have feelings of loneliness which then lead to a lower level of health in general

Together with attachment avoidance, some studies have found that insecure attachment leads to poor emotional well-being. Arslan, Arslan, and Ari (2012) found that individuals with higher levels of insecure attachment have certain characteristics which are harmful to their emotional well-being. This kind of individual usually approaches problems in a negative way, have a lack of self-confidence, and do not willing take any responsibility. These characteristics further lower these insecure individuals' levels of emotional well-being. Monti and Rudolph (2014) concluded that individuals with insecure attachment are usually maladjusted when facing different kinds of psychological difficulties. As a result, this further damages their emotional well-being.

As Potential Mediators, Perceived Social Support is More Related to Emotional Well-Being Than Help Seeking Behaviors.

In the current study, the relationship between perceived social support and emotional well-being is hypothesized to have a larger effect than that from help seeking behaviors in Chinese adolescents, and this is confirmed by the current findings. Help seeking behaviors have no significant relationship to emotional well-being in the current sample; hence no mediating effect exists between insecure attachment and emotional well-being via help seeking behaviors in both genders of Chinese adolescents.

As discussed in the literature review, traditional Chinese culture greatly emphasizes social relationships and the roles of individuals (Hwang, 2000; King, 1991; Leung, 2010). These are of core importance to the ‘self’ in the Chinese culture. Chinese adolescents consider themselves as a group rather than as individuals and as such, they highly value the existence of social networks (Fulgini, Tseng & Lam, 1999; Leung, 2010; Yeh & Bedford, 2003).

Because Chinese individuals usually establish better social networks with more perceived social support, the result is better emotional well-being for the individual (Au et al., 2009; Caron et al., 2012; Gottlieb, 2000; Lakey, & Orehek, 2011; Lee et al., 2014; Newman et al., 2007; Oh, Ozkaya, & LaRose, 2014; Taylor, 2011; Tian et al., 2012).

To the contrary, help seeking behaviors have less effect on emotional well-being when compared to perceived social support, as has been hypothesized. As such, the results of the present study show that there is no significant association with emotional well-being in Chinese adolescents. As mentioned earlier, help seeking behaviors are not favored in traditional Chinese culture (Anyon et al., 2013; Huang, Yu & Ledsky, 2006; Kim, Sherman, & Taylor, 2008; Lee & Rotheram-Borus, 2009; Taylor et al., 2004; Tien, & Konnert, 2014). Chinese adolescents usually do not disclose their personal and emotional problems to the others as they considered this inappropriate (Kim, Sherman, & Taylor, 2008; Kung, 2003;

Mau & Jepsen, 1990; Taylor, 2011; Tracey et al., 1986). Repressing emotional distress and feelings is a common practice in Chinese culture (Bui & Takeuchi, 1992; Mau & Jepsen, 1990; Snowden & Cheung, 1990). At the same time, Chinese individuals seldom disclose family problems to others as this is considered to bring shame on their family (Anyon et al., 2013; Huang, Yu & Ledskey, 2006; Kung, 2003; Lee & Rotheram-Borus, 2009). Chinese adolescents should also be responsible for their own problems instead of asking other to help (Kim, Sherman, & Taylor, 2008). Therefore, help seeking behavior is not encouraged and should have no effect on the emotional well-being of Chinese adolescents. Hence, in the Chinese context, perceived social support has a larger association to emotional well-being than that of help seeking behaviors in Chinese adolescents.

In addition to the above reason of help seeking behaviors being less associated with the emotional well-being of Chinese adolescents, four other factors may also contribute to the current findings.

First of all, is the damage to self-esteem (Lee, 1997; Tessler & Schwartz, 1972). The individual interprets the need for seeking help as a sign of incompetence, and this in turn causes a negative effect on their self-esteem. When someone performs a task poorly, it highlights the lack of ability to perform or overcome the task on their own. For those whose self-esteem is already low, they intentionally protect themselves against further damage to their little remaining self-esteem by avoiding seeking help from others when facing difficulties (Chan, 2013).

The second factor is damage to their public image (DePaulo, & Fished, 1980; Lee, 1997). The individual perceives help-seeking towards others as an admission of public helplessness. They interpret this behavior as worsening their image to others, showing that they lack the ability or the resources to deal with the problem. This type of public stigma hinders the person when seeking the required help from their social network (Corrigan et al., 2003;

Vogel & Wei, 2005). In their eyes, seeking help from the public draws people's attention to the incompetence of the individual, and strengthens the belief of the individual that the helpers are more competent. As a result, this further lowers their self-esteem. In order to prevent damaging their public image, a person will prefer to fail in their task instead of seeking help in order to succeed (Chan, 2013). In short, the concern about damaging public image leads people to avoid seeking help from others (Chan, 2013; Tuckey, Brewer, & Williamson, 2002).

The third factor is indebtedness (DePaulo, Brown, & Greenberg, 1983). When someone seeks help from another person, they feel that they owe that person and must compensate them somehow. Help in this case shows an inequity between two parties. Meanwhile, receiving help offered by someone else promotes the image that the individual is now dependent on that person which might imply a loss of power (Nadler & Halabi, 2006). However, inequity and indebtedness are experiences that people dislike, and therefore individuals may avoid help-seeking as a result (Greenberg, & Westcott, 1983).

Last but not least, dependence also serves as an important factor in avoiding help-seeking (Lee, 1997) as being dependent can reduce a person's self-esteem. When someone receives help from their social network and their tasks are accomplished, they might still be viewed as incapable and the honor of succeeding might still go to the helpers. Eventually, the individual might lose power in their social network because of their dependence on others (Lee, 1997). As the reasons above suggest, perceived social support has a larger association to emotional well-being than that of help seeking behaviors of adolescents in a Chinese context.

Avoidance and Emotional Well-Being Through Perceived Social Support

The mediating effects from attachment avoidance to emotional well-being in Chinese adolescents via perceived social support have been confirmed in the current study. In both

genders, perceived social support mediates the effect from attachment avoidance to the emotional well-being of Chinese adolescents. Consistent with the previous findings, avoidant individuals avoid having close relationships with others in order to protect themselves from any negative events that may happen (Bartholomew & Horowitz, 1991; Brenna, Clark, & Shaver, 1998; Mikulincer & Florian, 1998). Therefore, as the level of attachment avoidance increases, the less social support the individual will perceive and thus their emotional well-being will worsen. On the other hand, with a low level of attachment avoidance, the individual will perceive more social support and as such, their emotional well-being will improve.

Anxiety and Emotional Well-Being Through Perceived Social Support

The findings of the current study suggest that perceived social support mediates the effect from attachment anxiety to emotional well-being in females. However, no mediation was found in males in the current sample.

With a higher level of attachment anxiety, individuals tend to establish social networks with others in order to make themselves feel more secure (Vogel & Wei, 2005). However, their overreaction to interpersonal relationships (Vogel & Wei, 2005) results in them experiencing less satisfaction from relationships (Mak et al., 2010). At the same time, individuals with a high level of attachment anxiety fear abandonment and have a strong believe that they are unlovable and so try to gain acceptance from the others. They will over rely on the others when striving for self-acceptance (Mikulincer & Florian, 1998). Although the need for perceived social support and help seeking behaviors increases, the over reliance of anxious individuals weakens their social network, because people around them may begin to feel uneasy. This reduces the beneficial effect on emotional well-being from the perceived social support and thus, lowers their level of emotional well-being. In the current study, this seemed

to only happen in females and not males. Existing literature suggests that females are more relationship oriented (Cross, & Madson, 1997; Taylor et al. 2000). This may be a reason why perceived social support only mediates the effect from attachment anxiety to emotional well-being in females and not males. Therefore, perceived social support in male Chinese adolescents may not be an effective way for helping anxiously attached individuals have better emotional well-being

The current study proposes that insecure styles might have a stronger detrimental effect on the emotional well-being of females; and this has partly been confirmed in the findings.

Although both of the direct associations from attachment avoidance – attachment anxiety to emotional well-being and indirect association from attachment avoidance to emotional well-being via perceived social support in Chinese adolescents – have no gender differences, the indirect effect from attachment anxiety to emotional well-being through perceived social support, and the association between attachment anxiety and help seeking behaviors, does have certain levels of gender difference.

In females, attachment anxiety has a significantly negative relationship to perceived social support, the higher the level of attachment anxiety a female has, the less perceived social support she feels; hence, a poorer emotional well-being. However, in males, attachment anxiety shows a positive association to perceived social support, but it is not significant enough. A higher level of attachment anxiety in males seems to promote an increase in perceived social support.

As suggested by several previous studies, females are relationship oriented (Cross & Madson, 1997; Taylor et al., 2000). Anxiously attached individuals tend to overreact to certain relationship problems that might damage their social network (Vogel & Wei, 2005). This might be more common in females. With higher levels of attachment anxiety in females, less perceived social support will be felt, when compared to males, and eventually poorer

emotional well-being will result. However, attachment anxiety has a positive but not significant association with perceived social support in males. The higher the level of anxious attachment, the more perceived social support the male will probably feel. Further investigation should be done in order to fully understand the reasons behind the relationship between perceived social support and attachment anxiety in males.

On the other hand, only males showed a significantly positive association from attachment anxiety to help seeking behaviors. Higher levels of attachment anxiety in males are associated with more help seek behaviors. Attachment anxiety does not have a significant relationship with help seeking behaviors in females. These findings are unexpected, as many studies suggest that females have more help seeking behaviors than males. Males usually internalize their problems as a coping method, while females tend to externalize, as in seeking help from the others (Black et al., 2008; Leavy et al., 2011; Raviv et al., 2000; Shek, 1989; Wilson, 2013). In the current study, high level of attachment anxiety seems to be benefit for the social network of males more than that of females as it is associated with more help seeking behaviors in male and associated with less perceived social support in females. Further investigation should be carried out in order to fully understand the gender differences between attachment anxiety and help seeking behaviors.

From the above, attachment anxiety can be seen to have stronger detrimental effects on the emotional well-being of females.

Limitations

This study has provided a comprehensive investigation into the relationship between attachment style and emotional well-being in Chinese adolescents, as well as the mediating effects through perceived social support and help seeking behaviors. Nevertheless, limitations still exist.

Firstly, the questionnaire used in the current study was a self-reported scale. Participants subjectively provided the answers and therefore, bias may exist. A third party could have been involved, such as asking parents about their impressions of their children. By using a third party, the data collected would be more objective and the existence of bias would be diminished.

Secondly, the representativeness of the current sample was limiting. Samples were taken from two secondary schools in Hong Kong. Information should have been gathered from more schools, across different regions, in order to increase the representativeness of the sample. By doing so, the results could be more generalized. Moreover, the current model was only tested locally, and in Chinese, as such it cannot be generalized for other areas. In addition, the research could be replicated in the Chinese context of Western countries to see if the current model is valid there or not.

Thirdly, cross-sectional data was also a limitation. Because all the data was collected at the same time the causal relationship within it cannot be determined. A longitudinal study could be carried out using adequate resources, where each participant is followed for a certain period of time and the causal relationships investigated.

Fourthly, some of the items in the Chinese version of the Experience in Close Relationships Scale (ECR-C) in the combined scale of the current study may not be relevant to the current sample. These are items number 4, 14, 18, and 28 in the ECR-C [Appendix B]. These items explicitly asked about the romantic relationships of Hong Kong adolescents who might not be that experienced. The Chinese version of the questionnaire was translated by Malliunckrodt and Wang (2004), and was adapted to measure other/general relationships of individuals instead of romantic partners/relationships. Some studies did use it to investigate the attachment style of adolescents (for example, Zhang et al., 2017). To further ensure the reliability of the scale, the item-total correlations of the scale were checked. It was found that

those items related to romantic relationships did not impair the reliability of the scale. The item-total statistics is shown in Appendix K. Future studies may consider revising the items in order to be more suitable for adolescents.

