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Interrelationships Among Personality, Perceived Classmate Support, and Life
Satisfaction in Adolescents

by

Devon Renee Minch

A thesis submitted in partial fulfillment
of the requirements for the degree of
Education Specialist
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in Adolescents

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ABSTRACT

The purpose of the study is to investigate the relationships among personality factors and life satisfaction in high school students. High school students ($N = 625$) completed self-report measures of personality characteristics (namely, extraversion, neuroticism, openness, conscientiousness, and agreeableness) and global life satisfaction. Results include the specific contribution of each of these personality dimensions as they relate to life satisfaction, gender differences, and the role of perceived classmate support in relationships between personality factors and life satisfaction. Specifically, findings revealed that about 45% of the variance in adolescents' life satisfaction scores was accounted for by their self-reported measures of personality factors. Neuroticism emerged as the strongest predictor of life satisfaction. Further, results demonstrated that openness, conscientiousness, and extraversion were significant and unique predictors of life satisfaction. Gender differences were found in the link between agreeableness and life satisfaction such that a higher level of agreeableness was related to higher life satisfaction for girls, but not for boys. Finally, results of the structural equation model that analyzed the role of perceived classmate support in the link between personality factors and life satisfaction revealed significant paths between four personality factors

(excluding openness) and perceived classmate support. Further, the path from extraversion to perceived classmate support showed the strongest standardized path coefficient (.42); suggesting that a higher score on extraversion was associated with a higher level of perceived classmate support which, in turn, predicted higher levels of life satisfaction. Neuroticism demonstrated the strongest, albeit inverse, direct path to life satisfaction, further supporting the finding that higher levels of neuroticism were related to lower levels of life satisfaction. Findings provide school psychologists with a better understanding of the demographic (i.e., gender), stable (i.e., personality) and interpersonal characteristics (i.e., perceptions of classmate support) that place students at-risk for negative outcomes via low life satisfaction or, conversely, facilitate optimal wellness via high life satisfaction.

Chapter 1

Introduction

Statement of the Problem

Traditionally, psychologists interpreted the absence of disease to mean mental health, as such, assessments focused on states of pathology rather than positive indicators of wellness. In reaction to the historical focus on pathology and disease, a new field within psychology emerged known as positive psychology that questioned the understanding of happiness as the absence of illness (Seligman & Csikszentmihalyi, 2000). Increasingly, researchers and practitioners have moved beyond the focus on pathology to incorporate comprehensive assessments of an individual's wellness that includes positive indicators of well-being. Rather than the typical approach that relies on treatment of individuals with pathology after problems have manifested throughout one's life and are difficult to improve, positive psychology is based upon a prevention framework whereby assessing positive indicators of well-being helps to target students at-risk for negative outcomes in order to focus prevention efforts before problems become severe (Seligman & Csikszentmihalyi, 2000).

Subjective well-being (i.e., happiness) is a key construct within the positive psychology movement (Seligman & Csikszentmihalyi, 2000). The most often studied aspect of subjective well-being (i.e., happiness) is the cognitive component known as life satisfaction (Diener, Suh, Lucas, & Smith, 1999). Life satisfaction is conceptualized as either a global assessment of one's general level of satisfaction with life or one's

satisfaction in specific domains of life. The domains of life most relevant to children include satisfaction with school, friends, family, self, and living environments (Huebner, Laughlin, Ash, & Gilman, 1998). As children's well-being and happiness are becoming a main focus within psychology, a growing body of empirical research demonstrates the advantages of high life satisfaction with respect to students' social, educational, and emotional adjustment (Huebner, Suldo, Smith, & McKnight, 2004).

High life satisfaction in youth is inversely related to negative outcomes, including anxiety and risk behaviors such as alcohol use, drug use, and aggression (Gilman & Huebner, 2003). Additionally, life satisfaction can buffer against the development of problem behaviors after experiencing stressful life events (Suldo & Huebner, 2004b). Life satisfaction is also a pathway through which negative experiences influence adjustment. For instance, McKnight, Huebner, and Suldo (2002) found adolescents' cognitive appraisals of their satisfaction with life functioned as a mediator between stressful life events and their internalizing behaviors.

Identifying factors that are most highly correlated with adolescent life satisfaction can help psychologists by (a) revealing how much of the variance in life satisfaction is attributable to stable conditions (e.g., demographic characteristics, personality) as opposed to malleable situations (e.g., social relationships, activities), and (b) discerning those important malleable areas where intervention efforts should be emphasized. Recent research with children has underscored the importance of understanding life satisfaction during youth by demonstrating that students with high life satisfaction and minimal psychopathology had better educational achievement (i.e., higher scores on statewide achievement tests, higher school grades, better attendance, more positive attitudes

towards school) than their peers who also had minimal psychopathology, but reported low life satisfaction (Suldo & Shaffer, 2008). A full understanding of the correlates of life satisfaction is essential, partly so that mental health professionals can know which factors are most likely to place students at risk for low life satisfaction.

According to Diener and Lucas (1999), personality is one of the strongest and most consistent predictors of subjective well-being during the adult years. Preliminary research with youth has linked their life satisfaction to two of the “big five” personality traits: neuroticism and extraversion (Heaven, 1989; Huebner, 1991b; McKnight et al., 2002). To date, no published studies have examined life satisfaction in children and adolescents in relation to all five primary personality traits [i.e., the Five Factor Model; (FFM)]. Thus, it is unknown which personality characteristics are most related to life satisfaction in youth. Fortunately, recent advances in measurement have led to the availability of self-report instruments that measure the FFM personality traits in youth, making possible such a comprehensive study of personality and life satisfaction (Lounsbury et al., 2003).

Overall, life satisfaction is related to a number of important outcomes for youth however, research on the relationship between one important predictor (specifically, personality) and life satisfaction is limited. Extraversion and neuroticism show consistent correlations with life satisfaction (Emmons & Diener, 1986; Heaven, 1989; Huebner 1991b; Diener & Lucas, 1999; McKnight et al., 2002; Pavot, Fujita, & Diener, 1997). However, research in this area is limited by the use of different scales in measuring personality (e.g., a 3-factor vs. 5-factor measure) and life satisfaction (e.g., multidimensional vs. global measure). An additional limitation is the predominant focus

on adult populations. Thus, very little is known about the relationship between life satisfaction and three of the less studied personality dimensions (i.e., agreeableness, openness, and conscientiousness) after extraversion and neuroticism are controlled. Researchers have yet to include all five major personality dimensions in studies of predictors of life satisfaction. Given the stability of personality and life satisfaction and the ease with which these constructs can be measured in youth, a more thorough investigation of all five personality dimensions as they relate to life satisfaction is warranted.

Theoretical and Conceptual Framework

Positive psychology aims to identify variables that contribute to healthy development in adolescence (Seligman & Csikszentmihalyi, 2000). Traditionally, healthy development has been marked by the absence of psychopathology; however, modern conceptualizations of healthy development include the presence of positive indicators, such as life satisfaction (Greenspoon & Saklofske, 2001). Relying on the traditional model limits the range of services mental health professionals can provide to individuals. By incorporating positive psychology in practice, clients' strengths and resources are better identified which will help with intervention implementation and maintenance. In addition, treatment from a positive psychology framework enables psychologists to aim for improvements in functioning beyond a reduction in symptoms to gains in quality of life. Positive psychology promotes healthy, optimum development in youth. Elevated life satisfaction is inversely related to emotional concerns and externalizing behavior problems (Suldo & Huebner, 2004a, 2004b; Valois, Zullig, Huebner, & Drane, 2001).

Personality theory provides the FFM of personality traits (i.e., extraversion, neuroticism, agreeableness, openness, and conscientiousness), which research has demonstrated are stable characteristics throughout one's life (McCrae, 1993). In adults, personality is related to individuals' life satisfaction (Diener, 2000; DeNeve & Cooper, 1998). There has been less research with younger populations. Such research is needed because personality is more malleable in youth (Soto, John, Gosling, & Potter, 2008; Steinberg, 2002). Investigating gender differences in personality and the role of perceived support from classmates in the personality-life satisfaction link will provide important information on how best to improve life satisfaction for adolescent boys and girls. Schools provide a context through which adolescents can receive mental health services to improve relationships with classmates and subsequently improve their life satisfaction.

Purpose

The purpose of the current study was to determine the overall contribution of personality to life satisfaction and the unique contribution of each FFM trait (i.e., extraversion, neuroticism, conscientiousness, openness to experience, agreeableness) to life satisfaction. Additionally, gender differences were examined to determine if the relationships between personality and life satisfaction are consistent for boys and girls. Finally, the role of perceived classmate support in the relationship between personality and life satisfaction was examined via analysis of a structural equation model. Given the strong links that have been established between (1) extraversion and perceptions of supportive social relationships (Gray, 1991; Lucas et al., 2000; Watson & Clark, 1997), and (2) positive perceptions of social support and life satisfaction (Lewinsohn et al., 1991; Pavot, Diener, & Fujita, 1990; Suldo & Huebner, 2006), the current study

hypothesized that extraversion is related to life satisfaction indirectly, through perceived classmate support. An indirect relationship between extraversion and life satisfaction, mediated by perceptions of social support and relationships, has been demonstrated in previous studies (Argyle & Lu, 1990b; Fogle et al., 2002). Given the lack of literature to guide an a priori hypothesis regarding the role of perceived classmate support in the link between the remaining four personality factors and life satisfaction, these four factors were hypothesized to directly and indirectly (i.e., through perceived classmate support) relate to life satisfaction. Results from the analysis of a structural equation model were expected to provide information regarding the role of adolescents' perceptions of classmate support in the link between personality factors and life satisfaction.

Research Questions

1. Which personality factors have significant associations with adolescent life satisfaction?
2. What is the overall contribution of personality to adolescent life satisfaction?
3. Which personality factors are uniquely and most strongly associated with life satisfaction?
4. Is the relationship between personality and life satisfaction consistent across genders?
5. Does perceived classmate support mediate the relationship between personality factors and life satisfaction?

Operational Definitions of Terms

Life satisfaction is an indicator of mental health and well-being that measures one's cognitive appraisal of his or her satisfaction with life (Diener et al., 1999).

Adolescence was defined by sample characteristics that included high school students between the ages of 13 and 19 years.

The Five-Factor Model (FFM) is a theory of personality, also known as trait theory, which assumes personality is a collection of individual traits that are relatively stable over time, different among individuals, and influential on behavior (Papalia, Olds, & Feldman, 2004). The FFM proposes a set of five personality dimensions under which multiple descriptors can be categorized. The FFM is useful in that it employed factor analysis to organize a large number of traits under a five broad dimensions to facilitate the understanding of personality (i.e., neuroticism, extraversion, openness, agreeableness, and conscientiousness; Costa & McCrae, 1992a).

Personality was operationally defined as one's endorsement of items measuring the traits and behaviors that reflect each of the FFM dimensions of personality (neuroticism, extraversion, openness, agreeableness, and conscientiousness) using the Adolescent Personal Style Inventory (Lounsbury et al., 2003). Items on the APSI were created based upon Costa and McCrae's (1992) conceptual definitions of each personality factor (Lounsbury et al., 2003).

Neuroticism refers to emotional instability including the specific descriptors: anxiety, hostility, depression, self-consciousness, impulsiveness, and vulnerability (Costa & McCrae, 1992). Sample APSI items measuring neuroticism include "sometimes I don't feel like I'm worth much," "I get mad easily," and "I sometimes feel sad or blue."

Extraversion is a social and active dimension including six facets: warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions. Sample APSI items measuring extraversion include "I like meeting new people," "I'm

very outgoing and talkative,” and “I like to go to big parties where there are a lot of people.”

Openness to experience refers to willingness to try new things and ideas including six aspects: fantasy, aesthetics, feelings, actions, ideas, and values. Sample APSI items measuring openness include “I like to try new things,” “I like to visit new places,” and “I like to learn new ways of doing things.”

Conscientiousness is the dutiful, deliberate, and competent dimension including six facets: order, achievement striving, deliberation, competence, self-discipline, and dutifulness. Sample APSI items measuring conscientiousness include “I finish everything that I start,” “I am always on time for meetings with other people,” and “My teachers can count on me to do what they ask me to do in class.”

Agreeableness is the ‘nice’ dimension including constructs such as: altruism, compliance, tender-mindedness, straightforwardness, trust, and modesty (Costa & McCrae, 1992a). Sample APSI items measuring agreeableness include “I am very easy to get along with,” “I am always polite to other people,” and “I like to help other people whenever they need it.”

Perceived classmate support was operationally defined as participants’ rating of the frequency of social support that they perceived receiving from classmates.

Importance of Current Study

Previous research on personality and life satisfaction is limited in adolescent populations such that studies have not included all of the FFM personality traits. Therefore, the current study adds to previous research by identifying all personality dimensions that are highly related with adolescent life satisfaction as well as mechanisms

(i.e., perceptions of classmate relationships) through which those dimensions relate to life satisfaction. Research in this area can help psychologists by revealing how much of the variance in life satisfaction is attributable to stable conditions (e.g., demographic characteristics, personality) as opposed to malleable situations (e.g., social relationships). Implications for school-based prevention focus on identification of personality traits that may be viewed as risk factors for problematic development. For students at risk, social skill training and facilitating positive student interactions through assignments and class activities offer possible mechanisms for facilitating wellness. A full understanding of the correlates of life satisfaction is needed for prevention efforts that are targeted towards youth at-risk for low life satisfaction. The importance of such efforts is demonstrated by the growing body of literature that demonstrates the salience of life satisfaction to children's educational, social, and physical functioning (Suldo & Shaffer, 2008).

Chapter 2

Review of Literature

Traditionally, psychologists have focused on assessing states of pathology rather than positive indicators of wellness. As such, psychologists interpreted the absence of disease to mean mental health. In reaction to the historical focus on pathology and disease, the understanding of happiness as the absence of illness has come into question (Seligman & Csikszentmihalyi, 2000). Increasingly, researchers have moved beyond the focus on pathology to incorporate comprehensive assessments of an individual's wellness through examining one's satisfaction with life. Research has evolved to include objective, external indicators of quality of life as well as internal characteristics and processes that facilitate individuals' subjective sense of wellness. Positive psychology focuses on indicators of positive well-being to target prevention efforts rather than the typical approach that relies on treatment of individuals with pathology, after problems have manifested throughout one's life and are difficult to improve (Seligman & Csikszentmihalyi, 2000). Greenspoon and Saklofske (2001) found empirical support for examining indicators of wellness rather than solely relying on indicators of pathology in order to understand the adjustment of all youth.

The following literature review begins with a review of research on the importance of examining life satisfaction in youth, followed by correlates of life satisfaction including interpersonal, environmental, and intrapersonal factors. Due to the

current study's particular focus on a specific intrapersonal correlate (i.e., personality), a discussion of personality and the relationship between personality characteristics and life satisfaction is provided. Finally, the purpose of the current study and hypotheses are presented.

Happiness Defined

One of the first steps in studying wellness was to define what is meant by "happiness," which was termed scientifically as subjective well-being (SWB). According to Diener et al. (1999), one's SWB includes emotional responses, global judgments of life satisfaction, as well as satisfaction with specific domains in one's life. Regarding emotional responses within one's SWB, Diener and colleagues suggest that examining the occurrence of both positive and negative emotions provides a more thorough understanding of the individual's true affective pattern. Whereas emotions can change often and quickly, life satisfaction is considered a more stable indicator of SWB (Diener et al., 1999). Life satisfaction (also referred to as perceived quality of life [PQOL]) refers to cognitive appraisals of one's life as a whole, in addition to one's satisfaction with different domains of life (e.g., friends, family, and school; Huebner, Suldo, & Gilman, 2006). Frisch (1998) suggests life satisfaction judgments are based on how well people's needs, goals, and wishes are being met in important areas of life.

The domains of life most relevant to children include satisfaction with school, friends, family, self, and living environments (Huebner et al., 1998). Global life satisfaction is context free and refers to one's general satisfaction with life as a whole (Huebner et al., 2006). Global evaluations of one's satisfaction with life reflect both

internal aspects of one's self as well as external factors such as living conditions (Huebner et al., 2006). Because life satisfaction is a subjective characteristic, self-report measures have been created to assess both global and domain-specific satisfaction with life.

Measurement of Life Satisfaction

As noted previously, SWB is comprised of an affective component as well as a cognitive component (Pavot & Diener, 1993). Diener and colleagues (1999) suggest that because SWB is a complex phenomena it should be measured using global judgments, momentary mood reports, physiology, memory, and emotional expression. Research has supported the validity of easy to administer self-report measures of life satisfaction, which are more conducive to efficient research and practice. One global measure, the Satisfaction with Life (SWL) scale, is a widely used measure of life satisfaction in adults; the SWL has established reliability and validity (Pavot & Diener, 1993). The items are global in nature rather than domain specific to allow the individual to weigh aspects of their lives according to their own standards (Pavot & Diener, 1993).

The Quality of Life Inventory (QOLi) is another measure of adults' life satisfaction that has established reliability and validity (Frisch et al., 2005). The QOLi is a longer measure that asks specific questions pertaining to the person's satisfaction within certain areas of life. This scale provides four subscale scores including satisfaction with health, social-economic, psychological-spiritual, and family (Frisch et al., 2005).

The SWL, QOLi, and others have been successfully used with adults for decades; fewer measures have been developed for use with youth. The indicator of global life

satisfaction used most frequently with youth is the Students' Life Satisfaction Scale (SLSS; Huebner, 1991a), which has been administered to elementary aged children as well as adolescents in middle and high school. The SLSS is a 7-item global measure of life satisfaction with established reliability and validity (Huebner, 1991a).

More complex and often lengthier questionnaires have been created to tap satisfaction with important domains within children's lives (e.g., family, friends, and school). The Comprehensive Quality of Life Scale-School Version, Fifth Edition (ComQoL; Cummins, 1997) scale provides domain-specific satisfaction scores. The Multidimensional Students' Life Satisfaction Scale (MSLSS; Huebner, 1994) provides a general life satisfaction score in addition to domain scores focusing on areas such as friends, family, school, self, and living environment and has established reliability and validity (Huebner, 1994). Seligson and colleagues (2003) created the Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS), a 5-item measure that can act as a screening tool. The research on all measures with youth is still in progress, although preliminary studies consistently support reliability and validity of these measures.

Importance of Life Satisfaction in Youth

Life satisfaction is important in and of itself (for instance, most adults want children to be happy), but it also influences multiple outcomes during development. Lewinsohn, Redner, and Seeley (1991) found that non-depressed adults with low life satisfaction were more likely to become depressed two or three years later as compared to those adults who initially reported average or high life satisfaction. In youth, low life

satisfaction has been found to be concurrently inversely related to negative outcomes, including anxiety and risk behaviors such as alcohol use, drug use, and aggression (Gilman & Huebner, 2003). Low levels of life satisfaction may also be predictive of later externalizing behavior problems (Suldo & Huebner, 2004b), thus it is important to identify these adolescents before problems manifest.

As a mediator, life satisfaction explains the relationship between several variables and outcomes (i.e., environmental circumstances influence life satisfaction which, in turn, relates to outcomes), whereas life satisfaction as a moderator is thought of as an interaction between a variable and the outcome. As a moderator, life satisfaction has been demonstrated to alleviate the effects of stressful life events on the development of problem behavior in adolescents (Suldo & Huebner, 2004b). Specifically, Suldo and Huebner (2004b) studied adolescents for one year and found high life satisfaction can act as a buffer against the development of problem behaviors after experiencing a stressful life event.

