

The Emotional Intelligence, Moral Judgment, and Leadership of Academically Gifted Adolescents

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Using 3 psychological scales, this study examined the level of emotional intelligence, moral judgment, and leadership of more than 200 gifted high school students who participated in an accelerative academic program or an enrichment leadership program through a university-based gifted institute. Major findings include that on emotional intelligence, gifted males were comparable to students in the age normative sample, while gifted females lagged behind the norm group. Regardless of gender, gifted students had higher scores on adaptability but lower scores on stress management and impulse control ability compared to the normative sample. On moral judgment, gifted students were comparable to the level of individuals with master's or professional degrees, and they showed an above-average level of leadership compared to the normative sample. No differences were found in students' scores on the 3 scales by the type of program (academic versus leadership).

Conceptions of Giftedness Involving Nonintellectual Characteristics

Most current conceptions of giftedness include nonintellectual characteristics, such as persistence, motivation, risk-taking, and other personality traits, as key components. The expansion of the conception of giftedness by the inclusion of nonintellectual characteristics is consistent with a talent development oriented approach to understanding human abilities, which assumes that giftedness is not a unitary trait but a complex constellation of components that can be developed (Feldhusen, 1992, 1994; Treffinger & Feldhusen, 1996).

Examples of theorists and researchers who propose composite conceptions of giftedness are Feldhusen (1986), Gagné (1991,

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1995), Renzulli (1978), and Tannenbaum (1986). Basic assumptions of these conceptions are that giftedness (or talent) is realized via the interplay of intellectual ability and nonintellectual characteristics and that some nonintellectual characteristics, including environmental elements, are more amenable to development and change and cause differences in the realization of individual giftedness or talent. Examples of nonintellectual characteristics include task commitment or motivation; personality attributes such as resilience, risk taking, independence, emotional intensity, assertiveness, and persistence; an internal locus of control; self-efficacy; self-concept; and creativity. Nonintellectual characteristics allow cognitive strengths to be developed fully, enabling them to be used and applied to meaningful study and work.

The inclusion of nonintellectual characteristics extends the concept of giftedness beyond academic capacity to a focus on talent development (Csikszentmihalyi, Rathunde, & Whalen, 1997; Gagné, 1991, 1995; Piirto, 1994) but also raises the idea that some nonintellectual characteristics of individuals, such as emotional, moral, or ethical sensitivity and leadership ability, are themselves separate domains of giftedness.

Nonintellectual Characteristics as Separate Domains of Giftedness

There are theorists who postulate that some nonintellectual dimensions of human beings are independent domains of giftedness or intelligence. In particular, emotional giftedness or intelligence (e.g., Dabrowski & Piechowski, 1977; Goleman, 1995; Piechowski, 1979, 1991) sometimes including moral or ethical sensitivity; intrapersonal and interpersonal intelligence (Gardner, 1983, 1999); wisdom (Sternberg, 2000); and leadership (Marland, 1972) have been suggested as separate forms of giftedness or intelligence. It should be said that these are not completely “noncognitive,” and each has a cognitive component and includes some underlying degree or level of intellectual skills and abilities.

Emotional Giftedness and Emotional Intelligence

According to Goleman (1995), emotional intelligence is not a concept opposite of IQ but rather a separate independent sphere of competency. Using Salovey and Mayer's (1990) initial definition of emotional intelligence, Goleman specifies five major elements of emotional intelligence including self-awareness (knowing one's emotion); handling feelings (managing emotions); self-motivation, mastery, and control (motivating oneself); empathy (recognizing emotions in others); and social competence (handling relationships). Later, the definition was elaborated as "the ability to perceive and express emotion accurately and adaptively, the ability to understand emotion and emotional knowledge, the ability to use feelings to facilitate thought, and the ability to regulate emotions in oneself and in others" (Salovey & Pizarro, 2003, p. 263). Salovey and Pizarro assert that the concept of emotional intelligence is valuable in that it provides a theoretical framework to deal with individual differences in the emotional areas, as well as extend traditional views of intelligence by unifying both cognitive and emotional domains of human ability.