Furthermore, high numbers of missing cases in certain demographic variables, such as family income, and father's and mother's education levels, were shown in the current study.

Excluding cases with missing values on these three items will lead to a very small sample, as such, they are not included in the final sample. Hence, the correlations among them to other variables in the current study were not calculated. This acts as a barrier for comprehensively understanding the current model and getting a clear picture among the variables.

Only a quantitative method was used in the current study. Due to the limited time constraints for data collection, qualitative methods – such as interviews – were not adopted. More information related to the research should be able to be gathered during in-depth interviews. Finally, the sources for help seeking and the types of problems causing individuals to seek help were not investigated extensively enough. The relationships between the different sources of help and the different kinds of problems to the emotional well-being of Chinese adolescents need to be studied further.

Implications

This literature review provides concrete reasons for enhancing the emotional well-being of adolescents in a Chinese context. Attachment style and perceived social support is significantly associated with the emotional well-being of Chinese adolescents. In order to understand better ways of helping Chinese adolescents improve their emotional well-being, recommendations related to attachment styles and perceived social support have been put forward.

Increasing the perceived social support Because adolescents spend a great deal of time at school, school plays an important role in developing their social networks. Schools should make more afford on providing mediums for students to create supportive social relationship. In a school setting, certain policies can be adopted so that the perceived social support of adolescents is enhanced.

Strengthening the social networks of adolescents in school should be considered as a means of enhancing their emotional well-being, as it was found that there was a significantly positive association between perceived social support and the emotional well-being of Chinese adolescents. As found in the current study, perceived social support from friends is the most important source. More opportunities should be provided in schools to establish peer social networks for adolescents. This can be achieved, for example, by providing social skills enhancement groups for the students. Adolescents can learn how to make new friends in different groups, such as at church, volunteer services, or during sport. They can also learn how to maintain the social networks they already have by showing empathy and being genuine to their friends. In order to strengthen the social networks of the adolescents, peer counseling, for example “Big Brother and Big Sister” schemes, can be launched in schools. Being a peer counselor not only provides an opportunity for adolescents to make new friends and expanding their social networks, but also gives them more opportunities to experience and show empathy, to help peers solve problems, to support peers psychologically, and to practice and strengthen their own social skills, which might also allow them to handle interpersonal issues on their own.

Secondly, the relationships of adolescents with their families should also be strengthened in schools, especially in females, as they show a higher perceived social support from the family than males in the current study. It is not uncommon to see parents in Hong Kong spend relatively less time with their children because of a number of factors, such as long working

hours and the busy school lives of adolescents – simple communication between parents might not be enough (this can be seen in the high number of missing cases in the family income and parents' education levels of the current study, as a lack of communication between parents and adolescents; and may be one of the reasons why adolescents know very little about their families). There is not enough time in the day for adolescents to share what is happening in their lives, or even what is causing them stress, to their parents. Therefore, communication between parents and adolescents needs to be improved. Teachers can be a link between parents and adolescents by reporting the school lives of adolescents, for example academic and social aspects, to the parents. In addition to Parents' Day, teachers should regularly make phone calls to parents in order to let them know more about their children. Hopefully, this will lead to parents providing more suitable help and care. Schools should also organize seminars, or publish newsletters to parents, about parenting skills, adolescent psychological needs, etc. This would help parents improve their relationships with their children. Schools should also encourage parents to participate in different school events, for example Sport's Day or school picnics, so that parents can experience school life with their children. Communication can also be increased if parents are allowed to join in competitions with their children as a team, or prepare food and games for the picnic with their children.

Finally, the perceived social support of adolescents from staff in school can be increased.

Teachers should establish good social relationships with the adolescents. With the participation of all the teachers, mentor schemes can be adopted in school, where each student is assigned a teacher. In doing so, students can more easily establish social networks with their teachers, who can then help them adapt to new environments. Once the social network between student and teacher has been formed, this should last until graduation.

Meanwhile, if a student is feeling emotionally distressed, they can easily approach someone

they trust. School staff are mature enough to assist the student in overcoming their problems and will help to eventually stabilize their emotional well-being. In addition, training for teachers should also be provided across the board. If a teacher is more alert to the emotional well-being of their students, as a result of an increase in training, they might be more readily available and attuned towards their students' needs.

Lowering the level of attachment anxiety and avoidance

In addition to school, parents are also an important factor in the emotional well-being of adolescents. As attachment style directly relates to the emotional well-being of adolescents, the development of attachment style for children is very important. Parents should pay attention to the way they interact with their children in order to help in the formation of a secure attachment. Parents are vital in the psychological development of adolescents. With a physically and psychologically secure environment provided by the parents, the autonomy of adolescents can easily be fostered when they later go on to explore the wider world (McElhaney et al., 2009). This physically and psychologically secure environment includes sufficient and positive responses, caring, adequate financial and material support, and spending time with their children. The level of attachment avoidance and anxiety of adolescents should be low when they are growing up, thereby allowing for better emotional well-being. In this sense, parenting style is crucial on the security of attachment. Parenting style can be categorized into three different types based on their responsiveness and demandingness to their children: authoritative (high in both responsiveness and demandingness), authoritarian (low responsiveness and high demandingness), and permissive (high responsiveness and low demandingness) (Baumrind, 1991). A few previous studies have found that avoidance attachment and anxiety attachment are related to lower levels of responsiveness (Doinita & Maria, 2015; Millings et al., 2013). In other words, the increase of attachment security is

associated with higher levels of responsive caregiving from parents. Hence, increasing authoritative parenting and reducing authoritarian parenting may help to lower the avoidance levels and anxiety attachment of adolescents. This is rather important in females, as a significantly negative association has been found between anxiety attachment and perceived social support in the current study.

At the same time, to promote better interaction between parents and children, parent education is also crucial in the development of the attachment style of children. If parenting is subpar, parents should actively learn new skills in order to enhance the relationship with their children. In Hong Kong, there are lots of courses organized by different institutes that educate adults about parenting, communication with their children, and how to provide emotional support for children. With the knowledge and skills from these institutes, parents will have better skills to interact with their children and eventually, secure attachment might be developed, allowing for better emotional well-being in adolescents.

Future Direction of Research

Besides ways of minimizing the limitations of this study, future directions of related research are suggested below.

Comprehensive research should be replicated with more representative sampling. The findings of the current research should first be confirmed, then interventions based on the results could be considered and tested. As suggested in the implications section, different interventions from various parties could be applied, so that the emotional well-being of Chinese adolescents could be enhanced. These interventions should be evaluated after completion. At the same time, the effectiveness of each intervention should be tested. Following this, the effective interventions could be widely implemented in schools, allowing for the emotional well-being of Chinese adolescents to improve.

The current study should also be replicated in Western countries, so that the model can be generalized across different cultural backgrounds. Previous studies from western countries have found that help seeking is positively related to emotional well-being (Biddle, 2004; Chan, 2013; Yakunina et al., 2010). It is expected that help seeking should have significant positive association on emotional well-being in Western culture as well. Help seeking behaviors can then become an important mediator for insecure attachment to emotional well-being in Western culture as stated in the current study.

The help seeking behavior triggered by different problems, namely academic, relationships, health, and family, should also be investigated in further studies. This study mainly focused on the people whom adolescents preferred to seek help from, but it is not known which type of problems led them to show more help-seeking behavior. Although, certain overseas studies suggested that this is not significant (Caron et al., 2012; Leavy et al., 2011; Pham et al., 2014), as Chinese adolescents may show more help seeking behaviors when facing academic problems, rather than when facing relationship issues. The results could be a complimentary part of the current study and a more comprehensive understanding of help seeking behavior could be achieved.

As no significant relationship was found between help-seeking behavior and the emotional well-being of Chinese adolescents, indirect effects between the variables should be investigated. There may be some moderators for help-seeking behavior on the emotional well-being of Chinese adolescents. Some possible moderators may be age, ethnicity, socioeconomic status, and religion. Studies for determining these moderators should be made and the mechanisms of variables affecting emotional well-being should also be fully understood. Therefore, the link between help seeking behavior and emotional well-being of Chinese adolescents could be ascertained.

Finally, the gender difference in the relationship of perceived social support and help seeking behaviors to attachment anxiety should be extensively investigated. In the current study, attachment anxiety had a significantly negative relationship to perceived social support in females but had a non-significant positive relationship in males. It also had a significantly positive relationship to help seeking behavior in males but not in females. One of the explanations was the different behaviors of the individuals in their social networks. Therefore, the reasons for gender differences existing need further investigation.

Conclusion

In conclusion, this study highlighted the relationship between the attachment style and emotional well-being of Chinese adolescents. It showed that the emotional well-being of Chinese adolescents is negatively associated with attachment avoidance and attachment anxiety in both genders. Furthermore, it showed that perceived social support has a larger association than help seeking behaviors to emotional well-being in both females and males. In the current study, Help seeking behaviors had no significant relationship to emotional well-being.

This study also illustrated the mediating effects of perceived social support in attachment avoidance to the emotional well-being of Chinese adolescents in both genders. It found that perceived social support mediates the effect from attachment avoidance to the emotional well-being of Chinese adolescents in both genders and mediates the effect from attachment anxiety to the emotional well-being of female Chinese adolescents. However, the mediating effect of attachment anxiety to emotional well-being through perceived social support was not found in males.

No mediating effect was found from attachment avoidance and attachment anxiety to emotional well-being through help seeking behaviors in both genders. Meanwhile, it is found that help seeking behaviors are positively related to attachment anxiety in male adolescents. Stronger detrimental effects on emotional well-being were also found in anxiously attached females in a Chinese context. Females with a higher level of attachment anxiety were negatively associated with perceived social support and positively related to emotional well-being.

In addition to understanding the constructs relating to the emotional well-being of Chinese adolescents, this study focused on society, parents, teachers, and other adolescents with regard to the emotional well-being of adolescents. While the results have helped to illuminate possible ways of enhancing emotional well-being, future investigation is recommended and encouraged.

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THE HONG KONG INSTITUTE OF EDUCATION
Department of Psychological Studies

**Attachment, perceived social support, help seeking behavior
and emotional well-being among Hong Kong adolescents**

The emotional well-being of Hong Kong adolescents is becoming poor according to a recent research. The health, academic performance, social life and psychological development of the adolescents will highly be affected. In order to enhance the emotional well-being of adolescents, some of the factors, like help-seeking behaviors, attachment style and perceived social support, will be investigated. The aim of this research is to find out the ways to enhance the emotional well-being of Hong Kong adolescents so that the emotional well-being of adolescents can be enhanced.

Participants only need to spend around 30 minutes to complete the questionnaire providing some data of their social life, emotions and help-seeking experiences. There is no compensation for participation in this study, but the data provided will be benefited for the research. Your participation in the project is voluntary. You have every right to withdraw from the study at any time without negative consequences. All information related to you will remain confidential, and will be identifiable by codes known only to the researcher.

Part 1**Demographics**

Please circle your information.