As a mediating variable, life satisfaction can explain the relationship between parenting styles and adolescent problem behavior. Suldo and Huebner (2004a) studied 1,188 adolescents between the ages of 11 and 19, finding life satisfaction explains the relationship between authoritative parenting and levels of externalizing and internalizing problem behaviors. Another example of how life satisfaction serves as an important cognitive mediator through which outcomes are influenced was provided by a study of students' stress. In this study, adolescents completed the Youth Self Report (YSR) form of the Child Behavior Checklist (a measure of problem behaviors) and the Life Events

Checklist (a measure of major life events; McKnight et al., 2002). Results suggested that adolescents' cognitions about their satisfaction with life mediated the relationship between experiencing stressful life events and adolescents' internalizing behaviors. In other words, adolescents who reported frequent stressful events reported lower life satisfaction, which in turn, was related to higher levels of internalizing psychopathology, such as anxiety and depression (McKnight et al., 2002).

Factors Related to Life Satisfaction in Youth

Previous research has attempted to discover those factors that are most related to high life satisfaction in part to provide insight as to where intervention efforts should be emphasized. Originally, the focus was on objective factors related to life satisfaction but researchers found demographic variables and other objective circumstances accounted for less than 20% of the variance in life satisfaction, thus demonstrating a need for more focus on subjective and internal factors related to subjective well-being (Campbell, Converse, & Rogers, 1976).

Demographic correlates. In general, studies have found variables such as gender, race, and socioeconomic status (SES) do not significantly correlate with children's life satisfaction (Huebner, 2004). For instance, Raphael, Rukholm, Brown, Hill-Bailey, and Donato (1996) studied 160 Canadian adolescents in grades 9-13 using the Quality of Life Profile: Adolescent Version (QOLPAV), a 54-item measure that assesses adolescents' personal satisfaction with nine different sub-domains; scores on the QOLPAV correlated highly with a 3-item Satisfaction with Life (SWL) measure. Socioeconomic status as

indicated by the parents' highest profession (scored on the Blishen index) was unrelated to life satisfaction (Raphael et al., 1996).

One demographic variable slightly related to life satisfaction in youth is age. While most children and adolescents typically report high levels of life satisfaction (Huebner, Drane, & Valois, 2000; Huebner et al., 2006), Suldo and Huebner (2004a) found total life satisfaction scores tend to decline *slightly* during adolescence. Most of the research with respect to age and life satisfaction across the lifespan suggests that once other variables are controlled there are not significant declines in life satisfaction with regards to age (Diener et al., 1999).

Gender differences in life satisfaction have not been observed in most studies involving adult Americans (Helliwell, 2003). In addition, Fujita, Diener, and Sandvik (1991) found women experience more intense emotions (i.e., the affective component of SWB) compared to men. However, women's high levels of both positive and negative emotions balance out, resulting in similar mean levels of affect to that of men (Fujita et al., 1991). Research conducted with youth has also failed to find significant differences between boys' and girls' global life satisfaction. Huebner (1991a) found no gender differences in global life satisfaction ratings of children between the ages of 7 and 14. A different study found domain specific differences in boys' and girls' satisfaction ratings, such that girls reported more satisfaction with school and friends compared to boys (Huebner, Drane et al., 2000). However, the effect sizes were moderate suggesting limited practical significance (Huebner, Drane et al., 2000). Although most studies have not found significant gender differences in mean levels of life satisfaction in youth,

gender is included in the current paper due to the possibility of gender differences in personality (Rigby & Huebner, 2005) that could influence global life satisfaction.

Interpersonal correlates. Due to limited demographic differences in life satisfaction, researchers have investigated interpersonal factors that could be related to life satisfaction in youth. One study with adults found high life satisfaction was related to perceptions of social support and feeling content in relationships with others, while low life satisfaction was related to perceiving a lack of support from friends (Lewinsohn et al., 1991). These findings have implications for young adolescents as this is a crucial time for developing positive relationships with classmates who become a main source of support and intimacy (Steinberg, 2002).

Research with youth has demonstrated interpersonal relationships are an essential predictor of life satisfaction (Ash & Huebner, 2001; Huebner, Funk, & Gilman, 2000). Nickerson and Nagle (2004) researched children and adolescents between the ages of 8 and 11 using the MSLSS. Children who perceived relationships with friends that were loyal and trusting had higher life satisfaction (Nickerson & Nagle, 2004). Additionally, peer alienation and rejection were inversely related to life satisfaction, demonstrating the importance of close and dependable relationships in middle and late childhood (Nickerson & Nagle, 2004).

Fogle, Huebner, and Laughlin (2002) found adolescents' teacher-rated social competence was unrelated to life satisfaction; however, self-reported perceived social competence was significantly related to life satisfaction. One way for adolescents to improve peer relationships is by increasing their social interactions and building social

competence through practice and involvement in organized social activities, especially for extraverted individuals (Argyle & Lu, 1990a). Research has demonstrated that participation in structured, meaningful activities (Csikszentmihalyi, 1990) and participation in school related activities (e.g., structured extracurricular activities) is related to adolescents' satisfaction with school (Gilman, 2001). Adolescents' satisfaction with school is related to global life satisfaction (Huebner, Drane et al., 2000).

Social support and life satisfaction have been investigated in relation to one another in a single study (Suldo & Huebner, 2006). Findings demonstrated that adolescents with the highest life satisfaction also perceived the highest levels of social support from their classmates, teachers, and parents. A larger body of literature has shown social support to predict adaptive behaviors in youth. Specifically, perceiving the relationship with a close friend as supportive is correlated with adaptive behaviors such as higher ratings of personal adjustment, interpersonal relations, and self-reliance (Demaray & Malecki, 2002b). An earlier study found adolescents who perceived the most social support from their peers also reported the highest levels of perceived self-worth (East, Hess, & Lerner, 1987), a construct related to life satisfaction.

Natvig, Albrektsen, and Qvarnstrom (2003) found adolescents who reported the highest levels of happiness also reported the highest perceptions of social support from teachers and friends. Students' relationships with their teachers have been investigated as an important interpersonal correlate of life satisfaction in youth (Baker, 1999). Baker (1999) administered the MSLSS and a measure of social support in school to students in grades 3-8. Children who reported high satisfaction with school also reported more social

support from teachers compared to students who reported low satisfaction with school. Taken together, these studies demonstrate the importance of peer and teacher relationships as correlates of life satisfaction in youth.

Environmental correlates. In addition to peer and teacher relationships, relationships with parents are highly correlated with adolescents' life satisfaction (Dew & Huebner, 1994). For instance, Leung and Zhang (2000) compared the relative influences of interpersonal relationships and intrapersonal factors (e.g., self-concept) and found relationships, specifically relationships with parents, had a greater influence on one's life satisfaction. During adolescents' transitional phase their relationships with parents can become strained, however, maintaining a positive parent-adolescent relationship is central for adolescents' life satisfaction (Nickerson & Nagle, 2004).

A specific style of parenting, authoritative, is particularly associated with life satisfaction (Suldo & Huebner, 2004a). Authoritative parenting relies on warm and supportive interactions with reasonable expectations and demands (Steinberg, 2002). The more adolescents feel their parents support them, the higher their life satisfaction (Suldo & Huebner, 2004a). Social support from parents is especially important for younger, rather than older adolescents, because older adolescents begin to rely more on peer relationships rather than parental support (Suldo & Huebner, 2004a). A lack of authoritative parenting is associated with low life satisfaction in addition to other negative outcomes (i.e., internalizing and externalizing behavior problems; Flouri & Buchanan, 2002; Suldo & Huebner, 2004a). This type of parenting may be especially

important for adolescent boys, given their perception of their fathers' involvement with their life is significantly related to their life satisfaction (Flouri & Buchanan, 2002).

Although strong relationships have been found between adolescent life satisfaction and parental relationships, research has found possible racial differences in the degree to which family structure influences life satisfaction. Specifically, Zullig, Valois, Huebner, and Drane (2005) found the strong relationship between high life satisfaction and living with both parents held for white adolescents but not for African American youth.

The home environment has strong influences on life satisfaction such that chronic stressors (e.g., ongoing family discord) negatively affect life satisfaction in adolescents, while acute negative events (e.g., death of a family member) are mediated by adolescents' internal locus of control (Ash & Huebner, 2001). McCullough, Huebner, and Laughlin (2000) found that daily, ongoing, positive, *and* negative experiences (e.g., chronic family discord) correlated with global life satisfaction, underscoring the importance of the cumulative effects of daily interactions on levels of life satisfaction in youth. In addition to the home environment as an influence on life satisfaction, research has demonstrated a relationship between larger contextual factors (e.g., living in a residential neighborhood) and adolescent life satisfaction (Homel & Burns, 1989).

Overall, research suggests that family environments and relationships provide the basis of later relationships and these interpersonal skills are practiced throughout development in various contexts (Hazan & Shaver, 1994). Research has demonstrated parental attachment as an important predictor of adolescent life satisfaction (Ma &

Huebner, 2008). Authoritative parenting creates a supportive emotional environment where by positive interpersonal relationship skills are developed and reinforced early in life (Fulgini & Eccles, 1993). These relationship patterns are related to one feeling socially competent, which influences adolescents' life satisfaction (Fogle et al., 2002).

Intrapersonal correlates. Intrapersonal mechanisms (e.g., cognitions, esteem, and personality) influence adolescent life satisfaction. For instance, Gilman and Ashby (2003) found adolescents who continuously strive for perfection (e.g., set challenging expectations that require much effort to attain) report lower life satisfaction. Intrapersonal correlates of life satisfaction include feelings of competence, self-esteem, cognitive attribution styles, and locus of control. For example, Dew and Huebner (1994) found adolescents' life satisfaction correlated strongly and in a positive direction with having an internal locus of control. Moreover, locus of control can be viewed as the means through which experiencing negative life events influences life satisfaction (Ash & Huebner, 2001). After experiencing a major life event, adolescents who maintained a global, internal sense of control had higher life satisfaction (Ash & Huebner, 2001; Meyers & Diener, 1995). Another study found adolescents with an adaptive attribution style (i.e., the tendency to attribute negative events to things that are external, unstable, and specific and positive events to things that are internal, stable, and global) had higher life satisfaction, while having a maladaptive attribution style was related to low life satisfaction (Rigby & Huebner, 2005).

Lewinsohn et al. (1991) found adults who reported higher self-esteem also reported higher life satisfaction. Self-esteem refers to “judgments one makes about their

worth and the feeling associated with those judgments” (Berk, 2006, p.449). In youth, these subjective evaluations are important given children’s perceptions of their academic competence and feelings about their ability to succeed are related to life satisfaction more than objective indicators of achievement (Leung, McBride-Chang, & Lai, 2004).

Similarly, perceptions of social competence, rather than objective indicators, are more influential on adolescent self-reports of life satisfaction (Fogle et al., 2002).

In addition to evaluative perceptions and feelings of competence, self-concept is also related to life satisfaction in a positive direction (Dew & Huebner, 1994).

Adolescents with a positive self-image with peers, academics, and family have higher life satisfaction (Dew & Huebner, 1994). In addition, adolescents’ cognitions and perceptions may mediate the relationship between personality characteristics (e.g., extroversion) and life satisfaction (Fogle et al., 2002). Specifically, adolescents’ perceptions of social relationships influence their satisfaction with life and might provide meditational mechanisms between personality and life satisfaction.

Personality and Life Satisfaction

Personality is one of the strongest and most consistent intrapersonal predictors of SWB (Diener & Lucas, 1999; Lucas, Diener, Grob, Suh, & Shao, 2000). Some researchers hypothesize that stability in SWB is a result of stability in personality, given that personality can predict SWB over time (DeNeve & Cooper, 1998; Headey & Wearing, 1989; Steel et al., 2008). In addition, personality and life satisfaction share similar characteristics including a slight genetic and biological basis, an ability to be measured reliably beginning in youth, and stability over time (Steel et al., 2008).

A recent meta-analysis of research on personality and life satisfaction suggested personality explains as much as 18% and 29% of the variance in individuals' life satisfaction and overall affect, respectively (Steel et al., 2008). The variance in SWB accounted for by personality is much higher than previously suggested (DeNeve & Cooper, 1998); the authors state recent attention to measures and theoretical conceptualizations of constructs used within studies provide accurate results (Steel et al., 2008).

Most studies on personality and SWB have focused on emotions (e.g., positive and negative affect) rather than the stable, cognitive aspect of SWB, life satisfaction (see Steel et al., 2008). Research continues to demonstrate a strong relationship between (1) extroversion and positive affect and (2) neuroticism and negative affect (Lucas & Diener, 2000). Research also consistently points to extroversion and neuroticism as the personality traits most related to life satisfaction (Emmons & Diener, 1986; Heaven, 1989; Huebner 1991b; Diener & Lucas, 1999; McKnight et al., 2002; Pavot, Fujita, & Diener, 1997). However, this research is confounded by strong correlations between extraversion and (a) positive affect, and (b) social aspects (e.g., social competence, social interactions, and social skills; Argyle & Lu, 1990a, 1990b; Diener & Seligman, 2002). One hypothesis suggests personality, social interaction, and life satisfaction are related because individuals with high life satisfaction are more sensitive to rewards (Gray, 1991). Thus, individuals with high life satisfaction perceive social interactions as more rewarding, and demonstrate more extraverted behavior (Fogle et al., 2002). Support for this theory is demonstrated in individuals with high life satisfaction who attain more

goals and experience positive outcomes (Cantor & Sanderson, 1999; Lyubormirsky, King, & Diener, 2005).

A related hypothesis maintains that extraversion is related to life satisfaction through social interaction, but the directions of the pathways are swapped such that life satisfaction is the outcome and personality the predictor. The theoretical explanation for the influence of personality on life satisfaction follows; extraverts are inherently natural and skillful at being around others (Watson & Clark, 1997), and this may influence their sensitivity to perceiving those situations as rewarding (Gray, 1991). Increased exposure to social interactions contributes to better social relationships via increased opportunities for practice, feedback, and social pleasure, thus increasing their life satisfaction. This hypothesis is supported by research that suggests extroverts are more sensitive to rewards and less sensitive to punishments in their environment, and that the sociability component of extraversion is a result of greater reward sensitivity (Lucas et al., 2000). Moreover, sensitivity and sociability are primary features of extraversion, further supporting this hypothesis (Lucas et al., 2000). Social relationships likely exert a direct effect on life satisfaction, as suggested by findings that both introverts and extroverts report higher life satisfaction in social compared to non-social settings (Pavot, Diener, & Fujita, 1990) and that healthy social relationships are among the most defining features of very happy adults (Diener & Seligman, 2002). The following paragraphs will summarize additional research pertaining to personality and life satisfaction.

Argyle and Lu (1990b) administered measures of happiness (Oxford Happiness Inventory [OHI]) and personality (Eysenck Personality Questionnaire [EPQ]) to 63 adults

(age $M = 37.6$). Results demonstrate extraversion correlated positively with happiness ($r = .35$) while neuroticism correlated negatively ($r = -.45$). Moreover, extroversion influenced SWB by increasing assertive social actions (i.e., initiating interactions) while neuroticism negatively influenced SWB via a lack of social competence (Argyle & Lu, 1990b).

In a similar study, Argyle and Lu (1990a) further investigated the relationship between extraversion and SWB. This study included the OHI, the Extraversion subscale of the EPQ and a measure of social activity (including frequency and enjoyment of activities). One hundred-thirty one college students ages 20 and 21 were included in the study. Results suggested social activities were related to extraverts' increased happiness, while a lack of social activity was related to introverts' level of happiness (Argyle & Lu, 1990a).

Fogle et al. (2002) conducted a similar study with a cognitive measure of social competence and extended these relationships to early adolescents. Measures of life satisfaction (SLSS), personality (Abbreviated Junior Eysenck Personality Questionnaire [JEPQ-A]), teacher-rated social competence (the Interpersonal Skills subscale of the School Social Behavior Survey), and social self-efficacy (Social Self-Concept subscale of the Student Self-Concept Scale) were administered to 160 early adolescents between the ages of 10 and 15 years. Results suggested that young adolescents' life satisfaction was related to extraversion ($r = .22$), neuroticism ($r = -.33$), and perceived social self-efficacy ($r = .29$), but not teacher-reported social competence. Additionally, regression analyses demonstrated social self-efficacy acted as a mediator in the relationship between

extraversion and life satisfaction, but not for the relationship between neuroticism and life satisfaction. In other words, youth with more extroversion held better beliefs about their social abilities and, in turn, reported higher life satisfaction.

McKnight et al. (2002) administered the JEPQ-A and the SLSS to 1,201 students in grades 6-12. Results replicated previous findings that personality was related to life satisfaction specifically, neuroticism correlated more strongly ($r = -.39$) than extroversion ($r = .21$). These two personality dimensions accounted for close to one-fifth of the variance in adolescents' life satisfaction.

Additional studies have found similar results, although a weaker correlation between extroversion and life satisfaction is typically reported in younger samples, suggesting developmental influences on the relationship between extraversion and life satisfaction (Greenspoon & Saklofske, 2001; Heaven, 1989; McKnight et al., 2002; Rigby & Huebner, 2005). Heaven (1989) reported results from two studies. In the first study, 99 older adolescents ($M = 16.79$ years) were administered the JEPQ and SWL. In the second study, consisting of 194 youth ages 16-18, an additional measure of social attitudes was administered. Extroversion was found to be unrelated to life satisfaction in the first study ($r = .10, ns$), and weakly correlated with life satisfaction in the second study ($r = .14, p < .05$); however, a significant relationship between life satisfaction and neuroticism ($r = -.44, p < .001$; $r = -.40, p < .001$) was demonstrated in each study.

Rigby and Huebner (2005) administered the SLSS and a measure of personality (the Extraversion and Emotional Stability subscales of the What I'm Like self-report

measure) to 212 high school students. Adolescents' life satisfaction was more related to neuroticism ($r = -.29, p < .01$) than extroversion ($r = .09, ns$; Rigby & Huebner, 2005).

Taken together, the results of these studies and other studies demonstrating similar results with youth (Greenspoon & Saklofske, 2001) suggest that extroversion is more strongly related to life satisfaction in adulthood than in youth, although a significant (albeit small to moderate) association between extraversion and life satisfaction in youth is likely. Researchers have hypothesized theoretical explanations for the less prominent relationship between extraversion and life satisfaction during adolescence. A possible explanation may be the reorganization of one's self-concept that occurs during adolescence (Berk, 2006). Personality processes may be undergoing rapid transitions, lessening the relationships between personality and life satisfaction for adolescents (Eccles et al., 1989).

A more widely accepted theory is that adolescents' peer group (e.g., friends and classmates) becomes increasingly important during this time (Steinberg, 2002), thus the established correlation between extraversion and life satisfaction may be due to successful and enjoyable social interactions rather than extroversion per se (Argyle & Lu, 1990a, Emmons & Diener, 1986, Fogle et al., 2002). Studies suggest strong links between extraversion and (1) social competence (Argyle & Lu, 1990a) and (2) quality social relationships (Fogle et al., 2002). Additionally, strong links have been established between positive perceptions of friendships (Nickerson & Nagle, 2004), perceived social support from classmates (Suldo & Huebner, 2006) with life satisfaction. Taken together, these studies suggest extraversion relates to life satisfaction through perceptions of social

relationships. The mediating role of social perceptions is supported in previous studies demonstrating that adolescents' perceptions of their social competence mediated the relationship between extraversion and life satisfaction (Argyle & Lu, 1990b; Fogle et al., 2002). Thus, the relationship between extroversion and life satisfaction is likely indirect and may be better explained by the social perceptions and social behaviors (e.g., perceiving social activities as more rewarding, demonstrating well-developed social skills, etc.) of extroverts (Argyle & Lu, 1990a, 1990b; Fogle et al., 2002; Steel et al., 2008). Thus, studies demonstrating strong direct links between extraversion and life satisfaction may be neglecting an important mediating variable (i.e., perceptions of classmate support). The present thesis hypothesizes that the extraversion-life satisfaction link is actually indirect and that the influence of extraversion on life satisfaction is better accounted for by adolescents' perceptions of support from classmates.

