

Running head: POSITIVE PSYCHOLOGY

## **Examining Gifted Students' Mental Health through the Lens of Positive Psychology**

Shannon M. Suldo, Brittany V. Hearon, and Elizabeth Shaunessy-Dedrick

University of South Florida

Chapter for: *Handbook on Giftedness and Talent Development*

*This is a pre-copyedited, author-produced PDF of an article accepted for publication in the APA Handbook of Giftedness and Talent. The version of record [citation information below] is available online at <https://psycnet.apa.org/record/2017-32525-028>*

Suldo, S. M., Hearon, B. V., & Shaunessy-Dedrick, E. (2018). Examining gifted students' mental health through the lens of positive psychology. In S. I. Pfeiffer, E. Shaunessy-Dedrick, & M. Foley-Nicpon (Eds.), *APA Handbook of Giftedness and Talent* (pp. 433-449). Washington, DC: American Psychological Association. doi: 10.1037/0000038-028

The research reported here was supported by the Institute of Education Sciences, U.S. Department of Education, through Grant R305A100911 to The University of South Florida. The opinions expressed are those of the authors and do not represent views of the Institute or the U.S. Department of Education.

\*Address correspondence to Shannon Suldo, Ph.D., Department of Educational and Psychological Studies, University of South Florida, 4202 East Fowler Avenue, EDU 105, Tampa, FL, 33620. Phone: (813) 974-2223. E-mail: [suldo@usf.edu](mailto:suldo@usf.edu)

### Abstract

In this chapter, we focus on research that is most pertinent to gifted education. We begin with an overview of the constructs (organized within the three original pillars of positive psychology) relevant to youth, education, and gifted education. First, we offer a working definition of giftedness and gifted education.

### **Examining Gifted Students' Mental Health through the Lens of Positive Psychology**

The psychological functioning of gifted and talented youth can be conceptualized from a traditional lens that is focused on identification and remediation of within-person problems, or from a modern lens that takes a more holistic view of individuals as also having personal strengths and environmental resources (Wright & Lopez, 2009). This chapter describes a specific modern framework- positive psychology- that was introduced by Martin Seligman and Mihaly Csikszentmihalyi (2000) as intended to change “the focus of psychology from preoccupation only with repairing the worst things in life to also building positive qualities” (p. 5). In describing psychology’s origins pre-World War II, Seligman and Csikszentmihalyi summarized three primary missions of the field— alleviate mental health problems, improve the lives of all people, and cultivate exceptional talent. Initiatives within positive psychology refocused attention to the latter two goals, including via development of strategies to improve happiness among the general public, as well as through research devoted to fostering excellence. Exceptional intellectual ability is one form of excellence in young people (Seligman & Csikszentmihalyi, 2000). The natural linkages between positive psychology and gifted education were explicated in the aforementioned landmark special issue of the *American Psychologist* that was devoted to positive psychology (Seligman & Csikszentmihalyi). Some of the invited papers featured in that issue directed attention to the social-emotional functioning of gifted youth (Winner, 2000) and how to foster intellectual and psychological development among talented students (Lubinski & Benbow, 2000).

In positive psychology, attention is directed towards the personal competencies and environmental resources that facilitate well-being. In particular, the three themes running through the original positive psychology framework entailed: (1) positive emotions and

experiences, including feelings of happiness, (2) positive individual traits, including personality traits now conceptualized as character strengths, and (3) positive institutions, specifically the social contexts such as healthy schools and families that shape individuals' positive experiences and ultimate societal contributions (Seligman & Csikszentmihalyi, 2000). The review of literature in this chapter is organized around those three primary foci of positive psychology.

Since the introduction of positive psychology at the turn of the millennium, Donaldson, Dollwet, and Rao (2015) reported that over 1300 articles pertinent to positive psychology have been published in the professional literature (i.e., 1999 – 2013). The nature of these papers has evolved from conceptual to empirical, leading Donaldson et al. to conclude that “many psychological researchers have been inspired to investigate topics that illuminate the scientific understanding of factors that enable individuals, communities, and societies to flourish in contemporary times” (p. 192). Although the majority of extant empirical studies examined adults, a sizeable minority (16% of the 771 studies) included samples of children and adolescents (Donaldson et al.). Such studies contain growing guidance on issues pertinent to assessment, predictors, and benefits of, as well as interventions to improve, youth well-being. In this chapter, we focus on the research that is most pertinent to gifted education. We begin with an overview of the constructs (organized within the three original pillars of positive psychology) relevant to youth, education, and (when studied to date), gifted education. First, we offer a working definition of giftedness and gifted education.

### **Importance of the Topic**

Definitions of giftedness vary greatly from state to state and from nation to nation, and reflect the many conceptions of giftedness that abound. Although the federal definition describes gifted individuals as those who “give evidence of higher performance capability in such areas as

intellectual, creative, artistic, or in specific academic fields, and who need services or activities not ordinarily provided by the school in order to fully develop those capabilities,” states vary greatly in their conceptualization of giftedness and provision of related educational services (No Child Left Behind Act, P.L. 107-110 (Title IX, Part A, Definition 22) (2002); 20 USC 7801(22) (2004).

Students who pursue particularly rigorous coursework in the United States, such as college-level classes during high school, include those identified as intellectually or academically gifted and talented. In the state where we have conducted all of our research on students pursuing accelerated high school curricula, the state’s gifted identification criteria includes a demonstrated need for the program, evidence that a student exhibits behaviors associated with gifted performance, and a 130 or above on an individually-administered intelligence test (Florida Department of Education, 2010).

In our previous studies of gifted adolescents, we examined students enrolled in Advanced Placement (AP) courses and students accepted to the International Baccalaureate (IB) at their respective high schools. Neither of these programs serve exclusively intellectually gifted learners, but gifted students were represented in our previous studies that examined either IB students (Shaunessy & Suldo, 2010) or IB and AP students (Suldo & Shaunessy-Dedrick, 2013). In the case of IB students, we have found the academic functioning (e.g., grades, academic competence beliefs, behavioral engagement at school) of IB students who had not been identified as gifted to be quite similar to that of their gifted IB peers, and superior to the academic functioning of their classmates at the same school who took part in general education (Shaunessy, Suldo, Hardesty, & Shaffer, 2006).

### **Positive Psychology Pillar: Individual Well-Being**

A common theme in the positive psychology literature is determining how to best operationalize personal well-being, then integrating these conceptualizations in the broader discussion of defining mental health as more than the simple absence of problems. Terms such as life satisfaction, happiness, and well-being are often used interchangeably or imprecisely in the literature (Donaldson et al., 2015). Further complicating matters, the primary well-being outcome has shifted from an initial near exclusive focus on aspects of subjective well-being to a broader focus on multiple features of hedonic and eudemonic well-being that are reflected in ‘PERMA’ theory (Seligman, 2011). Beginning with the more researched construct, subjective well-being entails “a person’s cognitive and affective evaluations of his or her life as a whole” (Diener, Oishi, & Lucas, 2009, pp. 187). Subjective well-being is comprised of life satisfaction (i.e., global appraisal of the personally salient domains of one’s life, such as satisfaction with family, friends, and school/work) and frequency of positive emotions and moods (e.g., excited, cheerful, interested) relative to negative emotions (e.g., sad, ashamed, scared). A student with high subjective well-being would in general agree that his or her life is going well, and experience positive emotions more frequently than negative emotions. Perhaps due to its more stable nature, life satisfaction is the component of subjective well-being that has been studied the most among youth samples. Nevertheless, the importance of positive moods is made clear by classic research within the broaden-and-build theory, which establishes that positive moods cause an upward spiral that facilitates creative problem-solving and builds cognitive resources (Fredrickson, 2001). An application of this theory to high school students confirmed that youth who felt more cheerful at school (due to feeling connected and engaged) in turn incurred more positive experiences at school (Stiglbauer, Gnambs, Gamsjäger, & Batinic, 2013).

