

# EMOTIONAL INTELLIGENCE AND GIFTEDNESS

Gerald Matthews, Jinchao Lin, Moshe Zeidner, and Richard D. Roberts

Giftedness has traditionally been defined by the child's cognitive functioning and abilities, leaving open questions of how being gifted might impact social-emotional competencies. In the past, two conflicting views have been advanced (Neihart, 1999). First, the high intellectual ability of gifted children and youth may plausibly improve their capacity for understanding self and others, allowing them to cope better with challenges and adversity. A positive psychology perspective likewise suggests that giftedness should confer richer personal growth (Reis & Renzulli, 2004). This stance was supported initially by Terman and Oden's (1947) studies of genius, and by subsequent research showing modest associations between giftedness and various metrics for well-being (Neihart, 1999; Reis & Renzulli, 2004).

Alternatively, gifted children may be more sensitive to interpersonal conflict and more aware of possible threats to well-being (Dirkes, 1983). The exceptionally gifted may be more vulnerable to social-emotional problems than the moderately gifted (Dauber & Benbow, 1990; Schwean, Saklofske, Widdifield-Konkin, Parker, & Kloosterman, 2006). Awareness of being "different" from other children may also threaten social development (Cross, Coleman, & Stewart, 1995). Strop (2002) found that gifted adolescents tended to worry and be preoccupied about several socio-emotional concerns, including establishing positive relationships with peers, dealing with sensitivities about what others say and do, developing the ability to relax and relieve tension, getting along with

siblings, developing a tolerance toward others, and dealing with the desire for perfectionism. Gifted children may also be prone to the big fish little pond effect (BFLPE), which may lower academic self-concept and increase anxiety in gifted children who are placed in classes for their academic ability and then socially compare themselves with peers (Nagengast & Marsh, 2012; S. Shani-Zinovich & Zeidner, 2013).

In Western countries, concerns about social-emotional functioning may be fed by several interlocking cultural themes and stereotypes: gifted children do not enjoy normal childhoods (e.g., "hot-house kids"), extreme intellectual ability is a form of social deficit (e.g., TV shows like *The Big Bang Theory*), and high emotional costs are the result of pushing children to excel academically (e.g., "tiger moms"). Given that giftedness typically relates to higher well-being (Neihart, 1999), the more feverish perspectives from popular culture are unsustainable. However, giftedness may be associated with subtle forms of emotional maladaptation, or with emotional challenges in specific domains, such as isolation from peers in high school (Vialle, Heaven, & Ciarrochi, 2007). It has been suggested that gifted children may be skilled in disguising their unhappiness so that it is not apparent to teachers. Indeed, certain teachers may create challenges for gifted students. McCoach and Siegle (2007) noted considerable variability in attitudes toward giftedness in American teachers, reflecting in part suspicion of elitism; a minority harbored extraordinarily negative attitudes.

Research on emotional intelligence (EI) may inform understanding of the characteristics of emotional functioning in gifted children (Pfeiffer, 2001). This construct remains controversial in educational psychology, but it may prove useful for exploring interrelationships between cognitive and social–emotional competencies (Matthews, Zeidner, & Roberts, 2002). Indeed, the pioneers of systematic testing for EI (Mayer, Perkins, Caruso, & Salovey, 2001) proposed that children high in EI should be able to represent information about emotional encounters in greater accuracy, depth, and richness, supporting social adaptation. In this chapter, we explore possible relationships between intellectual giftedness and EI, covering conceptual bases, empirical research, and applications in education.

### IMPORTANCE OF THE TOPIC

EI has been a key topic in developmental psychology and for educational practice. From infancy, children’s abilities to perceive and understand emotion, to reason about emotion, and to regulate emotional displays play critical roles in building supportive relationships with parents and peers, and in school success (Denham et al., 2012). Saarni (2007) listed six critical emotional skills that develop throughout childhood:

1. awareness of emotional state,
2. understanding of the emotions of others,
3. use of an emotion lexicon,
4. capacity for empathy and sympathy,
5. management of emotional expressiveness, and
6. effective emotion regulation and adaptive coping.

Certain skills may emerge in infancy in primitive form, and become progressively more elaborated as children develop cognitive and self-regulative skills (Saarni, 2007). For example, awareness of others’ emotions builds from early recognition of parental approval (or disapproval) into complex mental models of the causes and consequences of the emotional states of specific individuals. Much of the work in this area involves the explicit and implicit socialization processes through which children learn about emotions. However, the maturation of brain systems, such as the frontal areas supporting effortful

control and executive processing, also plays a key role (Zeidner, Matthews, Roberts, & MacCann, 2003). We can assume that measures of EI, particularly the measured facets of emotion identification, understanding, and management, capture at least some of the interchild variance in Saarni’s (2007) skills, although debate continues over exactly what skills should be encompassed by EI.

Children’s developing emotional capabilities play directly into school experience and learning (Zeidner, Roberts, & Matthews, 2002). School outcomes are liable to be better for children who can recognize the emotions of teachers and peers, who can verbalize and explain their own emotions and empathy for others, and who can effectively regulate their own and others’ emotions (Graziano, Reavis, Keane, & Calkins, 2007). Jennings and Greenberg (2009) promote the concept of the pro-social classroom in which teachers and students feel a common connection to the school community that promotes learning and mitigates against disruptive behaviors. These authors focus on the importance of teacher social–emotional competencies, but student EI—or teachers’ abilities to foster student EI—may be equally important. Conversely, deficits in emotional skills may leave the child vulnerable to internalizing conditions such as anxiety and depression, or to unwanted externalizing behaviors such as impulsive aggression (Matthews, Zeidner, & Roberts, 2006).

Ideally, an understanding of emotional competency in gifted children should be grounded in an understanding of the developmental process. The development of the skills listed by Saarni (2007) appears to require cognitive capacities (e.g., building mental models of what annoys a parent or teacher, cognitive perspective-taking that may build empathy). Zeidner et al. (2003) proposed an investment model of the development of EI that is compatible with Saarni’s (2007) analysis. Emotional competencies progress with age from biologically based temperamental influences in infancy, to learned rule-based skills in early childhood, and to insightful, knowledge-based emotion regulation in later childhood and adolescence. Individual differences in competency depend on the investment of cognitive and metacognitive abilities at the

appropriate stage of development. For example, high verbal ability supports the child in understanding and articulating the reinforcement contingencies for different choices of action in emotive situations.

Therefore, intellectual ability might allow gifted children to follow the trajectories of emotional development more rapidly (e.g., greater maturity of thought in characterizing interpersonal relationships; Mayer et al., 2001). At the same time, the developmental asynchrony of gifted children (i.e., the marked disparity between gifted adolescents' accelerated cognitive development, on one hand, and affective or socioemotional development, on the other) may result in cognitive and affective facets of their lives not being sufficiently aligned. Similarly, greater social-emotional competence should make the gifted child easier to teach (over and above the advantages of cognitive ability). Better understanding of the process may help well-adapted gifted children to achieve their full potential. It is also important to support gifted children who may be underachieving (McCoach & Siegle, 2003; Peterson, 2015), or dealing with concomitant conditions, such as attention-deficit/hyperactivity disorder.

## HISTORICAL AND CONTEMPORARY PERSPECTIVES

Western culture has been historically ambivalent about emotions, veering between admiring the “wisdom of the heart” and fearing the irrationality of passion. Nevertheless, founders of modern research on intelligence including Charles Spearman, Edward Thorndike, and J. P. Guilford recognized social-emotional abilities beyond general intelligence (*g*), although early work had only limited success in developing valid tests of these abilities. Modern psychometric research places EI within contemporary multistratum models of ability as a form of crystallized intelligence, representing the investment of basic cognitive aptitude into acquired social-emotional skills and competencies (e.g., MacCann, Joseph, Newman, & Roberts, 2014). By contrast, Gardner's (2011) multiple intelligences theory, unburdened by psychometric evidence, sees intra- and interpersonal abilities as independent of standard cognitive abilities.