Importantly, the frequent mention of two specific personality traits (i.e., extraversion and neuroticism) in this paper thus far may lead the reader to conclude that the construct of personality is synonymous with these two traits. In reality, these are simply the only two aspects of personality that have been examined in relation to adolescent life satisfaction due to measurement limitations for youth personality. The next section of this paper defines the comprehensive construct of personality.

Theory of Personality

Personality can be defined as a dynamic and organized set of characteristics possessed by a person that uniquely influences his or her cognitions, motivations, and behaviors in various situations (Ryckman, 2004). The *Diagnostic and Statistical Manual*

of Mental Disorders (DSM-IV-TR) states personality traits are "enduring patterns of perceiving, relating to, and thinking about the environment and oneself that are exhibited in a wide range of social and personal contexts" (American Psychiatric Association, 2000, p. 630). Personality theories emerged to help explain individual differences.

One of the most widely accepted theories is known as trait theory. Trait theory assumes that personality is a collection of individual traits that are relatively stable over time, different among individuals, and influential on behavior (Papalia, Olds, & Feldman, 2004). Personality traits can be further broken down into an individual's response to situations in the form of his/her habits, act frequencies, dispositions, and behavior aggregates. In personality research, a 'response to a situation' can be evaluated through one's response to an item on a questionnaire (Digman, 1990). Collectively, these responses and habits make up one's characteristics (or personality traits), and in research, responses make up scales and factors. The characteristics and scales used in research are then organized under five well-known personality dimensions that make up the "five-factor model" (FFM) of personality (Costa & McCrae, 1992a).

The FFM proposes a set of five personality dimensions under which multiple descriptors can be categorized. The FFM is useful in that it employed factor analysis to organize a large number of traits under a few broad dimensions to facilitate the understanding of personality. As this model organized traits through statistical analyses, the discriminate and convergent validity are established (Costa & McCrae, 1992a). Therefore, the FFM serves as a defensible approach to measuring personality (Goldberg, 1990).

Critics of the five-factor model emphasize flawed research of the model, suggesting the five dimensions of personality are not valid and comprehensive (Block, 1995, 2001). However, the majority of research on personality traits suggests there is consensus on five broad dimensions of personality but slight variability in the meaning and language used to describe each of the dimensions (Digman, 1990). Major researchers in the field of personality beginning with Cattell (1943) and Norman (1967) have used empirical procedures to create a valid and reliable personality taxonomy resulting in widespread support for the FFM (Digman, 1990). Commonly used words within the English language that are used to describe personality have been subjected to empirical analyses resulting in five broad dimensions similar in meaning to the FFM, demonstrating the comprehensiveness of the model (Goldberg, 1990). The FFM is one of the most widely accepted models for conceptualizing personality (Costa & McCrae, 1992a; Digman, 1990). The five basic dimensions of personality that have been identified are as follows: neuroticism, extraversion, openness, agreeableness, and conscientiousness. Each broad dimension consists of lower-order facets and traits that represent the broader dimension.

Neuroticism refers to emotional instability including these specific descriptors: anxiety, hostility, depression, self-consciousness, impulsiveness, and vulnerability. Extraversion is a social and active dimension including six components: warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions. Openness to experience refers to willingness to try new things and ideas including six aspects: fantasy, aesthetics, feelings, actions, ideas, and values. Conscientiousness is the

dutiful and deliberate dimension including six qualities: order, achievement striving, deliberation, competence, self-discipline, and dutifulness. Agreeableness is the “nice” dimension including constructs such as: altruism, compliance, tender-mindedness, straightforwardness, trust, and modesty (Costa & McCrae, 1992a).

Research has demonstrated the stability of personality traits throughout one’s lifespan (Costa & McCrae, 1988). However, there is some evidence to suggest personality makes a final change between one’s twenties and thirties due to slight differences in personality during this time (Costa & McCrae, 1994). Slight adaptations in personality could result from new responsibilities or encountering major events, but one’s basic qualities and behavioral tendencies remain unchanged (Caspi, 1998). Longitudinal research on children suggests that temperament (i.e., a person’s characteristic way of approach to people and situations) at age 3 closely predicted their personality at age 18 and age 21 (Caspi, 2000).

Gender Differences in Personality

Most research on gender differences in personality has included adult participants (Feingold, 1994). Results of a meta-analysis of studies on gender differences in personality suggests slight differences between men and women, however, measurement differences (e.g., using a 3-factor vs. a 5-factor approach to personality) limits the ability to generalize and compare studies (Feingold, 1994). Research using a 3-factor model of personality (i.e., a model that measures personality on three dimensions including neuroticism, extroversion, and psychoticism) found males scored higher in assertiveness and lower in anxiety compared to females, while females scored higher in areas of trust

and nurturance compared to males (Feingold, 1994). Argyle and Lu (1990a) found adult females scored higher on extraversion than males, however a similar study with college students found no gender differences (Argyle & Lu, 1990b).

Research on gender differences in personality with adolescents using Eysenck's 3-Factor model (i.e., three dimensions of personality including neuroticism, extroversion, and psychoticism) suggests a general trend in which boys scored higher on the Psychoticism scale while girls scored higher on the Neuroticism scale (Francis, 1992, 1993; Scholte & De Bruyn, 2001). Fogle et al. (2002) found gender differences in neuroticism on the JEPQR-A in early adolescents, with girls scoring significantly higher than boys do. Most research using the JEPQ-R in adolescents finds no gender differences in extroversion (Argyle & Lu, 1990b; Eysenck & Eysenck, 1975; Scholte & De Bruyn, 2001). However, this research is limited in that the JEPQ-R does not include all five of the big five personality dimensions.

Using the FFM, gender differences were found in self-reported levels of agreeableness and neuroticism as girls reported more agreeableness and less emotional stability (i.e., the opposite of neuroticism) compared to boys (Graziano, Jensen-Campbell, & Finch, 1997). Mervielde, Buyst, and De Fruyt (1995) found gender differences in the predictive ability of personality such that beginning at the age of eight, extraversion and openness predicted academic achievement (i.e., grade point average) for girls better than for boys. Most research on gender differences in personality is limited in that studies do not test for gender differences in analyses (DeNeve & Cooper, 1998) and do not include all of the big five traits (McKnight et al., 2002; Pavot et al., 1997).

Assessment of Personality

Although personality is a complex phenomenon, research has demonstrated reliable and valid modes of measuring personality. Costa and McCrae (1985, 1992b) created the Neuroticism, Extroversion and Openness Personality Inventory (NEO-PI-R) based on the five-factor model. Participant responses to statements on a questionnaire resulted in five large categories of personality descriptors. The 240-item questionnaire was created to assess adults' (i.e., ages 19 to 96) broad, global personality domains in addition to lower-order facets that make up each domain. The NEO-PI-R can be shortened to a 60-item measure (the NEO-FFI), also a reliable and valid measure of personality.

Initial measures used to assess personality were developed for adults; recently, there has been an increased interest in assessing children's personality via a five-factor approach. Most initial studies investigating personality in youth relied on parent and teacher ratings (Barbaranelli, Caprara, Rabasca, & Pastorelli, 2003). Digman and Inouye (1986) investigated personality in early adolescents finding support for the FFM using teacher ratings of students' personality. Additionally, teacher ratings of personality demonstrated stability into middle adolescence (Digman & Inouye, 1986). Although parent and teacher reports have proved useful in earlier personality research, later studies found the convergent validity of teacher reports with adolescent self-report measures of personality was only moderate (Graziano & Ward, 1992). Self-report measures can provide crucial information regarding one's personality not obtainable through others' ratings or through observation.

Earlier self-report measures of personality in youth assessed only some of the big five personality traits, namely extroversion and neuroticism (Zuckerman, 1989). The Junior Revised Eysenck Personality Questionnaire (JEPQ-R; Eysenck & Eysenck, 1975) is a self-report measure of adolescent personality that measures extraversion, neuroticism, psychoticism and includes a Lie scale. The measure consists of 89 items, however, shorter versions with only 48 items (JEPQR-S; Corulla, 1990) and 24 items (JEPQR-A; Francis, 1996) are available. The JEPQ-R has been used with children as young as 11 years and as old as 15 years (De Bruyn, Delsing, & Welten, 1995). Additionally, the JEPQ-R has been validated for use in other cultures (Scholte & DeBruyn, 2001).

More recently, researchers have employed personality measures including all of the big five personality traits. Goldberg (1990, 1992) relied on empirical analyses to identify adjectives describing each of the big five factors. These “markers” have been used to assess personality in youth through self-report measures in fifth to eighth graders (Graziano, Jensen-Campbell, & Finch, 1997; Graziano & Ward, 1992).

One self-report measure called the Big Five Questionnaire-Children (BFQ-C; Barbaranelli et al., 2003) was constructed to assess personality of children and early adolescents between 9 and 13 years. The questionnaire has 65 items that were created specifically for children. Items ask youth to endorse the frequency of their behavior on a Likert scale ranging from 1 (*almost never*) to 5 (*almost always*). Additionally, parent and teacher ratings can be obtained for a comprehensive assessment of child personality. Empirical analyses demonstrate the reliability and validity of the five-factor model through responses on the BFQ-C (Barbaranelli, Fida, Paciello, Giunta, & Caprara, 2007).

The Adolescent Personality Styles Inventory (APSI; Lounsbury et al., 2003) is another self-report measure of the big five personality traits in adolescence. The APSI underwent a series of eight studies in order to demonstrate reliability and validity comparing the APSI to parent, teacher, and self-reports of personality as well as objective indicators and empirical factor analyses. The 48 items are developmentally appropriate for adolescents ages 11-18. Lounsbury et al. (2003) confirmed the five-factor model in adolescents using the APSI; internal consistency reliability was also demonstrated for this age group. The validity of the measure was supported through comparisons with teacher and parent report of adolescent personality in addition to other self-report measures of personality (Lounsbury et al., 2003).

Limitations of Extant Literature

As addressed earlier, self, parent, and teacher reports of adolescent personality support the validity and reliability of the five-factor structure of personality in youth as young as 4 years (Barbaranelli et al., 2007; Mervielde et al., 1995). Moreover, adolescent personality remains consistent into adulthood (Caspi, 2000). However, research is lacking using multi-trait measurement of adolescent personality, specifically measuring all of the “big five” dimensions in relation to life satisfaction.

Extraversion and neuroticism have been recognized as theoretically grounded and socially important personality traits (Graziano, Jensen-Campbell, Todd, & Finch, 1997); however, less research has included agreeableness, openness, and conscientiousness due to a lack of theory regarding the function of these three dimensions as they relate to

outcomes, namely life satisfaction (Graziano, Jensen-Campbell, & Finch, 1997; Molfese & Molfese, 2000).

One of the reasons less is known about conscientiousness, agreeableness, and openness to experience is their level of subjectivity, in that overlap may exist among behaviors that represent these constructs (e.g., having an *easy* attitude could fall under agreeableness or openness). Additionally, because agreeableness, conscientiousness, and openness are related to many adaptive behaviors in youth, their discriminative validity as distinct structures is lessened (Barbaranelli et al., 2003; Mervielde et al., 1995). Research has found high correlations between conscientiousness and openness that reduce their discriminative validity (Barbaranelli et al., 2007).

However, previous research has found support for investigating all five dimensions of personality in the FFM. One study found endorsement of traits included under conscientiousness (i.e., competence, achievement striving, and self-discipline) was related to the development of phobic, panic and major depressive disorders in adults (Bienvenu et al., 2001). Agreeableness and openness are the least explored dimensions of personality (Graziano & Eisenberg, 1997; Mervielde, De Fruyt, & Jarmuz, 1998). Studies that have included agreeableness have found significant correlations with a number of positive interpersonal relationship skills (Graziano & Eisenberg, 1997). For instance, during adolescence agreeableness is related to conflict resolution (Jensen-Campbell, Graziano, & Hair, 1996), positive peer relationships and teacher relationships (Graziano, Jensen-Campbell, & Finch, 1997), as well as happiness (a construct similar to life satisfaction; Jensen-Campbell et al., 1996).

Regarding openness, this personality dimension has been investigated in youth between the ages of 4 and 12; openness may not be a stable trait of young children (Mervielde et al., 1995). However, between the ages of 8 and 10 openness becomes a more important and discernable factor (Mervielde et al., 1995). This developmental trend supports the inclusion of openness as a factor in personality research with older adolescents.

In general, although the FFM has been established in adult literature, less is known about the FFM in younger populations. The lack of substantial longitudinal data in youth makes theory and causal attributions difficult, especially for younger populations (Halverson, Kohnstramm, & Martin, 1994).

Summary of Literature Review

Most research with youth has used measures based on a 3-factor model of personality, thus, less is known about the overall relationship of the FFM to life satisfaction. Research has demonstrated the importance of agreeableness, conscientiousness, and openness as traits that are representative of and related to adaptive behaviors in youth (Mervielde et al., 1995), particularly the relationship between agreeableness and positive interpersonal skills and happiness (Jensen-Campbell et al., 1996). Yet, no studies have incorporated all five personality dimensions in studies of life satisfaction. These associations need to be further explored as findings have implications for adolescents due to relatively malleable personality traits during this time (Steinberg, 2002).

Some studies suggest gender differences in personality, with girls reporting higher levels of neuroticism (Fogle et al., 2002). Gender differences have implications for targeting areas for interventions given girls may be particularly at-risk as neuroticism is related to lower life satisfaction (Fogle et al., 2002). Boys may be at-risk as they report less importance of social relationships given increased social interest and a desire for pro-social behavior is related to adolescent life satisfaction (Gilman, 2001). Understanding how gender is related to each of the five factors of personality and recognizing how gender differences in personality traits relate to overall life satisfaction is important for determining those who may be at particular risk for low life satisfaction.

Previous studies demonstrate that personality traits (e.g., extraversion, agreeableness) are related to positive social relationships (Graziano, Jensen-Campbell, & Finch, 1997). Further, interpersonal relationships are a strong predictor of life satisfaction (Jensen-Campbell et al., 1996; Leung & Zhang, 2000). These findings lend support for the indirect influence of personality on life satisfaction, mediated by perceptions of social relationships. There have been no comprehensive studies that have investigated the relationships among the “big five” personality factors, perceptions of supportive classmate relationships, and life satisfaction. There is evidence to suggest the influence of extraversion on life satisfaction is indirect, mediated by perceptions of social competence (Fogle et al., 2002). In sum, the role of perceptions of peer relationships in the link between personality factors and life satisfaction remains unclear.

Purpose of Current Study

The purpose of the current study was to determine the overall contribution of personality to life satisfaction and the unique contribution of each trait (extraversion, neuroticism, conscientiousness, openness to experience, and agreeableness) to life satisfaction. Gender differences were examined to determine if the relationships between personality and life satisfaction are consistent for boys and girls.

The role of perceived classmate support in the link between personality and life satisfaction was examined to determine how perceptions of classmate support contribute to the relationship between personality factors and life satisfaction. Studies suggest the link between extraversion and life satisfaction may be mediated by perceptions of social competence and social support (Fogle et. al., 2002; Suldo & Huebner, 2006). Thus, one objective of the current thesis is to demonstrate the direct link between extraversion and life satisfaction that has been suggested is actually indirect, and is better accounted for by perceptions of classmate support. Given the lack of literature to support an a priori hypothesis regarding the links among the other four personality factors (openness, conscientiousness, agreeableness, neuroticism), perceived classmate support, and life satisfaction (Graziano, Jensen-Campbell, & Finch, 1997; Molfesee & Molfesee, 2000), the current thesis examined both indirect (through perceptions of classmate support) and direct relationships among the remaining four factors and life satisfaction. Life satisfaction is important in youth as it relates to a number of positive outcomes including academic success (Huebner, Funk et al., 2000; Suldo & Shaffer, 2008). Additionally, high life satisfaction can buffer against adolescents' experiencing negative events (Ash &

Huebner, 2001), and influence positive cognitions about oneself (Meyers & Diener, 1995). Taken together, research overwhelmingly supports the importance of life satisfaction in youth, thus, identifying characteristics that are related to adolescents' life satisfaction is imperative.

Chapter 3

Method

The purpose of the current study was to examine the relationships between adolescent personality, life satisfaction, and perceptions of classmate support. This chapter provides a description of the research design, followed by a information about the sample including sampling procedures and demographic characteristics. Next, details about the measures and data collection procedures are presented. Finally, an overview of the data analysis plan is provided.

Design

The current study is correlational in nature. It used a dataset obtained from a larger study that investigated the mental health of high school students enrolled in rigorous academic programs (e.g., Advanced Placement [AP], International Baccalaureate [IB]).

Sample

Sampling procedures. The sample for the study consisted of 625 high school students across four high schools located in geographically diverse regions of a southeastern state. Each of the four high schools offers the IB program. Two schools are public magnet schools that offer college preparatory programs of study such as AP and IB programs; one also offers additional specialized programs, including Math, Science, and Engineering (MSE), Computer Science (CS), and the Interdisciplinary Program (IDP). The other two schools offer AP, IB, and general education programs for students.

Approximately 27% ($n = 169$) of students in the sample were enrolled in general education classes, 50% ($n = 316$) of students were enrolled in the IB program, 18% ($n = 110$) in AP, and 5% ($n = 30$) in other advanced specialized programs at one of the high schools.

Parent consent forms were sent home to all students enrolled at the four high schools. Participants included in the study were limited to those students who returned a signed parent consent form (see Appendix A) to school. To encourage participation, students with signed parent consent were included in a drawing for one of several gift certificates worth \$50 to their local shopping mall. Multiple drawings were conducted at each high school. A list was created for each school identifying those students who returned parent consent and these students were gathered in large groups for data collection. The principal investigator explained the study and informed participants of their right to withdraw or refuse participation at any time without penalty. Students were asked to sign a student assent form to participate in the study (see Appendix B).

Sample description. A breakdown of selected demographic characteristics of the sample is reported in Table 1. The age range of the sample participants was between the 13 and 19 years old ($M=15.72$, $SD=1.22$).

Table 1

Demographic Characteristics of Sample (N = 625)

Characteristic	<i>n</i>	% of sample
Gender		
Male	230	36.9%
Female	394	63.1%
Missing	1	.00%
Race/Ethnicity		
Caucasian (White)	358	57.3%
African-American	91	14.6%
Hispanic	70	11.2%
Asian	47	7.5%
Multi-racial	41	6.6%
Other	11	1.8%
Grade level		
Senior	108	17.3%
Junior	165	26.4%
Sophomore	176	28.2%
Freshman	176	28.2%
Socioeconomic status (SES)		
Free/reduced-price lunch	114	18.3%
Not eligible for free lunch	509	81.7%
Missing	2	.00%
Father's highest level of education		
Less than high school	59	9.7%
High school	151	24.9%
Some college	86	14.2%
Bachelor degree	164	27.1%
Master degree	95	15.7%
Beyond Master's degree	51	8.4%
Missing	19	.03%
Mother's highest level of education		
Less than high school	26	5.8%
High school	136	21.9%
Some college	119	19.2%
Bachelor degree	201	32.4%
Master degree	104	16.8%
Beyond Master's degree	24	3.9%
Missing	5	.01%

Measures

Students' Life Satisfaction Scale (SLSS; Huebner, 1991a). The SLSS is a 7-item self-report measure of global life satisfaction in youth (see Appendix C). Expanding on Diener and colleagues' (1985) research demonstrating the significance of global life satisfaction in adults, Huebner created the SLSS as a global measure of life satisfaction in youth (Huebner, 1991a). Global life satisfaction is defined as "a person's subjective evaluation of the degree to which his or her most important needs, goals, and wishes have been fulfilled" (Frisch, 1998, p. 24), thus the SLSS was intended as a general rather than domain specific evaluation of one's satisfaction with life. Items include "I'm happy with my life" and "My life is good." Students rate their agreement with items on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Two items are negatively worded (i.e., "I would like to change many things in my life" and "I wish I had a different kind of life") and are reverse scored prior to data analysis. Higher scores on the SLSS indicate higher life satisfaction. Scores on the SLSS can be used to identify students who are considered at-risk for negative outcomes (Suldo & Huebner, 2004b). One study demonstrated the predictive ability of the SLSS as low scores (an average score of 3.9 or less) predicted more externalizing behavior for students compared to those with high scores (an average score of 4.0 or more) with less behavior problems (Suldo & Huebner, 2004b). The SLSS does not include specific cut scores to indicate clinical levels of pathology or risk as the SLSS can be used to identify students before pathology develops (Huebner, Gilman, & Suldo, 2006); however, scores can be used to identify students less

satisfied with life who may be more likely to experience negative outcomes (Suldo & Huebner, 2004b). Studies demonstrating adequate psychometric properties of the SLSS are summarized below.

