PSYCHOLOGICAL ISSUES UNIQUE TO THE GIFTED STUDENT

Maureen Neihart and Lay See Yeo

There is a long history of interest in the adjustment of gifted children. Generally, two views have prevailed. The first view is that gifted children as a group are better adjusted than their typically developing peers, because they are capable of greater understanding of self and others. Therefore, they cope better with stress and conflicts. Many empirical studies support this view (Neihart, Pfeiffer, & Cross, 2015). The second view is that gifted children are more at-risk for psychological problems, particularly during adolescence and adulthood, because they are more sensitive to interpersonal conflicts and experience greater degrees of alienation and stress (Silverman, 2012). There is some evidence to support this idea (e.g., Gross, 1993, 2006). Gifted children do have unique psychological issues, but these do not arise from giftedness itself. Rather, giftedness seems to add complexity to an individual that can either enhance or interfere with healthy adjustment, depending on several factors. The aim of this chapter is to summarize the research on these factors and describe practical implications that have an evidence base.

IMPORTANCE OF THE TOPIC

Understanding the psychological functioning of gifted children often has been driven by a desire to improve achievement outcomes, especially academic ones. Adults are keen to know what can be done to help talented young people realize their potential. In developing or emerging countries, there is often an interest in making the most of the nation's talent to further development of the country (Chan, 2010, 2012; Chua, 2014; Garces-Bacsal, 2013). Another reason for investigating the psychological functioning of gifted children has been to support positive adjustment. There has been growing awareness since the 1980s that some adolescents with the highest abilities struggle socially and emotionally as they navigate the developmental trajectory from ability to achievement and from high achievement to elite performance. Psychological needs are the foundation for well-being and achievement, and it is possible to systematically strengthen the mental and emotional competencies necessary for both through targeted supports and intervention (Chua, 2014; Ericsson, Charness, Feltovich, & Hoffman, 2006; Neihart, 2015).

Differences in Global Perspectives

The values and priorities of various cultures are reflected in conceptions of ability, self, well-being, and achievement. Because many of the variables of interest in psychology are social constructions, it is not surprising that conceptions of ability, self, well-being, parenting, teaching, and achievement vary across cultures around the world. Children's development must be understood in its cultural context. A thorough discussion of global perspectives is not possible here but two illustrations of well-known cultural differences in perspectives on ability and on well-being are offered to demonstrate the wide variations that can exist.

Differences in Views of Ability

Significant differences have been observed between Western and Eastern philosophies about ability. Generally, Western (e.g., American, European) perspectives view genetics as playing a dominant role in ability. Parents and teachers tend to believe that children are born with predispositions toward certain interests and talents. Although they acknowledge the role that environmental factors play, the role of teachers and parents is to identify and develop children's innate abilities (Freeman, 2004; Neihart & Tan, 2009). In contrast, environmental influences are usually believed to play the dominant role in ability in Eastern (e.g., Asian) societies. A commonly held view in these societies is that children are born with similar potential but differential rates of development and that hard work makes anything possible. Therefore, Asian parents and teachers view giftedness and achievement quite differently than American and European parents and teachers (Neihart & Tan, 2009). Children in Eastern societies are encouraged to work hard even in kindergarten, and parents and teachers view it as their moral obligation to support children in their efforts (Neihart & Teo, 2013). Identification of giftedness typically occurs later in childhood, after years of hard work allow the child to demonstrate his or her capabilities.

Culture and Well-Being

In the last two decades, psychologists have begun to question assumptions regarding the universality of psychological processes across cultures. There is evidence to suggest that significant differences exist in some psychological constructs across collectivist and independent societies. For example, differences are observed in emotion (Tsai, 2007), self-construals (S. E. Cross, Hardin, & Gercek-Swing, 2011), and well-being (S. E. Cross, Gore, & Morris, 2003). Emotion plays a powerful role in performance and talent development. Csikszentmihalyi, Rathunde, and Whalen (1993) observed that emotion was one of the strongest predictors of talent development among successful, talented teenagers. Emotion has been well-researched across domains of talent for decades but it is only relatively recently that research has begun to document cultural differences in emotion. Tsai (2007), for example, observed differences in the ideal affect of Americans, who preferred high arousal emotions (e.g., happiness, joy), and Taiwanese, who preferred low arousal emotions (e.g., calm, serenity). The growing literature about cultural differences in psychological processes indicates that psychological processes are not universal and that we must be cautious about generalizing findings in one context to other contexts.