Researchers and theorists in the field of gifted education have proposed concepts that are similar or related to emotional intelligence. For example, Dabrowski's overexcitabilities (Dabrowski & Piechowski, 1977; Piechowski, 1979) include the emotional area as one distinguishing feature of giftedness along with four other separate modes of mental functioning, namely, psychomotor, sensual, imaginal, and intellectual. The five modalities of overexcitabilities (OEs) constitute varying developmental potentials of human beings that ultimately determine the level of development that individuals can fulfill and affect one's perceptions and responses to information and experience (Piechowski, 1979). Emotional OE is defined as "the emotional mode of attachments and affectional bonds with others, empathy, the despair of loneliness, the joy of love, the enigma of existence and human responsibility" (Piechowski, 1979, pp. 28–29). Piechowski (1991) asserts that emotional giftedness grows out of emotional OE when individuals have a will to change themselves and help others. Mayer and associates (Mayer, Perkins, Caruso, & Salovey, 2001) articulated the connection between emotional gift-

edness (usually referred to as emotional OE) and emotional intelligence as the fact that both concepts deal with awareness of, attention to, understanding of, and controlling of feelings. They also suggest that emotional giftedness can be partly identified by measures of emotional intelligence.

Before the popularity of emotional intelligence in the 1990s, Gardner (1983) proposed the existence of seven intelligences (to which he has added more, such as natural, spiritual, and existential) consisting of linguistic, logical-mathematical, musical, bodily-kinesthetic, spatial, interpersonal, and intrapersonal. Of these separate intelligences, interpersonal and intrapersonal intelligences, called personal intelligences, are about the capacity to interact effectively with other people via understanding their feelings, emotions, intentions, and motivations, and the capacity to regulate one's own life through accurate self-understanding of emotions and abilities. Gardner (1999), as well as others (see Mayer et al., 2001), acknowledged that interpersonal and intrapersonal intelligences are comparable to Goleman's (1995) emotional intelligence in that the three have to do with knowledge, awareness, and control of one's own and others' feelings, and empathy with and sensitivity to emotional states.

As a form of giftedness, Sternberg (2000) defines wisdom as the application of tacit knowledge in relation to intrapersonal (e.g., good ends for oneself), interpersonal (e.g., good outcomes for others), and extrapersonal interests (e.g., fits environmental contexts). The major function of wisdom is to balance all these three interests with consideration of the common good. Wisdom is similar to emotional intelligence in that it involves tacit knowledge about oneself and others, but is also like practical intelligence because it only applies to the context of normal daily life (beyond the context of ability tests, achievement tests, or novel creative situations) of individuals.

Leadership

In 1972, the federal definition of giftedness was expanded beyond cognitive abilities to include leadership as a separate mode of giftedness. The Marland definition identified gifted and talented children as those who indicate or are capable of high performance either sin-

gly or in combination in the following six areas: general intellectual ability, specific academic aptitude, creative or productive thinking, leadership, visual or performing arts, and psychomotor ability.¹ Since the Marland report, leadership has been specified as a separate domain of giftedness in state-level definitions by about 40% of the states in the U.S. (Matthews, 2004). Yet, leadership has not received much attention, either in terms of research or program development in gifted education (Hays, 1993; Matthews; Smyth & Ross, 1999).

