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RESEARCH PAPER

Adolescent Life Satisfaction and Personality Characteristics: Investigating Relationships Using a Five Factor Model

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Abstract The current study investigated the relationships among personality factors and life satisfaction in high school students ($N = 624$), who completed self-report measures of global life satisfaction and personality characteristics consistent with a Five Factor Model (i.e., extraversion, neuroticism, openness to experience, conscientiousness, and agreeableness). Analyses indicated that approximately 47 % of the variance in adolescents' life satisfaction scores was accounted for by their levels of the Big Five personality factors. Neuroticism emerged as the strongest predictor. Openness, conscientiousness, and extraversion were also significant and unique predictors of life satisfaction. Regarding gender differences, a higher level of agreeableness was related to higher life satisfaction for girls, but not for boys. Findings support the importance of including all Big Five personality factors in exploratory models of life satisfaction, and contribute to an understanding of gender-specific models of predictors of life satisfaction.

Keywords Personality · Life satisfaction · Adolescents · Youth · Five Factor Model · Big Five

A growing body of literature demonstrates the salience of life satisfaction to children and adolescents' psychological, educational, social, and physical functioning (Suldo et al. 2009), meriting a complete understanding of the stable and malleable predictors of life satisfaction among youth. Personality is one such predictor that is viewed as a relatively stable factor. Extraversion and neuroticism yield consistent correlations with adolescent life satisfaction (Heaven 1989; Huebner 1991b; McKnight et al. 2002), but relatively little is known about the relationship between life satisfaction and three less-studied personality factors—agreeableness, openness to experience, and conscientiousness. Given the ease

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with which these constructs can now be measured reliably in youth, a more thorough investigation of all Big Five personality factors as they relate to life satisfaction is warranted. The current study aimed to determine the overall contribution of personality to life satisfaction and the unique contribution of each Five Factor Model trait (i.e., extraversion, neuroticism, conscientiousness, openness to experience, agreeableness) to life satisfaction among high school students. Gender differences were also examined to determine if the relationships between personality and life satisfaction are consistent for boys and girls. The subsequent literature review makes clear our conceptualizations of life satisfaction and personality, summarizes the empirical links between life satisfaction and characteristics of personality (among young adults and then youth), and suggests potential gender differences in personality characteristics that contribute to life satisfaction.

1 Life Satisfaction

Subjective well-being (SWB; sometimes considered a scientific term for happiness) is a key construct encompassed within the positive psychology movement (Seligman and Csikszentmihalyi 2000). SWB refers to the frequency with which individuals experience positive emotions relative to negative emotions, as well as how highly they appraise the quality of their lives. 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) refers to cognitive appraisals of one's life as a whole, in addition to one's satisfaction with different domains of life such as family, self, and school (Huebner et al. 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. Similarly, qualitative research with youth concluded that adolescents reflect on a variety of factors, ranging from external conditions (e.g., family quality, schooling), to internal aspects of oneself as well as their extracurricular activity involvement when formulating their global appraisals of life satisfaction (Suldo et al. 2013).

Identifying factors that are most highly correlated with adolescent life satisfaction can help researchers and mental health professionals by revealing how much of the variance in life satisfaction is attributable to relatively stable conditions (e.g., demographic characteristics, personality) as opposed to malleable situations (e.g., social relationships, extracurricular activities). Suldo and Shaffer (2008) underscored the importance of understanding life satisfaction in youth by demonstrating that students with high life satisfaction and minimal psychopathology had better educational achievement, social relationships, and physical health, as compared to their peers who also had minimal psychopathology but reported low life satisfaction. Other research suggests that the possible benefits of high life satisfaction include more favorable attitudes towards teachers and school (Gilman and Huebner 2006), higher cognitive engagement (Lewis et al. 2011), and greater academic aspirations (Proctor et al. 2010). A full understanding of the correlates of life satisfaction is essential, partly to identify 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 SWB during the adult years. Some researchers hypothesize that stability in SWB is a result of stability in personality, given that personality can predict SWB over time (DeNeve and Cooper 1998; Headey and Wearing 1989; Steel et al. 2008). Shared features of personality and life satisfaction include a slight genetic and biological basis, an ability to be measured reliably beginning in youth, and stability over time (Steel

et al. 2008). Steel et al. (2008) meta-analysis of research on personality and SWB suggested that most relevant studies have focused on emotions (e.g., positive and negative affect) rather than life satisfaction, and that research indicates personality explains as much as 18 and 29 % of the variance in *adults'* life satisfaction and overall affect, respectively (Steel et al. 2008). The variance in SWB accounted for by personality is much higher than previously suggested ($R^2 = .04$) by DeNeve and Cooper (1998). Steel et al. (2008) purport that increased attention to measures and theoretical conceptualizations of constructs used within studies have enabled more accurate results.

2 Conceptualizing Personality

Personality is *relatively* stable throughout one's lifespan (Costa and McCrae 1988), demonstrating degrees of stability and fluctuation depending upon the age of the sample. Caspi's (2000) longitudinal research with children suggests that temperament (i.e., a person's characteristic way of approach to people and situations) at age 3 closely predicted personality at age 18 and age 21. Other research suggests child and adolescent personality is less stable and consistent (test–retest coefficients between .30 and .50) than adult personality (test–retest coefficients between .50 and .80; Roberts and DelVecchio 2000). Overall, there is a positive, linear relationship between time and the relative consistency of one's personality, meaning that over time one's personality becomes increasingly stable, reaching the greatest level of stability later in life (between the ages of 40 and 60; Roberts and DelVecchio 2000).

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). Trait theory assumes that personality is a collection of individual traits that are relatively stable over time, different among individuals, and influential on behavior. 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 and McCrae 1992a).

The FFM is one of the most widely accepted models for conceptualizing personality (Costa and McCrae 1992a; Digman 1990). The FFM resulted from factor analysis used to organize a large number of traits under a few broad factors to facilitate the understanding of personality (for a discussion, see Caspi et al. 2005; Fraley and Roberts 2005). The five basic dimensions of personality that have been identified include neuroticism, extraversion, openness, agreeableness, and conscientiousness. 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 and McCrae 1992a).