Gender :	F	M	Age : _____							
Form :	1. 1	2. 2	3. 3	4. 4	5. 5	6. 6				
Monthly family total income	1. \leq \$10000	2. \$10001–\$20000	3. \$20001–\$30000	4. \$30001–\$40000	5. \$40001–\$50000	6. >\$50000	7. Not sure			
Father's education level :	1. Primary or below	2. Primary 1 to primary 6	3. Secondary 1 to secondary 3	4. Secondary 4 to secondary 5	5. Secondary 6 to secondary 7	6. Bachelor	7. Master or above	8. Not sure		
Mother's education level :	1. Primary or below	2. Primary 1 to primary 6	3. Secondary 1 to secondary 3	4. Secondary 4 to secondary 5	5. Secondary 6 to secondary 7	6. Bachelor	7. Master or above	8. Not sure		



Part 2

Instructions: The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

		Disagree strongly			Neutral / mixed			Agree strongly
1	I prefer not to show other how I feel deep down.	1	2	3	4	5	6	7
2	I worry about being abandoned.	1	2	3	4	5	6	7
3	I am very comfortable being close to others.	1	2	3	4	5	6	7
4	I worry a lot about my relationships.	1	2	3	4	5	6	7
5	Just when other starts to get close to me I find myself pulling away.	1	2	3	4	5	6	7
6	I worry that others won't care about me as much as I care about them.	1	2	3	4	5	6	7
7	I get uncomfortable when other wants to be very close.	1	2	3	4	5	6	7
8	I worry a fair amount about losing other.	1	2	3	4	5	6	7
9	I don't feel comfortable opening up to others.	1	2	3	4	5	6	7
10	I often wish that other's feelings for me were as strong as my feelings for him / her.	1	2	3	4	5	6	7
11	I want to get close to other, by I keep pulling back.	1	2	3	4	5	6	7
12	I often want to merge completely with others, and this sometimes scares them away.	1	2	3	4	5	6	7
13	I am nervous when others get too close to me.	1	2	3	4	5	6	7

		Disagree strongly			Neutral / mixed		Agree strongly	
14	I worry about being alone.	1	2	3	4	5	6	7
15	I feel comfortable sharing my private thoughts and feelings with other.	1	2	3	4	5	6	7
16	My desire to be very close sometimes scared people away.	1	2	3	4	5	6	7
17	I try to avoid getting too close to other.	1	2	3	4	5	6	7
18	I need a lot of reassurance that I am loved by other.	1	2	3	4	5	6	7
19	I find it relatively easy to get close to other.	1	2	3	4	5	6	7
20	Sometimes I feel that I force others to show more feeling, more commitment.	1	2	3	4	5	6	7
21	I find it difficult to allow myself to depend on others.	1	2	3	4	5	6	7
22	I do not often worry about being abandoned.	1	2	3	4	5	6	7
23	I prefer not to be too close to others.	1	2	3	4	5	6	7
24	If I can't get other to show interest in me, I get upset or angry.	1	2	3	4	5	6	7
25	I tell other just about everything.	1	2	3	4	5	6	7
26	I find that other(s) don't want to get as close as I would like.	1	2	3	4	5	6	7
27	I usually discuss my problems and concerns with other.	1	2	3	4	5	6	7
28	When I'm not involved in a relationship, I feel somewhat anxious and insecure.	1	2	3	4	5	6	7

		Disagree strongly			Neutral / mixed		Agree strongly	
29	I feel comfortable depending on others.	1	2	3	4	5	6	7
30	I get frustrated when other is not around as much as I would like.	1	2	3	4	5	6	7
31	I don't mind asking others for comfort, advice, or help.	1	2	3	4	5	6	7
32	I get frustrated if others are not available when I need them.	1	2	3	4	5	6	7
33	It helps to turn to other in times of need.	1	2	3	4	5	6	7
34	When others disapprove of me, I feel really bad about myself.	1	2	3	4	5	6	7
35	I turn to other for many things, including comfort and reassurance.	1	2	3	4	5	6	7
36	I resent it when other spends time away from me.	1	2	3	4	5	6	7

Part 3

The followings are sentences describing your current relationship with your friends and family. Please circle each one with your degree of agreement.

	Strongly disagree						Strongly agree
1.	1	2	3	4	5	6	7
2.	1	2	3	4	5	6	7
3.	1	2	3	4	5	6	7
4.	1	2	3	4	5	6	7
5.	1	2	3	4	5	6	7
6.	1	2	3	4	5	6	7
7.	1	2	3	4	5	6	7
8.	1	2	3	4	5	6	7
9.	1	2	3	4	5	6	7
10.	1	2	3	4	5	6	7
11.	1	2	3	4	5	6	7
12.	1	2	3	4	5	6	7
13.	1	2	3	4	5	6	7
14.	1	2	3	4	5	6	7
15.	1	2	3	4	5	6	7
16.	1	2	3	4	5	6	7

Part 4

Please read each of the following questions and rate the extent to which you believe each answer best describes your behaviors of help-seeking.

I Parent help-seeking		Almost never			Very often	
a.	Asked your parents for help?	1	2	3	4	5
b.	Talked to your parents about problems at school?	1	2	3	4	5
c.	Asked your parents about personal problems?	1	2	3	4	5
d.	Talked to your parents for advice about important things in life?	1	2	3	4	5
e.	Talked to your parents about your career goals?	1	2	3	4	5
II Friend help-seeking		Almost never			Very often	
a.	Friend help-seeking	1	2	3	4	5
b.	Called a friend for help?	1	2	3	4	5
c.	Talked to a friend about problems at school?	1	2	3	4	5
d.	Talked to a friend about personal things?	1	2	3	4	5
e.	Asked your friends for advice about something important?	1	2	3	4	5

III Teacher help-seeking		Almost never				Very often			
a.	Teacher help-seeking	1	2	3	4	5			
b.	Asked a teacher for help?	1	2	3	4	5			
c.	Talked to a teacher about problems at school?	1	2	3	4	5			
d.	Talked to a teacher about personal issues?	1	2	3	4	5			
e.	Asked a teacher for advice on something important to you?	1	2	3	4	5			



Part 5

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent in the past one to two weeks. Use the following scale to record your answers.

		very slightly or not at all	a little	moderately	quite a bit	extremely			very slightly or not at all	a little	moderately	quite a bit	extremely
1	interested	1	2	3	4	5	11	irritable	1	2	3	4	5
2	distressed	1	2	3	4	5	12	alert	1	2	3	4	5
3	excited	1	2	3	4	5	13	ashamed	1	2	3	4	5
4	upset	1	2	3	4	5	14	inspired	1	2	3	4	5
5	strong	1	2	3	4	5	15	nervous	1	2	3	4	5
6	guilty	1	2	3	4	5	16	determined	1	2	3	4	5
7	scared	1	2	3	4	5	17	attentive	1	2	3	4	5
8	hostile	1	2	3	4	5	18	jittery	1	2	3	4	5
9	Enthusiastic	1	2	3	4	5	19	active	1	2	3	4	5
10	proud	1	2	3	4	5	20	afraid	1	2	3	4	5

End of the questionnaire. Thanks for your participation.

香港教育學院 心理研究學系

香港中學生的依存關係、社交支援、求助行為和精神健康

根據近期的一份研究指出，香港青少年的情緒健康越來越差。他們的健康、學業表現、社交生活及心理發展被受影響。為了提高青少年的情緒健康，本研究會針對青少年的求助行為、依存關係和社交支援等因素作出探討。本研究的目的旨在找出提高香港青少年情緒健康的方法，以提高青少年的情緒健康水平。

參加者大約需要利用 30 分鐘來完成問卷，以提供有關其社交生活、情緒和求助經驗的資料，請各位能用心完成。是次研究並不為閣下提供個人利益，但所搜集數據將對研究學習動機的問題提供寶貴的資料。閣下的參與純屬自願性質。閣下享有充分的權利在任何時候決定退出這項研究，更不會因此引致任何不良後果。凡有關閣下的資料將會保密。

第 1 部份

參與者資料

請填寫 / 圈出你的資料。

性別：	女	男	年齡：_____					
年級：	1. 中一	2. 中二	3. 中三	4. 中四	5. 中五	6. 中六		
家庭每月總收入	1. ≤\$10000	2. \$10001–\$20000	3. \$20001–\$30000	4. \$30001–\$40000	5. \$40001–\$50000	6. >\$50000	7. 不清楚	
父親的教育程度	1. 小學或以下	2. 小一至小六	3. 中一至中三	4. 中四至中五	5. 中六至中七	6. 學士	7. 碩士或以上	8. 不清楚
母親的教育程度	1. 小學或以下	2. 小一至小六	3. 中一至中三	4. 中四至中五	5. 中六至中七	6. 學士	7. 碩士或以上	8. 不清楚

第2部份

以下的這些陳述是有關你在人際關係中可能有的感受。我們想知道的是通常你在一段人際關係中對別人所持有的想法和感受，而不是只針對你和某位朋友的關係。請根據你對每一個陳述同意的程度作答，並圈選適當的數字來代表。

		非常地 不同意				不確定			非常地 同意
1	我寧願不讓別人知道我內心深處的感受	1	2	3	4	5	6	7	
2	我擔心被拋棄	1	2	3	4	5	6	7	
3	親近我的人對我來說很自在	1	2	3	4	5	6	7	
4	我非常擔心我的愛情關係	1	2	3	4	5	6	7	
5	當別人開始要親近我的時候我發現我自己會躲開	1	2	3	4	5	6	7	
6	我擔心別人不像我在乎他(她)一樣地在乎我	1	2	3	4	5	6	7	
7	當別人想要和我非常親近的時候我會覺得不自在	1	2	3	4	5	6	7	
8	我相當擔心失去別人	1	2	3	4	5	6	7	
9	對別人真誠表白會讓我覺得不自在	1	2	3	4	5	6	7	
10	我常常盼望別人對我的感覺可以像我對他的一樣強烈	1	2	3	4	5	6	7	
11	我想要親近別人但我總是退卻不前	1	2	3	4	5	6	7	
12	我常想要和別人形影不離但是他(她)有時會因此而嚇跑	1	2	3	4	5	6	7	
13	當別人太親近我的時候我會很緊張	1	2	3	4	5	6	7	
14	我擔心感情路上會孤單一個人	1	2	3	4	5	6	7	
15	和別人分享我個人內心的想法和感覺我感到很自在	1	2	3	4	5	6	7	
16	我想要和別人非常親近的這個念頭有時會嚇跑他們	1	2	3	4	5	6	7	

	非常地 不同意				不確定			非常地 同意
17	我試著避免和別人變得太親近	1	2	3	4	5	6	7
18	我需要別人一再地保證他(她)是愛我的	1	2	3	4	5	6	7
19	我發現親近別人對我而言是件蠻容易的事	1	2	3	4	5	6	7
20	有時候我感覺我會勉強別人多表達一些感覺和承諾	1	2	3	4	5	6	7
21	我很難容許自己去依賴別人	1	2	3	4	5	6	7
22	我不會常擔心會被拋棄	1	2	3	4	5	6	7
23	我寧可不要和別人變得太親近	1	2	3	4	5	6	7
24	如果我無法得到別人的注意和關心我會心煩意亂或生氣	1	2	3	4	5	6	7
25	我幾乎什麼事情都告訴別人	1	2	3	4	5	6	7
26	我發現別人對我們之間的期待並不如我想要的一般親近	1	2	3	4	5	6	7
27	我常常和別人討論我所遭遇的問題和煩惱	1	2	3	4	5	6	7
28	當我沒有談戀愛的時候我覺得有些焦慮及不安	1	2	3	4	5	6	7
29	依靠別人對我而言很自在	1	2	3	4	5	6	7
30	當我和別人在一起的時間不如我期待的一樣多時我會覺得挫折	1	2	3	4	5	6	7
31	我不在意向別人要求安慰建議或幫助	1	2	3	4	5	6	7
32	當我需要別人時他(她)卻沒有空我會覺得挫折	1	2	3	4	5	6	7
33	在我需要幫忙的時候去找別人是有用的	1	2	3	4	5	6	7
34	當別人不贊同我時我覺得自己很差勁	1	2	3	4	5	6	7
35	我會為了很多事情去找別人包括尋求他(她)的安慰和保證	1	2	3	4	5	6	7
36	當別人不花時間和我在一起時我會覺得怨憤不平	1	2	3	4	5	6	7