Leadership is not a unitary but multifaceted concept that involves several aspects of human abilities or traits. Leadership has been defined as involving interactions with or substantial influences on other people in real-life situations (Gonsalves, Grimm, & Welsh, 1981; Huckaby & Sperling, 1981; Plowman, 1981; Sisk, 1993). Oakland, Falkenberg, and Oakland (1996) state that leadership generally involves one or more of the following foci: (a) power and influence, (b) skillful management of behavior, (c) personal qualities and traits, or (d) an interaction between personal qualities and environmental resources and needs. In Ralph's (as cited in Huckaby & Sperling) reviews of more than 5,000 studies, leadership has been variously defined as a personality trait, an act or behavior, or a pattern of persuasion, initiation, power relations, or influence on other people. Sisk urged educators to go beyond a traditional concept of leadership as primarily power and influence toward a more realistic perspective that involves the development and use of a new set of competencies or strategies, such as setting goals, responding to the future, developing a success syntax, gaining self-knowledge, becoming interpersonally competent, and coping with value differences and conflicts.

Leadership is often included as a major element of gifted programs or curricula but typically with a limited focus on identifying various traits of leaders, recognizing individual leadership styles, and developing leadership through interactions with stimulating situations (Smyth & Ross, 1999). Transformational leadership "that facilitates the redefinition of people's missions and vision, a renewal of their commitment, and the restructuring of their systems for goal accomplishment" (Roberts, as cited in Ross & Smyth, 1995; Smyth & Ross) has been suggested as a good model for gifted students, not

only to understand their own leadership potential, but also as a basis for the development of differentiated curricula or instruction (Ross & Smyth; Smyth & Ross).

Despite the long history of leadership as a type of giftedness, the identification of young gifted leaders seems more difficult than that of academic giftedness. Huckaby and Sperling (1981) point to the lack of predictive criteria (e.g., correlations between leadership in childhood and adulthood) as one of the challenges in defining leadership as a separate kind of giftedness. In reviews on 11 leadership measures, Oakland et al. (1996) similarly found weak evidence for the concurrent, predictive, and construct validity of several leadership measures (e.g., Leadership Ability Evaluation, Leadership Skills Inventory, Styles of Leadership Survey) with inadequate or insufficient information about norms as another critical and identified drawback of many leadership measures. The difficulties of measuring leadership in children or youth (Oakland et al.) make it challenging to identify exceptional potential or capacity in that area. Other factors include the lack of measures of leadership that embraces multiple aspects of leadership abilities (Edmunds, 1998), and the need to assess leadership capacities in a wide array of settings beyond academic ones (e.g., initiative, teamwork, and risk-taking in extracurricular activities; compromising, negotiating, and accepting criticism in family settings; Smith, Smith, & Barnette, 1991).

The relationship between leadership and intellectual giftedness is not clear and is not necessarily linear. Many gifted educators presume that intellectually gifted children are more likely to become leaders, owing in part to their advanced cognitive skills, as well as interest in world issues. However, others assert that leaders, such as political leaders, can be less effective if their IQs are too high because this creates "distance" between them and the people they want to influence; a leader cannot exert influence over others who cannot relate to him (Simonton, 1994).

Moral Development

According to Gardner (1999), morality, though not as a separate domain of human intelligence, is about personality, individual-

ity, will, and character that subsumes certain cultural values and is essential for the highest realization of human nature. Piechowski (1979) asserts that advanced moral development is associated with emotional sensitivity, compassion, and moral belief, and ultimately facilitates self-actualization. He links moral characteristics to emotional aspects of human development in that the emotional mode of developmental potential generates mental functioning, which is crucial for the formation and development of high levels of moral sensitivity.

In summary, a wide array of nonintellectual characteristics has been included in the definitions or models of giftedness. As a result, there is a heightened expectation that these characteristics, along with cognitive abilities, could provide some unique clues to the ongoing important questions: (a) Who are the gifted, (b) how can we develop giftedness, and (c) why are some gifted children, mainly those who are intellectually gifted, not always successful in adulthood despite high IQ scores? Therefore, an interesting question is whether other characteristics of gifted students, including emotional, moral, or leadership abilities, are as advanced as their intellectual capabilities and how these are related to each other.