Empirical properties of the SLSS evidence the measures' validity in assessing global life satisfaction. Evidence to support the construct validity of the SLSS was obtained through principal components analyses, which yielded a one-factor structure (Dew & Huebner, 1994; Gilman & Huebner, 1997; Huebner, 1991c). For younger samples (i.e., elementary and middle school aged students), item loadings ranged from .31 to .76 (Gilman & Huebner, 1997; Huebner, 1991a, 1991c), and in adolescent samples item loadings ranged from .61 and .83 (Dew & Huebner, 1994). Results of factor analyses with measures of self-esteem support the validity of the SLSS as a construct different from evaluative judgments of oneself (Huebner, Gilman, & Laughlin, 1999). Additionally, measures of positive affect correlate moderately with the SLSS ($r=.34$; Huebner, 1991a, and $r=.44, p<.05$; McCullough, Huebner, & Laughlin, 2000). LS and positive affect comprise two major components of SWB, thus, moderate correlations with affect support the convergent validity of the SLSS (Huebner, 1991a). Additional evidence of validity is demonstrated by strong correlations ($r = .64$) with measures of hope (Gilman & Huebner, 2006), and weak correlations ($r = .05$) with measures of social desirability (Huebner, 1991c).

Studies comparing the SLSS with other established self-report measures of life satisfaction provide evidence for the measure's concurrent validity (Dew & Huebner, 1994; Huebner, 1991a). Scores on the SLSS correlate moderately with scores on the

Perceived Life Satisfaction Scale ($r = .58$; Dew & Huebner, 1994), the Andrews-Withey life satisfaction item ($r = .62$), and the Piers-Harris Happiness subscale ($r = .53$; Huebner, 1991a). Concurrent and convergent validity have been studied in comparison to parent reports of LS in youth with correlations of .48 in adolescent samples (Dew & Huebner, 1994) and .54 in middle school students (Gilman & Huebner, 1997).

Construct validity of the SLSS is demonstrated through significant and positive correlations with constructs theoretically expected to relate to LS, and significant, negative correlations with constructs that are opposite LS. As expected, measures of self-esteem are separable from but related to the SLSS with correlations ranging in magnitude from .40 to .52 (Dew & Huebner, 1994; Gilman & Huebner, 2006; Huebner, Funk et al., 2000; Huebner, Gilman et al., 1999). Conversely, weak or negative correlations with constructs unrelated or opposite to LS demonstrate validity of the SLSS. Maladaptive symptoms of pathology have been compared to adolescents' scores on the SLSS, yielding negative correlations with depression (ranging from $-.39$ to $-.62$), anxiety ($-.34$), and social stress (ranging from $-.50$ to $-.58$; Gilman & Huebner, 2006; Huebner, Funk et al., 2000). Externalizing and internalizing behaviors are related to adolescents' scores on the SLSS correlating $-.37$ and $-.50$, respectively (McKnight et al., 2002; Suldo & Huebner, 2004b). SLSS scores have predicted social stress, depression, anxiety (Huebner, Funk et al., 2000) and externalizing behavior (Suldo & Huebner, 2004b) in adolescent samples one year later, in addition to predicting internalizing and externalizing behaviors two years later (Harranin, Huebner, & Suldo, 2007). In sum, research has provided evidence in support of the validity of the SLSS as a global measure with weak or inverse

correlations with unrelated or maladaptive traits and strong correlations with adaptive, comparable constructs.

Reliability data estimating the item-total correlation for the SLSS ranges from .49 to .73 (Dew & Huebner, 1994). In samples of American high school students, the SLSS has demonstrated adequate internal consistency with alpha coefficients ranging from .79 to .88 (Dew & Huebner, 1994; Gilman & Huebner, 1997, 2006; Huebner, 1991a, 1991c; Huebner, Funk et al., 2000). Studies involving culturally diverse groups have found similar estimates of internal consistency ($r = .80$; Ulman & Tatar, 2001). Support for the stability of scores on the SLSS has been observed with test-retest coefficients of .74 over a two week period (Huebner, 1991a), .64 over a four week period (Gilman & Huebner, 1997), and .53 to .57 over one year (Huebner, Funk et al., 2000; Suldo & Huebner, 2004b).

Child and Adolescent Social Support Scale (CASSS; Malecki, Demaray, Elliot, 2000). The CASSS (2000) is designed to measure participants' perceived support from five sources including parents, teachers, school, classmates, and close friends (see Appendix D). Students rate the frequency of perceived support on a 6-point scale from 1 (*never*) to 6 (*always*). The 60-item measure includes five subscales measuring each source of support. Within each subscale each of four types of support (instrumental, appraisal, informational, and emotional) are measured. A total perceived support score is calculated by adding all items on the CASSS; subscale frequency scores are calculated by adding only the items within a given subscale, such as classmate support. Higher scores indicate more perceived social support. A study by Demaray and Malecki (2002b) used

scores from the CASSS to predict outcomes, and can be referenced as a guide for score interpretation.

The psychometric properties of the CASSS have been supported in reliability and validity studies (Malecki & Demaray, 2002, 2006). For instance, four factors emerged from principal components factor analyses with item loadings ranging from .57 to .86, supporting the validity of the four sources of support measured in the original CASSS (Malecki, Demaray, Elliot, & Nolten, 1999; Malecki & Demaray, 2003). Estimates of inter-rater reliability assessing the accuracy of items intended to measure each type of support (e.g., informational, emotional) reached 92%, providing evidence to support the validity of type-items (Malecki & Demaray, 2003).

Only the Classmate subscale of the CASSS (2000) was used in the current study, therefore, subsequent validity and reliability data provided is specific to the Classmate subscale. Moderate and significant correlations with the Peer scale from the Social Support Appraisals Scale ($r = .41$; Malecki & Demaray, 2003) and the Classmate subscale of the Social Support Scale for Children ($r = .36$) support the concurrent validity of the Classmate subscale with established measures of social support. Reliability estimates of the internal consistency of items on the Classmate subscale result in coefficient alphas around .93 (Malecki & Demaray, 2002, 2003). Estimates of reliability for the Classmate subscale based on type of support (e.g., appraisal, informational, etc.) result in coefficient alphas ranging from .80 to .87 (Malecki & Demaray, 2003). Test-retest reliability over 8 to 10 weeks for types of support on the Classmate subscale was

evidenced by significant correlations ranging from .51 to .67 (Malecki & Demaray, 2003).

Evidence of discriminant validity of the Classmate subscale is found in comparisons of parent ratings of adolescent behavior as measured by the BASC, resulting in significant and negative correlations for the Externalizing (-.34), Internalizing (-.25), and Behavior Symptom Index (-.39) subscales, and a positive correlation (.43) with the Adaptive Skills subscale (Malecki & Demaray, 2002). Discriminant validity evidence of the Classmate subscale is also observed through significant and negative correlations with self-reports of pathology on the Clinical Maladjustment (-.25) and the Emotional Symptoms Index (-.34) subscales of the BASC in addition to significant and positive correlations with adaptive behaviors on the Personal Adjustment subscale of the BASC (.30; Demaray & Malecki, 2002a). A group of comparison students (i.e., students who did not engage in bullying behaviors or students who were not victims of bullying behavior) reported significantly higher frequency ratings of classmate support on the CASSS than students identified as victims of bullying ($d = .83$), supporting the measures' validity in differentiating groups of students as expected (Demaray & Malecki, 2003).

Adolescent Personal Styles Inventory (APSI ; Lounsbury et al, 2003). The APSI is a self-report instrument that assesses the FFM of personality in adolescents between 11 and 18 years (see Appendix E). The 48-item measure includes five subscales aligned with the five factors of personality. Three subscales (Conscientiousness, Neuroticism, and Extraversion) are measured with 9 items, while the Agreeableness subscale has 10 items and the Openness subscale has 11 items. Participants endorse their agreement with items

on a response scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Seven items are reverse scored before items within each subscale are subjected to data analysis.

Scores reflect features of personality characteristic of the individual. The version of the APSI included in the current study was provided via e-mail by the authors of the APSI in 2005, and is assumed the best and most recent version of the APSI. Although recently developed, studies report psychometric properties demonstrating adequate reliability and validity of the measure (Lounsbury et al., 2003).

Evidence in support of the construct validity of the measure is observed through exploratory and confirmatory factor analyses resulting in five factors aligning with the five dimensions of personality (Lounsbury et al., 2003). Negative correlations between Neuroticism scale and adaptive dimensions including Extraversion ($r = -.15$), Openness ($r = -.09$), Agreeableness ($r = -.33$), and Conscientiousness ($r = -.11$) and positive correlations between the Extraversion subscale and adaptive dimensions including Openness ($r = .43$), Agreeableness ($r = .38$), and Conscientiousness ($r = .29$) provide initial support for the validity of each factor (Lounsbury et al., 2003). Comparisons between the 16 Personality Factors (16 PF, a measure of 16 lower-order facets of personality) and the APSI provide further evidence in support of the construct validity of the measure. More specifically, significant correlations were observed between the Emotional Stability and Neuroticism subscales ($r = .66$); the Openness subscales ($r = .68$); between the Social Boldness and Extraversion subscales ($r = .66$); between the Rule Consciousness and Conscientiousness subscales ($r = .59$); and between the Warmth ($r = .36$) and Sensitivity ($r = .33$) subscales and the Agreeableness subscale (Lounsbury et al.,

2003). The Myers-Briggs Temperament Inventory scales that are “logically related and equivalent constructs” (Lounsbury et al., 2003, p. 124) correlate significantly with the Extraversion ($r = .55$) and Conscientiousness ($r = -.54$) subscales on the APSI (Lounsbury et al., 2003).

Significant correlations between the APSI and the NEO-FFI provide further evidence in support of the construct and convergent validity of the APSI, with subscale correlations of .60, .68, .69, .77, and .83 for Openness, Agreeableness, Conscientiousness, Extraversion, and Neuroticism subscales, respectively (Lounsbury et al., 2003). Evidence in support of the convergent validity is also observed through strong correlations with teacher reports of student personality for the Extraversion (.30), Openness (.31), and Agreeableness (.68) subscales (Lounsbury et al., 2003). Further validity evidence of the APSI has been provided through hypothesized relationships with outcomes such as significant correlations with G.P.A. on all five subscales ranging from .18 to .26 (Lounsbury et al., 2003). Additionally, behavior problems correlate with the Agreeableness ($r = -.16$) and Extraversion ($r = -.10$) subscales, and absences from school correlate with the Neuroticism subscale ($r = .13$; Lounsbury et al., 2003). Predicted relationships between Aggression and Agreeableness ($r = -.69$) and between Work Drive (i.e., academic motivation) and Conscientiousness ($r = .61$) provide further evidence in support of the discriminant validity of the APSI (Lounsbury, Steel, Loveland, & Gibson, 2004).

Reliability studies show adequate internal consistency for each subscale with coefficient alphas of .82 for Agreeableness, .80 for Openness, .84 for Conscientiousness,

and .85 for Neuroticism and Extraversion (Lounsbury et al., 2003). Similar results have been replicated in studies with high school samples with coefficient alphas ranging from .79 to .86 (Lounsbury et al., 2004).

Procedures

In the spring and summer of 2006, approval for the study was obtained from the Institutional Review Board (IRB) at the University of South Florida (USF), as well as the Departments of Assessment and Research within each of the four participating school districts (i.e., Duval County, Palm Beach County, Manatee County, and Polk County). The research team began data collection in the winter of 2006. The author of this thesis was a member of the research team that included several graduate students in the USF School Psychology Program, supervised by two professors in the USF College of Education.

Administration of self-report measures was kept consistent across schools, as the primary investigator was present at each school during data collection. The participants were called down to the school's auditorium in large groups (approximately 50-100 students) during school hours to complete the measures. Each group of students was provided with a standard set of instructions regarding the procedures for completing the questionnaire packet. Students practiced answering two Likert-scale questions before completing the packet to reduce errors when completing the measures. Students also provided demographic information including age, grade, sex, curriculum, and socio-economic status (SES). SES was determined by students' eligibility for free or reduced-price lunch. Six versions of the questionnaire packets were created to counterbalance the

measures. Note, only the self-report measures analyzed in the current study were previously reviewed. Each questionnaire packet contained all measures, and students sitting near one another were administered different versions of the packet to reduce discussion about the measures among students. The packets took approximately 30-45 minutes for participants to complete. Trained research assistants were on hand to answer student questions and to check completed packets for errors and missed questions. Data were entered as it was collected and checked for errors by research assistants throughout the 2006-2007 school year.

Overview of Data Analysis Plan

A series of statistical analyses was performed in order to answer the research questions posed in the current study.

Descriptive analyses. Descriptive statistics were obtained including variability and measures of central tendency to describe the data. Univariate and multivariate outliers were identified and removed from the dataset as appropriate. Additionally, graphic depictions of the data set were inspected to assess the relationships between variables.

Research question 1: Which personality factors have significant associations with adolescent life satisfaction? Correlational analyses describe the strength and direction of the relationship between two variables (Cozby, 2004). Thus, bivariate correlations were computed to determine which personality factors were significantly correlated to a measure of life satisfaction.

Research question 2: What is the overall contribution of personality to adolescent life satisfaction? Multiple regression analyses were conducted to predict the degree to

which personality factors explain life satisfaction. The adjusted R-square statistic from a simultaneous multiple regression determined the overall contribution of personality to life satisfaction.

Research question 3: Which personality factors are uniquely and most strongly associated with life satisfaction? A review of beta-weights and semi-partial R-square statistics from the simultaneous multiple regression determined which of the five personality factors were uniquely and most strongly associated with life satisfaction.

Research question 4: Is the relationship between personality and life satisfaction consistent across genders? To determine if gender is a moderator in the relationship between personality and life satisfaction, multiple regression analyses that include five interaction terms (i.e., extraversion*gender, neuroticism*gender, openness*gender, conscientiousness*gender, agreeableness*gender) were conducted (Baron & Kenny, 1986). Life satisfaction served as the dependent/criterion variable and personality factors, gender, and the interactions between gender and personality factors served as the predictors/independent variables. P-values associated with beta weights for all predictors were reviewed; statistically significant interaction terms were indicative of personality factors that differentially predicted life satisfaction as a function of gender. In the event a significant interaction term was detected, follow-up regression analyses in which personality factors were regressed on life satisfaction by gender group were conducted and beta weights that were yielded from the gender-specific equations were graphed to display the moderator effect.

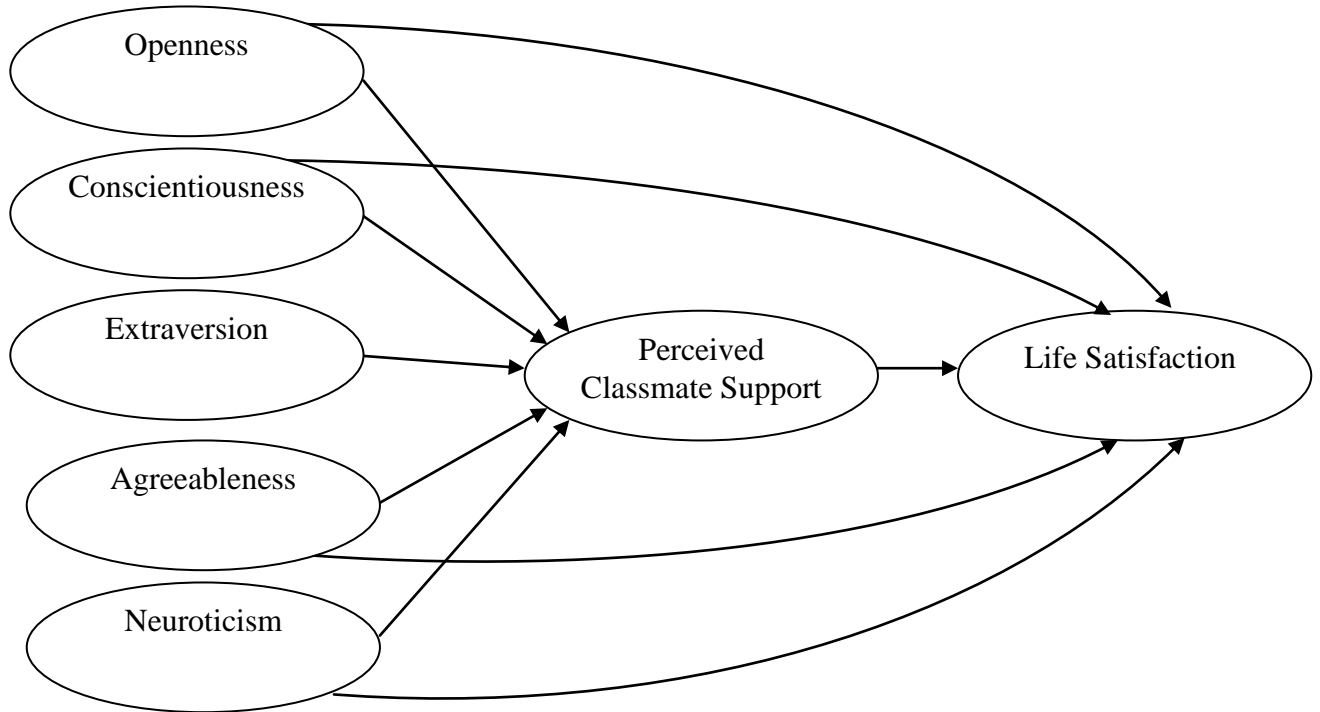
Research question 5: Does peer support mediate the relationship between personality and life satisfaction? A structural equation model (see Figure 1) that specified hypothesized relationships among latent constructs that represented the “big five” personality factors, perceptions of classmate support, and life satisfaction was analyzed to determine the strength and direction of relationships among variables and to determine the amount of variance in life satisfaction that was explained by the simultaneous influence of personality factors and perceptions of classmate support. All models were estimated using maximum likelihood (ML) method and the CALIS procedure of SAS 9.2 (SAS Institute Inc.).

The model hypothesized that all five personality factors indirectly relate to life satisfaction through perceived classmate support. In addition, openness, conscientiousness, agreeableness, and neuroticism were hypothesized to directly relate to life satisfaction. The current study hypothesized that extraversion related to life satisfaction only indirectly, through perceptions of classmate support based on previous research finding social self-efficacy mediated the relationship between extraversion and life satisfaction (Fogle et al., 2002). Thus, in order to clarify mediating variables in the link between extraversion and life satisfaction (Fogle et al., 2002), the current model hypothesized perceptions of classmate support mediated by the relationship between extraversion and life satisfaction. More specifically, adolescents who are more extraverted experience more classmate support, which influences their life satisfaction. Due to a lack of research regarding mediational mechanisms in the relationships between the remaining four personality factors (openness, agreeableness, conscientiousness, and

neuroticism) and life satisfaction, these factors were hypothesized to both indirectly (through perceived classmate support) and directly relate to life satisfaction.

The data were analyzed using the two-step modeling approach suggesting by Anderson and Gerbing (1988; see Kline, 2005). First, steps were taken to determine a measurement model that demonstrated an adequate fit of the data. Fit indices were reviewed to determine the goodness of fit of the model. Once an adequate measurement model was obtained, the structural model was created (shown in Figure 1), illustrating the hypothesized relationships among the latent variables. The path coefficients from the structural equation model were obtained to determine the relationships among the variables in the model.