Initial measures used to assess personality from a FFM conceptualization were developed for adults (e.g., the NEO-PI-R; Costa and McCrae 1985, 1992b). Earlier self-report measures of personality in youth assessed only some of the Big Five personality factors. For instance, the Junior Revised Eysenck Personality Questionnaire (JEPQ-R; Eysenck and Eysenck 1975) measures adolescents' extraversion, neuroticism, and psychoticism, and includes a Lie scale. Self-report measures for youth that assess personality comprehensively in line with the FFM included the Big Five Questionnaire-Children (BFQ-C; Barbaranelli et al. 2003; Barbaranelli et al. 2007) for children and early adolescents ages 9–13 years, and the Adolescent Personal Styles Inventory (APSI; Lounsbury et al. 2003) for youth ages 11–18.

3 Links Between Life Satisfaction and Personality

We identified only one study to examine adolescent life satisfaction in relation to the Big Five (Garcia 2011). Other relevant bodies of literature include studies of the Big Five and life satisfaction among adults and, among youth, studies of single personality traits and life satisfaction. Research with adults consistently points to extraversion and neuroticism as the personality traits most related to life satisfaction (Diener and Lucas 1999; Emmons and Diener 1986; Pavot eta l. 1997). In a recent investigation of 235 Iranian Muslim young adults (M age = 20.56), Joshanloo and Afshari (2011) demonstrated that the Big Five personality factors predicted 25.4 % of the variance in life satisfaction. In their multiple regression analysis, neuroticism ($\beta = -.38$) and extraversion ($\beta = .20$) emerged as the only unique predictors, but at the bivariate level, both agreeableness and conscientiousness demonstrated small, significant associations with life satisfaction ($r = .23$ and .24, respectively). Among a sample of 249 American university students (ages 18–30), Fagley (2012) found that neuroticism ($\beta = -.26$), extraversion ($\beta = .24$), and conscientiousness ($\beta = .20$) were significant predictors of life satisfaction, and that taken together all Big Five factors accounted for 31 % of the variance in life satisfaction. In a similar investigation, Lounsbury et al. (2005) studied 552 American undergraduates (mostly ages 18 and 19) and found that the significant factors from the FFM (agreeableness plus the three unique predictors identified by Fagley) accounted for 45 % of the variance in students' life satisfaction.

Similar associations have been identified in the limited literature on school-age youth. Among American samples, life satisfaction has yielded significant (albeit small—$r = .21$–.22), positive correlations with extraversion among 160 middle school students (Fogle et al. 2002) and an adolescent sample of 1,201 that included 678 high school students and 523 middle school students (McKnight et al. 2002). Those two studies and others (Heaven 1989; Rigby and Huebner 2005) indicated moderate, inverse associations ($r = -.29$ to $-.44$) with regard to neuroticism. Research indicates that these associations may also hold true for youth across cultures. Case in point, Ho, Cheung, and Cheung (2008) found similar relationships between life satisfaction and neuroticism ($r = -.27$) and extraversion ($r = .31$) in a sample of 1,961 Chinese adolescents.

Garcia's (2011) study of 300 high school students in Sweden was remarkable in its consideration of all personality factors included in the Five Factor Model. Findings included significant bivariate associations between life satisfaction and neuroticism and extraversion ($r = -.49$ and .52, respectively); correlations between life satisfaction and

the remaining three factors were not significant. Multiple regression analyses further indicated that neuroticism ($\beta = -.37$) and extraversion ($\beta = .34$) were the only significant personality factors that predicted life satisfaction. Constructs of primary interest were assessed using measures developed for use with adults, specifically the Satisfaction with Life Scale (SWLS; Diener et al. 1985) and the NEO-PI-R (Costa and McCrae 1992b). It is unknown if similar associations would be found using measures developed specifically for youth. There is a need for studies with school-age youth that assess life satisfaction using more recently advanced developmentally appropriate measures that adopt the FFM conceptualization. In sum, relationships between life satisfaction and the Big Five factors beyond extraversion and neuroticism (i.e., conscientiousness, openness to experience, and agreeableness) have yet to be fully examined.

4 Gender Differences in Life Satisfaction and Personality

Research in this area is limited because most studies have not tested for gender differences in analyses and/or did not include all of the Big Five factors. Initial research on gender differences in personality with adolescents using Eysenck's Three Factor model (i.e., neuroticism, extraversion, and psychoticism) suggests a general trend for boys to score higher on the Psychoticism scale, whereas girls score higher on the Neuroticism scale, and no differences emerge in extraversion (Fogle et al. 2002; Francis 1993; Scholte and De Bruyn 2001). Using the FFM, gender differences include that girls report more agreeableness and less emotional stability (i.e., more neuroticism) compared to boys (Graziano et al. 1997). Mervielde et al. (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) better for girls than for boys. Although most studies have not indicated significant gender differences in mean levels of life satisfaction in youth (e.g., Gilman and Huebner 2006; Huebner et al. 2000), Moksnes and Espnes's (2013) recent investigation of 1,924 Norwegian adolescents (ages 13–18) found that boys ($M = 24.14$, $SD = 6.21$) reported higher levels of life satisfaction than girls ($M = 22.31$, $SD = 6.01$) on the SWLS. Beyond differences between group means, some research with young adults suggests that associations between personality and life satisfaction may differ across genders. Specifically, Joshanloo and Afshari (2011) found that the positive relationship between conscientiousness and life satisfaction held for females ($r = .32$) but not males ($r = .02$). Based on such findings, we examined gender as a moderator in how the Big Five personality factors predict global life satisfaction among adolescents.