Salovey and Mayer (1989) conducted the first systematic research on EI as a part of a wider universe of intelligence, leading to the development of psychometric ability tests, notably the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer, Salovey, Caruso, & Sitarenios, 2003). A version of the MSCEIT for early adolescents is also available (Rivers et al., 2012), though more specialized measures may be necessary for assessment of emotional competency in younger children (Izard et al., 2001). A contrasting strand of research considers EI as part of personality (“trait EI”), and uses a variety of questionnaires for assessment purposes (e.g., Petrides, Furnham, & Mavroveli, 2007). Questionnaire assessment is feasible from late childhood onward (e.g., Kokkinos & Kipritsi, 2012).

Tests of EI may be applied to determine whether gifted children also tend to be more emotionally intelligent, and how high EI might impact their social-emotional functioning. However, research of this type faces several challenges. First, it is necessary to demonstrate the validity of tests of EI. A major difficulty here is that ability and questionnaire measures of EI typically fail to converge (Zeidner, Roberts, & Matthews, 2009). Second, the adaptive consequences of EI must be mapped: Are high scores on a test for EI reflective of superior real-world functioning? Third, the practical relevance and educational implications of high EI must be determined. These remain controversial issues for researchers investigating individual differences in emotional functioning.

## RELEVANT THEORY AND PRINCIPLES

To summarize the essential theory of EI relevant to giftedness requires recognizing a parting of the ways between the ability and trait conceptualization of the construct. The ability model treats EI as a standard intelligence (Mayer, Caruso, & Salovey, 1999). Therefore, theory must explain why some individuals are objectively superior at processing emotion-related stimuli in various ways, and individual differences should be assessed through objective tests with right-or-wrong answers. Conversely, trait theory (e.g., Petrides et al., 2007) sees EI as a set of

personality traits (i.e., styles of processing emotional encounters that reflect typical rather than maximum performance). The traits concerned may often (though not invariably) be adaptive, but like other personality characteristics they most likely are best assessed via self-report. The theoretical relationship between ability and trait EI versions is not well-defined, but the two approaches are sufficiently distinct to require separate treatment. In this section, we will summarize the principles of each approach in turn, followed by a brief critique.

### Ability Model: Principles

Many conceptualizations of EI are theoretically shallow, being little more than lists of positive qualities that are not general cognitive ability (Matthews et al., 2002). The Mayer et al. (1999) approach carries more theoretical heft than most, in that it is on the basis of their four-branch model of EI that discriminates different types of emotional competency.

1. Perception and Recognition of Emotions
2. Assimilating Emotions Into Thought
3. Understanding Emotions
4. Managing and Regulating Emotions in Self and Others

Emotion perception is the most basic of the branches, and managing emotions the highest-level. Mayer et al. (2003) have also grouped together the first and second branches as “experiential” EI, referring to somewhat implicit and intuitive abilities, whereas the third and fourth branches are “strategic” and more conscious. The MSCEIT (Mayer et al., 2003) is made up of 8 subtests, two per branch, and provides scores for each branch, as well as overall ability EI.

There is now quite substantial evidence available on the validity of the MSCEIT (see Rivers et al., 2007; Zeidner et al., 2009, for reviews). The MSCEIT correlates moderately with standard cognitive ability, as expected (Mayer et al., 1999). It also converges with other ability tests for EI (e.g., situation judgment tests) that assess how the respondent would react in real-life emotive scenarios (Mayer, Salovey, & Caruso, 2012). Scores largely diverge from personality measures, although some small associations have been reported. A meta-analysis

(Martins, Ramalho, & Morin, 2010) showed that MSCEIT scores correlate with well-being, although the effect size was small ( $r = .17$ ). Similarly, although the MSCEIT may be associated with various cognitive process factors supporting well-being (e.g., adaptive coping), associations tend to be small and inconsistent across studies (Davis & Humphrey, 2012; Zeidner, Matthews, & Roberts, 2012). The MSCEIT also correlates with various measures of adaptive social functioning, such as quality of relationships and social competence. There is evidence too that others attribute such qualities to people who score highly on the test. Conversely, mental disorders associated with social—emotional deficits (e.g., depression, schizophrenia) tend to be associated with lower MSCEIT scores (Brackett, Rivers, & Salovey, 2011).

### Ability Model: Critique

Two limitations of the MSCEIT are especially salient. The first is that scoring EI test items objectively is difficult. For example, in a typical emotion management item, if a child finds a classmate upset and crying, should the child comfort the classmate himself or herself, or should the child tell a teacher? The answer depends on a host of contextual factors: How close are the two children, what is the child’s objective emotion management skills, what is causing the classmate to be upset, is the teacher available, what are the cultural norms, and so forth. It is easy to identify “wrong” answers (e.g., mocking a crying child), but much harder to choose between alternatives that are plausibly correct. Mayer et al. (2003) used two scoring procedures for the MSCEIT, which happily converged. Consensus scoring, following the “wisdom of the crowd” principle, assigns credit to the individual to the extent that their responses resemble the norm for the population. Expert scoring relies on standards set by a panel of psychologists with expertise in emotion. Both methods are open to criticism (Matthews et al., 2002). Consensus scoring penalizes the “emotional genius” who correctly answers difficult items that most people get wrong. The MSCEIT may function better over the lower part of the range of EI, which makes its application to giftedness problematic.

Another, theory-based, difficulty with the Mayer et al. (1999) model is that the branches represent functions—things children or adults can do—rather than the underlying processes that make functions possible. For example, emotion perception might variously depend on hard-wired brain circuits for recognizing universal facial emotions, attention to learnt cues such as the content of speech, or context-bound inferences such as knowing how particular individual typically feels in some specific circumstance (Zeidner et al., 2009). Individual differences in these processes are not necessarily highly correlated. Indeed, the MSCEIT correlates rather poorly with standard tests for emotion perception, raising questions about what exactly the MSCEIT emotion perception subtest is assessing (Roberts et al., 2006).

### Trait Model: Principles

There are numerous self-report scales for EI (see Zeidner et al., 2009). Most include subscales for different facets of EI, although there is little agreement on these facets across instruments. We focus here on one of the more widely used questionnaires, the Trait EI Questionnaire (TEIQue; Petrides et al., 2007), which exemplifies the strengths and weaknesses of the approach. Petrides (2009) emphasized that EI should be an aspect of personality, not cognitive ability. The various facets of trait EI can be aspects of trait self-efficacy, reflecting beliefs about personal emotional functioning. Such beliefs may be partly grounded in objective or subjective reality, but at most they are only indirectly related to true abilities, much as self-rated intelligence is only modestly correlated with objective test scores.

Petrides et al. (2007) developed the TEIQue by sampling constructs relevant to “emotional self-efficacy.” The current TEIQue assesses 15 facets, four broader factors, and global trait EI. The following list of the four intermediate-level factors gives a good idea of the qualities typically measured by questionnaires for EI:

1. Well-being: Self-esteem, trait happiness, trait optimism
2. Self-control: Emotion regulation, stress management, impulsiveness

3. Emotionality: Emotion perception, emotion expression, trait empathy, relationships
4. Sociability: Social awareness, emotion management, assertiveness

The various scales meet standard psychometric criteria and appear to provide a reasonably comprehensive set of traits relevant to emotional functioning.