Figure 1. *The Role of Perceived Classmate Support in the Relationship between Personality Factors and Life Satisfaction.*



Ethical Considerations

To ensure participants' rights and safety throughout the study, approval for data collection was obtained from the IRB at the University of South Florida and from each of the four school's research departments. At every high school, principals and teachers were informed of the purpose of the study, as well as all the possible risks and benefits to student participants. A signed parental consent form was required from all students in order to participate. The parental consent form included contact information of the

principal investigator, a description of the study's purpose, and a summary of the students' role as participant including a statement about his/her right to refuse participation at any time. Students with parental consent were asked to sign student assent forms that provided similar information found in the parent consent form worded appropriately for children. Prior to data collection, the research team answered any questions or concerns posed by participants, who were reminded that at any time they could withdraw from the study. Participants' confidentiality was ensured using student identification numbers rather than students' names.

Chapter 4

Results

This chapter presents the results of the analyses conducted to answer the research questions within the current study. First, correlations among variables are provided to illustrate the relationship between each of the five factors of personality and life satisfaction. Next, results from regression analyses are presented to determine which personality factors are the largest and most unique predictors of life satisfaction in addition to the degree to which personality factors contribute to the overall variance in life satisfaction. These analyses are followed by results of regression analyses conducted to determine if gender differences exist in the relationships between personality factors and life satisfaction. Finally, results from a structural equation model that examined relationships among latent variables representing personality factors, perceived classmate support, and life satisfaction are shared.

Data Screening

Outliers. The normality assumption was examined for each variable in the dataset ($N = 625$) to determine the presence of any univariate or multivariate outliers. Observations equal to or larger than three standard deviations from the mean of any of the seven variables examined (i.e. openness, conscientiousness, extraversion, agreeableness, neuroticism, perceived classmate support, and life satisfaction) suggested an extreme observation. Using this criterion, 13 observations were identified as univariate

outliers. Multivariate outliers were defined as observations with a Mahalanobis distance larger than the chi-square critical value ($\chi^2 = 24.32, 7 df$). Three observations were identified as multivariate outliers; however, these observations were initially identified as univariate outliers thus, no additional cases were deleted. Identification of both univariate and multivariate outliers resulted in deletion of 13 cases resulting in a sample of 612 participants that were retained for all subsequent analyses.

Comparison of subgroups within the sample. The dataset analyzed in the current study was collected as part of a larger study examining the well-being of students enrolled in rigorous academic curriculum. Thus, the total sample ($N = 625$) includes a large number of students enrolled in rigorous college preparatory programs ($n = 449$). The present study is interested in relationships among the variables of interest (life satisfaction, perceived classmate support, and personality) among adolescents in general (i.e., students enrolled in both college preparatory programs and general education programs). To determine if it is empirically defensible to combine the data from the two groups of students (i.e., college preparatory and general education) to form a single dataset to be analyzed throughout the remainder of the study, two correlation matrices were developed and compared. One contains relationships between the variables of interest (personality dimensions, perceived classmate support, life satisfaction) for students in college preparatory programs, and the second contains the correlation coefficients for the same variables using the subsample of students in general education as the dataset. To determine if the magnitude of the relationships between the variables of interest were similar for students in the two groups, Fisher's r -to- Z transformations were

conducted. Fisher's *r*-to-*Z* transformations are useful for determining the significance of a difference between correlations; for instance, determining if the magnitude of the correlation coefficients among variables for the general education subsample were significantly different from the correlations among variables obtained for the college preparatory subsample. Fisher's *r*-to-*Z* transforms the Pearson correlation coefficients into *Z*-scores and determines if the difference in *Z*-scores reaches statistical significance ($z > \pm 1.96, p < .05$, two tailed test). Correlations between predictors (agreeableness, conscientiousness, neuroticism, extraversion, and openness) and the hypothesized outcome variables (perceived classmate support and life satisfaction), along with *p*-values associated with the Fisher's *r*-to-*Z* transformation are presented for general education and college preparatory students in Table 2.

Table 2

Intercorrelations and Results from Fishers r-to-Z transformations

Scale	A	C	N	E	O
College preparatory students (<i>n</i> =449)					
LS	.30**	.28**	-.66**	.30**	.15*
CS	.33**	.29**	-.40**	.44*	.24**
General education students (<i>n</i> =163)					
LS	.25*	.27*	-.61**	.21*	.17*
CS	.23*	.33**	-.19*	.46**	.23*
<i>p-values</i> from Fishers r-to-z Transformations					
LS	.57	.91	.30	.30	.83
CS	.25	.65	.01*	.89	.94

Note. A = agreeableness; C = conscientiousness; N = neuroticism; E = extraversion; O = openness; LS = life satisfaction; CS = classmate support.

* $p < .05$, ** $p < .001$.

The direction and magnitude of the correlations obtained for the sample of students in the general education curriculum ($n = 163$) and the sample of students in the college preparatory programs ($n = 449$) were comparable in 9 of 10 instances. The one exception involves the relationship between neuroticism and perceived classmate support ($z = 2.53$, $p = .01$). In this situation, a stronger inverse relationship between neuroticism and perceived classmate support was found among college preparatory students than among general education students. Since 90% of comparisons yielded statistically similar relationships between predictor and outcome variables for the two subgroup of students,

subsequent analyses were conducted using the combined sample ($N = 612$) of students from general education and college preparatory programs as the manner in which personality is associated with perceived classmate support and life satisfaction is largely similar regardless of student curriculum group.

Descriptive statistics. Means and standard deviations for the seven variables of interest in the current study are included in Table 3. The sample mean for life satisfaction ($M = 4.23$, $SD = .94$) is above the neutral point and suggests that the typical adolescent at least mildly agrees with assertions that he or she is satisfied with his or her life. With respect to personality dimensions, adolescents rated themselves highest on openness to experience and lowest on neuroticism. The mean perceived classmate support score ($M = 4.2$, $SD = .84$) was consistent with previous findings with adolescent samples ($M = 3.9$, $SD = 1.2$; Demaray & Malecki, 2002a).

Internal consistency. Alpha coefficients, a measure of reliability, were obtained to identify possible problems that could arise in later correlation and regression analyses due to measurement error. As suggested by Pedhazur (1997), measurement errors in the independent or dependent variables can bias the regression coefficient. The alpha coefficients are an indicator of measurement error in each measure and are used to determine the “percent of variance in an observed variable that is accounted for by true scores underlying the construct” (O’Rourke, Hatcher, & Stepanksi, 2005, p. 157). Reliability (alpha) coefficients are presented in the diagonals of Table 3.

Previous research has suggested alpha coefficients of .70 or above ($\alpha \geq .70$) demonstrate adequate reliability (Nunnally, 1978), while more current research suggests

higher coefficients ($.80 \leq \alpha \leq .90$; Clark & Watson, 1995) are superior estimates. Results from the current study suggest all subscales of the APSI, SLSS, and CASSS demonstrate adequate reliability ranging from .79 (Agreeableness) to .92 (CASSS), with all but one coefficient demonstrating excellent internal consistency. Employing measures with such strong internal consistency reliability should serve to help limit bias that could occur in subsequent correlation and regression analyses due to measurement error.

Research Question # 1. Which personality factors have significant associations with adolescent life satisfaction?

Prior to conducting correlation analyses to determine the strength and direction of the relationships between each of the five personality factors and life satisfaction, preliminary analyses were conducted to ensure that a linear relationship exists between the dependent variable (life satisfaction) and each of the predictor variables (openness, conscientiousness, extraversion, agreeableness, neuroticism; Stevens, 1999). Using SAS 9.2, each pair of variables (i.e., extraversion*life satisfaction, openness*life satisfaction, etc.) was displayed in scatter plots. Visual inspection of plots suggested adequate linear relationships. Table 3 presents Pearson correlation coefficients obtained between all variables of interest in the current study.

Table 3

Means, Standard Deviations, Intercorrelations and Coefficient Alphas for Variables (N = 612)

Variable	1	2	3	4	5	6	7	M	SD
1. Agreeableness	(.79)							3.74	.56
2. Conscientiousness	.41**	(.82)						3.49	.61
3. Neuroticism	-.31**	-.20**	(.86)					2.76	.78
4. Extraversion	.12*	.09*	-.26**	(.82)				3.71	.78
5. Openness	.30**	.29**	-.03	.29**	(.80)			3.80	.56
6. Perceived Classmate Support	.30**	.29**	-.34**	.45**	.25**	(.92)		4.20	.84
7. Life Satisfaction	.29**	.27**	-.65**	.27**	.16**	.44**	(.88)	4.23	.94

Note. Diagonals represent the standardized alpha coefficients.

* $p < .05$, ** $p < .001$.

Correlations between each of the five personality factors and life satisfaction were statistically significant ($p < .001$). Neuroticism demonstrated the strongest and only inverse relationship ($r = -.65$) with life satisfaction. Moderate, positive relationships were found between life satisfaction and three personality factors- agreeableness, conscientiousness, and extraversion. The positive relationship between life satisfaction and openness was small ($r = .16$). In sum, results from correlation analyses suggest each of the five personality factors have statistically significant bivariate relationships with life satisfaction.

Research Question #2. What is the overall contribution of personality to adolescent life satisfaction?

A simultaneous multiple regression analysis was conducted to determine the amount of variance in life satisfaction that is explained by the five personality factors. In particular, the adjusted *R*-square statistic reveals the overall contribution of personality to life satisfaction. First, the assumptions underlying multiple regression were assessed for potential violations. Then, the five predictors (openness, conscientiousness, extraversion, agreeableness, neuroticism) were regressed on life satisfaction.

Model assumptions. Assumptions of multiple regression include normally distributed predictors and error, thus the distribution of scores and residuals were inspected for departures from normality. In addition to the means and standard deviations for each variable that were examined earlier, skewness and kurtosis values were obtained. The skewness (-.42 to .13) and kurtosis (-.30 to .09) values for life satisfaction and each of the predictor variables (personality traits) were within acceptable ranges (i.e., between -1 and 1). Additionally, scatter plots with each predictor variable and criterion depicted linear relationships and adequate normality.

In multiple regression, the standardized error (i.e., residuals) is assumed to be normally distributed with a mean of zero, and demonstrate consistent variance that is uncorrelated with the predictor variables (Stevens, 1999). To ensure this assumption was not violated, the standardized residuals (error) were plotted for each predictor and criterion pair (e.g., agreeableness*life satisfaction) and inspected for departures from normality (i.e., clustering of error terms). All standardized residual plots were normally

distributed around the horizontal axis with a mean of zero, suggesting constant error variance in agreement with model assumptions.

A third assumption of multiple regression is the detection of influential data points. Although the univariate and multivariate outliers were previously detected and removed, regression diagnostics (Cook's D, standardized residuals, VIF) were inspected to ensure there are no influential observations. Multiple regression is less robust against influential data points as these can change the regression line substantially. Stevens (1999) suggests Cook's distance is used to detect influential data points (and can be thought of as an outlier on a set of predictors), and generally those with a value greater than 1 should be examined and possibly removed. Cook's Distance estimates were obtained for the sample and all observations fell within acceptable limits (Cook's $D < 1$).

A fourth assumption of multiple regression is diagnosing multicollinearity, the amount of correlation among predictor variables (Stevens, 1999). If predictors are highly correlated with one another, the R-square results in a bias estimate due to overlap in the variance explained by the predictors. Table 3 includes the intercorrelations among the five personality factors. Associations ranged from $r = -.03$ to $r = .41$. Although 9 of 10 relationships were statistically significant, the magnitude of the correlations suggests weak to moderate relationships between personality factors. Furthermore, Stevens (1999) suggests examining the variance inflation factor (VIF) for each predictor in addition to assessing simple correlations among predictors. A $VIF \geq 10$ indicates that a predictor demonstrates a strong linear relationship with all other predictors, which can go undetected through examination of simple correlations (Stevens, 1999). The VIFs for

each predictor were assessed and all predictors demonstrated adequate values (VIF<1.35), suggesting the assumptions were not violated. Taken together, findings suggest the model assumptions are tenable, thus results from the multiple regression are interpretable.

Multiple regression. Five predictors representing the five factors of personality (openness, conscientiousness, extraversion, agreeableness, neuroticism) were regressed on life satisfaction. Given the lack of research regarding the contribution of *all* five personality factors to life satisfaction, simultaneous entry was chosen over a planned entry of predictors in the regression model. Results from the multiple regression are provided in Table 4.

Table 4
Personality Factors Regressed on Life Satisfaction (N = 612)

Factor	β	sr^2
Agreeableness	.03	.0009
Conscientiousness	.11**	.0092
Neuroticism	-.59***	.2887
Extraversion	.08**	.0061
Openness	.07*	.0042

Note. $R^2 = .454$, Adjusted $R^2 = .45$, $F(5, 606) = 100.91$, $p < .0001$.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Taken together, the personality factors explained 45% of the variance in students' life satisfaction scores, $F(5, 606) = 100.91$, $p < .0001$, adjusted $R^2 = .45$.

Research Question #3. Which personality factors are uniquely and most strongly associated with life satisfaction?

To determine which predictors are uniquely associated with life satisfaction, the p -values associated with beta weights (standardized regression coefficients, β) were assessed to determine the relative importance of each of the predictors. Results indicate that after controlling for the commonality amongst the personality factors, four personality factors (see Table 4) were significant and unique predictors ($p < .05$) of life satisfaction. Neuroticism emerged as the strongest unique predictor in the regression equation ($\beta = -.59, p < .001$), followed by the other three predictors with much lower beta weights (conscientiousness $\beta = .11, p < .01$; extraversion $\beta = .08, p < .01$; openness $\beta = .07, p < .05$). Agreeableness was not a significant predictor in the regression equation ($\beta = .03, p = .33$).

To assess the strength of the unique associations between personality factors and life satisfaction, squared semi-partial correlations (sr^2) were examined. Squared semi-partial correlations indicate a predictor's unique contribution to the criterion, after controlling for all other predictors (Stevens, 1999). Squared semi-partial correlations for the regression are provided in Table 4. Results indicate that neuroticism predicted about 29% of the variance in life satisfaction, when controlling for all other predictors in the regression equation. Each of the other significant predictors explains approximately 1% of the additional variance in life satisfaction.

Research Question #4. Is the relationship between personality and life satisfaction consistent across genders?

In a simultaneous multiple regression analysis, the five personality factors, gender, and terms representing the interactions between personality and gender were regressed on life satisfaction. Beta weights and squared semi-partial correlations obtained from the multiple regression with these 11 predictors (five personality factors, gender, and five interaction terms) regressed on life satisfaction are presented in Table 5.

Table 5

Multiple Regression with Personality, Gender, and Interaction Terms as Predictors of Adolescent Life Satisfaction (N=612)

Predictor	β	sr_i^2
Agreeableness	.10*	.0004
Conscientiousness	.07	.0047
Neuroticism	-.57***	.1691
Extraversion	.10*	.0053
Openness	.03	.0009
Gender	-.06	.0030
Agreeableness*Gender	-.13**	.0075
Conscientiousness*Gender	.05	.0014
Neuroticism*Gender	-.06	.0019
Extraversion*Gender	-.04	.0008
Openness*Gender	.07	.0023

Note. $R^2 = .463$, Adjusted $R^2 = .45$.

* $p < .05$, ** $p < .01$, *** $p < .001$.

First, predictors (five personality factors) were centered to improve interpretability of significant interactions within multiple regression and account for multicollinearity among predictors (Aikin & West, 1991). A variable is centered by subtracting the sample mean of a given variable from each score. Centering transforms the sample mean for each centered variable to zero and each score indicates the participant's deviation from the sample mean. Centering variables allows meaningful interpretation of interaction terms, so that values represent absolute values and are not influenced by high and low values as a result of multiplying variables. Centering also accounts for multicollinearity among predictors that may exist due to high correlations among personality variables (Barbaranelli et al., 2003). Centering variables accounts for the degree of collinearity among predictors and interaction terms that include predictors (e.g., covariance between O and O*G; Aiken & West, 1991; West, Aikin, & Krull, 1996). Without centering variables, the correlation among interaction terms (for instance, gender*openness) and the personality variable included in the interaction term (openness) yields an overestimate of variance explained by the personality variable (West, Aikin, & Krull, 1996). Thus, the deviation scores obtained by centering each variable were used in the subsequent analysis.

The categorical predictor, gender, was dummy coded. Categorical variables are coded in order to include these variables in multiple regression analyses. Further, dummy coding has implications for interpretation of regression coefficients (Aikin, West, & Krull, 1996). Aikin, West, and Krull (1996) recommend the group with the larger sample

size represent the comparison group and coded as zero. In dummy coding gender, given their larger sample size the girls ($n=388$) were coded zero and the boys ($n=223$) were coded one.

Product terms were used to test the interaction between the dummy coded gender variable and each centered personality factor (i.e., extraversion*gender, openness*gender, gender*agreeableness, gender*neuroticism, gender*conscientiousness). Interaction terms are used to examine moderating effects within multiple regression to determine the variance explained by gender*personality beyond the variance explained by personality or gender alone. The p -values associated with beta weights (standardized regression coefficients β) were examined to assess whether the interaction terms, which were the predictors of interest in the current analysis, were statistically significant. The interaction term representing the product of agreeableness and gender was significant ($\beta=-.13, p <.01$), suggesting that agreeableness relates to life satisfaction differently for boys and girls.

To explore the nature of the difference, additional gender-specific regression analyses were conducted. Specifically, the five personality factors were regressed on life satisfaction by gender separately for boys and girls. The relationship between agreeableness and life satisfaction was of primary interest. Thus, beta weights and squared semi-partial correlations describing this relationship among boys and girls are provided in Table 6.

Table 6

*Follow-up Regression Analyses Probing the Effect of Gender in Predicting Life**Satisfaction from Agreeableness*

Factor	Boys (n=223)		Girls (n=388)	
	β	sr_i^2	β	sr_i^2
Openness	.15*	.02	.03	.00
Conscientiousness	.16*	.02	.08*	.00
Extraversion	.03	.00	.10*	.01
Neuroticism	-.65**	.32	-.56**	.24
Agreeableness	-.11	.01	.10*	.01

Note. * $p < .05$.

The beta weight for agreeableness was statistically significant for the girls ($\beta = .10$, $p < .05$), and the relationship with life satisfaction was in a positive direction. On the other hand, the beta weight obtained for the association between agreeableness and life satisfaction among boys was not statistically significant ($\beta = -.11$, $p = .06$). In sum, the relationship between agreeableness and life satisfaction is different for boys and girls.

Statistically, the significant interaction indicates the slopes (b) of the regression equations used to predict life satisfaction from agreeableness are different for boys and girls. For girls, higher agreeableness is associated with higher life satisfaction; conversely, in boys

agreeableness is not associated with life satisfaction. The regression equation for girls is $\hat{y} = .1723 (x) + 4.37491$ and the regression equation for boys is $\hat{y} = -.18344 (x) + 5.127$.

Research Question #5. Does perceived classmate support mediate the relationship between personality factors and life satisfaction?

To answer the final research question, analysis of a structural equation model was conducted. All models were estimated using maximum likelihood (ML) method and the CALIS procedure of SAS 9.2 (SAS Institute Inc.). The model estimated all five personality factors indirectly relate to life satisfaction through peer support. Openness, conscientiousness, agreeableness, and neuroticism were hypothesized to directly relate to life satisfaction. The model hypothesizes that extraversion may relate to life satisfaction only indirectly, through peer support. That is, adolescents who are more extraverted experience more peer support, which influences their life satisfaction. The data were analyzed using the two-step modeling approach suggested by Anderson and Gerbing (1988; see Kline, 2005). First, steps were taken to determine a measurement model that demonstrated an adequate fit of the data. Once an adequate measurement model was obtained, the structural model was created (shown in Figure 1), illustrating the hypothesized relationships among the latent variables.