5 Purpose of the Current Study

Self, parent, and teacher reports of adolescent personality support the validity and reliability of the Big Five factor structure of personality in youth as young as 4 years (Barbaranelli et al. 2007; Mervielde et al. 1995). Moreover, adolescent personality remains rather consistent into adulthood (Caspi 2000). However, research is lacking using multitrait measurement of adolescent personality, specifically measuring all of the Big Five factors in relation to life satisfaction. The purpose of the current study was to determine the overall contribution of personality to life satisfaction, and the unique contributions of each of the five factors. Further, understanding how gender is related to each factor in the FFM

and determining if gender determines which personality factors relate to overall life satisfaction is important for predicting which youth may be at particular risk for low life satisfaction. Therefore, we tested if the relationships between personality and life satisfaction are consistent for boys and girls. The specific research questions answered in the current study include:

1. Which personality factors have significant bivariate 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. Are the relationships between personality factors and life satisfaction consistent across genders?

6 Methods

6.1 Participants

The sample consists of 624 high school students across four high schools located in geographically diverse regions of a southeastern state in the U.S. Participants ranged in age from 13 to 19 years ($M = 15.72$; $SD = 1.22$), with 63 % female and 37 % male. Fifty-seven percent of student participants were Caucasian, 15 % African American, 11 % Hispanic/Latino, 8 % Asian, 7 % multi-racial, and 2 % other ethnicities. Eighteen percent of students participated in the state's free or reduced-cost school lunch program (used as an indicator of low SES).

The dataset was obtained from a larger study (Suldo & Shaunessy-Dedrick 2013) that investigated the mental health of high school students enrolled in rigorous academic programs [e.g., Advanced Placement (AP), International Baccalaureate (IB)]. Each of the four high schools offers the IB program. Two schools are public magnet schools that offer only advanced high school courses of study such as AP and IB programs. 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.

6.2 Measures

6.2.1 Students' Life Satisfaction Scale (SLSS; Huebner 1991a)

The SLSS is a 7-item self-report measure of global life satisfaction in youth. 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 (e.g., "I would like to change many things in my life") and are reverse scored prior to data analysis. Higher scores on the SLSS indicate higher global life satisfaction.

Regarding construct validity, principal components analyses have yielded a one-factor structure (Dew and Huebner 1994; Gilman and Huebner 1997; Huebner 1991c). Studies comparing the SLSS with other established self-report measures of life satisfaction have yielded large correlations with the Perceived Life Satisfaction Scale ($r = .58$) and the

Piers-Harris Happiness subscale ($r = .53$), providing support for concurrent validity (Dew and Huebner 1994; Huebner 1991a). Concurrent and convergent validity have been studied in comparison to parent estimates of youth life satisfaction with correlations of .48 in students in grades 8–12 (Dew and Huebner 1994) and .54 in middle school students (Gilman and Huebner 1997). Support for the stability of SLSS scores has been provided with test–retest coefficients of .74 over a 2 week period (Huebner 1991a), .64 over a 4 week period (Gilman and Huebner 1997), and .53 over 1 year (Huebner et al. 2000). In samples of American secondary students, the SLSS has demonstrated adequate internal consistency with alpha coefficients ranging from .79 to .88 (Gilman and Huebner 2006; Huebner et al. 2000). In the current study, Cronbach's alpha was .88.

6.2.2 Adolescent Personal Styles Inventory (APSI; Lounsbury et al. 2003)

The APSI assesses the FFM in adolescents between 11 and 18 years of age. The 48-item measure includes five subscales (9–11 items each) aligned with the five personality factors. Participants endorse their agreement with items using 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. High scores reflect features of personality characteristic of the individual.

Regarding construct validity, exploratory and confirmatory factor analyses have yielded five factors that align with the five factors of personality (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; 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). 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). Convergent validity is supported through significant correlations with teacher reports of student personality for the Extraversion (.30), Openness (.31), and Agreeableness (.68) subscales (Lounsbury et al. 2003). Reliability studies show adequate internal consistency for each subscale with alpha at or above .79 (Lounsbury et al. 2003, 2004). In the current study, Cronbach's alpha for the subscales were as follows: .79 (agreeableness), .80 (openness), .82 (conscientiousness and extraversion), and .86 (neuroticism).

6.3 Procedures

The principal investigator (PI) of the larger study coordinated with building-level administrators at each school to distribute parent consent forms to all students enrolled at the four high schools. The school-level administrators distributed parent consent forms via providing designated teachers (e.g., homeroom teachers) with a sufficient number of consent forms for all students in a given class; participants included in the study were limited to those students who returned a signed parent consent form to the designated teacher. To encourage participation, students with signed parent consent were included in a drawing for a gift certificate 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 with written parent consent to participate. These students were called to the school's auditorium in large groups (approximately 50–100 students) during school hours to confidentially complete the self-report measures. The PI explained the study and informed participants of their right to withdraw or refuse participation at any time without penalty. Students signed a student assent form to indicate voluntary agreement to participate. The PI provided each group of students with a standard set of instructions regarding the procedures for completing the packet of measures. Students practiced answering two Likert-scale questions before completing the measures 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 packets were administered in an attempt to control for order effects. Students sitting near one another were provided different versions of the packet to reduce discussion about the measures. Participants took approximately 30–45 min to complete all measures. Trained research assistants were on hand to answer student questions and to check completed packets for errors and missed questions.

6.4 Overview of Data Analysis

First, multivariate outliers were identified and removed from the dataset. Then, bivariate correlations were computed to determine which personality factors were significantly correlated with life satisfaction. A multiple regression analysis was conducted to determine the extent to which all personality factors taken together explain life satisfaction, as well as which personality factors were uniquely and most strongly associated with life satisfaction. To determine if gender is a moderator in the relationship between personality and life satisfaction, we conducted another multiple regression analysis that included interaction terms (e.g., extraversion*gender, neuroticism*gender) as well as the main effects of each personality factor and gender (Baron and Kenny 1986). Statistically significant interaction terms suggested 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 were conducted with the set of five personality factors regressed on life satisfaction by gender group. Beta weights associated with the personality characteristic of interest (values obtained in single sex datasets) were examined.