第3部份

以下是一些描述你現在和你的老師、朋友及家人的句子，請你圈出你對這些句子的同意程度。

	十分不 同意						十分同 意
1. 當你有需要的時候，總有一個好朋友在你身邊。	1	2	3	4	5	6	7
2. 你可以向你的老師訴說你自己的問題。	1	2	3	4	5	6	7
3. 你的家人真的十分願意幫助你。	1	2	3	4	5	6	7
4. 你的家人可以給你情緒上需要的支持。	1	2	3	4	5	6	7
5. 你有一個真的可以安慰你的好朋友。	1	2	3	4	5	6	7
6. 你的朋友真的願意嘗試幫助你。	1	2	3	4	5	6	7
7. 如果有甚麼事發生，你可以倚靠你的朋友。	1	2	3	4	5	6	7
8. 你的老師願意和你一起做決定。	1	2	3	4	5	6	7
9. 你有一些朋友，無論開心或者不開心，你都可以同他們分享。	1	2	3	4	5	6	7
10. 你生命中有個好朋友，他/她會關心你的感受。	1	2	3	4	5	6	7
11. 你的家人願意和你一起做決定。	1	2	3	4	5	6	7
12. 你可以向你的朋友訴說你自己的問題。	1	2	3	4	5	6	7
13. 你的老師真的十分願意幫助你。	1	2	3	4	5	6	7
14. 你的老師可以給你情緒上需要的支持。	1	2	3	4	5	6	7
15. 你可以和家人訴說你自己的問題。	1	2	3	4	5	6	7
16. 你有一個好朋友，無論開心或者不開心，你都可以同他/她分享。	1	2	3	4	5	6	7



第4部份

請細閱以下各問題，並圈出最能形容你的求助行為的答案。

I 尋求父母的協助		從不				經常
a.	找父母提供協助?	1	2	3	4	5
b.	與父母談及有關學校中所發生的問題?	1	2	3	4	5
c.	向父母談及個人問題?	1	2	3	4	5
d.	向父母尋求生命中重要的建議?	1	2	3	4	5
e.	與父母傾訴有關你事業生涯的目標?	1	2	3	4	5
II 尋求朋友的協助		從不				經常
a.	找朋友提供協助?	1	2	3	4	5
b.	與朋友傾訴有關在學校的困擾?	1	2	3	4	5
c.	與朋友傾訴有關個人的困擾?	1	2	3	4	5
d.	找朋友提供一些重要事情的建議?	1	2	3	4	5
e.	與朋友傾訴有關你事業生涯的目標?	1	2	3	4	5

III 尋求老師的協助		從不					經常				
a.	找老師提供協助?	1	2	3	4	5					
b.	與老師傾訴有關在學校的困擾?	1	2	3	4	5					
c.	與老師傾訴有關個人的問題?	1	2	3	4	5					
d.	找老師提供一些重要事情的建議?	1	2	3	4	5					
e.	與老師傾訴有關你的將來或你事業生涯的目標?	1	2	3	4	5					

第5部份

這是一個由 20 個描述不同情感、情緒的詞匯組成的量表，請閱讀每一個詞語並根據你近 1-2 星期的實際情況在相應的答案上畫圈。

		幾乎沒有	比較少	中等程度	比較多	極其多
1	感興趣的	1	2	3	4	5
2	心煩的	1	2	3	4	5
3	精神活力高的	1	2	3	4	5
4	心神不寧的	1	2	3	4	5
5	強烈的	1	2	3	4	5
6	內疚的	1	2	3	4	5
7	恐懼的	1	2	3	4	5

		幾乎沒有	比較少	中等程度	比較多	極其多
8	敵意的	1	2	3	4	5
9	熱情的	1	2	3	4	5
10	自豪的	1	2	3	4	5
11	易怒的	1	2	3	4	5
12	警覺性高的	1	2	3	4	5
13	害羞的	1	2	3	4	5
14	備受鼓舞的	1	2	3	4	5
15	緊張的	1	2	3	4	5
16	意志堅定的	1	2	3	4	5
17	注意力集中的	1	2	3	4	5
18	坐立不安的	1	2	3	4	5
19	有活力的	1	2	3	4	5
20	害怕的	1	2	3	4	5

問卷完畢，謝謝你的參與


```
Sem.GenerateDefaultCovariances(False)
```

```
Sem.BeginGroup("C:\Users\s1107437\Downloads\20171230_finalized.sav"  
, "20171230_finalized" )
```

```
Sem.GroupName("All")  
Sem.Cov("AV", "AN")  
Sem.Path("PSS", "AV", "av_pss_0")  
Sem.Path("HSB", "AN", "an_hsb_0")  
Sem.Path("EWB", "HSB", "hsb_ewb_0")  
Sem.Path("EWB", "PSS", "pss_ewb_0")  
Sem.Path("EWB", "AV", "av_ewb_0")  
Sem.Path("EWB", "AN", "an_ewb_0")  
Sem.Path("HSB", "AV", "av_hsb_0")  
Sem.Path("PSS", "AN", "an_pss_0")  
Sem.Path("hsbs_p", "E12", 1)  
Sem.Path("hsbs_f", "E11", 1)  
Sem.Path("hsbs_t", "E10", 1)  
Sem.Path("PSS", "D2", 1)  
Sem.Path("EWB", "E13", 1)  
Sem.Path("mspss_sig", "E2", 1)  
Sem.Path("mspss_t", "E1", 1)  
Sem.Path("mspss_fm", "E4", 1)  
Sem.Path("mspss_fd", "E3", 1)  
Sem.Path("mspss_fm", "PSS", "pss_fm_0")  
Sem.Path("mspss_fd", "PSS", "pss_fd_0")  
Sem.Path("mspss_sig", "PSS", "pss_sig_0")  
Sem.Path("mspss_t", "PSS", 1)  
Sem.Path("hsbs_p", "HSB", "hsb_p_0")  
Sem.Path("hsbs_f", "HSB", "hsb_f_0")  
Sem.Path("hsbs_t", "HSB", 1)  
Sem.Path("HSB", "D3", 1)  
Sem.Cov("D3", "D2")  
Sem.Cov("E10", "E1")  
Sem.Cov("E4", "E12")  
Sem.Cov("E11", "E3")
```

```
Sem.Model("Baseline", "")
```

```
End Sub
```

```
Sub AnalysisProperties(Sem As AmosEngine)
```

```
Sem.Iterations(50)  
Sem.InputUnbiasedMoments  
Sem.FitMLMoments  
Sem.Standardized  
Sem.TotalEffects  
Sem.Covest  
Sem.Corest  
Sem.Mods( 4)  
Sem.Seed(1)
```

```
End Sub
```

```
End Module
```

Appendix D: The AMOS output of the model showing the goodness-of-fit

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Baseline	30	177.721	25	.000	7.109
Saturated model	55	.000	0		
Independence model	10	2575.689	45	.000	57.238

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Baseline	.130	.943	.875	.429
Saturated model	.000	1.000		
Independence model	.516	.476	.359	.389

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Baseline	.931	.876	.940	.891	.940
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Baseline	.556	.517	.522
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Baseline	152.721	114.119	198.815
Saturated model	.000	.000	.000
Independence model	2530.689	2368.071	2700.636

FMIN

Model	FMIN	F0	LO 90	HI 90
Baseline	.307	.264	.197	.344
Saturated model	.000	.000	.000	.000
Independence model	4.456	4.378	4.097	4.672

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Baseline	.103	.089	.117	.000
Independence model	.312	.302	.322	.000

AIC

Model	AIC	BCC	BIC	CAIC
Baseline	237.721	238.885	368.560	398.560
Saturated model	110.000	112.134	349.872	404.872
Independence model	2595.689	2596.077	2639.302	2649.302

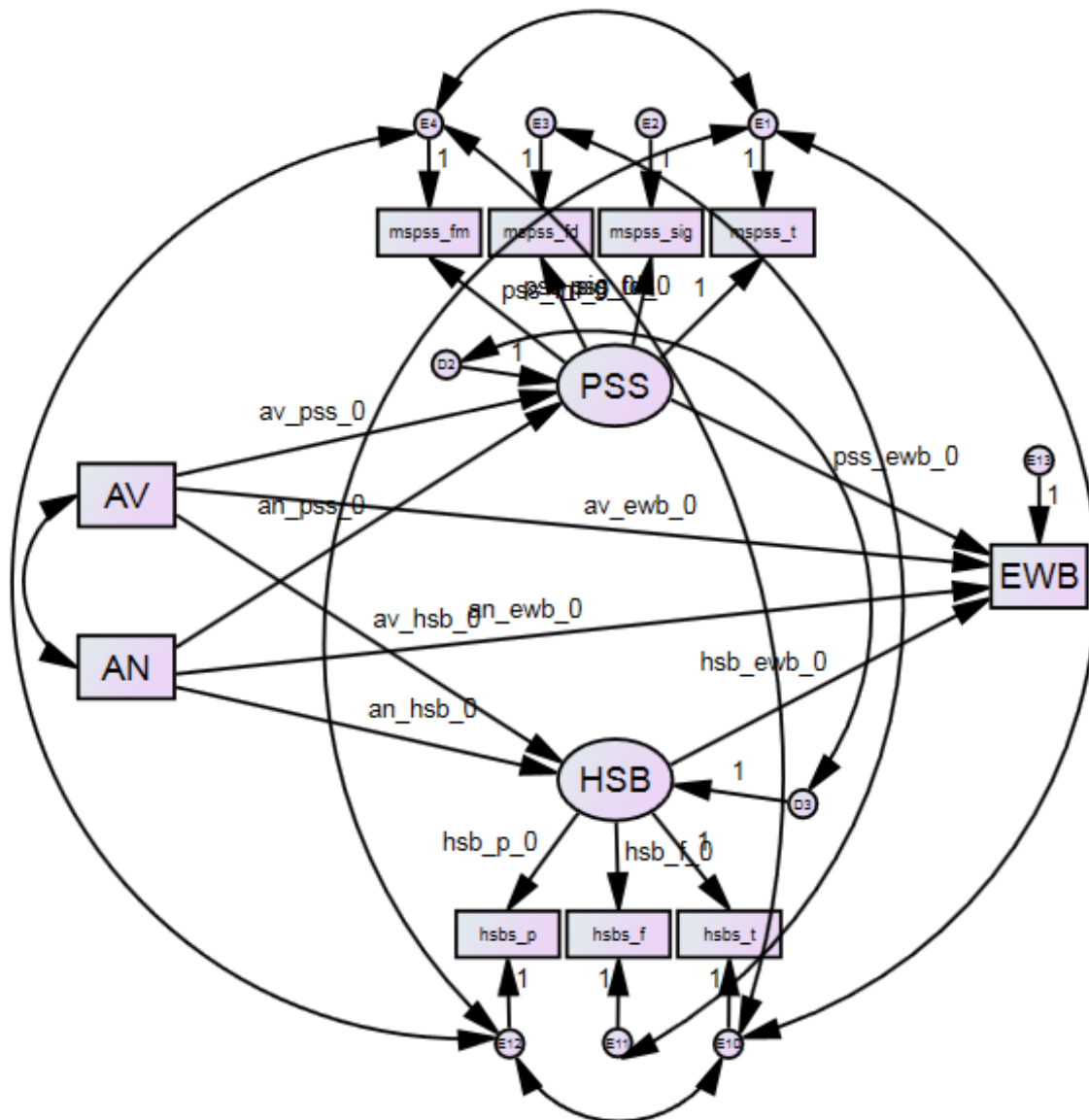
ECVI

Model	ECVI	LO 90	HI 90	MECVI
Baseline	.411	.344	.491	.413
Saturated model	.190	.190	.190	.194
Independence model	4.491	4.209	4.785	4.491