Relatively recently, Seligman (2011) urged psychologists and researchers to attend to five elements of well-being rather than to equate well-being with the presence of positive emotions. The PERMA acronym stands for: positive emotion (including subjective well-being, as indicated by life satisfaction and positive affect including feelings of happiness), engagement, relationships, meaning, and achievement/accomplishment. Gifted youth by definition experience achievement in school realms. The overarching goal for an individual student's well-being is flourishing, as indicated by high levels of multiple elements of PERMA (Seligman, 2011).

Modern conceptualizations of positive mental health during youth involve recognition that well-being and mental illness are related but separate dimensions (Keyes, 2006; Suldo & Shaffer, 2008). Those lines of research have illustrated the importance of the well-being factor through identifying the wide variety of youth outcomes with which it is associated. For instance, among youth without elevated levels of mental health problems, adolescents with high subjective well-being have better social relationships, physical health, and positive attitudes about school than their peers who report low subjective well-being (Suldo & Shaffer, 2008; Suldo, Thalji-Raitano, Kiefer, & Ferron, 2015). Such findings support the notion that the most appropriate goal for psychologists is not the mere absence of mental illness; instead, the combination of high subjective well-being and minimal symptoms of mental health problems predicts the best concurrent and later adjustment (Greenspoon & Saklofske, 2001; Lyons, Huebner, & Hills, 2013; Suldo, Thalji, & Ferron, 2011). In line with this mounting support for subjective well-being as a key indicator of mental health, growing research attention has focused on understanding the mean levels of subjective well-being, and the primary determinants of it, among general samples of youth as well as subgroups of interest to educators and psychologists (e.g., gifted students).

**Correlates of youth subjective well-being.** Findings from a growing number of studies that examined youth on a single occurrence or across time have generally confirmed that a core set of variables co-vary with differences in children and adolescents' levels of subjective well-being (Suldo, 2016). The most robust correlates (sometimes conceptualized as determinants) of youth happiness include internal qualities as well as social relationships and resources. Internal correlates of high subjective well-being include positive mindsets (e.g., self-confidence, optimism); engagement in prosocial or goal-directed activities; satisfactory physical health; financial resources sufficient to meet basic needs; and personal abilities and skills such as strategies used to cope with adverse experiences and achievement in areas like education. With respect to key environmental correlates, youth with high subjective well-being often experience supportive relationships with family members, friends, classmates, and teachers; safety and security in primary settings such as school and neighborhood; and relatively low stress in terms of major life changes (e.g., death of a loved one) or chronic stressors (e.g., frequent arguments with friends or family members). In accord with the understanding that multiple areas of life contribute to students' happiness, multidimensional approaches to measuring youth life satisfaction consider students' satisfaction in five key domains: school, family, friends, living environment, and self (Huebner, 1994).

**Unique predictors of gifted students' subjective well-being.** In qualitative studies in which students were asked to describe factors pertinent to their subjective well-being, youth have responded by generating lists of determinants from a remarkably similar set of broad categories robust to respondent demographic features like age and nationality (for a summary of this research, see Suldo, 2016). Absent from the literature are comprehensive studies of the extent to which the correlates described above predict subjective well-being for gifted youth in a manner



similar to general samples of youth. In an exception, Ash and Huebner (1998) found that, although gifted and non-gifted middle school students reported comparable levels of domain-specific and global life satisfaction, the two groups varied in the manner in which individual domains related to their appraisal of life overall. In particular, satisfaction with school accounted for a greater portion of unique variance in global life satisfaction among gifted students. Although school satisfaction contributes relatively little to satisfaction with life overall among general samples of students not identified as gifted (Dew & Huebner, 1994), the finding that gifted students attribute more of their global satisfaction to school is consistent with their heightened academic talents and often accompanying success. This may be particularly beneficial as gifted students with high satisfaction with school report more positive emotions and optimistic thoughts than those with low satisfaction with school, and their elevated level of positive affect stays relatively stable even when levels of negative feelings increase (Hoekman, McCormick, & Gross, 1999). Gifted students who are more satisfied with school also demonstrate more intrinsic motivation, whereas gifted students with lower school satisfaction maintain low intrinsic motivation regardless of their level of burnout, reflecting learned helplessness (Hoekman et al., 1999). Given the salience of school satisfaction to global life satisfaction among gifted learners, and benefits realized by students who are more satisfied with school, educators may want to be particularly attuned to school satisfaction as an outcome of efforts to create an optimal learning environment for students.

### **Positive Psychology Pillar: Individual Strengths**

Just as the pathology-focused years of psychology have led to refinements in the major classification system of mental health problems—the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013)—a primary aim of positive

psychology has been to coherently identify and categorize human strengths of character. The classification system that resulted from the Values in Action (VIA) project includes 24 positive traits that are cross-culturally valued and grounded in moral principles. Conceptually, the 24 character strengths are organized into six virtues: wisdom and knowledge, courage, humanity, justice, temperance, and transcendence (Peterson & Park, 2009). To illustrate, the character strength termed “open-mindedness” is defined as a frequent tendency to examine an issue from all sides in order to think about the issue critically and thoroughly. Open-mindedness falls under the virtue category of “wisdom and knowledge,” which encompasses cognitive strengths that involve the acquisition and use of knowledge.

Through completion of the VIA inventory of strengths, individuals can relatively quickly explore their top strengths. The VIA survey is available for free online (see <http://www.viacharacter.org/>), with versions for youth and adults. The VIA youth survey is commonly used to develop an individual profile of ranked character strengths. A student’s unique profile of ‘signature’ strengths (i.e., ‘top five’ character traits) contains his or her positive traits that are frequently exhibited, highly regarded, and individually celebrated (Peterson & Seligman, 2004). In describing the centrality of character strengths to all aspects of well-being, Seligman (2011) contends that deployment of any of the 24 strengths captured in the VIA framework promotes engagement as well as engenders more positive emotion, meaning, accomplishment, and better relationships.

Shoshani and Slone (2013) found that strengths in the areas of temperance (i.e., self-regulation, prudence, perseverance) and knowledge (strengths of the “head” or “mind” such as love of learning, curiosity, open-mindedness) have the strongest associations with middle school students’ academic success as indexed by their grade point averages (see also chapter on

Emotional Intelligence and Giftedness). Strengths of the “heart” (e.g., kindness, social intelligence) co-occur with better cognitive and behavioral engagement at school, as do the aforementioned strengths reflecting temperance and knowledge. Strengths of all types are tied to greater positive affect and/or life satisfaction (Shoshani & Slone, 2013). School-based interventions that have used the VIA classification system during programs to cultivate individual students’ strengths and to encourage the recognition of such strengths in others have been credited with improving positive emotions and engagement among elementary school students (Quinlan, Swain, Cameron, & Vella-Brodrick, 2015) and life satisfaction in middle school students (Proctor et al., 2011).

Salmela and Uusiautti (2015) examined the signature character strengths of the highest-achieving graduates from upper secondary education in Finland. The sample of 14 youth performed in the top 1% of all youth on the national matriculation examinations. Participants wrote about their schooling histories, including their perceived strengths, successes, and adversities faced. Half of the sample took part in follow-up interviews intended to gather more information about how these students were able to achieve at such a high level. Thematic analysis of the qualitative data indicated the presence of ten character strengths, representing each of the six virtues from the VIA classification system. In particular, these students’ narrative reflected strengths in the area of wisdom and knowledge (i.e., curiosity as well as love of learning), courage or mental fortitude (i.e., bravery, perseverance, and authenticity), and humanity (i.e., love [valuing of close relationships] combined with a desire for fairness). In sum, these exceptionally high-achieving students were similar in their high thirst for knowledge and passion for learning, coupled with grit and autonomy, and appreciation for the support that stemmed from social relationships. This initial research suggests that character strengths among

gifted youth are interconnected, strengthen each other, and facilitate students' success in academic endeavors.