HISTORICAL AND CONTEMPORARY PERSPECTIVES

There have been four waves of perspectives on the psychological issues of gifted children over the past 150 years. In the first wave, in the late 1800s, a widely held belief in psychiatry was that the body had to be in homeostasis. This meant if there was an excess of one thing, there must be a deficiency of something else. Therefore, persons with superior intellectual capacities were believed to be emotionally vulnerable. Genius was associated with madness (Garces-Bacsal, 2015; Neihart, 1999). The view that genius and madness were related remained popular until 1925 when Lewis Terman (1925; Terman & Oden, 1935) began to publish results from his longitudinal study of more than 1,000 high IQ children in California. Terman's investigation of their adjustment concluded that gifted children were better off in nearly every domain compared with their average IQ peers. For example, they reported fewer physical and emotional symptoms, better marital and vocational satisfaction as adults, scored better on a variety of global measures of adjustment, and achieved more. Terman's findings prompted a shift in perspective which led to decades of belief that gifted children would do well on their own. This view was held until the early 1980s when two events prompted another shift in understanding. First, the launch of the human potential movement and humanistic psychology in the 1950s and 1960s promoted growing awareness of individual differences. Then, in 1981, the highly publicized suicide of Dallas Egbert, a creatively gifted 16-year-old boy, raised awareness that talented children can have psychological difficulties. The term, "social and emotional needs of the gifted" was coined at this

time when the national organization for Supporting Emotional Needs of the Gifted was established (Neihart, 1999). Researchers began to realize that a great deal of heterogeneity exists among gifted children and started to examine specific rather than global measures of adjustment, including anxiety (e.g., Scholwinski & Reynolds,1985), depression (e.g., Baker, 1995; Bartell & Reynolds, 1986), and self-concept (e.g., Tong & Yewchuk, 1996) among various subgroups of gifted children. Increasingly, there was growing recognition that domains of talent, degree of giftedness, and contexts matter (e.g., Dauber & Benbow, 1990; Gross, 1993; Norman, Ramsay, Martray, & Roberts, 1999). During the same period, in a parallel line of research, investigators began to systematically investigate the acquisition of expertise and developed a theory of expertise to explain their findings (e.g., Ericsson, Charness, Feltovich, & Hoffman; 2006). Coming into the 2000s, there was widespread recognition that high achievement and well-being were the result of multiple, nonlinear processes that often involved numerous mediators and moderators. It was no longer a dichotomous question of how vulnerable or resilient high ability children are, but a dialectical question of what conditions promote optimal adjustment and high achievement of various subgroups of gifted children (Neihart, Reis, Robinson, & Moon, 2002).

RELEVANT THEORY AND PRINCIPLES

Several theories have been used over the decades to frame the psychological issues and performance outcomes of gifted children, including theories of flow (Clinkenbeard, 2012; Garces-Bacsal, Cohen, & Tan, 2011), risk and resilience (Hébert, 1996; Neihart, 2002), expertise (Ericsson, Charness, Feltovich, & Hoffman, 2006), and talent development (Gagné, 2000). In the sections that follow, two of these theories are explained in more depth: risk and resilience and talent development.

Risk and Resilience

Risk and protective factors are personal or contextual variables that influence developmental outcomes positively or negatively. Although risk factors heighten vulnerability, protective factors mediate

the potential harm caused by some circumstances. Risk research seeks to identify variables that harm children, whereas resilience research specifically investigates what goes right for children who do well in stressful circumstances. Empirical evidence suggests that multiple factors may have geometric effects (Fredrickson & Joiner, 2002; Luthar, 1991). For example, Fredrickson and Joiner (2002) demonstrated that positive emotion and broad minded coping "serially enhance" one another in upward spirals of well-being. Gosnell and Gable (2013) described how attachment security influences perceptions of support, which then shape a variety of outcomes.