HOELTER

Model	HOELTER .05	HOELTER .01
Baseline	123	145
Independence model	14	16

Appendix E: The AMOS command of SEM after modification



```
#Region "Header"
Imports System
Imports System.Diagnostics
Imports Microsoft.VisualBasic
Imports AmosEngineLib
Imports AmosGraphics
Imports AmosEngineLib.AmosEngine.TMatrixID
Imports PBayes
#End Region
Module MainModule
    Public Sub Main()
        Dim Sem As AmosEngine
        Sem = New AmosEngine
        Sem.TextOutput
        AnalysisProperties(Sem)
        ModelSpecification(Sem)
        Sem.FitAllModels()
        Sem.Dispose()
    End Sub
End Sub
```

```

Sub ModelSpecification(Sem As AmosEngine)
    Sem.GenerateDefaultCovariances(False)

    Sem.BeginGroup("C:\Users\s1107437\Downloads\20171230_finalized.sav"
, "20171230_finalized"
    )
        Sem.GroupName("All")
        Sem.Cov("AV", "AN")
        Sem.Path("PSS", "AV", "av_pss_0")
        Sem.Path("HSB", "AN", "an_hsb_0")
        Sem.Path("EWB", "HSB", "hsb_ewb_0")
        Sem.Path("EWB", "PSS", "pss_ewb_0")
        Sem.Path("EWB", "AV", "av_ewb_0")
        Sem.Path("EWB", "AN", "an_ewb_0")
        Sem.Path("HSB", "AV", "av_hsb_0")
        Sem.Path("PSS", "AN", "an_pss_0")
        Sem.Path("hsbs_p", "E12", 1)
        Sem.Path("hsbs_f", "E11", 1)
        Sem.Path("hsbs_t", "E10", 1)
        Sem.Path("PSS", "D2", 1)
        Sem.Path("EWB", "E13", 1)
        Sem.Path("mspss_sig", "E2", 1)
        Sem.Path("mspss_t", "E1", 1)
        Sem.Path("mspss_fm", "E4", 1)
        Sem.Path("mspss_fd", "E3", 1)
        Sem.Path("mspss_fm", "PSS", "pss_fm_0")
        Sem.Path("mspss_fd", "PSS", "pss_fd_0")
        Sem.Path("mspss_sig", "PSS", "pss_sig_0")
        Sem.Path("mspss_t", "PSS", 1)
        Sem.Path("hsbs_p", "HSB", "hsb_p_0")
        Sem.Path("hsbs_f", "HSB", "hsb_f_0")
        Sem.Path("hsbs_t", "HSB", 1)
        Sem.Path("HSB", "D3", 1)
        Sem.Cov("D3", "D2")
        Sem.Cov("E10", "E1")
        Sem.Cov("E4", "E12")
        Sem.Cov("E11", "E3")
        Sem.Cov("E1", "E4")
        Sem.Cov("E12", "E10")
        Sem.Cov("E10", "E4")
        Sem.Cov("E1", "E12")

    Sem.Model("Baseline", "")
End Sub

Sub AnalysisProperties(Sem As AmosEngine)
    Sem.Iterations(50)
    Sem.InputUnbiasedMoments
    Sem.FitMLMoments
    Sem.Standardized
    Sem.TotalEffects
    Sem.Covest
    Sem.Corest

```

```
Sem.Mods( 4)  
Sem.Seed(1)  
End Sub  
End Module
```



Appendix F: The AMOS output of the final model showing the goodness-of-fit

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Baseline	34	75.664	21	.000	3.603
Saturated model	55	.000	0		
Independence model	10	2575.689	45	.000	57.238

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Baseline	.065	.976	.937	.373
Saturated model	.000	1.000		
Independence model	.516	.476	.359	.389

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Baseline	.971	.937	.979	.954	.978
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Baseline	.467	.453	.457
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Baseline	54.664	31.808	85.106
Saturated model	.000	.000	.000
Independence model	2530.689	2368.071	2700.636

FMIN

Model	FMIN	F0	LO 90	HI 90
Baseline	.131	.095	.055	.147
Saturated model	.000	.000	.000	.000
Independence model	4.456	4.378	4.097	4.672

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Baseline	.067	.051	.084	.039
Independence model	.312	.302	.322	.000

AIC

Model	AIC	BCC	BIC	CAIC
Baseline	143.664	144.984	291.949	325.949
Saturated model	110.000	112.134	349.872	404.872
Independence model	2595.689	2596.077	2639.302	2649.302

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Baseline	.249	.209	.301	.251
Saturated model	.190	.190	.190	.194
Independence model	4.491	4.209	4.785	4.491

HOELTER

Model	HOELTER .05	HOELTER .01
Baseline	250	298
Independence model	14	16

Appendix G: The AMOS output of the final model showing the unstandardized and standardized coefficients

Estimates (All - Baseline)

Scalar Estimates (All - Baseline)

Maximum Likelihood Estimates

Regression Weights: (All - Baseline)

			Estimate	S.E.	C.R.	P	Label
PSS	<---	AV	-.373	.048	-7.796	***	av_pss_0
HSB	<---	AN	.040	.015	2.596	.009	an_hsb_0
HSB	<---	AV	-.227	.039	-5.875	***	av_hsb_0
PSS	<---	AN	-.024	.025	-.959	.338	an_pss_0
EWB	<---	HSB	.111	.086	1.294	.196	hsb_ewb_0
EWB	<---	PSS	.200	.045	4.405	***	pss_ewb_0
EWB	<---	AV	-.155	.028	-5.574	***	av_ewb_0
EWB	<---	AN	-.150	.017	-8.633	***	an_ewb_0
msspss_fm	<---	PSS	1.210	.107	11.355	***	pss_fm_0
msspss_fd	<---	PSS	2.225	.203	10.941	***	pss_fd_0
msspss_sig	<---	PSS	2.107	.193	10.929	***	pss_sig_0
msspss_t	<---	PSS	1.000				
hsbs_p	<---	HSB	1.123	.158	7.101	***	hsb_p_0
hsbs_f	<---	HSB	2.633	.403	6.532	***	hsb_f_0
hsbs_t	<---	HSB	1.000				

Standardized Regression Weights: (All - Baseline)

			Estimate
PSS	<---	AV	-.425
HSB	<---	AN	.117
HSB	<---	AV	-.479
PSS	<---	AN	-.038
EWB	<---	HSB	.077
EWB	<---	PSS	.256
EWB	<---	AV	-.227
EWB	<---	AN	-.305
msspss_fm	<---	PSS	.462
msspss_fd	<---	PSS	.952
msspss_sig	<---	PSS	.912
msspss_t	<---	PSS	.411
hsbs_p	<---	HSB	.340
hsbs_f	<---	HSB	.896
hsbs_t	<---	HSB	.323

Covariances: (All - Baseline)

	Estimate	S.E.	C.R.	P	Label
AV <--> AN	.080	.030	2.686	.007	par_14
D2 <--> D3	.098	.023	4.293	***	par_15
E10 <--> E1	.891	.069	12.909	***	par_16
E12 <--> E4	1.005	.077	13.008	***	par_17
E11 <--> E3	.019	.030	.628	.530	par_18
E1 <--> E4	.759	.091	8.297	***	par_19
E12 <--> E10	.254	.047	5.453	***	par_20
E10 <--> E4	.318	.062	5.096	***	par_21
E12 <--> E1	.351	.064	5.533	***	par_22

Correlations: (All - Baseline)

	Estimate
AV <--> AN	.112
D2 <--> D3	.584
E10 <--> E1	.648
E12 <--> E4	.658
E11 <--> E3	.095
E1 <--> E4	.376
E12 <--> E10	.245
E10 <--> E4	.221
E12 <--> E1	.241

Variances: (All - Baseline)

	Estimate	S.E.	C.R.	P	Label
AV	.510	.030	17.000	***	par_23
AN	.981	.058	17.000	***	par_24
D2	.319	.060	5.340	***	par_25
D3	.088	.022	3.964	***	par_26
E12	1.103	.067	16.391	***	par_27
E11	.195	.077	2.527	.012	par_28
E10	.979	.059	16.470	***	par_29
E13	.159	.009	16.835	***	par_30
E2	.353	.051	6.854	***	par_31
E1	1.928	.115	16.770	***	par_32
E4	2.113	.127	16.690	***	par_33
E3	.199	.054	3.698	***	par_34

Matrices (All - Baseline)**Total Effects (All - Baseline)**

	AN	AV	HSB	PSS
HSB	.040	-.227	.000	.000
PSS	-.024	-.373	.000	.000
mspss_fd	-.053	-.829	.000	2.225
mspss_fm	-.029	-.451	.000	1.210
mspss_t	-.024	-.373	.000	1.000
mspss_sig	-.050	-.785	.000	2.107
hsbs_t	.040	-.227	1.000	.000
hsbs_f	.105	-.598	2.633	.000
hsbs_p	.045	-.255	1.123	.000
EWB	-.151	-.255	.111	.200

Standardized Total Effects (All - Baseline)

	AN	AV	HSB	PSS
HSB	.117	-.479	.000	.000
PSS	-.038	-.425	.000	.000
mspss_fd	-.036	-.405	.000	.952
mspss_fm	-.017	-.196	.000	.462
mspss_t	-.016	-.175	.000	.411
mspss_sig	-.034	-.388	.000	.912
hsbs_t	.038	-.155	.323	.000
hsbs_f	.105	-.429	.896	.000
hsbs_p	.040	-.163	.340	.000
EWB	-.306	-.372	.077	.256

Direct Effects (All - Baseline)

	AN	AV	HSB	PSS
HSB	.040	-.227	.000	.000
PSS	-.024	-.373	.000	.000
mspss_fd	.000	.000	.000	2.225
mspss_fm	.000	.000	.000	1.210
mspss_t	.000	.000	.000	1.000
mspss_sig	.000	.000	.000	2.107
hsbs_t	.000	.000	1.000	.000
hsbs_f	.000	.000	2.633	.000
hsbs_p	.000	.000	1.123	.000
EWB	-.150	-.155	.111	.200

Standardized Direct Effects (All - Baseline)

	AN	AV	HSB	PSS
HSB	.117	-.479	.000	.000
PSS	-.038	-.425	.000	.000
msspss_fd	.000	.000	.000	.952
msspss_fm	.000	.000	.000	.462
msspss_t	.000	.000	.000	.411
msspss_sig	.000	.000	.000	.912
hsbs_t	.000	.000	.323	.000
hsbs_f	.000	.000	.896	.000
hsbs_p	.000	.000	.340	.000
EWB	-.305	-.227	.077	.256