### **Positive Psychology Pillar: Institutions that Promote Students' Strengths and Well-Being**

Given the salience of character strengths and well-being to students' success, a logical question becomes how to create environments that foster these positive experiences among gifted youth. Some of these contexts include classrooms, but also can occur outside of school. In the educational context, schools that promote access to like-minded peers through grouping of youth in accelerated coursework may be one means to provide these youth contact with other adolescents who are similarly more apt to be particularly driven, inquisitive, and pensive (Winner, 2000). Outside of options available in typical public schooling, summer programs, and residential schools for gifted youth also provide avenues to interact with other like-minded peers.

In addition to potential social benefits and enhanced feelings of belongingness, providing gifted youth with an individualized and often accelerated learning environment that provides an "appropriate developmental placement" (Lubinski & Benbow, 2000, p. 138) is also essential in increasing students' flow experiences. Csikszentmihalyi coined the term flow to refer to peak experiences in which people are deeply absorbed in a task that is challenging but proportional to one's skills and strengths; during such periods of absorption in demanding tasks, time seems to "stand still" or "fly by" (see chapter by Csikszentmihalyi). In positive psychology, complementing or even forsaking momentary pleasures by engaging in more flow experiences through enacting person strengths (e.g., love of learning, perseverance, prudence) is a primary mechanism by which personal happiness is increased (Seligman, 2002). Applied to education, the psychological well-being of gifted youth is likely to be enhanced as a function of the time they spend in learning activities that compel or inspire high levels of concentration, interest, and

enjoyment (Shernoff, Abdi, Anderson, & Csikszentmihalyi, 2014). For gifted students, such cognitive engagement in learning is more likely to be apparent in classes in which the curriculum is well-matched to their advanced ability level, all while being relevant to the students' interests and goals. In the case of gifted adolescents, lofty educational aspirations and an intrinsic love of learning are common. Accordingly, many educators have conceptualized college-level courses—AP classes and IB programs—as a high school curriculum particularly well-suited to students identified as gifted. The accelerated pace and advanced content may (a) be met enthusiastically by students who have a particular thirst for knowledge and tenacious spirit (Salmela & Uusiautti, 2015), (b) increase the likelihood of flow experiences at school, and (c) contribute to greater satisfaction with school. This notion is supported by Jin and Moon's (2006) comparison of school satisfaction ratings from very high-achieving Korean youth who attended either a residential high school for high-ability students that provided an accelerated science-oriented curriculum ( $n = 111$ ) or a regular high school ( $n = 188$ ). School satisfaction was significantly higher among students at the science school, who expressed particularly positive feelings about their academic program (i.e., advanced curriculum) and their teachers. Interestingly, the overall psychological well-being of the two groups of students was comparable (as indexed using a self-report measure that captured both hedonic and eudemonic elements of well-being), underscoring the notion that students' happiness is determined by experiences in many domains of life beyond school.

To understand the need for such contexts, and the unique features of youth in such accelerated contexts, in the next section we summarize findings from prior and current research pertinent to the mental health of gifted students. Given our interest in positive indicators of well-being, we focus most on recently published studies from the growing body of literature that has

examined an array of social-emotional issues affecting the gifted learner's academic and affective development through a positive psychology lens.

### **Research Review**

The body of research focused on gifted, high-achieving, and talented individuals addresses cognitive and affective needs of the gifted, though the former is more widely discussed than the latter, particularly with respect to the identification of students for gifted programming (Dai, Swanson, & Cheng, 2011). Pioneers in the research of affective needs of gifted and talented students can be traced back to the early 1900s.

### **Prior Research on the Mental Health of Gifted Students**

In his longitudinal study of more than 1,000 gifted individuals, Terman (1925) investigated a range of cognitive and affective considerations, including the social-emotional adjustment of gifted individuals. In contrast with prevailing beliefs about gifted individuals of that time, he found that gifted students were well-adjusted, stable youth. Though Terman's sampling and subsequent claims about gifted children were later questioned and criticized for misrepresentation of social-emotional needs of the gifted (Kerr, 1981; Webb, Meckstroth, & Tolan, 1982), his work remains foundational in establishing research related to the mental health of gifted youth. Hollingworth (1942) built on Terman's work and later substantiated Terman's claim that gifted children are, in general, well-adjusted emotionally. Through her longitudinal case studies of gifted youth, however, she also found that students with IQs over 150 were more likely to experience adjustment challenges than gifted individuals with lower IQ scores. Hollingworth attributed these difficulties to boredom with the typical school curriculum, lack of access to peers of similar cognitive abilities with whom to develop and refine social skills and

friendships, and dissonance experienced as a result of having the intellectual age of an adult within the emotional age of a child.

More contemporary research has explored an array of social-emotional issues affecting the gifted learner's academic and affective development. Notably, Peterson (2003) has explored proactive and responsive approaches for a host of social-emotional issues, Speirs Neumeister, Williams, and Cross (2007) have considered perfectionism among gifted youth, and Mueller (2009) has studied depression in gifted and talented individuals. Trotman Scott (2012) asserts that such discussions of affective needs of gifted learners often neglect social-emotional issues particular to African American students that may be compounded due to their giftedness, such as negative peer pressure (Fordham & Ogbu, 1986) and racial identity issues (Cross & Vandiver, 2001). Other affective issues that have been explored in this body of research include interpersonal relationships (e.g., Matthews & Kitchens, 2007), the role that giftedness plays in moderating deleterious outcomes for children and youth (e.g., Neihardt, 1999), and, of particular relevance to this chapter, students' psychological well-being (e.g., Jin & Moon, 2006).

In addition to such literature, Peterson (2006) has argued cogently for the inclusion of affective needs of the gifted in counselor education programs, emphasizing the importance of attending to the unique needs of special populations of gifted learners, including underachieving gifted and highly gifted students, and to educate adults in the complexities of giftedness as a risk factor (2009). In response to the compelling arguments of researchers, the National Association for Gifted Children (2009) also issued a white paper that outlines the range of affective issues relevant to this diverse population, with charges for researchers, educators, psychologists, and counselors to remain aware of these issues, invest in additional research to explore less widely-

investigated areas, and to promote the understanding of an array of considerations, including needs of underrepresented populations, mental health issues, non-assets, and personal strengths.

**Examining gifted students' mental health using traditional indicators of problems.**

As with the general population of youth, the mental health of gifted students has been assessed from a problem-focused lens targeting symptoms of internalizing (e.g., depression, anxiety) and externalizing (e.g., aggression, conduct disruptions) problems. For example, one study that compared the psychosocial functioning of general education students ( $n=113$ ) and students pursuing rigorous high school coursework ( $n=367$ ) confirmed that students in accelerated curricula (IB or AP) reported higher levels of stress than students in general education (Suldo & Shaunessy-Dedrick, 2013). Although stress is often accompanied by increased symptoms of psychopathology, our prior work has indicated that high school students in IB ( $n=122$ ) had *fewer* symptoms of externalizing behaviors and less affiliation with rule-breaking peers than the students in their school served in general education ( $n=176$ ), as well as similar (not elevated) levels of social problems and internalizing symptoms of psychopathology (Shaunessy, Suldo, Hardesty, & Shaffer, 2006). Such findings support the notion that gifted students served in an appropriate developmental placement (i.e., accelerated curricula) may not be at elevated risk for suffering emotionally, even if they endure greater stress associated with the intense academic demands that are inherent to their AP or IB program.

**Examining gifted students' mental health from a positive psychology perspective.** To date, the majority of research on the potential affective needs of gifted students has centered on vulnerabilities and deficits related to suboptimal academic and mental health outcomes, consistent with the research described above. With the inception of the positive psychology movement and increasing acknowledgement that well-being is not merely the absence of



emotional distress, educational scholars and practitioners have sought to identify and promote positive indicators of well-being among students in schools, including that of gifted learners.