This framework suggests we should be knowledgeable about known risk factors for gifted children and to work to reduce them, while improving those characteristics and conditions known to enhance resilience. This framework facilitates a strengths-based approach to intervention and proposes that we leverage those characteristics observed in gifted children that are also characteristics known to be associated with resilience among children in general. For example, intelligence, curiosity, a positive explanatory style, a sense of humor, problem-solving ability, and high moral regard are all characteristics of resilient children that are also often seen in gifted children (Condly, 2006; Neihart, Reis, Robinson, & Moon, 2002; Werner, 1995). Some have suggested that these characteristics of resilience may help explain why many studies of identified gifted children find them to be at least as well adjusted, if not better adjusted, than their typically developing age peers (Neihart, 1999). Well known risk factors for social or emotional difficulties among gifted children include lack of challenge in the school curriculum and poor access to others with similar interests, abilities, and drive (e.g., true peers; Neihart et al., 2015). A concurrent learning problem is also a known risk factor for problems with adjustment (Neihart, 2008), as is profound giftedness, often defined as an individual IQ above 160 (Gross, 1993). These risk factors serve as potential targets for intervention.

Talent Development

Gagné's (2000) differentiated model of giftedness and talent proposes a framework for achieving

optimal outcomes for gifted children. It defines gifts as natural abilities and talents as the transformation of these abilities into developed skills. It emphasizes the domain specificity of gifts and talents and argues that natural aptitudes are transformed into skills through a developmental process that is facilitated by intrapersonal and environmental catalysts. Intrapersonal catalysts are categorized as physical and psychological factors, with motivation and volition highlighted as most critical in the initiation and maintenance of talent development, "guiding it and sustaining it through obstacles, boredom, and occasional failure" (Gagné, 2000, p. 120). Environmental catalysts include the immediate and broader contexts in which the child's life is embedded, the many different persons in a child's life who influence the talent development process positively or negatively, and provisions, which are systematic forms of intervention designed to develop talent. Gagné also recognized significant events as potential environmental catalysts that can significantly impact a child's course of talent development, positively or negatively. Finally, the model recognizes chance as a potential fifth causal factor tied to the environment, although it can also belong within the other four categories. The framework has grown popular because it resonates with people's personal experiences with talent development and points to specific factors for intervention or support.

RESEARCH REVIEW

The research literature identifies five psychological issues that, although not exclusively observed in gifted children, are common psychological concerns among this population (Neihart, Pfeiffer, & Cross, 2015). This section summarizes the recent research on the following issues:

1. a poor fit with the school environment;
2. difficulty accessing peers with similar interests, ability, and drive;
3. affiliation/achievement conflicts, especially among girls and minorities;
4. perfectionism; and
5. anxiety and insecurities regarding career- or life-planning issues.

Poor Fit With the School Environment

It has long been argued that a mismatch between children's developmental needs and their environment poses risk to their well-being and achievement. All children need to grow in contexts that provide frequent opportunities for them to develop a sense of mastery or competence over themselves and their environments, and to form strong social relationships. A poor fit with the school environment, particularly a lack of challenge in the curriculum, can compromise the successful resolution of developmental tasks, resulting in any number of adjustment difficulties (T. L. Cross, 2001; Neihart et al., 2015; Siegle & Langley, 2015). For some subgroups of gifted children, developing a sense of competence, maintaining a sense of positive expectancy about themselves and their future, and maintaining motivation to achieve is particularly difficult because their development is asynchronous. All children learn best when they are provided with content or experiences that they have not yet mastered but are ready to learn. However, providing such opportunities can be exceedingly difficult in mixed ability classrooms for the most asynchronous of gifted children: the highly gifted (e.g., children with abilities greater than two standard deviations above the mean) and twice exceptional (e.g., gifted children with disabilities). A poor fit in the early years of schooling may erode the optimism and confidence needed to sustain an effort over time. Siegle and Langley (2015) described potential risks that can emerge when work is too easy. If children can earn good grades and high praise without an effort, they may develop fixed mindsets because they lack opportunity to learn the relationship between effort and outcome (Blackwell, Trzesniewski, & Dweck, 2007).