Identification. A model is said to be identified if there is a unique solution for the model's parameters (see Kline, 2005). A model is identified if the number of data points in the analysis is larger than the number of parameters to be estimated. The initial model had 2278 data points and 154 parameters to estimate. The final model, which will be

discussed in detail, had 300 data points and 68 parameters to estimate. Thus, both the initial and final models were adequately identified models.

The initial model included all scale items as measured variables that estimated the seven latent constructs of interest. Each of the five latent factors of personality were measured by multiple indicator variables ranging from nine items (Conscientiousness, Extraversion, and Agreeableness) to 11 items (Openness). The initial model included all items from the each of the three measures, totaling 67 indicator variables. Direct paths from each personality factor (excluding extraversion) to life satisfaction and to classmate support, in addition to a path from classmate support to life satisfaction were estimated. The initial model demonstrated poor fit [$\chi^2 (2124, 67) = 66199.74, p = .000$]. Thus, an adequate measurement model was needed in order for the structural model to assess the relationships among latent factors.

The first step taken to obtain an adequate measurement model was identifying where there was measurement error in the model. Seven individual confirmatory factor analyses (CFA) were conducted for each scale to determine the amount of measurement error within each measure. The fit indices for each of the five personality factors, the CASSS, and the SLSS suggested *adequate* fit for each scale; however, many of these did not reach levels of *optimal* fit. In order to optimize the fit of the initial model to the data, items within each scale were parceled by grouping two or more items into a single indicator variable. Standardized path coefficients and standard errors from the individual CFAs for each scale guided the development of the item parcels so that parcels represented parallel forms. Parallel forms are equally representative of the latent

construct of interest. Parceling indicator variables reduced the total number of indicator variables for each latent variable, resulting in three indicator variables for the SLSS, six indicator variables for the CASSS, and three indicator variables for each of the five personality factors for a total of 24 indicator variables. Table 7 represents the fit indices for the initial and revised models. As is shown, the revised model showed satisfactory criteria for model fit and was determined to be the final model.

Table 7

Fit Indices for the Initial and Final Models

Model	χ^2	df	SRMSR	RMSEA	CFI
Initial model	6199.74*	2125	.085	.056	.757
Final model	703.85*	232	.047	.058	.943

Note. $N=608$. Initial model includes all 67 items as indicator variables. The final model includes 24 parceled indicator variables.

SRMSR = standardized root mean square residual; RMSEA = root mean square error of approximation; CFI = Bentler's Comparative Fit Index.

* $p < .0001$.

A description of the final model, fit indices, and parameter estimates follows. As is shown in Table 7, the final model yielded a statistically significant chi-square [$\chi^2 (232, N = 608) = 703.85, p < .001$], suggesting the model does not fit the data in a strict sense. However, the chi-square is heavily influenced by large sample sizes, therefore other indices are suggested as better indicators of model fit (see Kline, 2005). The standardized root mean-square residual (SRMR, .047) demonstrated adequate fit. Suggested guidelines advise estimates less than .08 are indicative of adequate fit (Hu & Bentler, 1998). The

root mean square error of approximation (RMSEA, .058) demonstrated adequate fit as estimates less than .06 indicate acceptable fit (Hu & Bentler, 1998). An index of incremental fit, the comparative fit index (CFI) approximated .95, the value suggested to indicate adequate fit (Hu & Bentler, 1998). Taken together, the fit indices demonstrated that the model is a reasonable approximation to the optimal model.

The item parcels were representative of each latent construct of interest. As shown in Table 8, the standardized path coefficients from each indicator variable to the latent construct demonstrated strong relationships ranging from .68 (O1 to Openness) to .88 (N1 to Neuroticism). A review of the R^2 values suggests that at least 50% of the variance in each indicator variable was due to the latent construct, suggesting indicator variables were adequately representative of the underlying construct of interest. Therefore, each latent variable was assumed a reliable and valid estimate of the latent constructs of interest.

Table 8

Standardized Path Coefficients and R^2 Values for the Measurement Portion of the Final Model

Construct and Indicators	λ	SE	R^2
		Standardized	
Openness (F3)			
O1 (Items 5, 20, 30)	.68*	.03	.47
O2 (Items 10, 15, 35, 40)	.74*	.03	.54
O3 (Items 25, 45, 46, 48)	.84*	.02	.70
Conscientiousness (F3)			

C1 (Items 32, 12, 17)	.74*	.02	.54
C2 (Items 27, 37, 42)	.76*	.02	.58
C3 (Items 7, 2, 22)	.81*	.02	.66
Extraversion (F4)			
E1 (Items 4, 34, 14)	.79*	.02	.62
E2 (Items 9, 24, 19)	.76*	.02	.58
E3 (Items 44, 39, 29)	.83*	.02	.69
Agreeableness (F5)			
A1 (Items 26, 21, 31, 36)	.75*	.02	.56
A2 (Items 1, 6, 11)	.76*	.02	.58
A3 (Items 16, 41, 47)	.77*	.02	.60
Neuroticism (F6)			
N1 (Items 43, 13, 3)	.88*	.01	.77
N2 (Items 8, 38, 28)	.85*	.02	.72
N3 (Items 23, 18, 33)	.76*	.02	.58
Perceived classmate Support (F2)			
PS1 (Items 1, 8)	.78*	.02	.60
PS2 (Items 4, 11)	.86*	.01	.73
PS3 (Items 3, 12)	.84*	.01	.71
PS4 (Items 9, 10)	.80*	.02	.65
PS5 (Items 7, 5)	.81*	.02	.66
PS6 (Items 2, 6)	.84*	.01	.70
Life Satisfaction (F1)			
LS1 (Items 33, 17, 25)	.85*	.02	.72
LS2 (Items 1, 47)	.79*	.02	.62
LS3 (Items 41, 9)	.84*	.02	.71

Note. $N = 608$. λ (Lambda) = standardized estimates of paths from latent constructs to indicators.

* $p < .05$.

Using structural equation modeling (SEM), the conceptual model was tested in which five personality factors were hypothesized to predict perceived classmate support, which in turn predicted life satisfaction (see Figure 2). Further, four personality factors (excluding extraversion) were hypothesized to directly predict life satisfaction. As is shown in Table 9, a review of the parameter estimates suggest correct sign and magnitude based on findings of previous research. A review of the R^2 values suggests variables in the model accounted for 61% of the variance in life satisfaction. Additionally, personality factors accounted for 39% of the variance in students' perceptions of classmate support.

As is shown in Figure 2, four of the standardized path coefficients from personality factors to perceived classmate support were statistically significant and demonstrated correct sign and magnitude based on previous research. The strongest standardized path coefficient was found from extraversion to perceived classmate support (.42) suggesting scoring higher on extraversion is associated with higher perceptions of classmate support. Additionally, having higher levels of conscientiousness (.17) and agreeableness (.13) is also associated with higher perceptions of classmate support. A higher level of neuroticism was associated with lower levels of perceived classmate support (-.18). The path from openness to classmate support was not statistically significant (.006, $p > .05$, *ns*).

Three of the direct standardized path coefficients from hypothesized predictor variables (i.e., perceived classmate support and personality factors) to life satisfaction were statistically significant, namely the path coefficients between openness and life satisfaction, neuroticism and life satisfaction, and classmate support and life satisfaction.

Neuroticism demonstrated the strongest, albeit inverse, relationship with life satisfaction, suggesting higher levels of neuroticism were related to lower levels of life satisfaction. Openness was also associated with higher levels of life satisfaction. The path coefficients from agreeableness and conscientiousness to life satisfaction were non-significant path coefficients. The standardized path coefficient from perceived classmate support to life satisfaction was significant, suggesting higher levels of perceived classmate support were associated with higher levels of life satisfaction.

Table 9

Standardized Path Coefficients for the Theoretical Model of Relationships among Latent Factors

Dependent/Independent Variable	Standardized γ and β	SE	R^2
Life Satisfaction (F1)			.613
Perceived Classmate Support (F2)	.188*	.04	
Openness (F3)	.090*	.04	
Conscientiousness (F4)	.070	.04	
Agreeableness (F6)	-.002	.05	
Neuroticism (F7)	-.648*	.03	
Perceived Classmate Support (F2)			.386
Openness (F3)	.006	.05	
Conscientiousness (F4)	.174*	.05	
Extraversion (F5)	.417*	.04	
Agreeableness (F6)	.125*	.05	
Neuroticism (F7)	-.175*	.04	

Note. $N=608$. γ (Gamma), β (Beta) = standardized estimates of paths among latent variables.

* $p < .05$.

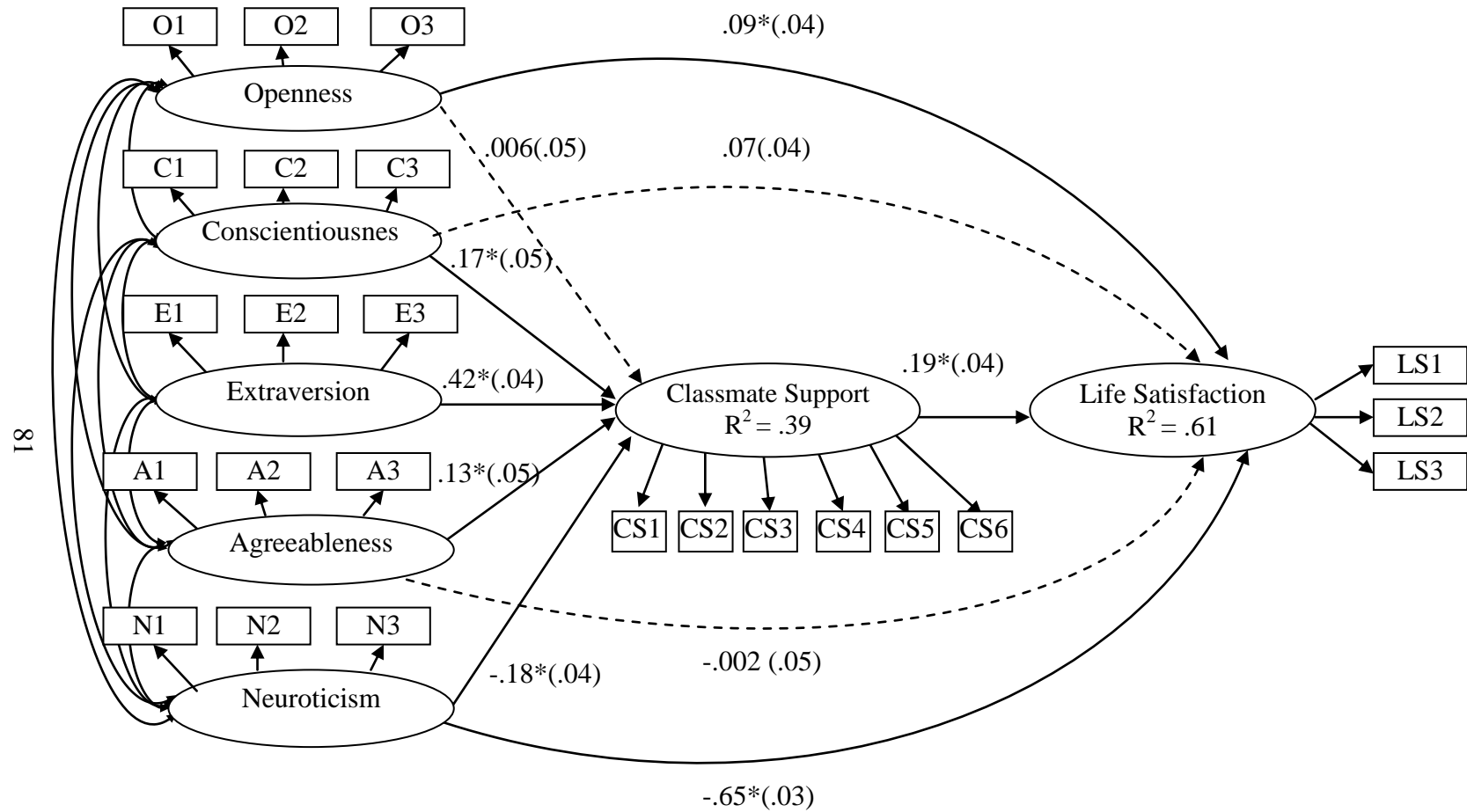


Figure 2. Structural Equation Model in Which Life Satisfaction is Predicted by Perceived Classmate Support and Four Personality Factors

The covariances among latent personality factors were allowed to covary. The covariances are provided in Table 10. The magnitude and direction were in the expected direction with adaptive factors negatively correlating the neuroticism (i.e., a maladaptive trait). The high covariance among conscientiousness and agreeableness is aligned with previous research that suggests these two personality factors are representative of positive and adaptive personality traits.

Table 10

Covariances among Latent Personality Factors

Covaried Factors	Standardized Φ	SE
Openness-Conscientiousness	.365*	.05
Openness-Extraversion	.367*	.04
Openness-Agreeableness	.375*	.04
Openness-Neuroticism	-.047	.05
Conscientiousness-Extraversion	.125*	.04
Conscientiousness-Agreeableness	.496*	.05
Conscientiousness-Neuroticism	-.247*	.05
Extraversion-Agreeableness	.168*	.05
Extraversion-Neuroticism	-.315*	.04
Agreeableness-Neuroticism	-.323*	.04

Note. $N = 608$. Φ (Phi) = standardized estimates of covariances among latent, exogenous variables.

* $p < .05$.

Finally, a specification search was conducted to ensure the final model was the best possible model. As previous research has shown a strong direct link between extraversion and life satisfaction, a model that included the direct path from extraversion to life satisfaction was compared to the final model (the model that did not include the direct path from extraversion to life satisfaction). The chi-square value [$\chi^2 (231, 24) = 703.24, p < .001$] was not statistically significantly different from the chi-square value for the final model ($\chi^2_{diff} = .61 < \chi^2_{crit} = 3.84$). If the chi-square values for two models are not statistically significantly different, the model that is more parsimonious (or the simpler model) is the preferred model. Therefore, the original model is the stronger model because it is a more parsimonious model (i.e., it withstood a greater chance of being rejected) than the model with the additional path. This supports the hypothesis tested in the present study that the link between extraversion and life satisfaction is indirect and is accounted for by perceived classmate support. Similarly, the relationship between conscientiousness and life satisfaction as well as the relationship between agreeableness and life satisfaction were also indirect and were accounted for by perceived classmate support.

Chapter 5

Discussion

The present study investigated the relationship between adolescent personality and life satisfaction. In contrast to the literature available on adults, research on the empirical links between these two constructs among youth is sparse. The current study addressed gaps in the existing literature by examining adolescent life satisfaction in relation to a conceptualization of personality consistent with the Five-Factor Model of personality (FFM), and by clarifying the role of gender and perceptions of classmate support in this relationship. This chapter begins with a review of the findings from the current study along with theoretical and applied implications. Finally, the limitations of the study and suggestions for future research will be discussed.

Findings and Implications

Descriptive information. The mean level of life satisfaction reported by adolescents corresponded to *slightly agree* on the SLSS, indicating that on average, participants at least slightly agreed with assertions that he or she is satisfied with his or her life. This finding is consistent with previous research with youth that has suggested most adolescents are satisfied with their lives (Huebner, Funk, & Gilman, 2000; McCullough & Huebner, 2003; Suldo & Huebner, 2004a, 2004b). Concerning personality, participants' average levels of agreeableness, extraversion, and openness were similar to estimates obtained in previous studies with high school students (Lounsbury et al., 2003).

Current findings differ from previous research in one regard, with participants reporting slightly higher levels of neuroticism compared to previous studies with adolescents (i.e., $M = 2.76$ vs. $M = 1.98$; Lounsbury et al., 2003). Findings from earlier studies suggest females tend to report slightly higher levels of neuroticism compared to boys (Fogle et al., 2002; Francis, 1992, 1993; Scholte & De Bruyn, 2001). Thus, the high proportion of females in the sample might contribute to the higher mean levels of neuroticism obtained in the current study.

Associations between personality factors and adolescent life satisfaction.

Regarding links between the constructs of interest, significant bivariate correlations were obtained between each of the five personality factors and life satisfaction. Specifically, neuroticism had the strongest, albeit inverse, relationship with life satisfaction, suggesting that when adolescents display higher levels of neuroticism, they experience lower levels of life satisfaction. The large correlation obtained in the current study ($r = -.65$) is higher than the values obtained in previous investigations with youth that utilized a 3-factor model of personality; these studies reported moderate correlations (i.e., $-.33$, $-.39$; Fogle et al., 2002; McKnight et al., 2002, respectively). The nature of the relationship between extraversion and life satisfaction found in the current study is consistent with the direction and magnitude of correlations obtained in previous studies with adolescents that yielded small, positive relationships between extraversion and life satisfaction (i.e., $.21$, $.22$; Fogle et al., 2002; McKnight et al., 2002, respectively).

The relationships between life satisfaction and the two more commonly studied personality factors (extraversion and neuroticism) that were obtained in the current study are consistent with results from previous research with American youth (Fogle et al., 2002; McKnight et al., 2002). There is evidence to suggest these findings hold across cultures with similar relationships found among Chinese adolescents. Using the Chinese Personality Assessment Inventory (CPAI-A; Cheung, Leung, & Cheung, 2006), Ho et al. (2008) found negative correlations between neuroticism and life satisfaction, and positive correlations between extraversion and life satisfaction.

With regards to the three remaining personality factors, positive and small to moderate correlations were found between life satisfaction and conscientiousness ($r = .27$) and agreeableness ($r = .29$). The bivariate correlation among openness and life satisfaction was significant and was the smallest correlation of the five factors with life satisfaction ($r = .16$). Earlier research examining conscientiousness in relation to life satisfaction found a similarly sized correlation despite the use of a different measure of conscientiousness that was comprised of subscales tapping one's attention to detail (i.e., Meticulous) and sense of responsibility (i.e., Responsibility-how reliable, dependable, and accountable one is; Ho et al., 2008). The significant associations found between life satisfaction and these three personality factors (i.e., conscientiousness, openness, and agreeableness) are supported in studies finding these personality factors are associated with a host of adaptive outcomes in youth, including academic achievement

(Barbaranelli, Caprara, Rabasca, & Pastorelli, 2003) and self-esteem (Graziano, Jensen-Campbell, & Finch, 1997).

Overall contribution of personality to adolescent life satisfaction. The full extent to which personality influences life satisfaction was demonstrated by regression analyses in which all five factors of personality were considered. Specifically, the multiple regression analysis conducted in the current study indicated that almost half of the variance in adolescents' life satisfaction was explained by personality. Similarly, a previous study including undergraduate students between the ages of 18 and 19 found that over half of the variance in students' life satisfaction was attributed to the five factors of personality (Lounsbury, Saudargas, Gibson, & Leong, 2005). Previous research that had operationalized personality more narrowly resulted in smaller estimates compared to those studies that conceptualized personality based on the FFM. For instance, a study of American youth in grades 6 through 12 included measures of extraversion and neuroticism, finding these two personality variables explained 16% of the variance in life satisfaction (McKnight et al., 2002). Similarly, Ho and colleagues' (2008) examination of extraversion, neuroticism, and conscientiousness demonstrated that 26% of the variance in life satisfaction was attributed to these three personality factors among 12 to 18 year-old Chinese youth. The current study is the first to include all of the "big five" factors in an explanatory model of life satisfaction in adolescents. The large amount of explained variance in life satisfaction elucidates the importance of including all five factors in studies of personality in relation to life satisfaction.

Personality factors' unique contributions to life satisfaction. In addition to demonstrating the overall link between adolescent life satisfaction and each factor of personality included within a FFM, the current study clarified the relative contribution of each factor in explaining life satisfaction when all five factors were considered. Neuroticism emerged as the strongest predictor of adolescent life satisfaction. Further, neuroticism independently accounted for 29% of the variance in life satisfaction, after controlling for the variance attributed to the other four factors. The influence of neuroticism is further evident in relative comparisons to the remaining factors such that the four factors were much less salient predictors of life satisfaction. Besides neuroticism, each factor independently accounted for less than 1% of the variance in life satisfaction when controlling for the variance accounted for by other factors. Thus, in addition to corresponding highly to life satisfaction, neuroticism is the strongest unique predictor of adolescents' life satisfaction.