7 Results

7.1 Data Screening

Four cases were identified as multivariate outliers (i.e., participants scoring >22.46, the criterion determined by the Mahalanobis distance for 6 *df*), resulting in a sample of 620 participants that was retained for all subsequent analyses. Because the dataset was drawn from a larger study examining the well-being of students enrolled in various high school academic curricula, the total sample includes a large number of students enrolled in rigorous, accelerated coursework often deemed "college preparatory" in nature. Due to our interest in relationships between life satisfaction and personality among adolescents in general (i.e., typical high school students as well as those in specialty academic programs), we tested whether or not it would be empirically defensible to combine the data from college preparatory and general education students to form a single dataset to be analyzed

throughout the remainder of the study. Box's M test was used to examine the equality of the variance–covariance matrices that included relationships between personality factors and life satisfaction among subsamples of students in advanced high school curriculum programs ($n = 452$) and students in general education ($n = 168$). No differences were found, $\chi^2 = 21.26$, df (21), $p = .44$. In light of the statistically similar associations between variables for the two subgroups, subsequent analyses were conducted using the combined sample ($N = 620$) of students from general education and college preparatory programs.

7.2 Bivariate and Multivariate Relationships Between Life Satisfaction and Personality Factors

Table 1 presents means and standard deviations for the variables of interest in the current study, as well as Pearson correlation coefficients obtained between these variables. 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 to experience was small ($r = .18$).

Life satisfaction was regressed on the linear combination of openness, conscientiousness, extraversion, agreeableness, and neuroticism. Given the lack of research regarding the contribution of all five personality factors to life satisfaction in adolescents, simultaneous entry was chosen over a planned entry of predictors. Results from the multiple regression are provided in Table 2. The R-square statistic was examined to determine the total amount of variance in life satisfaction that is explained by the five personality factors. Taken together, the personality factors explained 47.29 % of the variance in students' life satisfaction scores, F (5, 614) = 110.16, $p < .0001$, adjusted $R^2 = 46.86$ %.

To determine which predictors are uniquely associated with life satisfaction, the p values associated with standardized regression coefficients (β) were reviewed. Results indicate that after controlling for the commonality amongst the personality factors, four personality factors were significant and unique predictors ($p < .05$) of life satisfaction. Neuroticism emerged as the strongest predictor in the regression equation ($\beta = -.59$), followed by the other three predictors with relatively weaker beta weights (conscientiousness $\beta = .12$; extraversion $\beta = .10$; openness $\beta = .08$). Agreeableness was not a significant unique predictor within the total sample ($\beta = .03$, $p = .34$).

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). 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, above and beyond the shared variance associated with commonality between predictors.

7.3 Role of Gender in the Relationships Between Personality Factors and Life Satisfaction

Mean levels of life satisfaction and personality factors for each gender group are reported in Table 1. Boys reported slightly (albeit significantly) higher levels of life satisfaction than girls, $t(618) = 2.11$, $p < .05$, $d = .18$. Girls reported significantly higher levels of

Table 1 Means, standard deviations, and intercorrelations for personality factors and life satisfaction

Variable	Total sample ($N = 620$)		Boys ($N = 228$)		Girls ($N = 392$)		Total sample ($N = 620$)				
	M	*SD*	*M*	*SD*	*M*	*SD*	1	2	3	4	5
1. Agreeableness	3.73	.56	3.63	.58	3.78	.55	–				
2. Conscientiousness	3.47	.63	3.41	.62	3.51	.63	.42***	–			
3. Neuroticism	2.76	.79	2.51	.77	2.92	.77	−.31***	−.19***	–		
4. Extraversion	3.69	.67	3.62	.66	3.74	.68	.15***	.14***	−.27***	–	
5. Openness	3.78	.57	3.74	.62	3.80	.54	.31***	.32***	−.03	.32***	–
6. Life Satisfaction	4.21	.96	4.31	.97	4.14	.95	.30***	.29***	−.65***	.30***	.18***

*** $p < .001$

Table 2 Personality factors regressed on life satisfaction ($N = 620$)

Factor	B	SE	β	sr^2
Agreeableness	.06	.06	.03	.00
Conscientiousness	.18	.05	.12***	.01
Neuroticism	−.72	.04	−.59***	.29
Extraversion	.14	.05	.10**	.01
Openness	.13	.06	.08*	.01

$R^2 = .4729$, Adjusted $R^2 = .4686$, F (5, 614) = 110.16, $p < .0001$

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

agreeableness, $t(618) = -3.25$, $p < .01$, $d = .27$, neuroticism, $t(618) = -6.39$, $p < .001$, $d = .53$, and extraversion, $t(618) = -2.16$, $p < .05$, $d = .18$, compared to boys. Mean levels of conscientiousness and openness were statistically similar ($p > .05$) between boys and girls.

To explore the role of gender in the relationship between personality and life satisfaction, another simultaneous multiple regression was conducted. The personality factors, gender, and terms representing the interactions between personality and gender were regressed on life satisfaction. First, the predictors (five personality factors) were centered to improve interpretability of significant interactions within multiple regression and account for multicollinearity among predictors (Aiken and West 1991). The categorical predictor, gender, was then dummy coded consistent with Aiken et al. (1996) recommendation to code the group with the larger sample size (i.e., girls, $n = 392$) as zero to represent the comparison group; boys ($n = 228$) were coded as one. Finally, product terms were created to test the interaction between the dummy coded gender variable and each centered personality factor (i.e., extraversion*gender, openness*gender, agreeableness*gender, neuroticism*gender, conscientiousness*gender). Interaction terms are used to examine moderating effects within multiple regression to determine the variance explained by gender*personality beyond the main effects of personality or gender alone. The p values associated with standardized regression coefficients indicated whether the interaction terms (the predictors of primary interest in this analysis) were statistically significant. The interaction term representing the product of agreeableness and gender was significant ($\beta = -.10$, $p < .01$, $sr^2 = .01$), suggesting that agreeableness relates to life satisfaction differently for boys and girls. No other interaction terms were significant.