Difficulty Accessing Peers

Strong, positive social relationships are among the strongest predictors of well-being. Although gifted children as a group tend to not have difficulty making friends, there is evidence that some of them do have trouble (J. Cross, 2015). Friendships are important because they are related to better quality of life, thriving, and happiness. Children tend to select friends among those who are similar

in attitudes, traits, and behaviors (Guo, 2006), yet many gifted children learn and play in contexts where they have little access to others like them. Gifted students also often differ from same-sex peers in their behavior and preferences (Kerr, 1994), further exacerbating challenges in forming strong networks of positive social relations. The school experience of gifted children is profoundly influenced by the presence or absence of relationships with peers (Silverman, 2012).

As gifted children progress through the school years, they become increasingly aware that being the most able does not bring immediate social benefits. Giftedness exacts a social price. Compared with the average child, gifted children are apt to struggle with social rejection, isolation, loneliness, and anger toward themselves and others (Gross, 2002). Although they are often well-liked by their peers and may enjoy popularity in elementary school, by age 13, the social advantage conferred by their academic achievement disappears (Rimm, 2002). It is typically in early adolescence that gifted students most keenly experience the antigifted peer pressure (Neihart, 2006; Rimm, 2002).

Several factors, some inherent in the nature of giftedness and others that stem from the social environment, contribute to the social difficulties of gifted students. First, development is typically asynchronous (Silverman, 2012), which means that cognitive development advances ahead of social, emotional, and physical development. The disparity between intellectual and other aspects of development is typically greatest for the most highly gifted.

At extremely high levels of intelligence, the thinking experiences of the exceptionally gifted are so far from the norm that they are hard pressed to find like-minded peers and congenial companionship. It is not uncommon therefore for the very highly gifted to perceive themselves and to be perceived as being less popular, less socially engaged, and less socially accepted than moderately gifted peers (J. Cross, 2015; Gross, 2002). For example, girls with IQ greater than 160 reported experiencing social isolation in a regular classroom and continuously adjusting their behaviors to conform and gain acceptance (Gross, 1993).

Gifted children may also have a tough time finding compatible friends because they have expectations of friendship which differ from those of their same-age peers of average ability (Gross, 2001). Because of their relative social and emotional maturity, gifted children are better able at an earlier age to appreciate the difference between friendship and popularity. These differences in expectations of friendship tend to become more salient in the early and middle years of elementary school. Intellectually gifted children may be as much as 4 to 5 years ahead of their same-age peers in their expectation that friendship should be based on unconditional acceptance. Therefore, they are most likely to have difficulty in finding other children who have similar expectations. Gross (2001) observed that these differences in friendship conceptions apparently are much larger in children under age 9 than in older children.

The social isolation, peer rejection, and loneliness experienced by gifted children can be the outcome of unresponsive social and educational environments and not just of their asynchronous development. Exclusive classrooms that unwittingly smack of elitism or special programs that set the brightest apart may threaten the egalitarian interactions on which friendship depends (Coleman & Cross, 1988; Rizza & Reis, 2001; Udvari & Schneider, 2000). Grouped with average age-peers for purposes of instruction and socialization, gifted children who outperform academically may be made to feel different and sidelined by unsupportive peers. Numerous studies further observe that gender and cultural differences may contribute to difficulties in forming strong social networks and can arouse affiliation/achievement conflicts (J. Cross, 2015).

Affiliation/Achievement Conflicts

Developing talent is easier with some groups of children than others because the cultures of class, gender, race, and ethnicity arouse conflicts that interfere with the efforts of some students. Conflicts emerge between adolescent's need to belong and their need to achieve when gifted adolescents perceive that their achievement goals are discouraged by mainstream culture. Disengagement with ability

seems to be a defensive reaction to the dissonance that may arise when children become aware of this discouragement. A broad finding from the research is that affiliation/achievement conflicts are common during adolescence for gifted girls, some gifted minority students, and many gifted disadvantaged students (Kuriloff & Reichert, 2003; Neihart, 2006). These conflicts can erode confidence, aspirations, and self-concept (Kerr & Multon, 2015; Neihart, 2006).

There is a psychological cost to the pursuit of academic excellence for many gifted minority and disadvantaged students, as well for gifted girls. For example, Ostrove (2003) observed that talented women from working-class backgrounds struggled significantly more with social alienation during college then did women who came from more advantaged backgrounds. Similarly, Kuriloff and Reichert (2003) observed that highly able boys from disadvantaged backgrounds struggled for a long time to negotiate the social milieu of an elite boys' prep school. Although they did eventually learn to fit in, they were aware that their goals might separate them from whom they had been, and they were keenly aware of the behaviors they needed to succeed. Neihart (2006) summarized several studies that indicate that low income students may deny their abilities because they are uncomfortable or unsure about negotiating the crossing of class boundaries. Minimizing or denying their abilities seems to be a defensive reaction to their discomfort.