*Indicators of subjective well-being.* While relatively few studies have examined the subjective well-being of advanced students, extant research demonstrates that gifted and high-achieving learners have similar to superior well-being compared to their peers not identified as gifted. Case in point, comparisons of domain-specific and global life satisfaction between groups of gifted and high-achieving IB students and general education peers suggested that IB and general education students differ in satisfaction with two domains: living environment and friends (Shaunessy et al., 2006). Specifically, IB participants reported significantly *higher* satisfaction with their living environments, and those identified as gifted reported *higher* satisfaction with friends, relative to their general education counterparts. IB and general education students were similarly satisfied with their lives overall, as well as in the domains self, school, and family. The finding that IB students are more highly satisfied with their friends also emerged in our more recent examination of life satisfaction among a larger sample of students enrolled in accelerated programs or general education (Suldo & Shaunessy-Dedrick, 2013). Specifically, although students in IB programs, AP courses, and general education courses had comparable levels of global life satisfaction, as well as comparable levels of satisfaction in the domains of self, school, family, and living environments, IB students reported significantly higher satisfaction with friends. Entering the IB program as part of a cohort, traveling to classes with the same group of students, and greater exposure to like-minded peers may contribute to this elevated happiness in the friends domain. Findings from qualitative research further support that high school students in college-level courses find comfort in interacting with peers with

similar levels of academic talent, which may facilitate stronger satisfaction with friendships (Park, Caine, & Wimmer, 2014).

In addition to greater satisfaction with friendships, gifted and academically talented students may also experience elevated levels of positive affect, as evidenced by Merrell, Gill, McFarland, and McFarland's (1996) comparison of gifted and non-gifted students in grades 3-6. Although their investigation aimed to identify differences in symptoms of internalizing problems, the Internalizing Symptoms Scale for Children (ISSC; Merrell & Walters, 1996) that the children completed yielded two distinct scales- emotional distress and positive affect. Gifted students reported significantly greater levels of positive affect as indexed by the ISSC scale comprised of ratings of positive emotions (e.g., feel cheerful, important, energetic, happy) and self-perceptions (e.g., I do well in school, I like myself). More research is needed to determine if such heightened positive emotions and self-concept among gifted students may serve to protect them from developing symptoms of internalizing problems, along the lines of prior research that has demonstrated a protective function of high subjective well-being among general samples of youth (Lyons et al., 2013; Suldo et al., 2011).

***Correlates of subjective well-being.*** Positive psychological constructs that are correlated with subjective well-being and have been examined among samples of gifted youth include optimism, perfectionism, and school satisfaction associated with specialized academic settings. For instance, Pajares (2001) found that high-achieving middle school students had higher levels of optimism and authenticity than low-achieving students, contributing to higher academic motivation and subsequent achievement. Hoekman, McCormick, and Barnett (2005) further demonstrated the importance of positive emotions and optimistic thoughts in academically gifted students' educational pursuits; this cluster of positive feelings was significantly associated with

7<sup>th</sup> grade students' intrinsic and extrinsic motivation, and exerted both direct effects on greater satisfaction with school as well as indirect effects on commitment to schoolwork through the positive influence on motivation and inverse association with feelings of burnout. Taken together, holding expectations for favorable outcomes in the future may help gifted youth maintain high motivation for achievement, in part because optimistic students attribute failure to external sources rather than personal shortcomings (Seligman, 2002) and feelings of optimism co-occur with positive emotions that create an upward spiral of cognitive and social resources (Fredrickson, 2001).

Chan (2012) compared the mindset and well-being of teacher-nominated gifted Chinese primary and secondary students who were clustered into three categories (nonperfectionists, unhealthy perfectionists, and healthy perfectionists) according to their levels of two aspects of perfectionism- *high standards* and *discrepancy* between standards and performance. Findings indicated that gifted students who were healthy perfectionists (high standards, low discrepancy) had greater happiness levels than unhealthy perfectionists (high standards, high discrepancy). Gifted and high-achieving students' perfectionistic tendencies were not necessarily maladaptive, as happiness levels were similar among the groups of healthy perfectionists and nonperfectionists (neither high standards nor discrepancy). Further, in the combined sample, small but significant positive correlations were observed between high standards and life satisfaction ( $r = .13$ ) and happiness ( $r = .13$ ). In contrast, a greater discrepancy between one's standards and level of performance was associated with less happiness and lower life satisfaction ( $r = -.22$  and  $-.31$ , respectively).

Investigations of gifted and high-achieving students have demonstrated that environmental factors (e.g., educational settings) contribute to students' domain-specific

happiness. Compared to gifted and high-achieving students enrolled in regular high schools, greater school satisfaction has been detected among American students attending a partial-day Governor's School (Robertson, 2013) and among Korean students attending a residential science-oriented school (Jin & Moon, 2006). Despite the students' particularly positive feelings about their teachers and academic program, neither study found significantly higher levels of subjective well-being (Robertson, 2013) or psychological well-being (Jin & Moon, 2006) among the subgroup of students attending the specialized school. In the case of the American study, the group of students who attended a Governor's School reported lower academic self-perceptions as compared to students who attended their home high schools. These findings are consistent with the Big-Fish-Little-Pond Effect, whereby high-achieving students experience higher academic self-concepts in heterogeneous educational settings, and lower academic self-concept in more rigorous school environments (Marsh, Chessor, Craven, & Roche, 1995; Marsh & Hau, 2003). For gifted students in specialized academic settings, the potentially negative influence of diminished academic self-concept on students' subjective well-being may be offset by the potentially positive influence of elevated school satisfaction.

### **Recent Research on the Positive Mental Health of Gifted Adolescents**

To further examine the mental health of gifted teenagers, in this section we present findings from analyses of a large dataset derived from a project funded by the U.S. Department of Education's Institute for Education Sciences. The overarching purpose of that grant was to examine factors associated with risk and success (with regard to mental health and academic achievement) among adolescents in AP and IB courses (Suldo & Shaunessy, 2010). Participants in the cross-sectional dataset that was accessed for the purposes of this chapter include 2379 students enrolled in AP classes ( $n = 1150$ ) or IB ( $n = 1229$ ) from twenty large public high

schools in five diverse districts within one state. Per school records, 28.2% of participants had been previously identified as intellectually gifted ( $n = 670$ ). The remaining 71.8% of the sample is considered high-achieving (i.e., met school entrance requirements for college-level courses) but not identified as gifted ( $n = 1706$ ). Three students whose gifted status was unknown were excluded from the analyses reported next. Students in the larger sample were evenly distributed across grades 9 through 12 and were diverse with respect to gender (38% male), SES (62.6% of mothers and 54.4% of fathers had college degrees or higher), race (approximately 55.8% Caucasian; 13.3% Asian; 12.3% African American; 7.3% other ethnic background; 11.4% multiracial), and ethnicity (approximately 16.9% Hispanic, Latino, or other Spanish origin). In the spring of 2012, participants completed self-report surveys assessing the constructs of interest (e.g., stressors and coping strategies, parent support for learning, connections to people at school, engagement in learning, mental health). Data collected from each participant's school records pertained to academic performance in classes, AP or IB exam scores, and educational experiences during middle school.

Given the relatively small body of empirical studies relevant to gifted students' subjective well-being, we conducted additional analyses of this archival dataset to first explore the mental health of gifted high students in accelerated curricula. To shed light on significant and particularly salient correlates (i.e., possible determinants) of subjective well-being for gifted high school students, we also examined bivariate and multivariate associations between students' life satisfaction and possible predictors we hypothesized would be salient given findings from the preceding literature review. The predictors included variables commonly regarded as within students (i.e., their unique strengths or weaknesses) or within their environment (i.e., their feelings about, or relationships with, parents, school, and peers).