To explore the nature of the difference, the five personality factors were regressed on life satisfaction by gender group. The relationship between agreeableness and life satisfaction was of primary interest. For girls, the beta weight for agreeableness was statistically significant ($\beta = .09$, $p < .05$) and in a positive direction. In contrast, the beta weight obtained for the association between agreeableness and life satisfaction among boys was not statistically significant ($\beta = -.10$, $p = .08$). For girls, higher agreeableness is associated with higher life satisfaction; conversely, in boys, agreeableness is not a statistically significant predictor, but the trend in the data suggests an inverse relationship.

8 Discussion

The present study investigated the relationship between adolescent life satisfaction and a conceptualization of personality consistent with the Five Factor Model (FFM), and

clarified the role of gender in this relationship. Results underscored the large, inverse association between neuroticism and adolescent life satisfaction, and confirmed that extraversion is moderately linked to higher life satisfaction. Additional findings include that higher levels of conscientiousness and openness to experience are associated with higher life satisfaction, as well as agreeableness for adolescent females. The finding of significant associations between life satisfaction and these three personality factors adds to the literature that demonstrates these personality factors are associated with a host of adaptive outcomes in youth, including academic achievement (Barbaranelli et al. 2003) and self-esteem (Graziano et al. 1997). The results obtained using a FFM of personality advance the literature base pertinent to correlates of life satisfaction in youth, and highlight the strong ties between adolescents' personality and their perceived quality of life, as almost half of the variance in adolescent life satisfaction was explained by personality.

8.1 Total Contribution of Personality to Adolescent Life Satisfaction

Our findings from multiple regression analysis indicated that approximately 47 % of the variance in adolescents' life satisfaction was explained by their scores on a FFM measure of personality. This result is consistent with Lounsbury et al. (2005) study of undergraduates who were just slightly older than the current sample of high school students. Lounsbury et al. found that 45 % of the variance in college students' life satisfaction was attributed to the four of the Big Five factors that yielded statistically significant unique contributions. These large variance estimates contrast smaller total associations uncovered in studies of Iranian college students ($R^2 = .25$; Joshanloo and Afshari 2011) and a somewhat older sample of American college students ($R^2 = .31$; Fagley 2012).

Previous research with youth that had operationalized personality more narrowly has yielded smaller estimates compared to those studies that conceptualized personality based on the FFM. Case in point, McKnight et al. (2002) examined only extraversion and neuroticism, and found these two personality factors explained 16 % of the variance in American adolescents' life satisfaction. Similarly, Ho et al. (2008) examination of extraversion, neuroticism, and conscientiousness demonstrated that 26 % of the variance in life satisfaction was attributed to these three personality factors among 12–18 year-old Chinese youth. The current study contributes to the scant literature that includes all Big Five factors in an exploratory model of life satisfaction in adolescents. The finding that nearly half of the variance in life satisfaction was explained by differences in personality elucidates the importance of including all five factors in studies of personality in relation to life satisfaction, particularly among high school students.

8.2 Associations Between Individual Personality Traits and Adolescent Life Satisfaction

8.2.1 Neuroticism

Significant bivariate correlations were obtained between each of the five personality factors and life satisfaction. Neuroticism had the most robust relationship with life satisfaction, suggesting that adolescents who display higher levels of neuroticism are quite likely to experience lower levels of life satisfaction. The large correlation obtained in our sample is higher than the moderate values found in previous investigations with youth that utilized a 3-factor model of personality (Fogle et al. 2002; McKnight et al. 2002). In the current study, neuroticism independently accounted for 29 % of the variance in life satisfaction,

after controlling for the variance associated with the other four factors. 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 associated with life satisfaction (Huebner et al. 2000).

8.2.2 Extraversion

The nature of the relationship we found between extraversion and life satisfaction is consistent with the small, positive correlations obtained in most previous studies with American adolescents (Fogle et al. 2002; McKnight et al. 2002). There is evidence to suggest these findings hold across cultures, as similar relationships have been found with Chinese youth. Specifically, Ho et al. (2008) found negative correlations between neuroticism and life satisfaction, and positive correlations between extraversion and life satisfaction. The influence of extraversion on life satisfaction may occur via increased adolescent participation in social activities (Argyle and Lu 1990a), and/or because extraversion co-occurs with a number of positive traits (i.e., positive affect), attributes, and skills (i.e., social competence, assertiveness, empathy) which positively influence SWB (Argyle and Lu 1990b).

8.2.3 Conscientiousness

Earlier research examining conscientiousness in relation to life satisfaction found a similarly sized correlation (Joshanloo and Afshari 2011). Hayes and Joseph (2003) identified a comparable empirical link between these constructs among adults, and suggested the role of conscientiousness in relation to life satisfaction has been understated. Hayes and Joseph posited "individuals high on conscientiousness are more likely to be able to function effectively in society and to achieve their goals; in turn, goal efficacy leads to greater SWB" (p. 726). Additionally, lower order traits that make up conscientiousness reflect enjoyment in activities 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. The similarities in the behaviors of conscientious individuals along with the tasks that are required to make global judgments of one's life satisfaction (e.g., reflective and thoughtful processes including accuracy in memory retrieval and relative weighting of experiences along with perspective) may contribute to the relationship between conscientiousness and life satisfaction.

8.2.4 Openness to experience

Adolescents' level of openness to experience explained a small but a statistically significant proportion of variance in their life satisfaction above and beyond what was accounted for by other personality factors. These results suggest that youth who report more openness to experience also experience greater 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).

8.2.5 Agreeableness

Our findings indicated a more complex relationship between agreeableness and adolescent life satisfaction. 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 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.

8.3 Gender Differences in Associations Between Personality and Life Satisfaction

Although mean levels of life satisfaction are often similar across groups of adolescent boys and girls (Gilman and Huebner 2006; Huebner et al. 2000), our finding that high school boys experienced slightly higher levels of life satisfaction is consistent with Moksnes and Espnes's (2013) findings using a different measure of life satisfaction with the same age group. Perhaps of greater interest, our results further suggest that the variables that predict boys' and girls' life satisfaction differ with respect to some personality factors, specifically agreeableness. Higher levels of agreeableness predicted higher life satisfaction for girls only. 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.