The interaction of giftedness and gender creates challenges for gifted children throughout the school years (Kerr & Multon, 2015). Most research focuses on gifted girls because being smart and female has an extensive impact on gifted girls in almost every aspect of their lifespan development: gender identity, social relationships, academic achievement, career choices, and psychological well-being.

Gifted girls are more like gifted boys than like other girls in their interests and aspirations. Despite undergoing the same socialization process as average girls, they are likely to enjoy boys' activities, to become aware from a young age of feminism, and to reject playing second fiddle to boys. Because of this, their identity development may be more complicated and conflicted (Kerr & Multon, 2015).

Research suggests that gifted girls are the least popular compared with gifted boys, nongifted boys, and nongifted girls (Luftig & Nichols, 1990). They are most susceptible to peer influence as what they inherently enjoy and value may be different from that of popular culture (Kerr, 1994). In fact, peer influence is one of the major factors that accounts for the lower representation of gifted adolescent girls in gifted programs (Reis & Callahan, 1996). Gifted girls are more likely than boys to deny their abilities and report high levels of socialization (Swiatek & Dorr, 1998). They have greater difficulty with social comparisons and downplay their own accomplishments for fear of being socially isolated because of their success (Reis, 2002). Gifted girls' desire for peer acceptance is even more compelling than their desire for intellectual stimulation and educational advancement. Rimm (2002) stated that "talented females' belief in their ability and feelings of self-confidence tend to be undermined and diminished during childhood and adolescence" (p. 126). It is not uncommon for gifted adolescent girls to downplay their intellectual ability. They tend to cope by denying or hiding their giftedness.

Perfectionism

Research findings are equivocal about the incidence of perfectionism in gifted students. Some studies conclude that gifted children are more perfectionistic than their typically developing peers, but others do not (Spiers Neumeister, 2015). Differences in how perfectionism is measured, in definitions of giftedness and in the developmental levels of research participants, make it difficult to draw definitive conclusions. Several investigators have focused on comparisons of different types of perfectionism in gifted students (e.g., Chan, 2007, 2009, 2010). Perfectionism in gifted children has been a concern and debated for decades because perfectionism is often observed in gifted children and it has long been associated with psychological difficulties (Schuler, 2000, 2002). In her recent review of the empirical literature, Spiers Neumeister (2015) noted that most recently, research has focused on deconstructing perfectionism into elements of positive strivings and evaluative concerns. What is clear at this point is that positive striving correlates with

adaptive outcomes, whereas evaluative concerns correlate with maladaptive outcomes.

However, cultural differences may account for some of the differences observed in the prevalence, types, and meaning of perfectionism (Chan, 2007, 2009, 2010). Kerr and Multon (2015) noted that gifted girls who are perfectionistic and put too much emphasis on attaining and maintaining high personal standards are at risk for mental health problems.

Career- and Life-Planning Issues

Career planning should begin early because of gifted students' earlier cognitive development, their high aspirations, the psychosocial issues that may impact their identity development, and the long-range planning and sacrifices that may be needed to achieve their intended career goals. An individualized, differentiated approach will likely be needed because typical career inventories do not fit adolescents who are talented in multiple domains or who are highly talented. They also don't provide ideas about how to combine talent areas (Kerr & Kurpius, 2004). Minority students and disadvantaged students, in particular, may struggle with stereotypes, limited career role models, and restricted opportunities. They are likely to need directional assistance or coaching with negotiating class, racial, or ethnic boundaries (Burton, 2015; Sajjadi, Rejskind, & Shore, 2001; Wentworth & Peterson, 2001).

In a qualitative study that examined the experiences of five gifted girls in advanced placement and international baccalaureate programs, Vanderbrook (2006) found that a common theme that emerged was the need for emotional support. Recommendations were made for early career counseling (Reis, 1998), mentoring programs, and greater support and encouragement from teachers, with a focus on their futures, to equip gifted girls for higher achievement and greater self-esteem. Gifted girls will need help to embrace success.