Related Empirical Research

Emotional Giftedness

A considerable amount of evidence supports that gifted students are not only academically precocious, but also socially and emotionally mature with better than average adjustment than their nongifted age peers (Neihart, 1999). Terman's (1925) longitudinal study of high-IQ children showed a pattern of positive psychological and social adjustment for gifted children. Research also shows that gifted students (from elementary school to high school ages) obtain higher scores than their nongifted counterparts on emotional overexcitability (OE) on the Overexcitability Questionnaire (e.g., Ackerman, 1997; Breard, 1994; Gallagher, 1986; Miller, Silverman, & Falk, 1994; Piechowski & Colangelo, 1984; Schiever, 1985). For example,

Piechowski and Colangelo compared a group of gifted individuals that consisted of 49 adolescents in gifted programs in schools and 28 intellectually gifted adults who were either Mensa members (with IQ scores at or above 98th percentile) or comparable to Mensa members (based on GRE, SAT, or IQ scores; former placement in gifted classes; or recognition by scholarly achievement) with 42 nongifted graduate students. The study showed that the gifted group had higher scores on intellectual, imaginal, and emotional OEs than the nongifted group. Schiever also found that these same three OEs were good indicators of creative personality characteristics and differentiated a high-creative group from a low-creative group among 24 gifted seventh and eighth graders who participated in a gifted program and had a mean IQ score of 133. In Ackerman's study, psychomotor, intellectual, and emotional OEs were three major discriminating factors between forty-two 10th and 11th graders who were identified for a gifted program based on Renzulli's model and 37 nongifted 10th and 11th graders. Also, Miller et al. found that 41 intellectually gifted adults, including members of Mensa, several artists, and an author who evidenced creative accomplishment in adulthood, had significantly higher scores on emotional and intellectual OEs compared to 42 nongifted graduate students. Gender differences were also found favoring gifted females for emotional OE and gifted males for intellectual OE (Miller et al.).

Moral Development

Gifted students' superior intellectual ability seems to affect their moral and ethical sensitivity from an early stage of development, and higher intelligence or cognitive abilities have been found related to advanced moral reasoning skills (Folsom, 1998; Hollingworth, 1942; Howard-Hamilton, 1994; Silverman, 1994; Terman, 1925). Empirical research shows that highly gifted elementary school children performed at the postconventional stage in moral reasoning, a level that involves concerns about human rights and disenfranchisement and generally is reached by only 10% of adults (Kohlberg, 1964). Gross (1993) also found that Australian children (younger than 13 years old) with extremely high IQs (above 160) exhibited

far superior ability in conceptualization of moral issues, including fairness, justice, and responsibility for self and others, compared to their age equivalent peers. This was also true for intellectually gifted (IQs above 140) pre-high-school students in Terman's study (as cited in Janos & Robinson, 1985) and 50 students ages 9–12 ranked in the top percentile in Thorndike's study (as cited in Janos & Robinson). Using the Defining Issues Test (DIT), Tan-Willman and Gutteridge (1981) found that high school students who attended a very academically competitive school obtained 35% higher scores than the norm groups. Intellectually gifted individuals, consisting of early college entrants ages 11–18, typical-age college National Merit Finalists, and gifted high school students, also reached higher levels of moral reasoning on the DIT than a group of typical college students (Janos, Robinson, & Sather as cited in Janos & Robinson). In Howard-Hamilton's (1994) study, gifted adolescents, who were identified as gifted by nomination from administrators or teachers and participated in a 4-week summer residential program, outperformed their age peers on the DIT and had scores comparable to traditional college students or adults. Gross similarly found that two (12 years old) of eight gifted (IQ 160+) students in her study earned higher scores on the DIT than students of college age.