The finding that agreeableness is related to life satisfaction differently for boys and girls contributes to an understanding of gender-specific models of the development of life satisfaction. Previous studies with adults suggest the process by which men and women arrive at similar mean levels of life satisfaction may differ. For instance, women's intense emotional reactions to both positive and negative circumstances offset one another, while men remain more steady and temperate in their emotions; however, both men and women experience similar mean levels of happiness (Fujita et al. 1991). In another example, expressive traits (i.e., characteristics including considerate, warm, polite, and sensitive) that are associated with stereotypically feminine traits (Bem 1974) function differently for men and women in predicting life satisfaction (Moore 2007). Moore's study of Israeli adults found that for men, endorsing both instrumental and expressive traits was related to higher life satisfaction, whereas for women, endorsing only instrumental traits (stereotypically masculine characteristics such as assertive, independent, and competitive) but not expressive traits, was related to higher life satisfaction.

Our finding that agreeableness predicted higher life satisfaction for girls only is consistent with research that suggests social and cultural attributes influence the development of gender-specific traits during adolescence (Hughes and Seta 2003). The interplay of evolutionary, cultural, and social influences strengthens adolescents' endorsement of gender-specific roles and encourages the development of gender-specific traits and behaviors in American youth (see Trautner and Eckes 2000). Further, research has demonstrated poorer outcomes for those who endorse atypical gender traits (Carver et al. 2003; Young and Sweeting 2004). Agreeableness is a stereotypically feminine trait, typically endorsed more by girls than by boys (Carver et al. 2003; Graziano et al. 1997), in line with the higher level of agreeableness observed among girls in our study. 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 and Sweeting 2004). Consistent with previous research, our findings

suggest consistency between sex and expression of stereotypical gender-specific traits may affect well-being for adolescent girls (Carver et al. 2003; 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. Partial support for this hypothesis is provided by a study of college undergraduates that found that higher congruence between adults' real self and their ought or ideal self was associated with higher life satisfaction (Pavot et al. 1997).

8.4 Study Limitations and Directions for Future Research

The current study is limited by a cross-sectional design in which a narrow range of constructs were assessed simultaneously. Causal relationships between personality and life satisfaction remain unclear (Steel et al. 2008). Longitudinal studies have found extraversion predisposes individuals to experience positive life events, while neuroticism predisposes individuals to experience negative life events (Magnus et al. 1993). Personality may seem to be the causal factor affecting 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 and Huebner 2001; Fogle et al. 2002; Oishi and Diener 2001). A longitudinal study examining personality and life satisfaction throughout childhood, adolescence, and adulthood is needed in order to determine the causal connections between these variables. Future studies could also assess other constructs that are established correlates of life satisfaction as well as implicated in personality development, such as cognitive styles (e.g., attributional tendencies, hopeful thinking) and interpersonal relationships with family and friends (for a review, see Huebner et al. 2014), to determine the extent to which youth personality predicts life satisfaction above and beyond such relevant variables. Comprehensive studies that examine multiple predictors simultaneously may shed light on the magnitude of the variance accounted for by personality factors, and facilitate interpretation of the meaningfulness of this contribution in relation to other powerful predictors like parent–child relations, peer attachment, and self-confidence.

We relied solely on self-report measures, which are subject to method error and social desirability. Notably, the SLSS has yielded low correlations with measures of social desirability (Huebner 1991c). Experimenter and participant expectations were controlled by the use of a research team to ensure consistency of instructions and administration of measures. Other limitations of the current study relate to the generalizability of the sample (i.e., high school students residing in the southeastern U.S.). The use of convenience sampling from four high schools offering rigorous academic programs may have resulted in 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, as building-level administrators involved in the study did not track how many teachers participated in student recruitment efforts. Replication of the current study using a more representative sample of youth obtained using more stringent sampling techniques would enhance confidence in the preliminary findings and conclusions advanced in this paper.

8.5 Implications for Research and Practice

Our findings suggest it is worthwhile to include all five factors in studies of youth personality. Studies assessing only extraversion and neuroticism, for instance, preclude

recognition of potentially unique contributions of agreeableness, conscientiousness, and openness to indicators of well-being. Research has established the importance of life satisfaction in youth, demonstrating high life satisfaction relates to many adaptive and positive outcomes (e.g., Proctor et al. 2010; Suldo and Shaffer 2008). 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. The close relationship between adolescent neuroticism and internalizing forms of psychopathology such as depression and anxiety (Griffith et al. 2010), and association with low life satisfaction, suggest early intervention efforts are warranted for neurotic adolescents, in part to hopefully mitigate the progression from low life satisfaction to the development of depression (c.f., Lewinsohn et al. 1991).

Although personality research suggests that personality is relatively stable throughout the life span, this does not infer personality is unchangeable. Rather, personality represents a baseline or 'set point' that may be 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. For instance, mental health professionals could assist adolescents, particularly those with high levels of neuroticism, to increase positive emotions as well as emotional stability (Ng 2008). Future research should 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 and Joseph 2003). Thus, adolescence may be a crucial time to provide adolescents with adaptive skills (e.g., emotion regulation, coping strategies, and interpersonal skills) while they are open to exploring and discovering their personal identities.

References

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.

Aiken, L. S., West, S. G., & Krull, J. L. (1996). Experimental personality designs: Analyzing categorical by continuous variable interactions. *Journal of Personality, 64*, 1–48.

Argyle, M., & Lu, L. (1990a). The happiness of extraverts. *Personality and Individual Differences, 11*, 1011–1017.

Argyle, M., & Lu, L. (1990b). Happiness and social skills. *Personality and Individual Differences, 11*, 1255–1261.

Ash, C., & Huebner, S. E. (2001). Environmental events and life satisfaction reports of adolescents: A test of cognitive mediation. *School Psychology International, 22*, 320–336.

Barbaranelli, C., Caprara, G. V., Rabasa, A., & Pastorelli, C. (2003). A questionnaire for meas-uring the Big Five in late childhood. *Personality and Individual Differences, 34*, 645–664.