The strong, negative relationship between neuroticism and life satisfaction is likely related to psychopathological symptoms (e.g., anxiety, anger/hostility, depression, self-consciousness, impulsivity and vulnerability) associated with neuroticism, as psychopathology is inversely correlated with life satisfaction (Huebner, Funk, & Gilman, 2000). This notion is consistent with previous research that suggests adaptive mental health indicators such as emotional stability and having an internal locus of control are associated with higher levels of life satisfaction (Dew & Huebner, 1994).

When all five factors were considered in regression analyses, extraversion resulted as a significant predictor of life satisfaction and independently explained approximately 1% of variance in life satisfaction scores. The influence of extraversion on life satisfaction is likely attributed to the increased social skills and engagement afforded youth high in this personality trait. Specifically, extraversion may be related to life satisfaction through participation in social activities, and more specifically, *not avoiding* social activities (Argyle & Lu, 1990a). Additionally, extraversion is related to a number of positive traits (i.e., positive affect), attributes, and skills (i.e., social competence, assertiveness, empathy) which positively influence subjective well-being and life satisfaction (Argyle & Lu, 1990b).

In regression analyses in which all five factors were simultaneously considered, conscientiousness emerged as a significant and independent predictor of life satisfaction. Specifically, conscientiousness explained approximately 1% of the variance when controlling for the influence of the remaining four factors. This is consistent with prior studies that emphasized the important role of conscientiousness in explaining life satisfaction, particularly among adolescent samples (Hayes & Joseph, 2003; Soto, John, Gosling, & Potter, 2008). Openness explained a small but a statistically significant proportion of variance in life satisfaction and was similar in magnitude to the predictive ability of extraversion. Openness also independently accounted for approximately 1% of the variance.

The current study found that the role of agreeableness in adolescent life satisfaction was somewhat complex. Although the moderate, bivariate correlation between agreeableness and life satisfaction suggested that higher levels of agreeableness co-occurred with higher life satisfaction, results from the multiple regression indicated that when controlling for the overlap amongst all of the personality factors, agreeableness was not a unique predictor of life satisfaction. Thus, the bivariate relationship could be attributed to links between life satisfaction and other personality factors that co-occur with experiences of agreeableness, rather than unique features of agreeableness per se.

Gender differences in the link between personality factors and life satisfaction.

Results of the multiple regression investigating the interaction between personality factors and gender on life satisfaction demonstrated a significant interaction between agreeableness and gender. Specifically, higher levels of agreeableness predicted higher life satisfaction for girls only. The direction of this effect is consistent with the bivariate relationship identified between agreeableness and life satisfaction. For boys, the relationship was non-significant; however, the trend suggested by the data was that lower levels of agreeableness were related to higher life satisfaction. Although mean levels of life satisfaction do not typically differ for boys and girls (see Huebner, 2004), the factors that influence how boys and girls arrive at life satisfaction judgments may differ. As the only significant personality by gender interaction, the gender differences in the relationship between agreeableness and life satisfaction may contribute to the inability of agreeableness to exert a unique influence on life satisfaction in the simultaneous

regression described earlier. In other words, the role of gender has to be considered in order to understand the relationship between unique features of agreeableness and adolescent life satisfaction.

The role of perceived classmate support in the relationship between personality factors and life satisfaction. Results of the final research question analyzed relationships among latent constructs representing perceptions of classmate support, personality, and life satisfaction via structural equation modeling. The hypothesized model in which personality factors directly (except extraversion) and indirectly (through perceived classmate support) related to life satisfaction suggested the model adequately explained the relationships among variables. Personality and perceived classmate support accounted for 61% of the variance in life satisfaction. Additionally, personality factors accounted for 39% of the variance in perceived classmate support. The model supported the strong link between social support and life satisfaction, as perceptions of social support from classmates contributed additional variance in life satisfaction when compared to variance attributed to personality variables alone.

After accounting for the indirect path between personality and life satisfaction via perceived classmate support, two personality factors still yielded direct effects on life satisfaction. Neuroticism demonstrated the strongest, albeit inverse, relationship with life satisfaction, suggesting a higher level of neuroticism was related to a lower level of life satisfaction beyond the influence of neuroticism on life satisfaction through reduced perceptions of classmate support. On the other hand, the influence of openness on life

satisfaction was in a positive direction and a direct effect only, as adolescents' levels of openness were unrelated to their perceptions of classmate support.

In general, the direct relationships between personality factors and perceived classmate support were stronger than direct relationships from personality factors to life satisfaction, with the exception of neuroticism and openness. This may be attributed to the increased importance adolescents place on their peer group (Steinberg, 2002). Thus, relations with peers may be the vehicle by which personality influences life satisfaction. A strongest effect emerged between extraversion and perceived classmate support (path coefficient = .42), indicating higher levels of extraversion are associated with greater perceptions of classmate support. Findings that revealed perceived classmate support mediated the effect of extraversion on life satisfaction align with previous research suggesting mediational variables (e.g., social self-efficacy) in the link between extraversion and life satisfaction (Fogle et al., 2002). Thus, the more adept and skilled one is in developing and maintaining friendships (a feature of extraversion) the stronger their relationships with classmates are, which in turn influences their overall life satisfaction.

These findings are further corroborated by the non-significant contribution of the direct relationship from extraversion to life satisfaction in the model. Thus, in adolescents extraversion is related to life satisfaction through perceptions of supportive classmate relationships, rather than having a strong direct relationship with life satisfaction. Given the strong social motivations and behaviors inherent to extraverted individuals, it is

logical that that extraverted youth would elicit and thus likely perceive greater levels of support from classmates.

Taken together, these findings are consistent with the adolescent literature that demonstrates the crucial role of social relationships (Steinberg, 2002). Because relationships become increasingly important, entering and maintaining friendships influence adolescents' satisfaction with life. Moreover, these findings are supported by previous research suggesting perceiving relationships with classmates as supportive is related to higher life satisfaction (Suldo & Huebner, 2006) and positive outcomes in youth (Demaray & Malecki, 2002b). Overall, including mediating variables such as perceived classmate support in explanatory models of life satisfaction provide a more comprehensive prediction of adolescents' life satisfaction than personality factors alone.

Contribution to the Literature

The current study contributes a comprehensive assessment of personality and life satisfaction by studying the FFM as it relates to life satisfaction. Finding significant bivariate relationships among each of the five personality factors and life satisfaction addresses a gap in the existing literature by identifying all relationships between adolescent life satisfaction and personality, as conceptualized within the FFM. The significant correlations obtained in the current study between life satisfaction and the three less-studied personality factors (i.e., openness, agreeableness, and conscientiousness) improve our understanding about the association between adolescent

personality and life satisfaction, and underscore the strong ties between adolescents' personality and their perceived quality of life.

The current findings extend the existing literature, as this is the first study to use the FFM to measure adolescent personality in studies of life satisfaction, demonstrating that almost half of adolescents' life satisfaction is attributed to personality. Although research consistently points to extroversion and neuroticism as the personality traits most related to life satisfaction (Emmons & Diener, 1986; Heaven, 1989; Huebner 1991b; Diener & Lucas, 1999; McKnight et al., 2002; Pavot, Fujita, & Diener, 1997), these conclusions are limited by the use of 3-factor measures of personality and a predominant focus on adult populations. The current examination, with its use of a 5-factor model, illustrated that in addition to extraversion and neuroticism, conscientiousness, and openness are implicated in the experience of high life satisfaction, as is extraversion.

Concerning the individual contribution of the five factors of personality characteristics to life satisfaction, findings confirm that neuroticism is a large, inverse predictor of adolescent well-being, as well as suggest that high levels of conscientiousness are associated with higher life satisfaction in youth.

The latter finding is consistent with one previous study that suggested the role of conscientiousness in relation to life satisfaction has been understated (Hayes & Joseph, 2003). Lower order traits that make up conscientiousness reflect enjoyment and pleasure in activities and tasks that require attentive and effortful thinking (e.g., conscientious individuals enjoy and often engage in academic-oriented activities, puzzles, mind teasers,

etc.). Similarly, one's assessment of his or her life satisfaction requires one to make a global judgment in which memory along with consideration of all aspects of one's life that reflect a more objective and stable indicator of well-being. On the other hand, assessments of one's positive and negative emotions are less objective and stable because emotions change frequently compared to global judgments that take all experiences into relative consideration. The similarities among lower-order facets of conscientiousness and the tasks used to make objective judgments of one's global life satisfaction include reflective and thoughtful processes including accuracy in memory retrieval and relative weighting of experiences along with perspective. The similarities in the tasks of conscientious individuals along with the tasks that are required to make global judgments of one's life satisfaction may explain the strong relationship between conscientiousness and life satisfaction (Hayes & Joseph, 2003).

Additionally, findings suggest endorsing higher levels of openness were associated with higher levels of life satisfaction, which is consistent with previous literature demonstrating a relationship between openness and adaptive traits (i.e., academic achievement) in youth (Barbaranelli et al., 2003; Mervielde et al., 1995). Finally, the contribution of extraversion to life satisfaction is supported in previous studies finding life satisfaction is attributed to extraversion and experiencing positive social relationships (i.e., positive interpersonal skills are a core feature of extraverted youth, Fogle et al., 2002; Gilman & Huebner, 2006).

Regarding the role of agreeableness in adolescent life satisfaction, findings from the present study suggest that agreeableness is related to life satisfaction differently for boys and girls such that a higher level of agreeableness was related to higher life satisfaction only for girls. This finding contributes to our understanding of gender differences regarding the influence of personality on life satisfaction during adolescence. Studies demonstrating similar levels of life satisfaction for boys and girls may have overlooked the important role of personality traits. Findings contribute to our understanding of gender-specific models for developing life satisfaction that have been suggested in the literature. Previous studies with adults suggest the process by which men and women arrive at similar mean level of life satisfaction may differ. Women's intense emotional reactions to both positive and negative circumstances offset one another, while men remain steady and temperate in their emotions; however, both men and women experience similar mean levels of happiness (Fujita, 1991).

Results from another study support the gender-specific model of developing life satisfaction, finding similar mean levels of life satisfaction among men and women, however the associations among variables varied by gender. Expressive and communal traits (i.e., caring, gentle, sensitive, and compassionate traits; Bem, 1974) that are associated with stereotypically feminine traits functioned differently for men and women in predicting life satisfaction. A study of Israeli adults found that for men, endorsing *both* instrumental and expressive traits was related to higher levels of life satisfaction (Moore, 2003). For women, endorsing *only* instrumental traits (stereotypically masculine traits

such as assertiveness, independence, and strength; Bem, 1974) but not expressive traits, was related to higher life satisfaction (Moore, 2003).

Gender differences between agreeableness and life satisfaction that were found in the current study (i.e., adolescent females' endorsement of agreeableness related to higher life satisfaction) are consistent with research that suggests social and cultural attributes influence the development of gender-specific traits during adolescence (Hughes & Seta, 2003). The interplay of evolutionary, cultural, and social influences strengthen adolescents' endorsement of gender-specific roles and encourage the development of gender-specific traits and behaviors in American youth (see Trautner & Eckes, 2000). Further, research has demonstrated poorer outcomes for those who endorse atypical gender traits (Carver, Yunger, & Perry, 2003; Young & Sweeting, 2004), which may explain results of the present study regarding the relationship among high agreeableness and high life satisfaction for girls only. Agreeableness is a stereotypically feminine trait, typically endorsed more by girls than by boys (Carver et al., 2003). Media, family, culture, and society contribute to the development of gender specific self-concepts for boys and girls. Femininity is encouraged among girls including traits like agreeableness, sensitivity, cooperativeness, and tender-mindedness (Young & Sweeting, 2004). Consistent with previous research, findings from the current study suggest consistency between sex and expression of stereotypical gender-specific traits may affect well-being for adolescent girls (Carver et al., 2003). Consistency in expressing stereotypical gender-specific traits and behaviors may be particularly important to adolescent well-being (see

Kroger, 2004). Theory and research on adolescent identity development suggests congruence in one's actual, ideal, and real self, relates to positive adjustment and well-being (Higgins, 1987). It may be that girls feel pressure to conform to traditionally feminine traits and agreeableness is consistent with their notion of femininity. One study examined this specific hypothesis among college undergraduates, finding self-aspect congruence was significantly related to SWB, and agreeableness resulted as significant predictor (Pavot et al., 1997). This study was predominately female ($n = 79$ females, $n = 39$ males) which further supports agreeableness as feminine trait facilitating a congruent self-concept and well-being.

Finally, the current study contributes to the literature by providing support for explanatory models of personality and life satisfaction that include classmate support. Whereas the path model tested suggested that youth high in openness are more likely to experience greater life satisfaction regardless of their perceptions of classmate support (which were unrelated to openness), findings suggest friendships may be an important vehicle for facilitating adolescent life satisfaction, especially adolescents who are extraverted, as well as conscientious and/or agreeable. Specifically, this study demonstrated that the influence of those three personality traits on adolescent life satisfaction is only indirect, such that adolescents with higher levels of extraversion, agreeableness, and conscientiousness perceive more social support from their classmates and this support, in turn, is associated with greater life satisfaction. Conversely, these personality traits do not appear to be inherently, directly linked to life satisfaction, as

social relationships explain the association. As discussed earlier in the section, the indirect link from extraversion and life satisfaction is consistent with prior research. Similar empirical rationales are not available to explain why agreeableness and conscientiousness may be only indirectly related to life satisfaction through perceptions of classmate support. Due to the absence of literature with which to confirm or contrast the current findings, the following are logic-based, tentative hypotheses regarding the relationships found in the current study. First, agreeableness may relate to life satisfaction through perceptions of classmate support because characteristics of agreeableness (trust, altruism, compliance) reflect contributions to healthy relationships. While extraversion more obviously entails social traits and behaviors, agreeableness reflects those social behaviors that make interpersonal interactions pleasant. Thus, it seems plausible that being friendly would increase one's actual and perceived support from others, as others are likely apt to return agreeable adolescents' friendly and supportive behaviors. It is this perceived support from classmates that relates to the higher levels of agreeableness experienced by some youth.

Regarding conscientiousness, this personality factor reflects participants' enjoyment in learning new things, completing puzzles, and other academic-related tasks, which do not reflect motivations and behaviors that are inherently linked to supportive relationships. The indirect relationship of conscientiousness to life satisfaction found in the current study may be related to the use of a measure perceived *classmate* support rather than *close friends*. Thus, it may be that conscientious students who frequently

endorsed enjoyment of academic-related tasks also reported more frequent support from classmates due to their natural inclination towards academic-related activities. Thus, the focus on classmates' support may explain the strong perceptions of support from classmates reported by conscientious students, and the subsequent relationship to life satisfaction.

Perceptions of support from classmates are also implicated in the life satisfaction of youth who reported high levels of neuroticism. The current study contributes to the literature by demonstrating that neuroticism is associated with life satisfaction both directly (consistent with aforementioned research) as well as indirectly via the inverse association with classmate support. The indirect association may be attributed to the detrimental impact of neurotic behavior on interpersonal relationships. Specifically, characteristics of neuroticism, as operationalized in the current study, include rapid mood swings (item from the APSI: "my mood goes up and down more than most people") and a lack of self-worth (e.g., "sometimes I don't feel like I'm worth much"), which are likely to adversely impact positive relationships with peers.

In contrast, findings from the current study suggest that adolescents' levels of openness do not appear to contribute to their perceptions of classmate support. Openness, as measured by the APSI, reflects one's interest in learning new things, as well as discovering new cultures and academic subjects. These features seem logically more directly related to life satisfaction by broadening one's perspective; however, at the surface they could also be construed as qualities that could contribute to positive

relationships with classmates due to engagement in the learning environment. In any event, adolescents' openness was the sole personality trait in the current study that was not tied to life satisfaction via perceptions of classmate support.

Taken on the whole, the significant links from four personality factors to perceived classmate support, and subsequent contribution of personality and perceived classmate support to life satisfaction, suggests adolescents' personality influences the development of positive friendships and well-being during adolescents. Adolescence represents an important developmental stage in which friendships become increasingly important, thus, the understanding of characteristics related to positive peer and classmate relationships is crucial to help facilitate adolescents' social skills.

Implications for Practice

The current findings further support the importance of including positive psychological constructs (e.g., measures of life satisfaction), in addition to traditional assessments (e.g., measures of depression and anxiety) in research and practice in order to fully understand factors associated with risk and well-being in youth (Suldo & Shaffer, 2008). Adolescents who reported high levels of neuroticism also reported lower life satisfaction. The close relationship between neuroticism and indicators of psychopathology (i.e., depression, anxiety), and association with low life satisfaction suggest early intervention efforts are warranted for adolescents high in neuroticism in order to mitigate the progression from low life satisfaction to the development of mental illness (c.f., Lewinsohn et al., 1991).

Including measures of personality in comprehensive assessments of adolescents' well-being can help identify adolescents who may be at increased risk for negative psychological outcomes. Additionally, including indicators of life satisfaction *and* mental illness (i.e., depression) provide supplementary, rather than complementary or inverse, types kinds of information that explain adolescents' health and well-being more thoroughly than indicators focused on a single end of the continuum (e.g., depression *or* life satisfaction).

Although personality research suggests personality is relatively stable throughout the life span, this does not infer personality is unchangeable. Rather, personality represents a baseline or 'set point' that is amendable with intentional behavior. Early and active prevention efforts focused on adolescents who endorse personality traits related to negative outcomes (i.e., neuroticism) may help moderate negative outcomes by providing adaptive and healthy skills. Thus, practitioners should encourage adolescents, particularly those with high levels of neuroticism, to increase positive emotions as well as emotional stability. For example, rather than focusing on decreasing neuroticism, it seems more beneficial to focus on increasing positive affect (Ng, 2008) and facilitating adaptive emotions, cognitions, and behaviors among youth.

Results of the current study also point to an important target for prevention efforts (i.e., perceived classmate support) that may be more malleable than personality. In situations in which youth are either unable or unwilling to embrace more positive ways of thinking and modulating emotions, perhaps direct attempts to enhance peer resources

(classmates, close friends) may be successful in achieving the ultimate goal, enhancing global life satisfaction. Assisting youth with interpersonal skills specifically, learning adaptive, positive ways of developing friendships and interacting with classmates may prove beneficial in improving adolescents' overall well-being. Friendships are central to adolescents' well-being as main sources of support, which enables adolescents' coping abilities (Call & Mortimer, 2001). Understanding ways to facilitate adolescents' interpersonal skills and development of positive friendships including mutual investment, cooperation, and participation in close relationships (e.g., high degree of disclosure, acceptance, etc.) with others may hold promise for improving adolescent well-being (Giordano, 2003). Preventative efforts geared towards students with risk factors (i.e., high neuroticism) should include social skill training and facilitating positive student interactions in the classroom through group assignments and collaborative class activities.

Overall, the present study contributes theoretical knowledge and understanding regarding the relationships between personality and positive indicators of well-being in adolescents. Although personality is typically stable throughout life, interpersonal traits (e.g., perceptions of support from classmates) provide points of intervention to improve adolescents' life satisfaction.

Limitations of the Current Study

The current study was correlational in nature thus, knowledge regarding causal statements remain unknown for the significant relationships among variables that were

obtained in the current study. In addition, the use of self-report questionnaires is subject to social desirability. Notably, the SLSS has demonstrated low correlations with measures of social desirability. Experimenter and participant expectations were controlled by the use of a research team to ensure consistency of administration, and the use of scripted instructions.