In particular, the internal or student-level factors examined in relation to students' life satisfaction include indicators of students' character strengths, academic achievement, extracurricular activity involvement, perfectionistic tendencies, and coping styles. Regarding character strengths, we examined grit, consistent with the important role of perseverance that emerged in prior study of strengths in the most academically successful Finnish youth (Salmela & Uusiautti, 2015). Given the relevance of achievement and accomplishment to well-being, we examined the grades students earned in their courses. Consistent with conceptualizations of perfectionism as multifaceted, we examined students' levels of both adaptive (i.e., high standards for excellence) and maladaptive (i.e., discrepancy between performance and standards) aspects of perfectionism. Prior research on high school students in IB programs indicated that they experience greater stress than students in general education, and that use of coping strategies like positive reappraisal (i.e., focus your thoughts on the good things in your life or the good things in a difficult situation) is associated with higher life satisfaction even among the most stressed students (Suldo, Shaunessy, & Hardesty, 2008). Recent research has discerned that the primary stressors faced by high school students in accelerated courses entail intense academic demands (Suldo, Dedrick, Shaunessy-Dedrick, Fefer, & Ferron, 2015) and confirmed significant links between the strategies that students rely on to manage these academic stressors, and students' mental health and academic success (Suldo, Dedrick, Shaunessy-Dedrick, Roth, & Ferron, 2015). In the current project, we examined students' responses to academic stressors by asking them the frequency with which they engaged in behaviors—specifically, cognitive reappraisal and attempts to handle problems alone—that co-occur with greater or reduced levels of life satisfaction, respectively.

The external or environmental-level factors examined in relation to students' life

satisfaction included indicators of students' relationships with parents and classmates, as well as their engagement in their learning environment. In terms of parent-child relationships, we examined parents' emotional support and autonomy promotion, dimensions of authoritative parenting that predict greater life satisfaction among secondary students (Suldo & Huebner, 2004). Features of the academic environment that have been suggested as particularly salient to gifted students' psychological well-being includes supportive relationships with classmates (Winner, 2000), flow experiences during learning (Hoekman et al., 1999; Shernoff et al., 2014), and satisfaction with schooling experiences (Ash & Huebner, 1998), which can be reflected in feelings of pride in one's school, satisfaction with one's academic program, and positive appraisals of one's teachers (Jin & Moon, 2006; Robertson, 2013).

**Mental health of gifted students in accelerated high school programs.** As described earlier in this chapter, modern conceptualizations of mental health consider subjective well-being in tandem with psychopathology. Accordingly, the participants in our study reported their life satisfaction via the Students' Life Satisfaction Scale (Huebner, 1991) as well as their symptoms of psychopathology (i.e., anxiety, depression, social stress, attention problems, hyperactivity) via the Behavioral and Emotional Screening System (BESS; Kamphaus & Reynolds, 2007). Comparison of our participants' BESS scores to the distribution of scores for the nationally representative sample of teenagers ( $N = 1000$  youth ages 15 – 18) that comprise the BESS normative sample indicates that gifted students in accelerated high school classes are no more likely to have elevated levels of risk for having or developing emotional or behavioral problems. Specifically, in the BESS normative sample, between 13 and 14 percent of youth are classified as Elevated Risk ( $T \text{ score} \geq 61$ ). In our sample, 14.5% of the gifted students (97 of 670) yielded BESS scores within the Elevated Risk range. Regarding their peers in AP or IB who were not

identified as gifted, 15.4% (263 of 1706) fell in the Elevated Risk range. Taken together, these findings support the notion that the proportion of high school students in accelerated curricula that may be considered at risk for mental health problems is on par with the rate of mental health problems seen in typical teenagers.

National norms have not been advanced for subjective well-being. Instead, life satisfaction scores can be interpreted in an ipsative manner, and/or mean levels of life satisfaction can be compared between groups. On the SLSS, scores range from 1 (strongly *disagree* that life is going well) to 6 (strongly *agree* with statements that indicate high life satisfaction); scores  $\geq 4.0$  are in the positive range. On the SLSS, the average level of life satisfaction reported by our large sample of AP and IB students was 4.26 ( $SD = 0.96$ ), which exceeds the minimum value that corresponds to at least *mild* satisfaction with life. Further, there was not a significant difference in the happiness level of the gifted and not-identified groups,  $t(2374) = -1.58, p = .11$ . Instead, the positive mean level of life satisfaction reported by the gifted group ( $M = 4.31, SD = 0.94$ ) was comparable to the life satisfaction level reported by their high-achieving classmates ( $M = 4.24, SD = 0.97$ ).

**Predictors of life satisfaction among gifted students in accelerated high school programs.** To understand individual differences in gifted students' subjective well-being, we first examined the magnitude and statistical significance of bivariate relationships (correlations) between global life satisfaction scores and the internal and environmental factors described above as potentially salient to the happiness of gifted adolescents. Table 1 summarizes the way each factor was measured, as well as reports associations between a given factor and similar constructs represented in the dataset that we considered including in the present analyses, but ultimately chose to exclude due to conceptual overlap with the included factors.



Table 2 presents the correlations between all variables, as yielded within the dataset restricted to the 670 gifted high school students. As shown in Table 2, all variables selected for examination to better understand differences in gifted students' happiness were, as expected, significantly correlated ( $p < .05$ ) with life satisfaction in the anticipated directions. Regarding the magnitude of the associations, the strongest correlate of gifted adolescents' life satisfaction was authoritative parenting ( $r = .52$ ). High school students who perceived their parents provided emotional support while also supporting their autonomy and freedom reported the highest happiness with their lives. Although participation in extracurricular activities and semester GPA yielded relatively small associations with life satisfaction ( $r = .11$  and  $.19$ , respectively), these variables still demonstrated statistically significant and positive correlations, with slightly higher life satisfaction occurring with better grades and greater intensity/breadth of extracurricular activity involvement. The other internal and external factors yielded medium-sized correlations with life satisfaction, in support of the notion that happier gifted youth experience higher levels of grit ( $r = .37$ ), flow in the classroom ( $r = .35$ ), classmate support ( $r = .29$ ), and positive affect towards their school ( $r = .35$ ), as well as tend to cope with academic stressors through greater reliance on optimistic thinking strategies ( $r = .30$ ) while eschewing the urge to handle problems alone ( $r = -.35$ ). Last, the association between perfectionism and life satisfaction co-varied with the nature of the perfectionistic feature; holding high standards for performance was related to higher life satisfaction ( $r = .25$ ), while diminished life satisfaction was more common to students who judged themselves as failing to meet their performance standards ( $r = -.45$ ).

To determine the most salient and unique predictors of gifted high school students' life satisfaction, we included all of the aforementioned predictors in a simultaneous multiple regression equation. The linear combination of internal and external factors explained 43.24% of

the variance in global life satisfaction,  $F(11, 655) = 45.35, p < .001$ . A review of beta weights yielded from the equation indicated that six of the 11 internal and external factors were unique predictors of students' global life satisfaction (see Table 3). Specifically, authoritative parenting ( $\beta = .30$ ), positive attitudes towards school ( $\beta = .15$ ), flow experiences in the AP/IB classroom ( $\beta = .07$ ), classmate support ( $\beta = .06$ ), negative coping (handle problems alone;  $\beta = -.15$ ), and maladaptive perfectionism ( $\beta = -.18$ ) independently contributed to differences in life satisfaction after controlling for the shared contribution of all variables hypothesized to matter. Uniqueness indices are also displayed in Table 3. After controlling for the relative contributions of all other variables, authoritative parenting was the strongest predictor, uniquely accounting for 7% of the variance in students' life satisfaction. Positive attitudes towards school, ineffective coping (handle problems alone) and maladaptive perfectionism each accounted for an additional 2% of the unique variance in students' life satisfaction.