There is considerable evidence relating to the validity of the TEIQue (see Petrides et al., 2007, for a review). Scores typically converge with those of other questionnaires for EI, and with standard personality traits (simultaneously a potential problem). It is not correlated with cognitive ability. Overall, trait EI correlates meaningfully with a range of measures of well-being. Effect sizes tend to be higher than for ability EI; Martins et al. (2010) reported an overall  $r$  of .53. Although the TEIQue is largely independent from the MSCEIT, it relates to many of the same criteria, including self-ratings of social competence, relationship quality, and coping with stress. Scores are also relatively low in clinical groups with various emotional disorders.

### Trait Model: Critique

Work with self-report scales raises psychometric and conceptual issues, though rather different ones to those for ability EI. The major psychometric issue is differentiation of trait EI from major personality traits, such as the Big Five personality traits. Significant correlations are expected if EI is defined as part of the personality sphere. However, data (e.g., Vernon, Villani, Schermer, & Petrides, 2008) suggest that, in terms of the Big Five, the TEIQue self-control factor is little more than low neuroticism, and well-being and sociability largely represent admixtures of low neuroticism and extraversion (with smaller contributions from other Big Five factors). Emotionality—which might be better labeled as emotion regulation—does appear to represent a novel factor that correlates only modestly with the Big Five. The well-being factor presents special problems in health research, as constructs such as happiness overlap with the outcome criteria used. Zeidner et al. (2012) showed that much of the TEIQue’s criterion validity in this domain was lost if criterion contamination associated with well-being

was controlled. Another issue with the use of self-report is its vulnerability to faking, especially in high-stakes applied studies (Day & Carroll, 2008). This issue is especially important when considering the possibility of using such scores to identify the gifted and talented.

Conceptually, questionnaire-based research faces the same problem that personality research does in general: How do we go beyond broad descriptions of self-perceived traits to uncover variation in causal processes that generate consequential individual differences in outcomes. The issue is too complex to elaborate here. We simply note that conceptualizing trait EI in relation to self-efficacy provides a path toward theory development via established work on self-concept and self-regulative processes. Thus far, it is a path neglected by trait EI researchers.

### Multicultural Aspects of Emotional Intelligence

Research has highlighted the impact of culture on psychological traits, states, and processes, including those related to emotion. It is now readily apparent that research based on measures developed and standardized in the West, including the most prevalent EI measures, should not be automatically used and generalized across cultures (Triandis & Suh, 2002). It is not implausible that EI is a culture-bound construct that reflects western cultural values and attitudes (Matthews, Zeidner, & Roberts, 2012). Cultures differ in the display rules that define how and when emotion can be expressed and in the social norms governing potentially emotive social interactions (Draguns, 2009). For example, individualist cultures tend to value emotional expression more than collectivist cultures, which favor self-restraint and emotional suppression, to promote group harmony (Fernández, Carrera, Sanchez, Paez, & Candia, 2000; Matsumoto et al., 2008). Research comparing Western (individualist) and East Asian (collectivist) nations has confirmed cultural differences, suggesting that EI may take on different meanings across cultures. For example, Louie, Wang, Fung, and Lau (2014) found that in Korea, emotionally expressive preschoolers are perceived as lacking in social competence, but this relationship was not found in American children of

European origin. At the same time, there are some cultural universals; in Louie et al.'s (2014) study, displays of angry affect were associated with teacher evaluations of antisocial behavior in Korean and American samples.

Therefore, tests for EI may include items that are likely to be problematic outside the United States. Take the following item, for example: "I can readily relate my emotions to others." The implication that emotions can (and should) be related or conveyed to others may not be transferable to all cultures. Western tests are not necessarily "culture fair", and studies comparing EI across cultures have indeed found group differences favoring Western cultures. Gökçen, Furnham, Mavroveli, and Petrides (2014) found that British participants scored more highly than Chinese participants on a trait EI measure, whereas Karim and Weisz (2010) reported higher scores for French over Pakistani respondents in a study using the MSCEIT. However, such findings should be taken with a grain of salt given the Western origins of these tests (Matthews et al., 2002). Further research is needed to develop tests that accommodate cultural differences in the appropriateness of various emotional responses and in the meaning that respondents assign to items (Emmerling & Boyatzis, 2012). Similarly, although much has been written about how to develop EI competencies through school-based programs (Durlak et al., 2011; Zeidner & Matthews, in press), the populations under study all represent Western cultures (i.e., the U.K., the United States, and Australia). Program for enhancing social-emotional functioning may need to be adapted to take culture into account.

Regrettably, to date, there is little cross-cultural research on EI among gifted students. Such research is sorely needed. Like EI, giftedness may be defined somewhat differently according to cultural norms, but there are also measures that may pick up cultural universals (Li et al., 2009). Future research might then be shaped by the contrasting etic (on the basis of universal traits) and emic (on the basis of culture-specific traits) perspectives prevalent in cross-cultural studies (Triandis & Suh, 2002). The etic approach would determine if children that meet universal criteria for giftedness also differ in terms of universal aspects of EI. The emic approach would

investigate whether children who meet specific cultural norms for giftedness are also considered to be more or less emotionally intelligent within that culture. For example, East Asian gifted children might be especially adept at suppressing their emotion when required for group cohesion, whereas American children might be more emotionally expressive in situations where at least some emotional display is permitted. However, research of this kind has yet to be conducted systematically.

## RESEARCH REVIEW

Little research has directly addressed the relationship between intellectual giftedness and EI. We review the limited direct evidence, as well as two more indirect sources of evidence. We examine the relationship between EI and academic outcomes, such as grade point average (GPA). To the extent that gifted students are more emotionally intelligent, they may derive an additional benefit. We also review studies of emotion knowledge, a construct allied to EI that can be assessed objectively in younger children. Again, high emotional competency may supplement cognitive ability in fostering accomplishment in the classroom.

### Relationships Between Emotional Intelligence and Giftedness

Zeidner, Shani-Zinovich, Matthews, and Roberts (2005) tested levels of ability and trait EI in a sample of 83 academically gifted children from the seventh through 10th grade in Israel. These children had been placed in classes for the gifted following the two-stage selection procedure used in the Israeli school system, based on use of aptitude tests beginning in the second and third grades. The control group consisted of 125 students from the same school but not assigned to the gifted program. All students completed the MSCEIT (adapted slightly for the Israeli school context), the Schutte Self-Report Inventory (SSRI; Schutte et al., 1998), which is a popular trait EI scale, and a vocabulary test. Differences in EI between gifted and control groups turned out to be highly dependent on the measure used. The gifted group was significantly higher in ability EI, measured by the MSCEIT ( $d = .39$ ), but

obtained lower SSRI scores on average ( $d = -.57$ ). The effect on the MSCEIT was significant only for the Emotion Understanding and Management branches ("strategic" EI: Mayer et al., 2003). It was also fully explained by group differences in vocabulary, pointing toward the importance of lexical processing in emotional functioning (Zeidner et al., 2003). Three explanations for the lower trait EI scores of the gifted group were advanced, including the BFLPE (Nagengast & Marsh, 2012). In addition, there may be personality differences between gifted and nongifted students that are reflected in the SSRI. Finally, the nongifted group might be more prone to self-enhancement of personality though lacking the insight of the gifted students.