The literature is replete with gender-stereotyped findings relating to the subjects, career choices, and adult life expectations of gifted boys and girls (Leder, 2004). There appears to be a global phenomenon where gifted boys excel in math and science and gifted girls in the language arts as evident in the research findings in the United States, Australia,

Germany, and Finland, among others. Recent research in the United States shows that gifted boys consistently outperform gifted girls on STEM (i.e., Science, Technology, Engineering, Math) subjects and nonverbal tests by as much as three to one, and that girls outperform boys on verbal tests by a ratio of two to one (Heilbronner, 2013 as cited in Freeman & Garces-Bacsal, 2015; Olszewski-Kubilius & Lee, 2011). Similarly, Rudasill and Callahan (2010) found that academically advanced boys and girls from Grades 5 to 12 perceive themselves as having higher ability in math and science and in language arts and humanities, respectively, regardless of their actual abilities in these subject areas.

Self-perception of ability is important because it is associated with choice of university courses and future career. Academically advanced students' self-perceptions of ability correlate with their future coursework plans, with boys planning to take more math courses (Rudasill & Callahan, 2010). Gifted girls may be less likely than gifted boys to take advantage of highly challenging academic opportunities, as they tend to be less risk taking in general than boys, which explains why some gifted girls fail to take the most rigorous courses and realize their highest potential (Kerr & Multon, 2015). Unlike gifted boys who seem to have their eyes on making money in their intended occupations, gifted girls desire to find jobs that will make the world a better place (Leder, 2004). They seek careers that they believe to be of significance to society and where personally satisfying relationships are instrumental to success (Reis, 2005). However, gifted girls tend to lack knowledge on how to prepare for their future. They have goals but tend not to think practically about how to achieve them and lead the lives they have envisioned (Reis, 1998). There is a need to discuss career options and encourage life planning with gifted girls.

Kerr and Multon (2015) cautioned against the false assumption that gifted boys and girls will succeed on the sheer advantage of their abilities and aptitude. "At each point in the education of the gifted students, there are milestones and danger zones related to gender" (p. 188). For gifted girls, the danger may present as "stereotype threat and early sexualization" (p. 188) and for gifted boys,

underachievement because of boredom. It is imperative that appropriate support, counseling, and guidance be provided for gifted students to navigate the difficulties they will encounter as they work toward their goals.

PRACTICE AND POLICY ISSUES

The literature points to three principles to guide practice and policy. First, nothing substitutes for access to challenging curriculum and true peers. These are minimal provisions needed to meet the psychological needs of gifted students (Neihart et al., 2015; Plucker & Dilley, 2015). Second, gifted children are a very diverse group and one approach will not work for all of them. Ability levels, gender, domain of talent, culture, economic status, and age create numerous variations that differ in their requirements for support. The final principle is that efforts to address their unique issues should be based on the best available evidence. What follows are descriptions of specific interventions that follow these principles and have a good evidence base in the scientific literature.

Ability Grouping

Ability grouping has been controversial in Western contexts for decades, despite robust evidence that it can be very beneficial to gifted children (see Rogers, 1991; Neihart, 2007, on benefits). Ability grouping refers to the practice of organizing students according to similar levels of ability for instruction. It is not the same as tracking (Oakes, 2005), which is a practice of rigid, long-term placements that has long been criticized for its segregation of disadvantaged or culturally different students. Ability grouping is flexible and can be practiced within or between classrooms, and allows for students of all abilities to move among groups within and across domains. Ability grouping, whether in or out of school, allows gifted students to spend time with intellectual peers, thus maximizing opportunities for appropriate academic challenge and relationship building.