Barbaranelli, C., Fida, R., Paciello, M., Giunta, L. D., & Caprara, G. V. (2007). Assessing personality in early adolescence through self-report and other-ratings a multitrait-multi-method analysis of the BFQ-C. *Personality and Individual Differences, 44*, 876–886.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.

Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*, 155–162.

Carver, P. R., Yunger, J. L., & Perry, D. G. (2003). Gender identity and adjustment in middle childhood. *Sex Roles, 49*, 95–109.

Caspi, A. (2000). The child is father of the man: Personality continuity from childhood to adulthood. *Journal of Personality and Social Psychology, 78*, 158–172.

Caspi, A., Roberts, B. W., & Shiner, R. L. (2005). Personality development: Stability and change. *Annual Review of Psychology, 56*, 453–484.
Costa, P. T., & McCrae, R. R. (1985). *The NEO Personality Inventory*. Odessa, FL: Psychological Assessment Resources.
Costa, P. T., & McCrae, R. R. (1988). Personality in adulthood: A six-year longitudinal study of self-reports and spouse ratings on the NEO Personality Inventory. *Journal of Personality and Social Psychology, 54*, 853–863.
Costa, P. T., & McCrae, R. R. (1992a). Four ways five factors are basic. *Personality and Individual Differences, 13*, 653–665.
Costa, P. T., & McCrae, R. R. (1992b). *The NEO personality inventory (NEO-PI-R) and the NEO five-factor inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.
DeNeve, K. M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin, 124*, 197–229.
Dew, T., & Huebner, S. E. (1994). Adolescents' perceived quality of life: An exploratory investigation. *Journal of School Psychology, 32*, 185–199.
Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality and Assessment, 49*, 71–75.
Diener, E., & Lucas, R. E. (1999). Personality and subjective well-being. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology*. New York: Russell Sage Foundation.
Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well being: Three decades of progress. *Psychological Bulletin, 125*, 276–302.
Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology, 41*, 417–440.
Emmons, R. A., & Diener, E. (1986). An interactional approach to the study of personality and emotion. *Journal of Personality, 54*, 371–384.
Eysenck, H. J., & Eysenck, S. B. (1975). *Manual for the Eysenck Personality Questionnaire (Junior and Adult)*. London: Hodder & Stoughton.
Fagley, N. S. (2012). Appreciation uniquely predicts life satisfaction above demographics, the big 5 personality factors, and gratitude. *Personality and Individual Differences, 53*, 59–63.
Fogle, L. M., Huebner, S. E., & Laughlin, J. E. (2002). The relationship between temperament and life satisfaction in early adolescence: Cognitive and behavioral mediation models. *Journal of Happiness Studies, 3*, 373–392.
Fraley, R., & Roberts, B. W. (2005). Patterns of continuity: A dynamic model for conceptualizing the stability of individual differences in psychological constructs across the life course. *Psychological Review, 112*, 60–74.
Francis, L. J. (1993). The dual nature of the Eysenckian neuroticism scales: A question of sex differences. *Personality and Individual Differences, 15*, 43–59.
Frisch, M. B. (1998). Quality of life therapy and assessment in health care. *Clinical Psychology: Science and Practice, 5*, 19–40.
Fujita, F., Diener, E., & Sandvik, E. (1991). Gender differences in negative affect and well-being: The case for emotional intensity. *Journal of Personality and Social Psychology, 61*, 427–434.
Garcia, D. (2011). Two models of personality and well-being among adolescents. *Personality and Individual Differences, 50*, 1208–1212.
Gilman, R., & Huebner, S. E. (1997). Children's reports of their life satisfaction: Convergence across raters, time, and response formats. *School Psychology International, 18*, 229–243.
Gilman, R., & Huebner, E. (2006). Characteristics of adolescents who report very high life satisfaction. *Journal of Youth and Adolescence, 35*, 311–319.
Graziano, W. G., Jensen-Campbell, L. A., & Finch, J. F. (1997). The self as a mediator between personality and adjustment. *Journal of Personality and Social Psychology, 73*, 392–404.
Griffith, J. W., Zinbarg, R. E., Craske, M. G., Mineka, S. S., Rose, R. D., Waters, A. M., et al. (2010). Neuroticism as a common dimension in the internalizing disorders. *Psychological Medicine: A Journal of Research in Psychiatry and the Allied Sciences, 40*, 1125–1136.
Hayes, N., & Joseph, S. (2003). Big 5 correlates of three measures of subjective well-being. *Personality and Individual Differences, 34*, 723–727.
Headey, B. W., & Wearing, A. J. (1989). Personality, life events, and subjective well-being: Toward a dynamic equilibrium model. *Journal of Personality and Social Psychology, 57*, 731–739.
Heaven, P. C. L. (1989). Extraversion, neuroticism, and satisfaction with life among adolescents. *Personality and Individual Differences, 10*, 489–492.

Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review, 94*, 319–340.

Ho, M. Y., Cheung, F. M., & Cheung, S. F. (2008). Personality and life events as predictors of adolescents' life satisfaction: Do life events mediate the link between personality and life satisfaction? *Social Indicators Research, 89*, 457–471.

Huebner, E. S. (1991a). Initial development of the Students' Life Satisfaction Scale. *School Psychology International, 12*, 231–240.

Huebner, E. S. (1991b). Correlates of life satisfaction in children. *School Psychology Quarterly, 6*, 103–111.

Huebner, E. S. (1991c). Further validation of the Students' Life Satisfaction Scale: The independence of satisfaction and affective ratings. *Journal of Psychoeducational Assessment, 9*, 363–368.

Huebner, E., Drane, W., & Valois, R. F. (2000a). Levels and demographic correlates of adolescent life satisfaction reports. *School Psychology International, 21*, 281–292.

Huebner, E. S., Funk, B. A., & Gilman, R. (2000b). Cross-sectional and longitudinal psychosocial correlates of adolescent life satisfaction reports. *Canadian Journal of School Psychology, 16*, 53–64.