### **Summary and Conclusions**

A central aim of positive psychology is to foster strengths and growth among all individuals, rather than reserve psychological attention to those who suffer the most. When it comes to the likelihood of requiring mental health services to treat the presence of problems, research does not support an elevated need amongst gifted populations. Rather, findings from the literature reported herein indicate that the number of gifted students with elevated risk for psychopathology is no greater than one would expect in a sample of typical youth. Further, extant research supports the notion that most gifted students could be described as happy, as indexed by positive appraisals of their overall lives and within particular domains such as friends and school. When compared to other high-achieving students, findings from our recent research support the notion that gifted students' life satisfaction is comparable to that of their peers in AP

or IB courses who have not been previously identified or served as gifted. Taken together, gifted students appear just as likely to experience complete mental health as students who represent a broader range of intellectual abilities. This finding contrasts early misconceptions that gifted students may be at elevated risk for emotional distress, at least with respect to gifted youth whose accelerated curricula may provide an educational setting that is considered an appropriate developmental placement.

In addition to directing attention to positive indicators of well-being designed to capture the full range of human functioning (from miserable to delighted, as opposed to stopping at “not symptomatic”), research from a positive psychology perspective has advanced our understanding of the individual traits and environmental contexts that are most likely to promote a flourishing state of well-being. Findings have illustrated that gifted students’ happiness is not only tied to their school experiences, but also influenced by factors within families as well as students’ internal traits. Regarding schooling experiences, our research has confirmed that gifted students with higher life satisfaction indeed report (a) more frequent flow experiences in their AP or IB classes, (b) greater support from their AP or IB classmates, and (c) more positive attitudes towards their school, which co-occurs with greater satisfaction with one’s specific academic program (AP or IB) and the teachers within that program. Consistent with previous investigations, these findings illustrate that creating an appropriately challenging yet emotionally supportive academic setting for gifted youth is instrumental to ensuring not only academic success but also students’ happiness.

Parents often inquire as to their role in supporting their children’s emotional and academic development. During the teenage years, when youth spend more time outside of the home in understandable pursuit of educational, social, and vocational endeavors, parents may be

particularly unsure of their potential influence. In no uncertain terms, our recent findings underscore that gifted adolescents' life satisfaction is tied most closely to their perception of their parents as both (a) warm, responsive, and emotionally supportive, and (b) promoting their autonomy. This authoritative style of parenting is generally regarded as predictive of optimal outcomes in youth (Steinberg, 2001), and gifted students in accelerated high school programs are no exception.

Finally, our research as well as that of others supports the need to develop a better understanding of how to identify and promote the student-level character strengths and skills that are tied to youth happiness, and also emphasizes some student traits that place gifted students at risk for diminished happiness. Whereas higher levels of grit and use of effective coping strategies (specifically, responding to an academic stressor with optimistic thoughts or positive self-talk) were correlated with higher life satisfaction, some of the strongest predictors of low life satisfaction were maladaptive perfectionism and reliance on ineffective coping strategies (specifically, trying to handle problems alone, keeping problems to oneself). Thus, educators may consider proactive strategies for identifying and intervening with students who demonstrate such tendencies. The potential outcome of such efforts- happier students- is likely to be uplifting for youth and adults alike.

### References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- Ash, C., & Huebner, E. S. (1998). Life satisfaction reports of gifted middle-school children. *School Psychology Quarterly, 13*(4), 310-321. doi:10.1037/h0088987
- Chan, D. W. (2012). Life satisfaction, happiness, and the growth mindset of healthy and unhealthy perfectionists among Hong Kong Chinese gifted students. *Roeper Review: A Journal on Gifted Education, 34*(4), 224-233. doi:10.1080/02783193.2012.715333
- Cross, W. E., Jr., & Vandiver, B. J. (2001). Nigrescence theory and measurement: Introducing the Cross Racial Identity Scale (CRIS). In J. G. Ponterotto, J. M. Casas, L. A. Suzuki, & C. M. Alexander (Eds.), *Handbook of multicultural counseling* (2nd ed., pp. 371–393). Thousand Oaks, CA: Sage.
- Dai, D. Y., Swanson, J. A., & Cheng, H. (2011). State of research on giftedness and gifted education: a survey of empirical studies published during 1998—2010. *Gifted Child Quarterly, 55*(2), 126-138. doi:10.1177/0016986210397831
- Darling, N., & Toyokawa, T. (1997). *Construction and validation of the Parenting Style Inventory II*. The Pennsylvania State University: Internal publication.
- Dew, T., & Huebner, E. S. (1994). Adolescent's perceived quality of life: An exploratory investigation. *Journal of School Psychology, 32*(2), 185-199. doi:10.1016/0022-4405(94)90010-8
- Diener, E., Oishi, S., & Lucas, R. E. (2009). Subjective well-being: The science of happiness and life satisfaction. In Snyder, C. R., & Lopez, S. J. (Eds.), *The Oxford handbook of positive psychology* (2nd ed.; pp. 187-194). New York: Oxford University Press.

- Donaldson, S. I., Dollwet, M., & Rao, M. A. (2015). Happiness, excellence, and optimal human functioning revisited: Examining the peer-reviewed literature linked to positive psychology. *Journal of Positive Psychology, 10* (3), 185 – 195. doi: 10.1080/17439760.2014.943801
- Duckworth, A. L., & Quinn, P. D. (2009). Development and validation of the Short Grit Scale (Grit-S). *Journal of Personality Assessment, 91*, 166 – 174. doi: 10.1080/00223890802634290.
- Florida Department of Education. (2010). Rule 6A-6.03019 *Special instructional programs for students who are gifted*. Retrieved October 21, 2015 from [https://www.flrules.org/Gateway/View\\_notice.asp?id=1062070](https://www.flrules.org/Gateway/View_notice.asp?id=1062070)
- Fordham, S. & Ogbu, J. U. (1986). Black students' school success: Coping with the burden of "Acting White." *Urban Review, 18*, 176-206.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*, 218-226. doi:10.1037/0003-066X.56.3.218
- Greenspoon, P. J., & Saklofske, D. H. (2001). Toward and integration of subjective well-being and psychopathology. *Social Indicators Research, 54*, 81-108.
- Hoekman, K., McCormick, J., & Barnett, K. (2005). The important role of optimism in a motivational investigation of the education of gifted adolescents. *Gifted Child Quarterly, 49*, 99-110. doi:10.1177/001698620504900202
- Hoekman, K., McCormick, J., & Gross, M. M. (1999). The optimal context for gifted students: A preliminary exploration of motivational and affective considerations. *Gifted Child Quarterly, 43*(3), 170-193. doi:10.1177/001698629904300304

Hollingworth, L. S. (1942). *Children above 180 IQ Stanford-Binet: Origin and development*.  
Yonkers-on-Hudson, NY: World Book.

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

Huebner, E. S. (1994) Preliminary development and validation of a multidimensional life satisfaction scale for children. *Psychological Assessment, 6*, 149–158. doi: 10.1037/1040-3590.6.2.149

Jin, S., & Moon, S.M. (2006). A study of well-being and school satisfaction among academically talented students attending a science high school in Korea. *Gifted Child Quarterly, 50*, 169-184.

Kamphaus, R. W., & Reynolds, C. R. (2007). *BASC-2 Behavioral and Emotional Screening System (BESS) manual*. Circle Pines, MN: Pearson.

Kerr, B. A. (1981). Career education strategies for the gifted. *Journal of Career Education, 7*, 318-324.

Keyes, C. L. M. (2006). Mental health in adolescence: Is America's youth flourishing? *American Journal of Orthopsychiatry, 76*, 395–402. doi: 10.1037/0002-9432.76.3.395

Lyons, M. D., Huebner, E. S., & Hills, K. J., (2013). The dual-factor model of mental health: A short-term longitudinal study of school-related outcomes. *Social Indicators Research, 114*, 549-565. doi: 10.1007/s11205-012-0161-2

Lubinski, D. & Benbow, C. P. (2000). States of excellence. *American Psychologist, 55*, 137-150.