Plucker and Dilley (2015) provided two explanations for the controversy over ability grouping. First, it is difficult to control for differences in how carefully ability grouping is conducted and for the quality of the pedagogy and curriculum across classrooms. These difficulties confound the findings of extensive studies. Second, although the cognitive or academic benefits of ability grouping for gifted students are extensively documented, there is continued debate over its social and emotional effects. For example, Marsh and his colleagues (1995, 2003) noted that self-concept declines when students make a change of reference from heterogeneous-ability groups to homogenous-ability groups, but many other studies observe either positive effects or no effect on self-concept (e.g, C.-L. C. Kulik & Kulik, 1982; J. A. Kulik & Kulik, 1992). Many studies provide evidence that, at worst, there are no positive or negative differences in psychological outcomes for gifted students in ability groups (Catsambis & Butarro, 2012 as cited in Plucker & Dilley, 2015; Vogl & Preckle, 2014). Neihart (2007) summarized research that showed some psychological benefits for homogeneous grouping, and noted that it may be particularly helpful for minority gifted students who need supportive environments in which to pursue their academic goals. T. L. Cross (2001) proposed that gifted children may not resolve their need to develop a sense of competence in a mixed ability environment where there is little need to try.

However, ability grouping is only one strategy and Plucker et al. (2004) wisely questioned the sagacity of drawing conclusions about the impact of a single instructional strategy when gifted students usually typically participate in a wide range of service delivery options simultaneously. It is the quality of instruction and instructional resources that have the biggest impact on student outcomes.

It is also important to note that ability grouping has differential effects on various subgroups of gifted children. The impact of ability grouping on twice exceptional, minority, and disadvantaged gifted children, for instance, has not been as carefully examined. Although Neihart (2007) cited small benefits for some minority gifted students, ability grouping may not be the intervention of choice for gifted students on the autism spectrum or students with attention-deficit/hyperactivity disorder. Although these students possess the cognitive ability for challenging curriculum, they often have significant social deficits or immaturity that

make it exceedingly difficult for them to negotiate the sophisticated social milieu of a full time, high ability classroom. Psychologists will need to consider these nuances when making recommendations about educational placements and instructional strategies for gifted students. Some gifted students may be better served by flexible, short term placements in high ability groups. Opportunities for such placements may be more readily available outside of school in many educational systems. Summer programs, online programs, and community clubs for example, are alternative means for offering ability group arrangements that meet students' needs. The impact of ability grouping in classrooms will continue to be debated because it is a complex issue and it is difficult to tease out the effects of instruction, curriculum, and grouping practices on individual students. Nevertheless, in- and out-of-school ability grouping remains an effective intervention for addressing the psychological and academic needs of many gifted children.

Academic Acceleration

Academic acceleration is the practice of providing advanced content or curriculum to children, and can take many forms. Examples include grade skipping, subject acceleration, curriculum compacting or telescoping, concurrent enrollment, early admission to kindergarten or to college, mentorships, and credit by examination.

There is robust and overwhelming research support for the benefits of academic acceleration (Neihart, 2013; Wylie, 2015). The pivotal publication, *A Nation Empowered: Evidence Trumps the Excuses Holding Back America's Brightest Students* (Assouline, Colangelo, VanTassel-Baska, & Lupkowski-Shoplik, 2015) summarized nearly decades of research on academic acceleration, including meta-analyses, and concluded that there is no evidence to support the popular perception that acceleration, especially grade skipping and early admission to kindergarten or college, causes social or emotional harm to gifted children.

Gross's (2006) longitudinal study of 60 profoundly gifted children (IQ above 159) reported no harmful effects and strong emotional satisfaction among students who had been grade-skipped 2 or

more years. In contrast, negative outcomes were observed for profoundly gifted students who had not been accelerated at all or had only been accelerated 1 year. These noteworthy findings suggested that all highly gifted children should be at least considered for academic acceleration because it is the best chance for them to find true peers and receive an appropriate level of challenge in the learning environment.

Nevertheless, there continues to be strong resistance to grade skipping, despite evidence that it is perhaps the single most effective intervention for addressing the social, emotional, and cognitive needs of gifted children (Colangelo, Assouline, & Gross, 2004; Lohman & Marron, 2008). When a child is grade-skipped or accelerated to a higher ability class for a particular subject, he or she often has better access to others with similar interests, abilities, and drive. In her review of the empirical research on the socio-affective impact of academic acceleration, Neihart (2007) concluded that grade skipping, early school entrance, and early admission to college are generally beneficial socially and emotionally for gifted students when they are selected on the basis of demonstrated academic, social, and emotional maturity, but may be harmful when students are accelerated on the basis of a single criterion, such as an IQ or achievement score. It is important to approach the decision regarding educational placement and acceleration systematically and objectively. *The Iowa Acceleration Scale* (Assouline, Colangelo, Lupkowski-Shoplik, Lipscomb, & Forstadt, 2009) is a well-researched, standardized tool psychologists can use to facilitate this decision making.