Other studies have investigated further the roles of trait EI and personality factors. Lee and Olszewski-Kubilius (2006) administered a trait EI scale to 236 U.S. high school students in the 10th through 12th grades, who were attending summer programs for the gifted. The study had no control group, but relative to national age norms, female (but not male) gifted students showed lower trait EI ( $d = -.42$ ). Zeidner et al. (2005) did not find any interaction between gender and giftedness. Further analysis showed that, in both genders, gifted students scored higher on adaptability (e.g., confidence in problem solving), but lower on stress management and impulse control. Gifted children also showed higher levels of leadership, but normal levels of moral judgment.

Schwean et al. (2006) identified 169 gifted Canadian children and adolescents using a combination of test scores and teacher nominations, as well as an age- and gender-matched control group. This study showed no difference in overall trait EI scores in either gender. However, the gifted group scored higher on subscales for adaptability and intrapersonal functioning, whereas the control group scored higher on interpersonal functioning. Parent ratings of EI were also obtained. Parents of gifted children tended to rate them higher on total EI, adaptability, and stress management. Self- and parent-ratings of the advantages of giftedness agreed only for adaptability, perhaps reflecting its dependence on cognitive problem-solving. Schwean et al. (2006) interpreted their findings as countering the myth

that intellectually gifted children are psychologically vulnerable.

Overall, studies of trait EI do not consistently depict a distinct style of emotional functioning in gifted children. The lack of clarity may reflect the overlap between trait EI and personality. Trait EI measures are typically correlated with multiple personality factors whose relationship with giftedness may differ. Zeidner and Shani-Zinovich (2011) assessed the Big Five personality dimensions in representative samples of academically gifted ( $N = 374$ ) and nongifted ( $N = 428$ ) Israeli high school students from the 10th through 12th grades. They found that the gifted group was higher in openness, but lower in agreeableness and neuroticism. There were no group differences in extraversion and conscientiousness. Openness is associated with intellectual interests and curiosity, as well as with crystallized intelligence, so its elevation in the gifted is expected. Neuroticism is associated with poorer stress management and maladaptive emotion regulation (Matthews, Deary, & Whiteman, 2009). Hence, the lower neuroticism scores are inconsistent with the suggestion of emotional dysfunction in the gifted, and contradict Lee and Olszewski-Kubilius's (2006) finding that giftedness was associated with poorer stress management. Zeidner and Shani-Zinovich (2011) attribute the depression of agreeableness to a greater competitive spirit among gifted adolescents.

A final perspective on giftedness and emotional dispositions comes from studies of anxiety. I. Shani-Zinovich (2008) investigated four specific anxiety traits (i.e., social evaluative, physical danger, ambiguous, and daily routine anxiety), as well as state anxiety. She compared 374 Israeli gifted students and 428 nongifted students, enrolled in regular classes in the 10th through 12th grades. Trait anxiety scores were almost identical for the two groups, although gifted children were significantly lower in state anxiety, in both genders. This finding was attributed to gifted students possessing better resources for coping with academic stressors.

I. Shani-Zinovich's (2008) state anxiety finding suggests that it may be more productive to examine how gifted children cope with specific stressful contexts, rather than assume that giftedness has some

global effect on stress vulnerability. Correspondingly, Zeidner and Schleyer (1999) found that intellectually gifted students in mixed ability classes in elementary and junior high schools were lower in test anxiety than their nongifted counterparts. Low test anxiety might reflect well-founded beliefs in academic prowess, beliefs that can be measured as academic self-concept. Zeidner and Shani-Zinovich (2013) investigated effects of giftedness on five facets of self-concept in Israeli high school students. Gifted students were higher in academic and social self-concepts, but lower in personal and physical self-concepts. Moral self-concept did not differ across groups. Group differences in social and personal self-concepts contrast sharply with Schwan et al.'s (2006) findings of lower interpersonal, but higher intrapersonal, functioning in gifted children. Cultural differences between Israel and Canada might be a factor here.

In sum, one study (Zeidner et al., 2005) showed that ability EI, measured by the MSCEIT, is elevated in gifted children. This finding requires replication but it is consistent with theoretical analyses of ability EI (Mayer et al., 2001), and with the robust association between cognitive ability and the MSCEIT (Mayer et al., 2012), especially regarding its strategic branches. Studies of trait EI and personality provided a more clouded picture. Across studies, there is no reliable association between giftedness and trait EI, and contradictory findings on facets of trait EI have been reported. It may prove more productive to look at giftedness in relation to contextual emotional functioning. For example, elevated academic self-concept (Zeidner & Shani-Zinovich, 2015) may confer resilience in the school setting, although in programs for the gifted the BFLPE may be a source of ego threat.

### Academic Achievement

The various adaptive outcomes linked to EI imply that emotionally intelligent children should obtain better grades at school. Research has investigated ability and trait EI. Generally, studies have confirmed that ability EI predicts students' grades, with studies showing this occurs for broad assessments such as the MSCEIT (Rivers et al., 2007; Zeidner et al., 2009) and narrower measures, such as the

Situational Judgment Test of Emotion Management (MacCann, Wang, Matthews, & Roberts, 2010). This latter study is especially noteworthy as it suggests that the EI measure remains predictive of grades after controlling for socioeconomic status and general cognitive ability. We outline two recent studies that shed still further light on the role of ability EI in academic achievement.

Qualter et al. (2012) conducted a 5-year longitudinal study in British schools ( $N = 413$ ). Measures of EI, personality, and cognitive ability taken at the beginning of school Year 7 (as defined in the British school system) were used to predict academic performance at the end of Year 11 (i.e., EI at age 11 was used to predict performance at age 16). The youth version of the MSCEIT was used in this study. Significant correlations between the MSCEIT branch scores and grades on various examinations ranging from .13 to .28 were found; not surprisingly, cognitive ability predicted more strongly (up to .55). Structural equation modeling suggested that cognitive ability and EI influenced academic performance independently, although the influence of cognitive ability was much larger.

MacCann, Fogarty, Zeidner, and Roberts (2011) developed a contextualized approach to student achievement by assessing coping with school situations (as opposed to general coping style). In their first study, the MSCEIT was administered to 159 U.S. community college students. In their second, an situation judgement test measuring the emotion management component of ability EI was completed by 383 eighth grade students at five sites across the United States. Cognitive ability was not assessed. In both studies, ability EI predicted GPA, and the effect was mediated by increased usage of problem-focused coping in those high in EI.

Numerous studies have examined associations between trait EI and academic outcomes, with mixed results. For example, Qualter et al.'s (2012) longitudinal study showed a small effect for trait EI in boys but not girls. A meta-analysis of 74 effect sizes (total  $N = 10,292$ ) found a small but significant average ( $r = .20$ ; Perera & DiGiacomo, 2013). The effect size was larger in younger children. In college students, the association may be mediated by coping and social support (Perera & DiGiacomo,

2015). Although trait EI is typically independent of cognitive ability, Siegling et al. (2015) confirmed that EI remains predictive of performance with general intelligence controlled. Confounding with personality is a more concerning issue. Trait EI overlaps with factors such as conscientiousness, which is known to promote academic achievement, and studies that have controlled for personality have provided mixed outcomes (Zeidner et al., 2009). However, some well-designed studies (e.g., Sanchez-Ruiz, Mavroveli, & Poullis, 2013) have shown modest incremental validity for trait EI over standard personality dimension in predicting grades. Even here though there is some room for caution, typically the trait EI measure has been broad and expansive, whereas the Big Five assessment has been with a short-form not clearly defining more than a handful of facets.

The studies of ability EI we have reviewed (MacCann et al., 2011; Qualter et al., 2012) suggest that gifted children may have a double academic advantage. Primarily, their high grades will stem from high cognitive ability, but emotionally intelligent students may do even better by coping adaptively with academic stressors. Trait EI also seems to confer some modest academic benefits. Data on giftedness and trait EI are equivocal, but it may be worth assessing whether low trait EI is a source of underachievement in the gifted.