Malecki, C. K., & Demaray, M. K. (2002). Measuring perceived social support: Development of the Child and Adolescent Social Support Scale. *Psychology in the Schools, 39*, 1-18.

Marsh, H. W., Chessor, D., Craven, R., & Roche, L. (1995). The effect of gifted and talented

- programs on academic self-concept: The big fish strikes again. *American Educational Research Journal*, 32(2), 285-319. doi:10.2307/1163433
- Marsh, H. W., & Hau, K. (2003). Big-Fish--Little-Pond effect on academic self-concept: A cross-cultural (26-country) test of the negative effects of academically selective schools. *American Psychologist*, 58(5), 364-376. doi:10.1037/0003-066X.58.5.364
- Matthews, D., & Kitchen, J. (2007). School-within-a-school gifted programs: Perceptions of students and teachers in public secondary schools. *Gifted Child Quarterly*, 51, 256-271.
- McClain, M., & Pfeiffer, S. (2012). Identification of gifted students in the United States today: A look at state definitions, policies, and practices. *Journal of Applied School Psychology*, 28, 59-88. doi:10.1080/15377903.2012.643757
- McCoach, D. B., & Siegle, D. (2003). The School Attitude Assessment Survey-Revised: A new instrument to identify academically able students who underachieve. *Educational and Psychological Measurement*, 63, 414-429.
- Merrell, K. W., Gill, S. J., McFarland, H., & McFarland, T. (1996). Internalizing symptoms of gifted and non-gifted elementary-age students: A comparative validity study using the Internalizing Symptoms Scale for Children. *Psychology in the Schools*, 33(3), 185-191. doi:10.1002/(SICI)1520-6807(199607)33:3<185::AID-PITS1>3.0.CO;2-P
- Merrell, K.W., & Walters, A.S. (1996). *The Internalizing Symptoms Scale for Children: Users guide and technical manual*. Logan, UT: Department of Psychology, Utah State University.
- Mueller, C. E. (2009). Protective factors as barriers to depression in gifted and non-identified adolescents. *Gifted Child Quarterly*, 53, 3-14.
- Neihart, M. (1999). The impact of giftedness on psychological well-being: What does the



empirical literature say? *Roeper Review*, 25, 10-17.

No Child Left Behind Act, P.L. 107-110 (Title IX, Part A, Definition 22) (2002); 20 USC 7801(22) (2004).

National Association for Gifted Children. (2009). Nurturing social and emotional development of gifted children [Position paper]. Retrieved from <http://www.nagc.org/sites/default/files/Position%20Statement/Affective%20Needs%20Position%20Statement.pdf>

Pajares, F. (2001). Toward a positive psychology of academic motivation. *The Journal of Educational Research*, 95(1), 27-35. doi:10.1080/00220670109598780

Park, K., Caine, V., & Wimmer, R. (2014). The experiences of advanced placement and international baccalaureate diploma program participants: A systematic review of qualitative research. *Journal of Advanced Academics*, 25(2), 129-153.

Peterson, J. S. (2009). *Gifted and at risk: Poetic portraits*. Scottsdale, AZ: Great Potential.

Peterson, J. S. (2006). Addressing counseling needs of gifted students. *Professional School Counseling*, 10, 43–51.

Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A classification and handbook*. Washington, DC: American Psychological Association.

Peterson, C., & Park, N. (2009). Classifying and measuring strengths of character. In Snyder, C. R., & Lopez, S. J. (Eds.), *The Oxford handbook of positive psychology* (2nd ed.; pp. 25 – 33). New York: Oxford University Press.

Proctor, C., Tsukayama, E., Wood, A. M., Maltby, J., Fox Eades, J., & Linley, P. A. (2011). Strengths Gym: The impact of a character strengths-based intervention on the life satisfaction and well-being of adolescents. *Journal of Positive Psychology*, 6, 377-388.

doi: 10.1080/17439760.2011.594079

Quinlan, D. M., Swain, N., Cameron, C., & Vella-Brodrick, D. A. (2015). How 'other people matter' in a classroom-based strengths intervention: Exploring interpersonal strategies and classroom outcomes. *Journal of Positive Psychology, 10*, 77-89, doi:

10.1080/17439760.2014.920407

Robertson, J. C. (2013). Self-concept, school satisfaction, and other selected correlates of subjective well-being for advanced high school learners enrolled in two challenging academic settings. *Journal for the Education of the Gifted, 36*(4), 461-486.

doi:10.1177/0162353213506068

Salmela, M., & Uusiautti, S. (2015). A positive psychological viewpoint for success at school-10 characteristic strengths of the Finnish high-achieving students. *High Ability Studies, 26*, 117 – 137. doi: 10.1080/13598139.2015.1019607

Scott, M. T. (2012). Social-emotional and psychological issues and needs of gifted African-American students: Culture matters. *Interdisciplinary Journal of Teaching & Learning, 2*, 23-33.

Seligman, M. E. P. (2002). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. New York: Simon & Schuster.

Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. New York: Free Press.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55* (1), 5 – 14.

Shaunessy, E., & Suldo, S. M. (2010) Strategies utilized by intellectually gifted students to cope with stress during their participation in a high school International Baccalaureate

- Program. *Gifted Child Quarterly*, 54, 127-137.
- Shaunnessy, E., Suldo, S. M., Hardesty, R. B., & Shaffer, E. J. (2006). School functioning and psychological well-being of International Baccalaureate and general education students: A preliminary investigation. *Journal of Secondary Gifted Education*, 27, 76-89.
- Sherhoff, D. J., Abdi, B., Anderson, B., & Csikszentmihalyi, M. (2014). Flow in schools revisited: Cultivating engaged learners and optimal learning environments. In M. J. Furlong, R. Gilman, & E. S. Huebner (Eds.), *Handbook of Positive Psychology in Schools* (2nd ed., p. 211 – 226). New York: Routledge.
- Shoshani, A., & Slone, M. (2013). Middle school transition from the strengths perspective: Young adolescents' character strengths, subjective well-being, and school adjustment. *Journal of Happiness Studies*, 14, 1163 – 1181. doi: 10.1007/s10902-012-9374-y
- Slaney, R. B., Mobley, M., Trippi, J., Ashby, J. S., & Johnson, D. (1996). *Almost Perfect Scale-Revised*. Unpublished scale, Pennsylvania State University, University Park.
- Speirs Neumeister, K., Williams, K. K., & Cross, T. L. (2007). Gifted high-school students' perspectives on the development of perfectionism. *Roeper Review*, 31, 198–206. doi:10.1080/02783190903177564
- Steinberg, L. (2001). We know some things: Parent-child relationships in retrospect and prospect. *Journal of Research on Adolescents*, 11, 1-19.
- Stiglbauer, B., Gnambs, T., Gamsjäger, M., & Batinic, B. (2013). The upward spiral of adolescents' positive school experiences and happiness: Investigating reciprocal effects over time. *Journal of School Psychology*, 51, 231-242. doi:10.1016/j.jsp.2012.12.002
- Suldo, S. M. (in press). Factors associated with youth subjective well-being. In S. M. Suldo, *Promoting students' happiness: Positive psychology intervention strategies in school-*