Psychologists can use their influence to counter the popular notion that grade skipping and other forms of academic acceleration are harmful to gifted children and advocate for appropriate use of acceleration options when systematic assessments indicate that they are more likely to be beneficial than harmful. Wylie (2015) concluded,

> the research findings on acceleration continue to be overwhelmingly positive concerning academics, and convincingly neutral for social and emotional concerns.

However, the demonstration of differential outcomes between age groups and genders again highlights the importance of making the decision to accelerate in the context of the individual student. (p. 227)

Affiliation/Achievement Conflicts

Although no studies compare the effectiveness of different interventions for addressing affiliation/achievement conflicts, research findings suggest that some kinds of supports are associated with students being able to maintain their motivation, aspiration, and achievement outcomes. For instance, Kuriloff and Reichert's (2003) research suggests that open discourse regarding class, identity, and achievement can support students struggling with these conflicts. Open discussions may promote confidence in students' ability to manage these conflicts and empower them to pursue their achievement goals.

FUTURE CONSIDERATIONS AND DIRECTIONS

Although there is much that we know about the psychological issues of gifted students, there is also much that remains to be learned. For example, there is very little research that compares the effectiveness of educational or psychological interventions for gifted students with their typically developing peers. We know little about the prevalence of mental health problems and subclinical problems among gifted students. Research is also still limited about the psychosocial functioning of gifted children from lower SES groups or from diverse cultures. A persistent flaw or weakness in the empirical literature is that much of it is conducted with children who are already formally identified as intellectually gifted and participating in formal gifted programs. We know that such samples typically exclude culturally different and disadvantaged children. It has only been in recent years that there has been growing research about the psychosocial functioning of children who are gifted in nonacademic domains, such as the arts. Also, many weaknesses or limitations have been noted in the empirical research on gifted children (Neihart et al., 2015). For example,

studies of gifted children's psychosocial functioning tend to include small convenience samples and use measures that lack reliability or diagnostic precision.

Nevertheless, there are a few things we can say with confidence. First, there is considerable scientific evidence that lack of challenge and poor access to true peers—others with similar interests, abilities, and drive—are risk factors for gifted children. A poor fit between children's developmental needs and the learning environment can compromise children's psychological adjustment. When high ability students are not persistently challenged in the classroom, they may not resolve the developmental task of achieving competence (T. L. Cross, 2001). They may also be at risk for developing fixed mindsets when they can earn good grades and high marks without making any kind of effort (Siegle & Langley, 2015). Finally, theoretical and empirical perspectives argue for the critical need to have access to others like oneself to form the strong social networks needed for psychological health and achievement.

It is fruitless to try to understand the psychosocial issues of gifted students without appreciating the influence of culture and context. Friendship patterns, the meanings of gender roles, and beliefs about ability and achievement are determined by culture and contexts. It is not appropriate to generalize findings from one culture to another. There is a great need for research that investigates the ways in which culture and context shape psychological processes. For example, there are many contexts in which high ability is a social advantage, but there are some contexts in which it is a disadvantage. Similarly, there are contextual differences in the impact of competition and social comparisons. Competition can prompt social rejection for some students, but not for all. In particular, we need to move beyond racial and ethnic definitions of culture and consider other characteristics that shape cultural groups. Research is needed that promotes understanding about contextual elements that support or impede talent development and well-being across different domains.

SUMMARY AND CONCLUSIONS

Research findings on gifted children's psychological issues conclude that they are a very diverse group,

and that there is not greater prevalence of social or emotional difficulties among them as a group. There is robust support for about five issues that are not exclusive to gifted children but are commonly observed among them. An important finding from empirical studies is the observation of important sub-group differences, with twice exceptional, minority students, and highly gifted students tending to experience more adjustment difficulties, probably because they face obstacles in getting the challenge they need in the learning environment and in getting access to true peers. Therefore, their confidence, aspirations, and self-concept may be eroded over time. Psychologists may have their greatest positive impact with this population when they recognize the importance of provisions for challenge and true peers and advocate for interventions and supports that secure these for the most able children.

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