### Emotion Knowledge

The studies reviewed in this chapter treat their primarily adolescent participants as miniadults, capable of expressing rational responses to test items concerning emotive situations. However, research using versions of tests for adults modified for adolescents is not suitable for investigating relationships between giftedness and emotional functioning in earlier childhood. Research on younger children focuses on emotional knowledge (EK). In Izard et al.'s (2001) emotion theory, EK includes recognizing emotional signals, labeling emotions correctly, and identifying causes of emotions. Importantly, for our present purposes, some aspects of EK can be measured through objective testing, even in young children. The Emotion Matching Test (EMT; Izard et al., 2001) asks the child to perform

several activities such as matching images of facial expression to congruent images and situations. Another test for young children, the Affect Knowledge Test (Denham, 1986), uses puppets to explore children's understanding of facial expression and its appropriateness in relation to different scenarios.

Scores on EK tests correlate with a range of desirable outcomes including academic competence, vocabulary, emotional stability, and social competence (see Izard et al., 2001, 2008; Zeidner et al., 2003). A meta-analysis (Trentacosta & Fine, 2010) showed that EK was associated with higher social competence ( $r = .22$ ), lower levels of internalizing problems ( $r = -.17$ ), and lower levels of externalizing problems ( $r = -.17$ ). Participant ages ranged from 2 to 18 years. Age group was a moderator only of the association with externalizing problems; the effect size was larger for samples of preadolescents/adolescents than for younger children. Similar to studies using the MSCEIT in adults, higher ability appears to have modest but pervasive associations with social adaptation and well-being.

Studies of EK tests also provide longitudinal data that support process-based models of competence. EK in preschoolers predicts various social, motivational, and behavioral indices of early school achievement (Denham et al., 2012; Garner & Waajid, 2012). In their studies of preschoolers, Garner and Waajid (2012) showed a dissociation between EK, which predicted subsequent cognitive and social competence, and self-regulation, which predicted classroom behavior problems. There may be an echo here of the ability vs. trait EI distinction evident in older groups. Theory in the area (e.g., Denham et al., 2012; Izard et al., 2008; Zeidner et al., 2003) emphasizes the interdependence of cognitive and emotional competencies. Vocabulary, in particular, may be important for the acquisition of EK, but high EK feeds back into the acquisition of cognitive skills and knowledge in the classroom.

## PRACTICE AND POLICY ISSUES

The rising popularity of EI in educational circles has spurred on efforts to address students' emotional and social problems through school-based intervention programs. Advocates for EI (e.g., Zins et al.,

2004) have contended that the best way to remedy issues plaguing the school system is by thoroughly revamping the school program to educate students systematically in affective competencies across the school years, complementing traditional academics. Social and emotional education may give students the crucial foundations and skills for becoming caring, empathic, responsible, and compassionate citizens, as well as advancing their personal development. Interventions designed to foster EI in the classroom fall under the general rubric of social and emotional learning programs (SEL). They focus on the various processes through which children enhance their ability to integrate thinking, feelings, and behaving to achieve life tasks (Zins et al., 2004). Curricular-based SEL programs seek to educate children about the value of EI as well as to foster the development of specific skills, including recognition of emotions in self and others, empathy, management of emotions, and conflict resolution. These programs aim also to enhance educational achievements in the classroom, through promoting effective teacher-student collaboration, engagement in learning, and constructive stress management.

The Collaborative for Academic, Social, and Emotional Learning at the University of Illinois reports that more than 150 different emotional literacy programs are being used today by thousands of American schools. Description of these programs is beyond the scope of this chapter, but a meta-analysis of 213 school-based SEL programs confirmed that, in general, they enhance social and emotional skills, attitudes, and prosocial behavior, depending on the outcome criterion (Durlak et al., 2011). Modest positive effects on academic performance were also established. It remains unclear whether EI itself can be directly trained, as opposed to specific social-emotional skills. At least one substantial program failed to elevate scores on the adolescent MSCEIT, although the authors reported some complex interactive effects of training and implementation quality (Reyes et al., 2012).

Gifted children do not, in general, have a need for SEL training, but there are still practical implications for this group. It is assumed that all children may benefit from SEL, irrespective of whether they exhibit emotional or behavioral problems; the

emotional development of gifted children should not be neglected. Furthermore, gifted children are heterogeneous in emotional functioning. The rather weak associations between giftedness and trait EI reported in the literature (e.g., Schwean et al., 2006) imply that some gifted children will be resilient, prosocial and well-adapted to the classroom whereas others will not. Indeed, although there are various sources of underachievement in gifted students, one important source of poor classroom performance is maladaptive self-regulation and motivation (McCoach & Siegle, 2003). SEL training may be especially valuable to those students who are vulnerable to social-emotional deficits. Accordingly, for those gifted students who evidence troubling social, emotional, or interpersonal behaviors, the EI construct offers a useful conceptual framework to assist in designing helpful therapeutic interventions.

SEL programs may also be specifically geared toward the aptitudes and needs of gifted children (e.g., Gubbels, Segers, & Verhoeven, 2014), although such efforts are in their infancy. It is important also to factor in the social context for the development of emotional competencies. Children growing up in urban, low socioeconomic families tend to develop poorer skills for EK and emotional regulation (Finlon et al., 2015). Factors such as family conflict and instability, and a range of external stressors, may make it difficult for parents to support effective emotional learning, whether through modeling or direct instruction. Finlon et al. (2015) reported that an Emotion-Based Prevention Program was effective in improving EK, measured by the EMT, and classroom behaviors, in a low-income and culturally diverse population. Such interventions may be appropriate for gifted children from disadvantaged backgrounds.

Two recent papers are likely to further advance the call for SEL programs to be included more regularly into school-based curricula. Belfield et al. (2015) showed that the return on investment of these programs for youth is substantial. Examining six interventions for improving SEL, they found that “on average, for every dollar invested equally across the six interventions, there is a return of eleven dollars, a substantial economic return” (p. 5). Equally, the Organisation for Economic Co-operation and

Development (which runs the globally influential Program for International Student Assessment, Program for the International Assessment of Adult Competencies, and Teaching and Learning International Survey) has recently published a position paper calling for the need to foster social and emotional skills in all countries. In the process, they identify numerous policy levers that could be used in this endeavor.

Some of the socio-emotional skills that drive future outcomes are malleable and policy-makers, teachers and parents can play a role in improving the learning environments in which they develop. There are already many promising pedagogical approaches and learning contexts from selected school districts and individual schools to be explored. Systematic exchange of such information among educational stakeholders and researchers would help to provide opportunities for others to experiment with such practices and enrich the evidence base. . . . [I]dentifying and expanding promising strategies on a larger and wider scale would improve the effectiveness and efficiency of educational systems in developing these crucial social and emotional skills. (Miyamoto, Huerta, & Kubacka, 2015, p. 11)

## SUMMARY AND CONCLUSIONS

Contrary to popular myth, gifted children are not, in general, emotionally dysfunctional. However, some gifted children, and particularly the profoundly gifted and the gifted with comorbid disorders, may face social-emotional challenges (see Chapter 35, this handbook). Research on EI may help to elucidate emotional functioning in gifted individuals, and suggest avenues for remedial interventions where appropriate. Current understanding of EI is limited by lack of depth in theory, and the schism in the field between ability and trait models of the construct. However, there are validated tests of EI as an ability, notably the MSCEIT, and as a personality trait, that may be used in studies of gifted children.