Huebner, E. S., Hills, K. J., Sidall, J., & Gilman, R. (2014). Life satisfaction and schooling. In M. J. Furlong, R. Gilman, & E. S. Huebner (Eds.), *Handbook of Positive Psychology in Schools* (2nd ed., pp. 192–207). New York: Routledge.

Huebner, E. S., Suldo, S. M., & Gilman, R. (2006). Life satisfaction. In G. Bear & K. Minke (Eds.), *Children's needs III: Development, prevention, and correction* (pp. 357–368). Bethesda, MD: NASP.

Hughes, F. M., & Seta, C. E. (2003). Gender stereotypes: Children's perceptions of future compensatory behavior following violations of gender roles. *Sex Roles, 49*, 685–691.

Joshanloo, M., & Afshari, S. (2011). Big Five personality traits and self-esteem as predictors of life satisfaction in Iranian Muslim university students. *Journal of Happiness Studies, 12*, 105–113.

Kroger, J. (2004). *Identity in adolescence: The balance between the self and other*. New York, NY: Routledge Taylor and Francis Group.

Lewinsohn, P. M., Redner, J. E., & Seeley, J. R. (1991). The relationship between life satisfaction and psychosocial variables: New perspectives. In F. Strack, M. Argyle, & N. Schwartz (Eds.), *Subjective well-being* (pp. 193–212). New York: Plenum Press.

Lewis, A. D., Huebner, E., Malone, P. S., & Valois, R. F. (2011). Life satisfaction and student engagement in adolescents. *Journal of Youth and Adolescence, 40*, 249–262.

Lounsbury, J. W., Saudargas, R. A., Gibson, L. W., & Leong, F. T. (2005). An investigation of broad and narrow personality traits in relation to general and domain-specific life satisfaction of college students. *Research in Higher Education, 46*, 707–729.

Lounsbury, J. W., Steel, R. P., Loveland, J. M., & Gibson, L. W. (2004). An investigation of personality traits in relation to adolescent school absenteeism. *Journal of Youth in Adolescence, 33*, 457–466.

Lounsbury, J. W., Tatum, H., Gibson, L. W., Park, S., Hamrick, F. L., Sundstrom, E. D., et al. (2003). The development of a Big Five adolescent personality inventory. *Journal of Psychoeducational Assessment, 21*, 111–133.

Magnus, K., Diener, E., Fujita, F., & Pavot, W. (1993). Extraversion and neuroticism as predictors of objective life events: A longitudinal analysis. *Journal of Personality and Social Psychology, 65*, 1046–1053.

McKnight, C. G., Huebner, E. S., & Suldo, S. M. (2002). Relationships among stressful life events, temperament, problem behavior, and global life satisfaction in adolescents. *Psychology in the Schools, 39*, 677–687.

Mervielde, I., Buyst, V., & DeFruyt, F. (1995). The validity of the big-five as a model for teachers' ratings of individual differences among children aged 4–12. *Personality and Individual Differences, 18*, 525–534.

Moksnes, U. K., & Espnes, G. A. (2013). Self-esteem and life satisfaction in adolescents—Gender and age as potential moderators. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care & Rehabilitation, 22*(10), 2921–2928.

Moore, D. (2007). Self perceptions and social misconceptions: The implications of gender traits for locus of control and life satisfaction. *Sex Roles, 56*, 767–780.

Oishi, S., & Diener, E. (2001). Re-examining the general positivity model of subjective well-being: The discrepancy between specific and global domain satisfaction. *Journal of Personality, 69*, 641–666.

Pavot, W., Fujita, F., & Diener, E. (1997). The relationship between self-aspect congruence, personality, and subjective well-being. *Personality and Individual Differences, 22*, 183–191.

Proctor, C., Linley, P., & Maltby, J. (2010). Very happy youths: Benefits of very high life satisfaction among adolescents. *Social Indicators Research, 98*, 519–532.

Rigby, B. T., & Huebner, E. S. (2005). Do causal attributions mediate the relationship between personality characteristics and life satisfaction in adolescence? *Psychology in the Schools, 42*, 91–99.

Roberts, B. W., & DelVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin, 126*, 3–25.
Ryckman, R. (2004). *Theories of personality*. Belmont, CA: Thomson/Wadsworth.
Scholte, R., & De Bruyn, E. (2001). The revised Junior Eysenck Personality Questionnaire (JEPQ-R): Dutch replications of the full-length, short, and abbreviated forms. *Personality and Individual Differences, 31*, 615–625.
Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*, 5–14.
Steel, P., Schmidt, J., & Shultz, J. (2008). Refining the relationship between personality and subjective well-being. *Psychological Bulletin, 134*, 138–161.
Stevens, J. P. (1999). *Applied multivariate statistics for the social sciences* (4th ed.). New Jersey: Lawrence Erlbaum Associates.
Suldo, S. M., Frank, M. J., Chappel, A. M., Albers, M. M., & Bateman, L. P. (2013). American high school students' perceptions of determinants of life satisfaction. *Social Indicators Research* (Advance online publication).
Suldo, S. M., Huebner, E. S., Friedrich, A. A., & Gilman, R. (2009). Life satisfaction. In R. Gilman, E. S. Huebner, & M. Furlong (Eds.), *Handbook of positive psychology in the schools* (pp. 27–35). New York: Routledge.
Suldo, S. M., & Shaffer, E. J. (2008). Looking beyond psychopathology: The dual-factor model of mental health in youth. *School Psychology Review, 37*, 52–68.
Suldo, S. M., & Shaunessy-Dedrick, E. (2013). The psychosocial functioning of high school students in academically rigorous programs. *Psychology in the Schools, 50*(8), 823–843. doi:10.1002/pits.21708.
Trautner, H. M., & Eckes, T. (2000). In T. Eckes & H. M. Trautner (Eds.), *Putting gender development into context: Problems and Prospects* (pp. 419–434). Mahwah, NJ: Lawrence Erlbaum Associates.
Young, R., & Sweeting, H. (2004). Adolescent bullying, relationships, psychological well-being, and gender-atypical behavior: A gender diagnosticity approach. *Sex Roles, 50*, 525–537.