- based practice*. New York: Guilford Publications.
- Suldo, S. M., Dedrick, R. F., Shaunessy-Dedrick, E., Roth, R., & Ferron, J. (2015). Development and initial validation of the Student Rating of Environmental Stressors Scale (StRESS): Stressors faced by students in accelerated high school curricula. *Journal of Psychoeducational Assessment, 33*, 339-356. doi: 10.1177/0734282914552164
- Suldo, S. M., Dedrick, R. F., Shaunessy-Dedrick, E., Fefer, S.A., & Ferron, J. (2015). Development and initial validation of the Coping with Academic Demands Scale (CADS): How students in accelerated high school curricula cope with school-related stressors. *Journal of Psychoeducational Assessment, 33*, 357-374. doi: 10.1177/0734282914552165
- Suldo, S. M. & Huebner, E. S. (2004). The role of life satisfaction in the relationship between authoritative parenting dimensions and adolescent problem behavior. *Social Indicators Research, 66*, 165 – 195. doi: 10.1023/B:SOCI.0000007498.62080.1e.
- 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. (PI), & Shaunessy, E. (Co-PI) (2010). *Intrapersonal factors associated with academic success among high school students in Advanced Placement and International Baccalaureate (AP-IB) programs*. US Department of Education (DOED): Institute of Education Sciences.
- Suldo, S. M., Shaunessy, E., & Hardesty, R. B. (2008). Relationships among stress, coping, and mental health in high-achieving high school students. *Psychology in the Schools, 45* (4), 273 – 290. doi: 10.1002/pits.20300.
- Suldo, S. M., & Shaunessy-Dedrick, E. (2013). The psychosocial functioning of high school

students in academically rigorous programs. *Psychology in the Schools*, 50, 823-843.

doi:10.1002/pits.21708

Suldo, S. M., Thalji, A., & Ferron, J. (2011). Longitudinal academic outcomes predicted by early adolescents' subjective well-being, psychopathology, and mental health status yielded from a dual factor model. *Journal of Positive Psychology*, 6, 17-36. doi: 10.1080/17439760.2010.536774

Suldo, S. M., & Thalji-Raitano, A., Kiefer, S. M., & Ferron, J. (2015). *Conceptualizing high school students' mental health through a dual-factor model*. Manuscript submitted for publication.

Terman, L. M. (1925). *Genetic studies of genius: Vol. 1. The mental and physical traits of a thousand gifted children*. Stanford, CA: Stanford University Press.

Webb, J. T., Meckstroth, E. A., & Tolan, S. S. (1982). *Guiding the gifted child*. Columbus, OH: Ohio Psychology Publishing Company.

Winner, E. (2000). The origins and ends of giftedness. *American Psychologist*, 55 (1), 159 – 168.

Wright, B. A. & Lopez, S. J. (2009) Widening the diagnostic focus: A case for including human strengths and environmental resources. In S. J. Lopez & C. R. Snyder (Eds.) *Handbook of Positive Psychology* (2<sup>nd</sup> ed.; pp. 71 – 87). New York: Oxford.

Table 1  
*Indicators of Internal and Environmental Factors Examined in Relation to Life Satisfaction*

Predictor Variable	Measurement Strategy	Strong Associations with other Variables in Dataset
Academic Achievement	Unweighted GPA (from school records) during semester that participants completed surveys assessing the variables below	$r = .45$ with mean score on AP/IB exams (from school records) $r = -.42$ with Coping-Reduce Effort on Schoolwork factor (CADS)
Authoritative Parenting	Composite of the Responsiveness and Autonomy Granting scales of the Parenting Style Inventory-II (Darling & Toyokawa, 1997)	$r = .51$ with Turn to Family factor (CADS) $r = .39$ with Home Support for Learning (11-item survey created by our research team)
Classmate Support	Classmates scale of the Child and Adolescent Social Support Scale (Malecki & Demaray, 2002)	n/a
Flow in AP or IB Classes	Short Dispositional Flow Scale-2 (Jackson, Martin, & Ecklund, 2008)	$r = .58$ with Academic Self-Concept scale (SAAS-R)
Positive Attitudes towards School	Attitudes towards School scale of the School Attitude Assessment Survey-Revised (SAAS-R; McCoach & Siegle, 2003)	$r = .56$ with Attitudes towards Teachers scale (SAAS-R) $r = .57$ with Satisfaction with AP or IB Program (1-item indicator created by our research team)
Coping- Cognitive Reappraisal	Cognitive Reappraisal factor of the Coping with Academic Demands scale (CADS; Suldo, Dedrick, Shaunessy-Dedrick, Fefer, & Ferron, 2014)	$r = -.44$ with Time and Task Management factor (CADS)
Coping- Handle Problems Alone	Attempt to Handle Problems Alone factor of the CADS	$r = -.33$ with Turn to Family factor (CADS)
Extracurricular Activity Involvement	Composite of Hours per Week (intensity) and Number of Types (breadth) of Extracurricular Activity Involvement (survey created by our research team)	$r = .44$ with Athletic Diversions factor (CADS)
Grit	Short Grit Scale (Duckworth & Quinn, 2009)	$r = .57$ with Motivation and Self-Regulation scale (SAAS-R) $r = -.54$ with Coping-Reduce Effort on Schoolwork (CADS)
Perfectionism-Maladaptive	Discrepancy scale of the Almost Perfect Scale Revised (APS-R; Slaney, Mobley, et al., 1996)	$r = -.45$ with Academic Self-Concept scale (SAAS-R)
Perfectionism-Adaptive	High Standards scale of the APS-R	$r = .60$ with Goal Valuation scale (SAAS-R) $r = .65$ with Motivation and Self-Regulation scale (SAAS-R) $r = -.47$ with Coping-Reduce Effort on Schoolwork (CADS)

*Note.* AP = Advanced Placement; IB = International Baccalaureate; GPA = grade point average; SAAS-R = School Attitude Assessment Survey—Revised; CADS = Coping With Academic Demands Scale; APS-R = Almost Perfect Scale—Revised.

Table 2

*Correlations between Gifted Students Global Life Satisfaction, Internal Features, and Environmental Experiences (N = 670)*

	1	2	3	4	5	6	7	8	9	10	11
1. Life Satisfaction	1.00										
2. Academic Achievement	.19*	1.00									
3. Authoritative Parenting	.52*	.18*	1.00								
4. Classmate Support	.29*	.03	.20*	1.00							
5. Flow in AP/IB Classes	.35*	.16*	.29*	.31*	1.00						
6. Positive Attitudes towards School	.35*	.10*	.25*	.30*	.29*	1.00					
7. Coping- Cognitive Reappraisal	.30*	.12*	.32*	.23*	.42*	.21*	1.00				
8. Coping- Handle Problems Alone	-.35*	-.16*	.28*	-.18*	-.04	-.15*	-.04	1.00			
9. Extracurricular Activity Involvement	.11*	.17*	.03	.11*	.15*	.08*	.15*	-.07	1.00		
10. Grit	.37*	.33*	.30*	.18*	.43*	.23*	.37*	-.20*	.17*	1.00	
11. Perfectionism- Maladaptive	-.45*	-.22*	-.37*	-.21*	-.36*	-.20*	-.24*	.31*	.02	-.41*	1.00
12. Perfectionism- Adaptive	.25*	.40*	.28*	.18*	.39*	.20	.35*	-.09*	.21*	.44*	-.08*

*Note.* \* $p < .05$

Table 3

*Gifted Students' Global Life Satisfaction Predicted by Internal and Environmental Factors (N = 670)*

Predictor	<i>b</i>	<i>SE b</i>	$\beta$	<i>t</i>	<i>Uniqueness Index</i>
Academic Achievement	.01	.05	.00	0.11	.00
Authoritative Parenting	.38	.04	.30	8.70***	.07
Classmate Support	.07	.03	.06	1.95†	.00
Flow in AP/IB Classes	.12	.06	.07	1.98*	.00
Positive Attitudes towards School	.09	.02	.15	4.53***	.02
Coping- Cognitive Reappraisal	.05	.04	.05	1.38	.00
Coping- Handle Problems Alone	-.18	.04	-.15	-4.68***	.02
Extracurricular Activity Involvement	.05	.04	.04	1.28	.00
Grit	.09	.06	.06	1.53	.00
Perfectionism- Maladaptive	-.13	.03	-.18	-4.98***	.02
Perfectionism- Adaptive	.02	.04	.02	0.53	.00

Note.  $R^2 = .43$  ( $F[11, 655] = 45.35$ ), † $p = .05$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .0001$ .

Uniqueness index = squared semipartial correlation