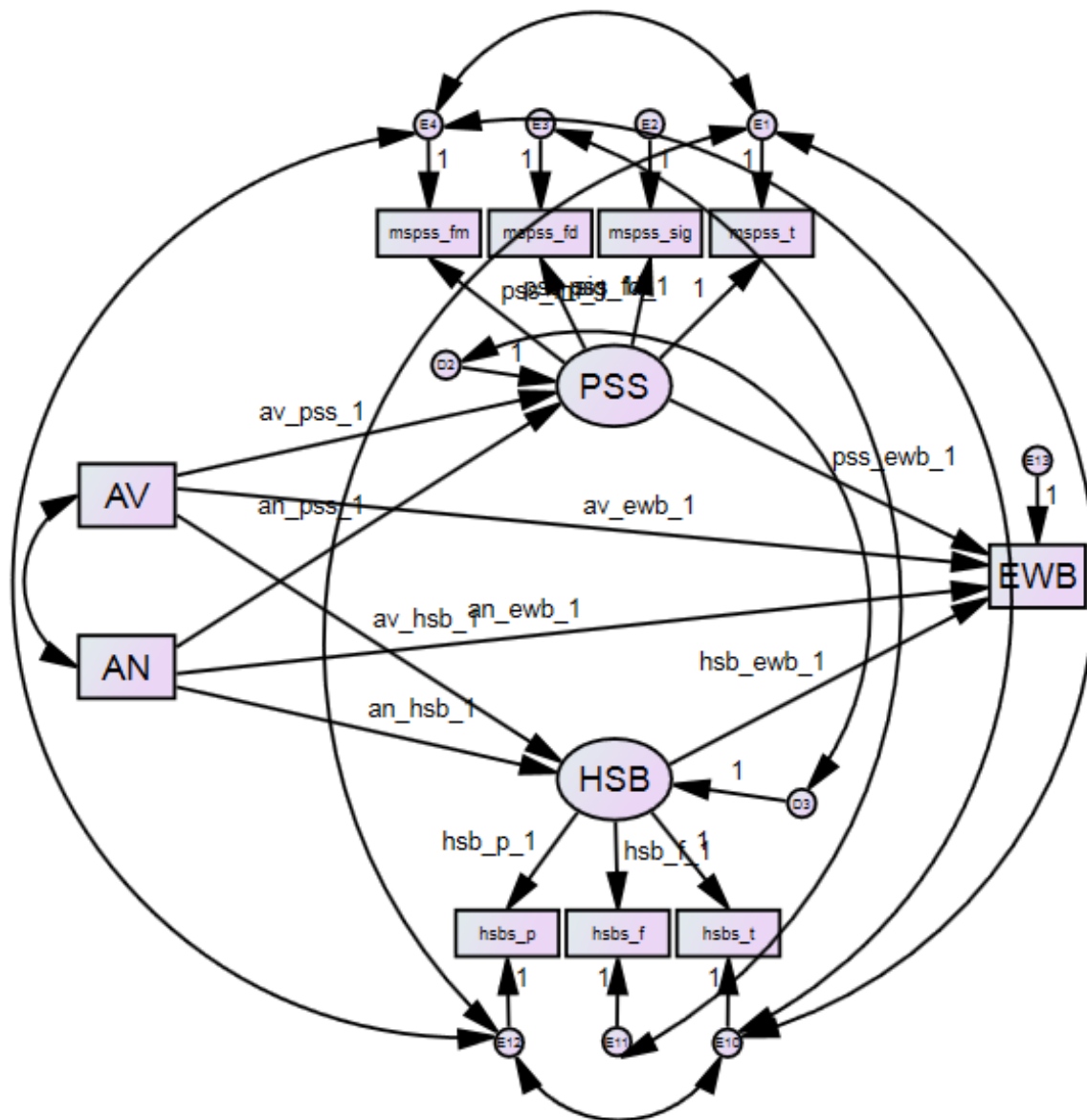
Indirect Effects (All - Baseline)

	AN	AV	HSB	PSS
HSB	.000	.000	.000	.000
PSS	.000	.000	.000	.000
msspss_fd	-.053	-.829	.000	.000
msspss_fm	-.029	-.451	.000	.000
msspss_t	-.024	-.373	.000	.000
msspss_sig	-.050	-.785	.000	.000
hsbs_t	.040	-.227	.000	.000
hsbs_f	.105	-.598	.000	.000
hsbs_p	.045	-.255	.000	.000
EWB	.000	-.100	.000	.000

Standardized Indirect Effects (All - Baseline)

	AN	AV	HSB	PSS
HSB	.000	.000	.000	.000
PSS	.000	.000	.000	.000
msspss_fd	-.036	-.405	.000	.000
msspss_fm	-.017	-.196	.000	.000
msspss_t	-.016	-.175	.000	.000
msspss_sig	-.034	-.388	.000	.000
hsbs_t	.038	-.155	.000	.000
hsbs_f	.105	-.429	.000	.000
hsbs_p	.040	-.163	.000	.000
EWB	-.001	-.146	.000	.000

Appendix H: The AMOS command of SEM with equal constraints set in different genders



```
#Region "Header"
Imports System
Imports System.Diagnostics
Imports Microsoft.VisualBasic
Imports AmosEngineLib
Imports AmosGraphics
Imports AmosEngineLib.AmosEngine.TMatrixID
Imports PBayes
#End Region
Module MainModule
    Public Sub Main()
        Dim Sem As AmosEngine
        Sem = New AmosEngine
        Sem.TextOutput
        AnalysisProperties(Sem)
        ModelSpecification(Sem)
        Sem.FitAllModels()
    End Sub
End Module
```

```
Sem.Dispose()
End Sub
```

```
Sub ModelSpecification(Sem As AmosEngine)
    Sem.GenerateDefaultCovariances(False)
```

```
    Sem.BeginGroup("C:\Users\s1107437\Downloads\20171230_finalized.sav"
, "20171230_finalized" , gender, 0 )
        Sem.GroupName("Female")
        Sem.Cov("AV", "AN")
        Sem.Path("PSS", "AV", "av_pss_0")
        Sem.Path("HSB", "AN", "an_hsb_0")
        Sem.Path("EWB", "HSB", "hsb_ewb_0")
        Sem.Path("EWB", "PSS", "pss_ewb_0")
        Sem.Path("EWB", "AV", "av_ewb_0")
        Sem.Path("EWB", "AN", "an_ewb_0")
        Sem.Path("HSB", "AV", "av_hsb_0")
        Sem.Path("PSS", "AN", "an_pss_0")
        Sem.Path("hsbs_p", "E12", 1)
        Sem.Path("hsbs_f", "E11", 1)
        Sem.Path("hsbs_t", "E10", 1)
        Sem.Path("PSS", "D2", 1)
        Sem.Path("EWB", "E13", 1)
        Sem.Path("mspss_sig", "E2", 1)
        Sem.Path("mspss_t", "E1", 1)
        Sem.Path("mspss_fm", "E4", 1)
        Sem.Path("mspss_fd", "E3", 1)
        Sem.Path("mspss_fm", "PSS", "pss_fm_0")
        Sem.Path("mspss_fd", "PSS", "pss_fd_0")
        Sem.Path("mspss_sig", "PSS", "pss_sig_0")
        Sem.Path("mspss_t", "PSS", 1)
        Sem.Path("hsbs_p", "HSB", "hsb_p_0")
        Sem.Path("hsbs_f", "HSB", "hsb_f_0")
        Sem.Path("hsbs_t", "HSB", 1)
        Sem.Path("HSB", "D3", 1)
        Sem.Cov("D3", "D2")
        Sem.Cov("E10", "E1")
        Sem.Cov("E4", "E12")
        Sem.Cov("E11", "E3")
        Sem.Cov("E1", "E4")
        Sem.Cov("E12", "E10")
        Sem.Cov("E10", "E4")
        Sem.Cov("E1", "E12")
```

```
    Sem.BeginGroup("C:\Users\s1107437\Downloads\20171230_finalized.sav"
, "20171230_finalized" , gender, 1 )
        Sem.GroupName("Male")
        Sem.Cov("AV", "AN")
        Sem.Path("PSS", "AV", "av_pss_1")
        Sem.Path("HSB", "AN", "an_hsb_1")
        Sem.Path("EWB", "HSB", "hsb_ewb_1")
        Sem.Path("EWB", "PSS", "pss_ewb_1")
```



```

Sem.Path("EWB", "AV", "av_ewb_1")
Sem.Path("EWB", "AN", "an_ewb_1")
Sem.Path("HSB", "AV", "av_hsb_1")
Sem.Path("PSS", "AN", "an_pss_1")
Sem.Path("hsbs_p", "E12", 1)
Sem.Path("hsbs_f", "E11", 1)
Sem.Path("hsbs_t", "E10", 1)
Sem.Path("PSS", "D2", 1)
Sem.Path("EWB", "E13", 1)
Sem.Path("mspss_sig", "E2", 1)
Sem.Path("mspss_t", "E1", 1)
Sem.Path("mspss_fm", "E4", 1)
Sem.Path("mspss_fd", "E3", 1)
Sem.Path("mspss_fm", "PSS", "pss_fm_1")
Sem.Path("mspss_fd", "PSS", "pss_fd_1")
Sem.Path("mspss_sig", "PSS", "pss_sig_1")
Sem.Path("mspss_t", "PSS", 1)
Sem.Path("hsbs_p", "HSB", "hsb_p_1")
Sem.Path("hsbs_f", "HSB", "hsb_f_1")
Sem.Path("hsbs_t", "HSB", 1)
Sem.Path("HSB", "D3", 1)
Sem.Cov("D3", "D2")
Sem.Cov("E10", "E1")
Sem.Cov("E4", "E12")
Sem.Cov("E11", "E3")
Sem.Cov("E1", "E4")
Sem.Cov("E12", "E10")
Sem.Cov("E10", "E4")
Sem.Cov("E1", "E12")

```

```
Sem.Model("Baseline", "")
```

```
Sem.Model("Model B (baseline + pss_fd_0 = pss_fd_1)", "pss_fd_0 =  
pss_fd_1")
```

```
Sem.Model("Model C (Model B + pss_sig_0 = pss_sig_1)", "pss_fd_0 =  
pss_fd_1 ;pss_sig_0 = pss_sig_1")
```

```
Sem.Model("Model D (Model C + hsb_p_0 = hsb_p_1)", "pss_fd_0 =  
pss_fd_1 ;pss_sig_0 = pss_sig_1;hsb_p_0 = hsb_p_1")
```

```
Sem.Model("Model E (Model D + hsb_f_0 = hsb_f_1)", "pss_fd_0 =  
pss_fd_1 ;pss_sig_0 = pss_sig_1;hsb_p_0 = hsb_p_1;hsb_f_0 = hsb_f_1")
```

```
Sem.Model("Model F (Model E + av_pss_0 = av_pss_1)", "pss_fd_0 =  
pss_fd_1 ;pss_sig_0 = pss_sig_1;hsb_p_0 = hsb_p_1;hsb_f_0 = hsb_f_1 ;av_pss_0 =  
av_pss_1")
```

```
Sem.Model("Model G (Model F + av_hsb_0 = av_hsb_1)", "pss_fd_0 =  
pss_fd_1 ;pss_sig_0 = pss_sig_1;hsb_p_0 = hsb_p_1;hsb_f_0 = hsb_f_1 ;av_pss_0 =  
av_pss_1;av_hsb_0 = av_hsb_1")
```

```
Sem.Model("Model H (Model G + av_ewb_0 = av_ewb_1)", "pss_fd_0 =  
pss_fd_1 ;pss_sig_0 = pss_sig_1;hsb_p_0 = hsb_p_1;hsb_f_0 = hsb_f_1 ;av_pss_0 =  
av_pss_1;av_hsb_0 = av_hsb_1;av_ewb_0 = av_ewb_1")
```

```
Sem.Model("Model K (Model H + an_ewb_0 = an_ewb_1)", "pss_fd_0 =  
pss_fd_1 ;pss_sig_0 = pss_sig_1;hsb_p_0 = hsb_p_1;hsb_f_0 = hsb_f_1 ;av_pss_0 =  
av_pss_1;av_hsb_0 = av_hsb_1;av_ewb_0 = av_ewb_1;an_ewb_0 = an_ewb_1")
```

```
Sem.Model("Model L (Model K + pss_ewb_0 = pss_ewb_1)", "pss_fd_0 =  
pss_fd_1 ;pss_sig_0 = pss_sig_1;hsb_p_0 = hsb_p_1;hsb_f_0 = hsb_f_1 ;av_pss_0 =
```

```

av_pss_1;av_hsb_0 = av_hsb_1;av_ewb_0 = av_ewb_1;an_ewb_0 =
an_ewb_1;pss_ewb_0 = pss_ewb_1")
    Sem.Model("Model M (Model L + hsb_ewb_0 = hsb_ewb_1)", "pss_fd_0 =
pss_fd_1 ;pss_sig_0 = pss_sig_1;hsb_p_0 = hsb_p_1;hsb_f_0 = hsb_f_1 ;av_pss_0 =
av_pss_1;av_hsb_0 = av_hsb_1;av_ewb_0 = av_ewb_1;an_ewb_0 =
an_ewb_1;pss_ewb_0 = pss_ewb_1;hsb_ewb_0 = hsb_ewb_1")
End Sub

Sub AnalysisProperties(Sem As AmosEngine)
    Sem.Iterations(50)
    Sem.InputUnbiasedMoments
    Sem.FitMLMoments
    Sem.Standardized
    Sem.TotalEffects
    Sem.Covest
    Sem.Corest
    Sem.Mods( 4)
    Sem.Seed(1)
End Sub
End Module