Broadly, giftedness is associated with higher ability EI. Verbal ability, in particular, may promote intellectual attainment and emotional competency. High ability EI may confer advantages on gifted individuals over and above those of high cognitive ability. In young children, high EI may support the transition to kindergarten and elementary school and subsequent academic accomplishment. Studies of older students also suggest a modest enhancement of classroom performance derived from EI. By contrast, studies of trait EI and personality provide conflicting evidence, but there appears to be no general tendency toward stress vulnerability or social skills deficit in gifted children. Trait EI is linked modestly to grades and so those gifted children who happen to be low in trait EI may underachieve.

A priority for future research is to develop stronger process-based models of emotional competency to better inform understanding of the strengths and weaknesses of gifted children, at the group and individual level. It is important to differentiate (a) basic processes, such as attention and memory, for emotional stimuli; (b) acquired knowledge of emotion shaped by the sociocultural environment; and (c) insightful analysis of emotional factors in specific contexts and situations. Each one of these factors may contribute to emotional competency but their roles in giftedness have not been differentiated.

Interventions designed to enhance SEL are now a major focus for education, but they have tended to neglect the needs of the gifted child. Future training programs might target vulnerabilities (e.g., feeling alienated from typical children) and threats to academic self-concept associated with BFLPE. Interventions may also be tailored to the needs of underachieving gifted students.

## References

- Belfield, C., Bowden, B., Klapp, A., Levin, H., Shand, R., & Zander, S. (2015). *The economic value of social and emotional learning*. New York, NY: Center for Benefit-Cost Studies in Education, Teachers College, Columbia University.
- Brackett, M. A., Rivers, S. E., & Salovey, P. (2011). Emotional intelligence: Implications for personal, social, academic, and workplace success. *Social and Personality Psychology Compass*, 5, 88–103. <http://dx.doi.org/10.1111/j.1751-9004.2010.00334.x>
- Cross, T. L., Coleman, L. J., & Stewart, R. A. (1995). Psychosocial diversity among gifted adolescents: An exploratory study of two groups. *Roepers Review*, 17, 181–185. <http://dx.doi.org/10.1080/02783199509553655>
- Dauber, S. L., & Benbow, C. P. (1990). Aspects of personality and peer relations of extremely talented adolescents. *Gifted Child Quarterly*, 34, 10–14. <http://dx.doi.org/10.1177/001698629003400103>
- Davis, S. K., & Humphrey, N. (2012). The influence of emotional intelligence (EI) on coping and mental health in adolescence: Divergent roles for trait and ability EI. *Journal of Adolescence*, 35, 1369–1379. <http://dx.doi.org/10.1016/j.adolescence.2012.05.007>
- Day, A. L., & Carroll, S. A. (2008). Faking emotional intelligence (EI): Comparing response distortion on ability and trait-based EI measures. *Journal of Organizational Behavior*, 29, 761–784. <http://dx.doi.org/10.1002/job.485>
- Denham, S. A. (1986). Social cognition, social behavior, and emotion in preschoolers: Contextual validation. *Child Development*, 57, 194–201. <http://dx.doi.org/10.2307/1130651>
- Denham, S. A., Bassett, H. H., Mincic, M., Kalb, S., Way, E., Wyatt, T., & Segal, Y. (2012). Social-emotional learning profiles of preschoolers' early school success: A person-centered approach. *Learning and Individual Differences*, 22, 178–189. <http://dx.doi.org/10.1016/j.lindif.2011.05.001>
- Dirkes, M. A. (1983). Anxiety in the gifted: Pluses and minuses. *Roepers Review*, 6, 68–70. <http://dx.doi.org/10.1080/02783198309552758>
- Draguns, J. G. (2009). Personality in cross-cultural perspective. In P. L. Corr & G. Matthews (Eds.), *Cambridge handbook of personality* (pp. 556–576). <http://dx.doi.org/10.1017/CBO9780511596544.035>
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82, 405–432. <http://dx.doi.org/10.1111/j.1467-8624.2010.01564.x>
- Emmerling, R. J., & Boyatzis, R. E. (2012). Emotional and social intelligence competencies: Cross cultural implications. *Cross Cultural Management*, 19, 4–18. <http://dx.doi.org/10.1108/13527601211195592>
- Fernández, I., Carrera, P., Sanchez, F., Paez, D., & Candia, L. (2000). Differences between cultures in emotional verbal and nonverbal reactions. *Psicothema*, 12, 83–92.
- Finlon, K. J., Izard, C. E., Seidenfeld, A., Johnson, S. R., Cavadel, E. W., Ewing, E. S., & Morgan, J. K. (2015). Emotion-based preventive intervention: Effectively promoting emotion knowledge and adaptive behavior

- among at-risk preschoolers. *Development and Psychopathology*, 27, 1353–1365. <http://dx.doi.org/10.1017/S0954579414001461>
- Gardner, H. (2011). *Frames of mind: The theory of multiple intelligences*. New York, NY: Basic Books.
- Garner, P. W., & Waajid, B. (2012). Emotion knowledge and self-regulation as predictors of preschoolers' cognitive ability, classroom behavior, and social competence. *Journal of Psychoeducational Assessment*, 30, 330–343. <http://dx.doi.org/10.1177/0734282912449441>
- Gökçen, E., Furnham, A., Mavroveli, S., & Petrides, K. V. (2014). A cross-cultural investigation of trait emotional intelligence in Hong Kong and the U.K. *Personality and Individual Differences*, 65, 30–35. <http://dx.doi.org/10.1016/j.paid.2014.01.053>
- Graziano, P. A., Reavis, R. D., Keane, S. P., & Calkins, S. D. (2007). The role of emotion regulation in children's early academic success. *Journal of School Psychology*, 45, 3–19. <http://dx.doi.org/10.1016/j.jsp.2006.09.002>
- Gubbels, J., Segers, E., & Verhoeven, L. (2014). Cognitive, socioemotional, and attitudinal effects of a triarchic enrichment program for gifted children. *Journal for the Education of the Gifted*, 37, 378–397. <http://dx.doi.org/10.1177/0162353214552565>
- Izard, C., Fine, S., Schultz, D., Mostow, A., Ackerman, B., & Youngstrom, E. (2001). Emotion knowledge as a predictor of social behavior and academic competence in children at risk. *Psychological Science*, 12, 18–23. <http://dx.doi.org/10.1111/1467-9280.00304>
- Izard, C., Stark, K., Trentacosta, C., & Schultz, D. (2008). Beyond emotion regulation: Emotion utilization and adaptive functioning. *Child Development Perspectives*, 2, 156–163. <http://dx.doi.org/10.1111/j.1750-8606.2008.00058.x>
- Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research*, 79, 491–525. <http://dx.doi.org/10.3102/0034654308325693>
- Karim, J., & Weisz, R. (2010). Cross-cultural research on the reliability and validity of the Mayer-Salovey-Caruso emotional intelligence test (MSCEIT). *Cross-Cultural Research*, 44, 374–404. <http://dx.doi.org/10.1177/1069397110377603>
- Kokkinos, C. M., & Kipritsi, E. (2012). The relationship between bullying, victimization, trait emotional intelligence, self-efficacy and empathy among preadolescents. *Social Psychology of Education*, 15, 41–58. <http://dx.doi.org/10.1007/s11218-011-9168-9>
- Lee, S. Y., & Olszewski-Kubilius, P. (2006). The emotional intelligence, moral judgment, and leadership of academically gifted adolescents. *Journal for the Education of the Gifted*, 30, 29–67. <http://dx.doi.org/10.1177/016235320603000103>
- Li, H., Lee, D., Pfeiffer, S. I., Kamata, A., Kumtepe, A. T., & Rosado, J. (2009). Measurement invariance of the Gifted Rating Scales—School Form across five cultural groups. *School Psychology Quarterly*, 24, 186–198. <http://dx.doi.org/10.1037/a0017382>
- Louie, J. Y., Wang, S. W., Fung, J., & Lau, A. (2014). Children's emotional expressivity and teacher perceptions of social competence: A cross-cultural comparison. *International Journal of Behavioral Development*, 39, 497–507. <http://dx.doi.org/10.1177/0165025414548775>
- MacCann, C., Fogarty, G. J., Zeidner, M., & Roberts, R. D. (2011). Coping mediates the relationship between emotional intelligence (EI) and academic achievement. *Contemporary Educational Psychology*, 36, 60–70. <http://dx.doi.org/10.1016/j.cedpsych.2010.11.002>
- MacCann, C., Joseph, D. L., Newman, D. A., & Roberts, R. D. (2014). Emotional intelligence is a second-stratum factor of intelligence: Evidence from hierarchical and bifactor models. *Emotion*, 14, 358–374. <http://dx.doi.org/10.1037/a0034755>
- MacCann, C., Wang, P., Matthews, G., & Roberts, R. D. (2010). Emotional intelligence and the eye of the beholder: Comparing self- and parent-rated situational judgments in adolescents. *Journal of Research in Personality*, 44, 673–676. <http://dx.doi.org/10.1016/j.jrp.2010.08.009>
- Martins, A., Ramalho, N., & Morin, E. (2010). A comprehensive meta-analysis of the relationship between emotional intelligence and health. *Personality and Individual Differences*, 49, 554–564. <http://dx.doi.org/10.1016/j.paid.2010.05.029>
- Matsumoto, D., Yoo, S. H., Fontaine, J., Anguas-Wong, A., Arriola, M., Ataca, B., . . . Granskaya, J. V. (2008). Mapping expressive differences around the world: The relationship between emotional display rules and individualism versus collectivism. *Journal of Cross-Cultural Psychology*, 39, 55–74. <http://dx.doi.org/10.1177/0022022107311854>
- Matthews, G., Deary, I. J., & Whiteman, M. C. (2009). *Personality traits* (3rd ed.). <http://dx.doi.org/10.1017/CBO9780511812743>
- Matthews, G., Zeidner, M., & Roberts, R. (2002). *Emotional intelligence: Science and myth*. Cambridge, MA: MIT Press.
- Matthews, G., Zeidner, M., & Roberts, R. D. (2006). Models of personality and affect for education: A review and synthesis. In P. Winne & P. Alexander (Eds.), *Handbook of educational psychology* (2nd ed., pp. 163–186). Mahwah, NJ: Erlbaum.