Limitations of the current study include a lack of generalization of findings beyond high school students residing in Florida. The use of convenience sampling from four high schools offering rigorous academic programs may have lead to a sample that is not representative of the larger population of American youth. Further, it is unknown if the sample obtained from each school is reflective of the schools' student population. Data regarding the response rate of student participants is unavailable; students included in the study were required to return both parent consent and student assent forms, and it is possible the sample could vary in some respect from students who did not return the forms for unknown reasons.

Directions for Future Research

The strong relationship between personality and life satisfaction in addition to stability in each of these constructs over time is supported in the literature (Costa & McCrae, 1992; Diener, Oishi, & Lucas, 2003; Huebner, Funk, & Gilman, 2000; Suldo & Huebner, 2004b; Steele et al., 2008). However, the majority of studies have been correlational in nature thus, the causal relationships between personality and life satisfaction remain unclear (Steel et al., 2008). Longitudinal studies have found

extraversion predisposed individuals to experience positive life events, while neuroticism predisposed individuals to experience negative life events (Magnus, Diener, Fujita, & Pavot, 1993). It seems personality may be the causal factor having an effect on life satisfaction due to temporal precedence; however, life satisfaction could be an inherent characteristic that influences the development of personality. Personality and life satisfaction also represent characteristic ways *of reacting to* and processing events (Ash & Huebner, 2001; Fogle et al., 2002; Oishi & Diener, 2001). A longitudinal study examining personality and life satisfaction throughout the life span is needed in order to determine the causal connections between personality and life satisfaction.

Future research should also continue to focus on adolescent samples for a few reasons. First, adolescence is a unique developmental stage when personality is malleable, which creates a unique challenge when making conclusions about relationships among personality factors and indicators of well-being. Because personality is more malleable during this time, interventions focused on facilitating resilient traits may prove effective. The unique relationship between extraversion and life satisfaction in adolescent samples is another area for further investigation. As adolescents increasingly orient themselves towards peers for support (Steinberg, 2002), the role of extraversion in increasing well-being may be a key area for intervention with youth.

Future research should focus on additional mediators in relationships between personality factors and life satisfaction. To supplement the current findings, future research is needed regarding indirect influences of personality on life satisfaction through

related mechanisms (e.g., participation in social activities, relationships with others, etc.) that become increasingly important during this stage of development. McKnight et al. (2002) found the addition of adolescents' stressful life events explained more of the variance in adolescent life satisfaction, beyond that explained by personality variables (i.e., extraversion and neuroticism) alone. Thus, future studies should focus on the FFM of personality and environmental variables, like stressful life events, in predicting adolescent life satisfaction. Additionally, important variables such as affect, culture, cognition, and behaviors (namely, social behavior and interpersonal relationships) that lead to high life satisfaction need thorough examination in order to understand how to best facilitate life satisfaction in youth.

Further research is needed to verify outcomes of interventions focused on improving traits that place adolescents at risk for negative outcomes. Research suggests personality is less coherent and more malleable during adolescence, as teens are forming their self-concept and identity, and striving for autonomy as they enter adulthood (Hayes & Joseph, 2003). Thus, adolescence may be a crucial time to provide adolescents with adaptive skills (e.g., skills that can mitigate the negative effects of neuroticism such as emotion regulation, coping strategies, and interpersonal skills) while they are open to exploring and discovering who they are.

The current findings underscore the importance of including all five factors in measures of personality. Research with youth has been limited to measures of extraversion and neuroticism, which may have overlooked important relationships among

agreeableness, conscientiousness, and openness with indicators of well-being. Research has demonstrated the importance of life satisfaction in youth, given high life satisfaction relates to many adaptive and positive outcomes (see Huebner, Suldo, & Gilman, 2006; Suldo, Riley, & Shaffer, 2006). Studies are needed to examine how personality moderates outcomes for youth, in addition to, determining ways adaptive traits can be developed in youth in order to reduce the risk of negative outcomes for those with less adaptive traits.

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Appendices

Appendix A: Parent Consent Form

Dear Parent or Legal Guardian:

This letter provides information about a research study that will be conducted at your child's school by professors and graduate students from the University of South Florida. Our goal in conducting the study is to determine the effect of students' participation in various high school classes, such as Advanced Placement, the International Baccalaureate Program, and general courses, on their social and emotional wellness.

- ✓ Who We Are: We are Elizabeth Shaunessy, Ph.D., and Shannon Suldo, Ph.D., professors in the College of Education at the University of South Florida (USF). We are planning the study in cooperation with school administrators to ensure the study provides information that will be helpful to the school.
- ✓ Why We are Requesting Your Child's Participation: This study is being conducted as part of a project entitled, "Well-Being of Secondary Students in Florida." Your child is being asked to participate because he or she is a student at a high school that contains an advanced curriculum (for example, an International Baccalaureate Program).
- ✓ Why Your Child Should Participate: We need to learn more about what leads to happiness and health during the teenage years! The information that we collect from students may help increase our overall knowledge of risk and protective factors that lead to social and emotional wellness during high school. In addition, information from the study will be shared with the teachers and administrators at your high school in order to increase their knowledge of what students consider to be the strengths and weaknesses of their schooling and other life experiences. Information from this study will provide a foundation from which to improve the schooling experiences and well-being of high school students. Please note neither you nor your child will be paid for your child's participation in the study. However, all students who participate will be entered into a drawing for one of several gift certificates in the amount of \$50 that will be redeemable at a local mall.
- ✓ What Participation Requires: If your child is given permission to participate in the study, he or she will be asked to complete several paper-and-pencil questionnaires. These surveys will ask about your child's thoughts, behaviors, and attitudes towards school, teachers, classmates, family, and life in general. We will personally administer the questionnaires on school grounds during regular school hours, to large groups of students who have parent permission to participate. Participation will occur during one class period, on one occasion during the fall for students in 10th, 11th, and 12th grade. For these students, participation will take approximately one hour. Students who will be in 9th grade during the 2006 – 2007 school year will be asked to complete these questionnaires shortly before entering high school and again during the fall. For these students, participation will take a total of approximately two hours. Another part of participation involves a review of your child's school records. Specifically, under the supervision of school administrators, we will access information about your child's grade point average, history of discipline referrals, and participation in special classes such as Advanced Placement, the International Baccalaureate Program, or special education (for example, Gifted education).
- ✓ Please Note: Your decision to allow your child to participate in this research study must be completely voluntary. You are free to allow your child to participate in this research study or to

Appendix A: Parent Consent Form

withdraw him or her at any time. If you choose not to participate, or if you withdraw at any point during the study, this will in no way affect your relationship with your high school, school district, USF, or any other party.

- ✓ **Confidentiality of Your Child's Responses:** There is minimal risk to your child for participating in this research. We will be present during administration of the questionnaires in order to provide assistance to your child if he or she has any questions or concerns. Additionally, school guidance counselors will be available to students in the unlikely event that your child becomes emotionally distressed while completing the measures. Your child's privacy and research records will be kept confidential to the extent of the law. Authorized research personnel, employees of the Department of Health and Human Services, and the USF Institutional Review Board may inspect the records from this research project, but your child's individual responses will not be shared with school system personnel or anyone other than us and our research assistants. Your child's completed questionnaires will be assigned a code number to protect the confidentiality of his or her responses. Only we will have access to the locked file cabinet stored at USF that will contain: 1) all records linking code numbers to participants' names, and 2) all information gathered from school records. Please note that although your child's specific responses on the questionnaires will not be shared with school staff, if your child indicates that he or she intends to harm him or herself or is a threat to others, we will contact district mental health counselors to ensure your child's safety as well as the safety of others.
- ✓ **What We'll Do With Your Child's Responses:** We plan to use the information from this study to inform educators and psychologists about the effects of various high school academic programs on students' well-being, as well as to construct a plan for improving the schooling experiences that impact social and emotional wellness during adolescence. The results of this study may be published. However, the data obtained from your child will be combined with data from other people in the publication. The published results will not include your child's name or any other information that would in any way personally identify your child.
- ✓ **Questions?** If you have any questions about this research study, please contact us at (813) 974-2223 (Dr. Suldo) or (813) 974-7007 (Dr. Shaunessy). If you have questions about your child's rights as a person who is taking part in a research study, you may contact a member of the Division of Research Integrity and Compliance of the University of South Florida at 813-974-9343.
- ✓ **Want Your Child to Participate?** To permit your child to participate in this study, complete the attached consent form and have your child turn it in to his or her first period teacher.
Sincerely,

Elizabeth Shaunessy, Ph.D.
Assistant Professor of Special Education
Department of Special Education

Shannon Suldo, Ph.D.
Assistant Professor of School Psychology
Department of Psychological and Social Foundations

Consent for Child to Take Part in this Research Study

I freely give my permission to let my child take part in this study. I understand that this is research. I have received a copy of this letter and consent form for my records.

Appendix A: Parent Consent Form

Name of child

Grade level of child

High school

Signature of parent

Printed name of parent

Date

Statement of Person Obtaining Informed Consent

I certify that participants have been provided with an informed consent form that has been approved by the University of South Florida's Institutional Review Board and that explains the nature, demands, risks, and benefits involved in participating in this study. I further certify that a phone number has been provided in the event of additional questions.

Signature of person
obtaining consent

Printed name of person
obtaining consent

Date

Appendix B: Student Assent Form

Dear Student:

Today you will be asked to take part in a research study by filling out several surveys. We are doing the study to find out how taking different high school classes, such as Advanced Placement, the International Baccalaureate Program, and general courses, is related to students' social and emotional wellness.

- ✓ Who We Are: We are Elizabeth Shaunessy, Ph.D., and Shannon Suldo, Ph.D., professors in the College of Education at the University of South Florida. We are working with your principals to make sure this study provides information that will be helpful to your school.
- ✓ Why We're Asking You to Take Part in the Study: This study is part of a project titled "Well-Being of Secondary Students in Florida." You are being asked to take part in it because you are, or will be, a student at a high school that contains an advanced curriculum (for example, the International Baccalaureate Program).
- ✓ Why You Should Take Part in the Study: We need to learn more about what leads to happiness and health during the teenage years! The information that we gather may help us better understand which attitudes within teens as well as which experiences at school lead to emotional wellness during high school. Also, information from this study will be shared with school staff to help them understand what students consider to be the strengths and weaknesses of their experiences at school and in life. Please note you will not be paid for taking part in the study. However, all students who participate will be entered into a drawing for one of several \$50 gift certificates that can be used at a local mall.
- ✓ Filling Out the Surveys: These surveys will ask about your thoughts, behaviors, and attitudes towards school, teachers, classmates, family, and life in general. We expect it will take between 30 and 60 minutes to fill out all the surveys. Participation will occur during one class period, on one occasion during the fall for students in 10th, 11th, and 12th grade. Students who will be in 9th grade during the 2006 – 2007 school year will be asked to complete these surveys shortly before entering high school and again during the fall. In total, participation will take up to one hour for students in grades 10, 11, and 12, and up to two hours for students in 9th grade.
- ✓ What Else Will Happen if You Are in the Study: If you choose to take part in the study, we will look at some of your school records. Under the supervision of school administrators, we will access information about your grade point average, discipline record, and whether or not you take special classes such as Advanced Placement, the International Baccalaureate Program, or special education (for example, Gifted).
- ✓ Confidentiality (Privacy) of Your Responses: We do not expect that there will be more than minimal risk to you for taking part in this research. We will be here to help the entire time you are filling out the surveys in case you have any questions or concerns. Your school guidance counselors are also on hand in case you become upset. Your privacy and research records will be kept confidential (private, secret) to the extent of the law. People approved to do research at USF, people who work for the Department of Health and Human Services, and

Appendix B: Student Assent Form

the USF Institutional Review Board may look at the records from this research project, but your individual responses will not be shared with people in the school system or anyone other than us and our research assistants. Your completed surveys will be given a code number to protect the privacy of your responses. Only we will have access to the locked file cabinet stored at USF that will contain: 1) all records linking code numbers to names, and 2) all information gathered from school records. Please note that although your specific responses will not be shared with school staff, if you indicate you plan to harm yourself or that you are a threat to others, we will contact district mental health counselors to ensure your safety as well as the safety of others.

- ✓ Please Note: Your involvement in this study is completely voluntary. By signing this form, you are agreeing to take part in this research. If you choose not to participate, or if you wish to stop taking part in the study at any time, you will not be punished in any way. If you choose not to participate, it will not affect your relationship with your high school, USF, or anyone else.
- ✓ What We'll Do With Your Responses: We plan to use the information from this study to let others know the effects of different high school classes on students' social and emotional wellness, and to make a plan for improving schooling experiences during the high school years. The results of this study may be published. However, your responses will be combined with responses from other people in the publication. The published results will not include your name or any other information that would in any way identify you.
- ✓ Questions? If you have any questions about this research study, please raise your hand now or at any point during the study. Also, you may contact us later at (813) 974-2223 (Dr. Suldo) or (813) 974-7007 (Dr. Shaunessy). If you have questions about your rights as a person who is taking part in a research study, you may contact a member of the Division of Research Integrity and Compliance of the University of South Florida at 813-974-5638 or the Florida Department of Health, Review Council for Human Subjects at 1-850-245-4585 or toll free at 1-866-433-2775.

Thank you for taking the time to take part in this study.

Sincerely,

Elizabeth Shaunessy, Ph.D.
Assistant Professor of Special Education
Department of Special Education

Shannon Suldo, Ph.D.
Assistant Professor of School Psychology
Dept. of Psychological and Social Foundations

Assent to Take Part in this Research Study

I freely give my permission to take part in this study. I understand that this is research. I have received a copy of this letter and assent form for my records.

Signature of child
taking part in the study

Printed name of child

Date

Appendix B: Student Assent Form

Statement of Person Obtaining Informed Assent

I certify that participants have been provided with an informed assent form that has been approved by the University of South Florida's Institutional Review Board and that explains the nature, demands, risks, and benefits involved in participating in this study. I further certify that a phone number has been provided in the event of additional questions.

Signature of person
obtaining assent

Printed name of person
obtaining assent

Date

Appendix C: Students' Life Satisfaction Scale (SLSS; Huebner, 1991)

We would like to know what thoughts about life you've had during the past several weeks. Think about how you spend each day and night and then think about how your life has been during most of this time. Here are some questions that ask you to indicate your satisfaction with life. In answering each statement, circle a number

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1. My life is going well	1	2	3	4	5	6
2. My life is just right	1	2	3	4	5	6
3. I would like to change many things in my life	1	2	3	4	5	6
4. I wish I had a different kind of life	1	2	3	4	5	6
5. I have a good life	1	2	3	4	5	6
6. I have what I want in life	1	2	3	4	5	6
7. My life is better than most kids'	1	2	3	4	5	6

from (1) to (6) where (1) indicates you **strongly disagree** with the statement and (6) indicates you **strongly agree** with the statement.

Appendix D: Classmate Support subscale of the Child and Adolescent Social Support Scale (CASSS; Malecki et al., 2003)

Next, please respond to sentences about some form of support or help that you might get from classmates. Read each sentence carefully and respond to them honestly. **Rate how often you receive the support described.** Do not skip any sentences. Thank you!

<i>My Classmates:</i>	Never	Almost Never	Some of the Time	Most of the Time	Almost Always	Always
1 ... treat me nicely.	1	2	3	4	5	6
2. ... like most of my ideas and opinions.	1	2	3	4	5	6
3. ... pay attention to me.	1	2	3	4	5	6
4. ... give me ideas when I don't know what to do.	1	2	3	4	5	6
5. ... give me information so I can learn new things.	1	2	3	4	5	6
6. ... give me good advice.	1	2	3	4	5	6
7. ... tell me I did a good job when I've done something well.	1	2	3	4	5	6
8. ... nicely tell me when I make mistakes.	1	2	3	4	5	6
9. ... notice when I have worked hard.	1	2	3	4	5	6
10. ... ask me to join activities.	1	2	3	4	5	6
11. ... spend time doing things with me.	1	2	3	4	5	6
12. ... help me with projects in class.	1	2	3	4	5	6

Appendix E: Adolescent Personal Styles Inventory (APSI; Lounsbury et al., 2003)

Read each sentence. **Circle** the answer that describes you the best. Remember to answer honestly- no parent or teacher will ever see your answers. Use this scale to help you answer each statement:

- 1 = Strongly Disagree**- you strongly disagree with the sentence; it really does not describe you at all
2 = Disagree- you disagree with the sentence; it does not describe you
3 = In Between- you are not sure whether you agree or disagree with this sentence; you are undecided
4 = Agree- you agree with the sentence; it describes you
5 = Strongly Agree- you strongly agree with the sentence; it really describes you

Sentence:	Strongly Disagree	Disagree	In Between	Agree	Strongly Agree
1. I try to get along with other people, even if I don't agree with them.	1	2	3	4	5
2. I am always very careful when I am doing schoolwork.	1	2	3	4	5
3. My mood goes up and down more than most people.	1	2	3	4	5
4. I like meeting new people.	1	2	3	4	5
5. I like to learn about new ways of doing things.	1	2	3	4	5
6. I sometimes make fun of other kids in school.	1	2	3	4	5
7. I always finish everything I start.	1	2	3	4	5
8. Sometimes I don't feel like I'm worth much.	1	2	3	4	5
9. It is hard for me to make new friends.	1	2	3	4	5
10. I would like to keep going to school for many years just to learn new things.	1	2	3	4	5
11. People who know me well think I am a very nice, kind person.	1	2	3	4	5
12. I like to plan things before I do them.	1	2	3	4	5
13. I often feel tense or stressed out.	1	2	3	4	5
14. I am very outgoing and talkative.	1	2	3	4	5
15. I like to read books on different subjects.	1	2	3	4	5
16. If anybody says something mean to me, I say something mean right back to them.	1	2	3	4	5
17. I am always on time for meetings with other people.	1	2	3	4	5
18. I sometimes feel like everything I do is wrong or turns out bad	1	2	3	4	5
19. I smile a lot when I am around other people.	1	2	3	4	5

Appendix E: Adolescent Personal Styles Inventory (APSI; Lounsbury et al., 2003)

20. I like to try new things.	1	2	3	4	5
21. I am very easy to get along with.	1	2	3	4	5
22. I try to be very neat and organized in my homework and class assignments.	1	2	3	4	5
23. I feel like I can't handle everything that is going on in my life.	1	2	3	4	5
24. I like to go to big parties where there are a lot of people.	1	2	3	4	5
25. I like to take classes where I learn something I never knew before.	1	2	3	4	5
26. I sometimes trick other people into doing what I want them to do	1	2	3	4	5
27. My teachers can always count on me to do what they ask me to do in class.	1	2	3	4	5
28. I sometimes feel like I'm going crazy.	1	2	3	4	5
29. It is fun for me to talk to people I have just met.	1	2	3	4	5
30. I like to work on problems and puzzles.	1	2	3	4	5
31. I am always polite to other people.	1	2	3	4	5
32. I like to keep everything I own in its proper place.	1	2	3	4	5
33. I get mad easily.	1	2	3	4	5
34. I am a fairly quiet person in most group settings.	1	2	3	4	5
35. I like to visit new places.	1	2	3	4	5

36. I sometimes like to argue with other people just for fun.	1	2	3	4	5
37. I put away all of my things when I am done with them.	1	2	3	4	5
38. I sometimes feel sad or blue.	1	2	3	4	5
39. If I am in a group and no one says anything, I will say something first	1	2	3	4	5
40. I like to find out how people live in other places in the world.	1	2	3	4	5
41. I like to help other people whenever they need it.	1	2	3	4	5
42. I always clean up after I have made a mess.	1	2	3	4	5
43. I feel good about myself most of the time.	1	2	3	4	5
44. I am usually a cheerful person.	1	2	3	4	5
45. I would like to learn how to read and speak a foreign language.	1	2	3	4	5
46. I like to learn new games and hobbies.	1	2	3	4	5
47. Sometimes I say things on purpose to hurt other people's feelings.	1	2	3	4	5
48. I enjoy coming up with new solutions for everyday problems.	1	2	3	4	5