```

Nested Model Comparisons**Assuming model Baseline to be correct:**

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Model B (baseline + pss_fd_0 = pss_fd_1)	1	2.654	.103	.001	.001	.000	.000
Model C (Model B + pss_sig_0 = pss_sig_1)	2	5.872	.053	.002	.002	.001	.001
Model D (Model C + hsb_p_0 = hsb_p_1)	3	8.255	.041	.003	.003	.001	.001
Model E (Model D + hsb_f_0 = hsb_f_1)	4	9.015	.061	.003	.003	.000	.000
Model F (Model E + av_pss_0 = av_pss_1)	5	11.719	.039	.004	.004	.000	.000
Model G (Model F + av_hsb_0 = av_hsb_1)	6	11.776	.067	.004	.004	-.001	-.001
Model H (Model G + av_ewb_0 = av_ewb_1)	7	12.004	.100	.004	.005	-.003	-.003
Model K (Model H + an_ewb_0 = an_ewb_1)	8	13.162	.106	.005	.005	-.003	-.003
Model L (Model K + pss_ewb_0 = pss_ewb_1)	9	13.335	.148	.005	.005	-.005	-.005
Model M (Model L + hsb_ewb_0 = hsb_ewb_1)	10	16.407	.089	.006	.006	-.004	-.004

Assuming model Model B (baseline + pss_fd_0 = pss_fd_1) to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Model C (Model B + pss_sig_0 = pss_sig_1)	1	3.219	.073	.001	.001	.001	.001
Model D (Model C + hsb_p_0 = hsb_p_1)	2	5.601	.061	.002	.002	.001	.001
Model E (Model D + hsb_f_0 = hsb_f_1)	3	6.361	.095	.002	.002	.000	.000
Model F (Model E + av_pss_0 = av_pss_1)	4	9.065	.059	.003	.003	.000	.000
Model G (Model F + av_hsb_0 = av_hsb_1)	5	9.122	.104	.003	.003	-.002	-.002
Model H (Model G + av_ewb_0 = av_ewb_1)	6	9.351	.155	.003	.004	-.003	-.003
Model K (Model H + an_ewb_0 = an_ewb_1)	7	10.508	.162	.004	.004	-.004	-.004
Model L (Model K + pss_ewb_0 = pss_ewb_1)	8	10.681	.220	.004	.004	-.005	-.005
Model M (Model L + hsb_ewb_0 = hsb_ewb_1)	9	13.753	.131	.005	.005	-.004	-.004

Assuming model Model C (Model B + pss_sig_0 = pss_sig_1) to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Model D (Model C + hsb_p_0 = hsb_p_1)	1	2.382	.123	.001	.001	.000	.000
Model E (Model D + hsb_f_0 = hsb_f_1)	2	3.142	.208	.001	.001	-.001	-.001
Model F (Model E + av_pss_0 = av_pss_1)	3	5.847	.119	.002	.002	-.001	-.001
Model G (Model F + av_hsb_0 = av_hsb_1)	4	5.904	.206	.002	.002	-.002	-.002
Model H (Model G + av_ewb_0 = av_ewb_1)	5	6.132	.294	.002	.002	-.004	-.004
Model K (Model H + an_ewb_0 = an_ewb_1)	6	7.290	.295	.003	.003	-.004	-.004
Model L (Model K + pss_ewb_0 = pss_ewb_1)	7	7.463	.382	.003	.003	-.006	-.006
Model M (Model L + hsb_ewb_0 = hsb_ewb_1)	8	10.535	.229	.004	.004	-.005	-.005

Assuming model Model D (Model C + hsb_p_0 = hsb_p_1) to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Model E (Model D + hsb_f_0 = hsb_f_1)	1	.760	.383	.000	.000	-.001	-.001
Model F (Model E + av_pss_0 = av_pss_1)	2	3.465	.177	.001	.001	-.001	-.001
Model G (Model F + av_hsb_0 = av_hsb_1)	3	3.522	.318	.001	.001	-.002	-.002
Model H (Model G + av_ewb_0 = av_ewb_1)	4	3.750	.441	.001	.001	-.004	-.004
Model K (Model H + an_ewb_0 = an_ewb_1)	5	4.907	.427	.002	.002	-.004	-.005
Model L (Model K + pss_ewb_0 = pss_ewb_1)	6	5.080	.534	.002	.002	-.006	-.006
Model M (Model L + hsb_ewb_0 = hsb_ewb_1)	7	8.153	.319	.003	.003	-.005	-.005

Assuming model Model E (Model D + hsb_f_0 = hsb_f_1) to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Model F (Model E + av_pss_0 = av_pss_1)	1	2.705	.100	.001	.001	.000	.000
Model G (Model F + av_hsb_0 = av_hsb_1)	2	2.762	.251	.001	.001	-.001	-.001
Model H (Model G + av_ewb_0 = av_ewb_1)	3	2.990	.393	.001	.001	-.003	-.003
Model K (Model H + an_ewb_0 = an_ewb_1)	4	4.147	.386	.002	.002	-.003	-.003
Model L (Model K + pss_ewb_0 = pss_ewb_1)	5	4.320	.504	.002	.002	-.005	-.005
Model M (Model L + hsb_ewb_0 = hsb_ewb_1)	6	7.393	.286	.003	.003	-.004	-.004

Assuming model Model F (Model E + av_pss_0 = av_pss_1) to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Model G (Model F + av_hsb_0 = av_hsb_1)	1	.057	.811	.000	.000	-.002	-.002
Model H (Model G + av_ewb_0 = av_ewb_1)	2	.285	.867	.000	.000	-.003	-.003
Model K (Model H + an_ewb_0 = an_ewb_1)	3	1.443	.696	.001	.001	-.004	-.004
Model L (Model K + pss_ewb_0 = pss_ewb_1)	4	1.616	.806	.001	.001	-.005	-.005
Model M (Model L + hsb_ewb_0 = hsb_ewb_1)	5	4.688	.455	.002	.002	-.004	-.004

Assuming model Model G (Model F + av_hsb_0 = av_hsb_1) to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Model H (Model G + av_ewb_0 = av_ewb_1)	1	.228	.633	.000	.000	-.001	-.001
Model K (Model H + an_ewb_0 = an_ewb_1)	2	1.386	.500	.001	.001	-.002	-.002
Model L (Model K + pss_ewb_0 = pss_ewb_1)	3	1.559	.669	.001	.001	-.003	-.003
Model M (Model L + hsb_ewb_0 = hsb_ewb_1)	4	4.631	.327	.002	.002	-.003	-.003

Assuming model Model H (Model G + av_ewb_0 = av_ewb_1) to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Model K (Model H + an_ewb_0 = an_ewb_1)	1	1.158	.282	.000	.000	-.001	-.001
Model L (Model K + pss_ewb_0 = pss_ewb_1)	2	1.331	.514	.000	.001	-.002	-.002
Model M (Model L + hsb_ewb_0 = hsb_ewb_1)	3	4.403	.221	.002	.002	-.001	-.001

Assuming model Model K (Model H + an_ewb_0 = an_ewb_1) to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Model L (Model K + pss_ewb_0 = pss_ewb_1)	1	.173	.677	.000	.000	-.001	-.001
Model M (Model L + hsb_ewb_0 = hsb_ewb_1)	2	3.245	.197	.001	.001	-.001	-.001

Assuming model Model L (Model K + pss_ewb_0 = pss_ewb_1) to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Model M (Model L + hsb_ewb_0 = hsb_ewb_1)	1	3.072	.080	.001	.001	.001	.001

Appendix J: The AMOS output of the final model with gender difference showing the unstandardized and standardized coefficients

Estimates (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

Scalar Estimates (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

Maximum Likelihood Estimates

Regression Weights: (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

			Estimate	S.E.	C.R.	P	Label
PSS	<---	AV	-.373	.048	-7.835	***	av_pss_0
HSB	<---	AN	.005	.022	.217	.828	an_hsb_0
HSB	<---	AV	-.241	.038	-6.365	***	av_hsb_0
PSS	<---	AN	-.084	.037	-2.270	.023	an_pss_0
EWB	<---	HSB	.125	.085	1.474	.141	hsb_ewb_0
EWB	<---	PSS	.195	.045	4.343	***	pss_ewb_0
EWB	<---	AV	-.153	.028	-5.468	***	av_ewb_0
EWB	<---	AN	-.151	.017	-8.666	***	an_ewb_0
msspss_fm	<---	PSS	1.221	.129	9.502	***	pss_fm_0
msspss_fd	<---	PSS	2.167	.194	11.188	***	pss_fd_0
msspss_sig	<---	PSS	2.059	.184	11.163	***	pss_sig_0
msspss_t	<---	PSS	1.000				
hsbs_p	<---	HSB	1.068	.149	7.188	***	hsb_p_0
hsbs_f	<---	HSB	2.440	.340	7.183	***	hsb_f_0
hsbs_t	<---	HSB	1.000				

Standardized Regression Weights: (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

			Estimate
PSS	<---	AV	-.444
HSB	<---	AN	.013
HSB	<---	AV	-.508
PSS	<---	AN	-.134
EWB	<---	HSB	.088
EWB	<---	PSS	.245
EWB	<---	AV	-.229
EWB	<---	AN	-.302
msspss_fm	<---	PSS	.459
msspss_fd	<---	PSS	.948
msspss_sig	<---	PSS	.907
msspss_t	<---	PSS	.407
hsbs_p	<---	HSB	.353
hsbs_f	<---	HSB	.892
hsbs_t	<---	HSB	.361

Covariances: (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	Estimate	S.E.	C.R.	P	Label
AV <--> AN	.128	.048	2.671	.008	par_17
D2 <--> D3	.119	.028	4.286	***	par_18
E10 <--> E1	.916	.101	9.056	***	par_19
E12 <--> E4	1.143	.120	9.547	***	par_20
E11 <--> E3	.013	.040	.309	.757	par_21
E1 <--> E4	.825	.145	5.700	***	par_22
E12 <--> E10	.142	.060	2.347	.019	par_23
E10 <--> E4	.321	.090	3.573	***	par_24
E12 <--> E1	.335	.093	3.593	***	par_25

Correlations: (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	Estimate
AV <--> AN	.170
D2 <--> D3	.705
E10 <--> E1	.705
E12 <--> E4	.766
E11 <--> E3	.062
E1 <--> E4	.391
E12 <--> E10	.154
E10 <--> E4	.235
E12 <--> E1	.236