- Matthews, G., Zeidner, M., & Roberts, R. D. (2012). Emotional intelligence: A promise unfulfilled? *Japanese Psychological Research*, 54, 105–127. <http://dx.doi.org/10.1111/j.1468-5884.2011.00502.x>
- Mayer, J. D., Caruso, D. R., & Salovey, P. (1999). Emotional intelligence meets traditional standards for an intelligence. *Intelligence*, 27, 267–298. [http://dx.doi.org/10.1016/S0160-2896\(99\)00016-1](http://dx.doi.org/10.1016/S0160-2896(99)00016-1)
- Mayer, J. D., Perkins, D. M., Caruso, D. R., & Salovey, P. (2001). Emotional intelligence and giftedness. *Roeper Review*, 23, 131–137. <http://dx.doi.org/10.1080/02783190109554084>
- Mayer, J. D., Salovey, P., & Caruso, D. R. (2012). The validity of the MSCEIT: Additional analyses and evidence. *Emotion Review*, 4, 403–408. <http://dx.doi.org/10.1177/1754073912445815>
- Mayer, J. D., Salovey, P., Caruso, D. R., & Sitarenios, G. (2003). Measuring emotional intelligence with the MSCEIT V2.0. *Emotion*, 3, 97–105. <http://dx.doi.org/10.1037/1528-3542.3.1.97>
- McCoach, D. B., & Siegle, D. (2003). Factors that differentiate underachieving gifted students from high-achieving gifted students. *Gifted Child Quarterly*, 47, 144–154. <http://dx.doi.org/10.1177/001698620304700205>
- McCoach, D. B., & Siegle, D. (2007). What predicts teachers' attitudes toward the gifted? *Gifted Child Quarterly*, 51, 246–254. <http://dx.doi.org/10.1177/0016986207302719>
- Miyamoto, K., Huerta, M. C., & Kubacka, K. (2015). Fostering social and emotional skills for well-being and social progress. *European Journal of Education*, 50, 147–159. <http://dx.doi.org/10.1111/ejed.12118>
- Nagengast, B., & Marsh, H. W. (2012). Big fish in little ponds aspire more: Mediation and cross-cultural generalizability of school-average ability effects on self-concept and career aspirations in science. *Journal of Educational Psychology*, 104, 1033–1053. <http://dx.doi.org/10.1037/a0027697>
- Neihart, M. (1999). The impact of giftedness on psychological well-being: What does the empirical literature say? *Roeper Review*, 22, 10–17. <http://dx.doi.org/10.1080/02783199909553991>
- Perera, H. N., & DiGiacomo, M. (2013). The relationship of trait emotional intelligence with academic performance: A meta-analytic review. *Learning and Individual Differences*, 28, 20–33. <http://dx.doi.org/10.1016/j.lindif.2013.08.002>
- Perera, H. N., & DiGiacomo, M. (2015). The role of trait emotional intelligence in academic performance during the university transition: An integrative model of mediation via social support, coping, and adjustment. *Personality and Individual Differences*, 83, 208–213. <http://dx.doi.org/10.1016/j.paid.2015.04.001>
- Peterson, J. S. (2015). School counselors and gifted kids: Respecting both cognitive and affective. *Journal of Counseling and Development*, 93, 153–162. <http://dx.doi.org/10.1002/j.1556-6676.2015.00191.x>
- Petrides, K. V. (2009). Psychometric properties of the trait emotional intelligence questionnaire (TEIQue). In C. Stough, D. H. Saklofske, & J. D. A. Parker (Eds.), *Assessing emotional intelligence: Theory, research, and applications* (pp. 85–101). [http://dx.doi.org/10.1007/978-0-387-88370-0\\_5](http://dx.doi.org/10.1007/978-0-387-88370-0_5)
- Petrides, K. V., Furnham, A., & Mavroveli, S. (2007). Trait emotional intelligence: Moving forward in the field of EI. In G. Matthews, M. Zeidner, & R. D. Roberts (Eds.), *Emotional intelligence: Knowns and unknowns* (pp. 151–166). New York, NY: Oxford University Press.
- Pfeiffer, S. I. (2001). Emotional intelligence: Popular but elusive construct. *Roeper Review*, 23, 138–142. <http://dx.doi.org/10.1080/02783190109554085>
- Qualter, P., Gardner, K. J., Pope, D. J., Hutchinson, J. M., & Whiteley, H. E. (2012). Ability emotional intelligence, trait emotional intelligence, and academic success in British secondary schools: A 5-year longitudinal study. *Learning and Individual Differences*, 22, 83–91. <http://dx.doi.org/10.1016/j.lindif.2011.11.007>
- Reis, S. M., & Renzulli, J. S. (2004). Current research on the social and emotional development of gifted and talented students: Good news and future possibilities. *Psychology in the Schools*, 41, 119–130. <http://dx.doi.org/10.1002/pits.10144>
- Reyes, M. R., Brackett, M. A., Rivers, S. E., Elbertson, N. A., & Salovey, P. (2012). The interaction effects of program training, dosage, and implementation quality on targeted student outcomes for the RULER approach to social and emotional learning. *School Psychology Review*, 41, 82–99.
- Rivers, S. E., Brackett, M. A., Reyes, M. R., Mayer, J. D., Caruso, D. R., & Salovey, P. (2012). Measuring emotional intelligence in early adolescence with the MSCEIT-YV psychometric properties and relationship with academic performance and psychosocial functioning. *Journal of Psychoeducational Assessment*, 30, 344–366. <http://dx.doi.org/10.1177/0734282912449443>
- Rivers, S. E., Brackett, M. A., Salovey, P., & Mayer, J. D. (2007). Measuring emotional intelligence as a set of mental abilities. In G. Matthews, M. Zeidner, & R. D. Roberts (Eds.), *Emotional intelligence: Knowns and unknowns* (pp. 230–257). New York, NY: Oxford University Press.
- Roberts, R. D., Schulze, R., O'Brien, K., MacCann, C., Reid, J., & Maul, A. (2006). Exploring the validity of the Mayer-Salovey-Caruso emotional intelligence test (MSCEIT) with established emotions measures.

- Emotion*, 6, 663–669. <http://dx.doi.org/10.1037/1528-3542.6.4.663>
- Saarni, C. (2007). The development of emotional competence: Pathways for helping children to become emotionally intelligent. In R. Bar-On, K. Maree, & M. J. Elias (Eds.), *Educating people to be emotionally intelligent* (pp. 15–35). Westport, CT: Praeger/Greenwood.
- Salovey, P., & Mayer, J. D. (1989). Emotional intelligence. *Imagination, Cognition and Personality*, 9, 185–211. <http://dx.doi.org/10.2190/DUGG-P24E-52WK-6CDG>
- Sanchez-Ruiz, M. J., Mavroveli, S., & Poullis, J. (2013). Trait emotional intelligence and its links to university performance: An examination. *Personality and Individual Differences*, 54, 658–662. <http://dx.doi.org/10.1016/j.paid.2012.11.013>
- Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences*, 25, 167–177. [http://dx.doi.org/10.1016/S0191-8869\(98\)00001-4](http://dx.doi.org/10.1016/S0191-8869(98)00001-4)
- Schwean, V. L., Saklofske, D., Widdifield-Konkin, L., Parker, J. D., & Kloosterman, P. (2006). Emotional intelligence and gifted children. *Sensoria: A Journal of Mind, Brain, and Culture*, 2, 30–37.
- Shani-Zinovich, I. (2008). *Personal-emotional profile and ego identity formation among gifted adolescents* (Unpublished doctoral dissertation). University of Haifa, Haifa, Israel.
- Shani-Zinovich, S., & Zeidner, M. (2013). The elusive search for the personality of the intellectually gifted student: Some cross-cultural findings and conclusions from the Israeli educational context. *Talent Development and Excellence*, 5, 13–22.
- Siegling, A. B., Vesely, A. K., Saklofske, D. H., Frederickson, N., & Petrides, K. V. (2015). Incremental validity of the trait emotional intelligence questionnaire–adolescent short form (TEIQue-ASF). *European Journal of Psychological Assessment*, 97. <http://dx.doi.org/10.1027/1015-5759/a000267>
- Strop, J. (2002). Meeting the social-emotional needs of gifted adolescents: A personal and contextual journey. *Understanding Our Gifted*, 13, 7–11.
- Terman, L. M., & Oden, M. H. (1947). *Genetic studies of genius: Vol. 4. The gifted child grows up: Twenty-five years' follow-up of a superior group*. Stanford, CA: Stanford University Press.
- Trentacosta, C. J., & Fine, S. E. (2010). Emotion knowledge, social competence, and behavior problems in childhood and adolescence: A meta-analytic review. *Social Development*, 19, 1–29. <http://dx.doi.org/10.1111/j.1467-9507.2009.00543.x>
- Triandis, H. C., & Suh, E. M. (2002). Cultural influences on personality. *Annual Review of Psychology*, 53, 133–160. <http://dx.doi.org/10.1146/annurev.psych.53.100901.135200>
- Vernon, P. A., Villani, V. C., Schermer, J. A., & Petrides, K. V. (2008). Phenotypic and genetic associations between the big five and trait emotional intelligence. *Twin Research and Human Genetics*, 11, 524–530. <http://dx.doi.org/10.1375/twin.11.5.524>
- Vialle, W., Heaven, P. C., & Ciarrochi, J. (2007). On being gifted, but sad and misunderstood: Social, emotional, and academic outcomes of gifted students in the Wollongong Youth Study. *Educational Research and Evaluation*, 13, 569–586. <http://dx.doi.org/10.1080/13803610701786046>
- Zeidner, M., & Matthews, G. (in press). Emotional intelligence in gifted students. *Gifted Education International*.
- Zeidner, M., Matthews, G., & Roberts, R. D. (2012). The emotional intelligence, health, and well-being nexus: What have we learned and what have we missed? *Applied Psychology: Health and Well-Being*, 4, 1–30. <http://dx.doi.org/10.1111/j.1758-0854.2011.01062.x>
- Zeidner, M., Matthews, G., Roberts, R. D., & MacCann, C. (2003). Development of emotional intelligence: Towards a multi-level investment model. *Human Development*, 46, 69–96. <http://dx.doi.org/10.1159/000068580>
- Zeidner, M., Roberts, R., & Matthews, G. (2009). *What we know about emotional intelligence: How it affects learning, work, relationships and our mental health*. Cambridge, MA: MIT Press.
- Zeidner, M., Roberts, R. D., & Matthews, G. (2002). Can emotional intelligence (EI) be schooled? A critical review. *Educational Psychologist*, 37, 215–231. [http://dx.doi.org/10.1207/S15326985EP3704\\_2](http://dx.doi.org/10.1207/S15326985EP3704_2)
- Zeidner, M., & Schleyer, E. J. (1999). The big-fish–little-pond effect for academic self-concept, test anxiety, and school grades in gifted children. *Contemporary Educational Psychology*, 24, 305–329. <http://dx.doi.org/10.1006/ceps.1998.0985>
- Zeidner, M., & Shani-Zinovich, I. (2011). Do academically gifted and nongifted students differ on the big five and adaptive status? Some recent data and conclusions. *Personality and Individual Differences*, 51, 566–570. <http://dx.doi.org/10.1016/j.paid.2011.05.007>
- Zeidner, M., & Shani-Zinovich, I. (2013). Research on personality and affective dispositions of gifted children: The Israeli scene. *Gifted and Talented International*, 28, 35–50. <http://dx.doi.org/10.1080/15332276.2013.11678402>
- Zeidner, M., & Shani-Zinovich, I. (2015). A comparison of multiple facets of self-concept in

- gifted vs. non-identified Israeli students. *High Ability Studies*, 26, 211–226. <http://dx.doi.org/10.1080/13598139.2015.1095076>
- Zeidner, M., Shani-Zinovich, I., Matthews, G., & Roberts, R. D. (2005). Assessing emotional intelligence in gifted and non-gifted high school students: Outcomes depend on the measure. *Intelligence*, 33, 369–391. <http://dx.doi.org/10.1016/j.intell.2005.03.001>
- Zins, J. E., Weissberg, R. P., Wang, M. C., & Walberg, H. J. (2004). The scientific base linking social and emotional learning to school success. In J. E. Zins, R. P. Weissberg, M. C. Wang, & H. J. Walberg (Eds.), *Building academic success on social and emotional learning: What does the research say?* (pp. 3–22). New York, NY: Teachers College Press.