Variances: (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	Estimate	S.E.	C.R.	P	Label
AV	.561	.050	11.272	***	par_35
AN	1.011	.090	11.272	***	par_36
D2	.304	.060	5.054	***	par_37
D3	.093	.024	3.856	***	par_38
E12	1.005	.092	10.971	***	par_39
E11	.192	.070	2.755	.006	par_40
E10	.840	.077	10.955	***	par_41
E13	.157	.014	11.155	***	par_42
E2	.365	.065	5.570	***	par_43
E1	2.007	.180	11.123	***	par_44
E4	2.215	.200	11.066	***	par_45
E3	.210	.066	3.193	.001	par_46

Matrices (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))**Total Effects (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))**

	AN	AV	HSB	PSS
HSB	.005	-.241	.000	.000
PSS	-.084	-.373	.000	.000
msspss_fd	-.182	-.809	.000	2.167
msspss_fm	-.102	-.456	.000	1.221
msspss_t	-.084	-.373	.000	1.000
msspss_sig	-.173	-.768	.000	2.059
hsbs_t	.005	-.241	1.000	.000
hsbs_f	.012	-.587	2.440	.000
hsbs_p	.005	-.257	1.068	.000
EWB	-.166	-.256	.125	.195

Standardized Total Effects (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	AN	AV	HSB	PSS
HSB	.013	-.508	.000	.000
PSS	-.134	-.444	.000	.000
msspss_fd	-.127	-.421	.000	.948
msspss_fm	-.061	-.204	.000	.459
msspss_t	-.054	-.180	.000	.407
msspss_sig	-.121	-.402	.000	.907
hsbs_t	.005	-.183	.361	.000
hsbs_f	.012	-.454	.892	.000
hsbs_p	.005	-.180	.353	.000
EWB	-.334	-.383	.088	.245

Direct Effects (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	AN	AV	HSB	PSS
HSB	.005	-.241	.000	.000
PSS	-.084	-.373	.000	.000
msspss_fd	.000	.000	.000	2.167
msspss_fm	.000	.000	.000	1.221
msspss_t	.000	.000	.000	1.000
msspss_sig	.000	.000	.000	2.059
hsbs_t	.000	.000	1.000	.000
hsbs_f	.000	.000	2.440	.000
hsbs_p	.000	.000	1.068	.000
EWB	-.151	-.153	.125	.195

Standardized Direct Effects (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	AN	AV	HSB	PSS
HSB	.013	-.508	.000	.000
PSS	-.134	-.444	.000	.000
msspss_fd	.000	.000	.000	.948
msspss_fm	.000	.000	.000	.459
msspss_t	.000	.000	.000	.407
msspss_sig	.000	.000	.000	.907
hsbs_t	.000	.000	.361	.000
hsbs_f	.000	.000	.892	.000
hsbs_p	.000	.000	.353	.000
EWB	-.302	-.229	.088	.245

Indirect Effects (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	AN	AV	HSB	PSS
HSB	.000	.000	.000	.000
PSS	.000	.000	.000	.000
msspss_fd	-.182	-.809	.000	.000
msspss_fm	-.102	-.456	.000	.000
msspss_t	-.084	-.373	.000	.000
msspss_sig	-.173	-.768	.000	.000
hsbs_t	.005	-.241	.000	.000
hsbs_f	.012	-.587	.000	.000
hsbs_p	.005	-.257	.000	.000
EWB	-.016	-.103	.000	.000

Standardized Indirect Effects (Female - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	AN	AV	HSB	PSS
HSB	.000	.000	.000	.000
PSS	.000	.000	.000	.000
msspss_fd	-.127	-.421	.000	.000
msspss_fm	-.061	-.204	.000	.000
msspss_t	-.054	-.180	.000	.000
msspss_sig	-.121	-.402	.000	.000
hsbs_t	.005	-.183	.000	.000
hsbs_f	.012	-.454	.000	.000
hsbs_p	.005	-.180	.000	.000
EWB	-.032	-.154	.000	.000

Estimates (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

Scalar Estimates (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

Maximum Likelihood Estimates

Regression Weights: (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

			Estimate	S.E.	C.R.	P	Label
PSS	<---	AV	-.373	.048	-7.835	***	av_pss_0
HSB	<---	AN	.071	.023	3.115	.002	an_hsb_1
HSB	<---	AV	-.241	.038	-6.365	***	av_hsb_0
PSS	<---	AN	.023	.035	.660	.509	an_pss_1
EWB	<---	HSB	.125	.085	1.474	.141	hsb_ewb_0
EWB	<---	PSS	.195	.045	4.343	***	pss_ewb_0
EWB	<---	AV	-.153	.028	-5.468	***	av_ewb_0
EWB	<---	AN	-.151	.017	-8.666	***	an_ewb_0
msspss_fm	<---	PSS	1.159	.122	9.468	***	pss_fm_1
msspss_fd	<---	PSS	2.167	.194	11.188	***	pss_fd_0
msspss_sig	<---	PSS	2.059	.184	11.163	***	pss_sig_0
msspss_t	<---	PSS	1.000				
hsbs_p	<---	HSB	1.068	.149	7.188	***	hsb_p_0
hsbs_f	<---	HSB	2.440	.340	7.183	***	hsb_f_0
hsbs_t	<---	HSB	1.000				

Standardized Regression Weights: (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

			Estimate
PSS	<---	AV	-.396
HSB	<---	AN	.196
HSB	<---	AV	-.463
PSS	<---	AN	.035
EWB	<---	HSB	.093
EWB	<---	PSS	.263
EWB	<---	AV	-.219
EWB	<---	AN	-.309
msspss_fm	<---	PSS	.466
msspss_fd	<---	PSS	.950
msspss_sig	<---	PSS	.922
msspss_t	<---	PSS	.430
hsbs_p	<---	HSB	.333
hsbs_f	<---	HSB	.865
hsbs_t	<---	HSB	.325

Covariances: (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	Estimate	S.E.	C.R.	P	Label
AV <--> AN	.042	.037	1.125	.261	par_26
D2 <--> D3	.092	.023	3.982	***	par_27
E10 <--> E1	.850	.093	9.185	***	par_28
E12 <--> E4	.890	.100	8.894	***	par_29
E11 <--> E3	.036	.037	.975	.330	par_30
E1 <--> E4	.688	.116	5.934	***	par_31
E12 <--> E10	.342	.067	5.077	***	par_32
E10 <--> E4	.299	.085	3.515	***	par_33
E12 <--> E1	.375	.085	4.395	***	par_34

Correlations: (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	Estimate
AV <--> AN	.063
D2 <--> D3	.504
E10 <--> E1	.608
E12 <--> E4	.584
E11 <--> E3	.154
E1 <--> E4	.358
E12 <--> E10	.309
E10 <--> E4	.204
E12 <--> E1	.258

Variances: (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	Estimate	S.E.	C.R.	P	Label
AV	.467	.037	12.706	***	par_47
AN	.958	.075	12.706	***	par_48
D2	.350	.067	5.208	***	par_49
D3	.096	.025	3.883	***	par_50
E12	1.154	.094	12.272	***	par_51
E11	.253	.095	2.669	.008	par_52
E10	1.065	.087	12.299	***	par_53
E13	.157	.013	12.562	***	par_54
E2	.312	.060	5.217	***	par_55
E1	1.834	.146	12.522	***	par_56
E4	2.014	.161	12.477	***	par_57
E3	.211	.063	3.374	***	par_58

Matrices (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))**Total Effects (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))**

	AN	AV	HSB	PSS
HSB	.071	-.241	.000	.000
PSS	.023	-.373	.000	.000
msspss_fd	.050	-.809	.000	2.167
msspss_fm	.027	-.433	.000	1.159
msspss_t	.023	-.373	.000	1.000
msspss_sig	.048	-.768	.000	2.059
hsbs_t	.071	-.241	1.000	.000
hsbs_f	.173	-.587	2.440	.000
hsbs_p	.076	-.257	1.068	.000
EWB	-.137	-.256	.125	.195

Standardized Total Effects (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	AN	AV	HSB	PSS
HSB	.196	-.463	.000	.000
PSS	.035	-.396	.000	.000
msspss_fd	.033	-.376	.000	.950
msspss_fm	.016	-.184	.000	.466
msspss_t	.015	-.170	.000	.430
msspss_sig	.032	-.365	.000	.922
hsbs_t	.064	-.151	.325	.000
hsbs_f	.169	-.400	.865	.000
hsbs_p	.065	-.154	.333	.000
EWB	-.281	-.366	.093	.263

Direct Effects (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	AN	AV	HSB	PSS
HSB	.071	-.241	.000	.000
PSS	.023	-.373	.000	.000
msspss_fd	.000	.000	.000	2.167
msspss_fm	.000	.000	.000	1.159
msspss_t	.000	.000	.000	1.000
msspss_sig	.000	.000	.000	2.059
hsbs_t	.000	.000	1.000	.000
hsbs_f	.000	.000	2.440	.000
hsbs_p	.000	.000	1.068	.000
EWB	-.151	-.153	.125	.195

Standardized Direct Effects (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	AN	AV	HSB	PSS
HSB	.196	-.463	.000	.000
PSS	.035	-.396	.000	.000
msspss_fd	.000	.000	.000	.950
msspss_fm	.000	.000	.000	.466
msspss_t	.000	.000	.000	.430
msspss_sig	.000	.000	.000	.922
hsbs_t	.000	.000	.325	.000
hsbs_f	.000	.000	.865	.000
hsbs_p	.000	.000	.333	.000
EWB	-.309	-.219	.093	.263

Indirect Effects (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	AN	AV	HSB	PSS
HSB	.000	.000	.000	.000
PSS	.000	.000	.000	.000
msspss_fd	.050	-.809	.000	.000
msspss_fm	.027	-.433	.000	.000
msspss_t	.023	-.373	.000	.000
msspss_sig	.048	-.768	.000	.000
hsbs_t	.071	-.241	.000	.000
hsbs_f	.173	-.587	.000	.000
hsbs_p	.076	-.257	.000	.000
EWB	.013	-.103	.000	.000

Standardized Indirect Effects (Male - Model M (Model L + hsb_ewb_0 = hsb_ewb_1))

	AN	AV	HSB	PSS
HSB	.000	.000	.000	.000
PSS	.000	.000	.000	.000
msspss_fd	.033	-.376	.000	.000
msspss_fm	.016	-.184	.000	.000
msspss_t	.015	-.170	.000	.000
msspss_sig	.032	-.365	.000	.000
hsbs_t	.064	-.151	.000	.000
hsbs_f	.169	-.400	.000	.000
hsbs_p	.065	-.154	.000	.000
EWB	.027	-.147	.000	.000

Appendix K: The results of the item-total correlations of anxiety attachment in ECRS-C

Reliability

[DataSet1] /Users/zivcheung/Downloads/20171230_finalized.sav

Scale: ALL VARIABLES

Case Processing Summary			
	N	%	
Cases	Valid	521	90.0
	Excluded ^a	58	10.0
	Total	579	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.885	18

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ecrs_2	63.1286	280.262	.529	.879
ecrs_4	63.6891	284.211	.479	.881
ecrs_6	63.2207	278.580	.615	.876
ecrs_8	62.6699	282.433	.516	.879
ecrs_10	63.0269	282.522	.578	.877
ecrs_12	63.9750	287.536	.501	.880
ecrs_14	63.3839	275.010	.617	.876
ecrs_16	64.0806	287.063	.528	.879
ecrs_18	63.6046	280.882	.587	.877
ecrs_20	63.5969	291.299	.467	.881
ecrs_22r	63.2380	301.893	.195	.891
ecrs_24	63.8369	279.714	.628	.875
ecrs_26	63.3704	291.141	.524	.880
ecrs_28	64.2246	289.624	.416	.883
ecrs_30	63.5969	289.568	.507	.880
ecrs_32	63.3244	283.350	.560	.878

ecrs_34	63.4107	282.023	.564	.878
ecrs_36	63.8637	285.629	.503	.880