Leadership

As for leadership ability, research involving gifted students has dealt with a few issues, notably students' perceptions, including gender differences, about leadership characteristics and the effects of leadership programs on students. For example, Karnes and McGinnis (1995) found that gifted 7th through 10th graders who enrolled in a 1-week summer residential leadership program perceived that the personality characteristics required for future leaders included power, honesty, trustworthiness, determination, devotion, mercy, care, compassion, self-confidence, morals, risk taking, ambition, wisdom, and intelligence. Gender differences were also found among intellectually gifted elementary school students in their perceptions about leadership. In Riley and Karnes's (1994) study of 34 intellectually gifted elementary students, female students had higher mean

scores than male students in the sympathetic (e.g., interest in and tolerance towards others) and conscientious (e.g., ability to carry responsibility and to be dedicated) subscales on the Leadership Strengths Indicator (Ellis, 1990). Karnes and D'Ilio (1989) also found that among 97 fourth through sixth graders who attended a program for intellectually gifted students (based on IQ tests), boys showed more traditional gender role stereotypes than girls in their perception of various leadership positions. For 20 (e.g., admiral, president, commander, minister, chief) of 34 leadership positions, boys were more likely to characterize them as a man than were girls, while girls were more likely to consider them either as a man or a woman.

Positive effects, both academic and social, of leadership programs for gifted students were found in Smith et al.'s (1991) study of 32 adolescents who participated in a 1-week leadership program. Using the Leadership Quotient Index, findings showed increased openness (e.g., willing to respond to other group members and their suggestions) and ability to persuade others (e.g., able to influence other members and maintain their roles in the group) for students after participation in the program. Other positive effects found included greater "ascendancy," which had to do with being active in a group, making independent decisions, and being self-assured in relationships with others. Increased teamwork, listening to different points of view, and risk taking were the three most highly rated benefits students perceived from the leadership program.

Chan's (2003) study included pre- and posttraining measures for 60 students in grades 7–12 who participated in the Chinese University Creative Leadership Training Program (CLTP). The CLTP is a university-based leadership program for secondary gifted students who had high IQ scores, outstanding performances in school, or specific talents in creative areas or leadership. Findings included slightly higher mean scores for the CLTP students in perceived competence or self-efficacy on the shortened 15-item Chinese version of the Roets Rating Scale for Leadership (Roets, 1997) after participation in the program.

In addition, using videotape analysis, Smyth and Ross (1999) examined the leadership skills of several groups of fourth to sixth graders, including students identified as gifted, high academic

achievers, and nongifted students. Findings included that the gifted students as small-group leaders used several transformational leadership strategies (e.g., praising others when offering ideas, encouraging group members to complete tasks carefully despite pressure to finish quickly, or facilitating constructive problem solving) when working either with other gifted, high academic achievers, or nongifted students. However, some negative behaviors, such as being too controlling rather than sharing ideas with other members, particularly with students who disagreed in making decisions, were also observed. Teachers of grades 4–6 involved in this study also found that compared to nongifted students, gifted students were more knowledgeable about leadership and confident about their role as leaders of the group activity.

Summary

Despite the growing interest in nonintellectual characteristics, either as driving forces for talent development or as separate forms of giftedness, only a few research studies deal with measured levels of development in these areas (particularly leadership) for gifted students. Although literature in gifted education generally supports healthy or advanced nonintellectual development for gifted students, research has been inconsistent on this issue. Research on the relationship between intellectual giftedness, leadership, and moral development is also inconsistent.

This study was designed to examine gifted students' developed level of emotional, moral, and leadership abilities, three of the major characteristics often cited for the gifted population. Specifically, this study compared a group of academically gifted students with heterogeneous groups of students on these three nonintellectual abilities or traits to determine whether the gifted students' emotional, moral, and leadership development is as advanced as their academic abilities. This study also assessed whether differences existed between students who chose to participate in a leadership program versus an academic program in their performances on the three psychometric scales measuring emotional intelligence, moral judgment, and leadership, respectively. Results will provide information on whether

the students' interest in civic issues, including leadership, led to any differences in their developmental profiles. Specifically, this study sought to answer the following questions:

1. What is the relationship among academic, emotional, moral, and leadership abilities in gifted students?
2. How do academically gifted adolescents perform on the psychometric scales of emotional intelligence, moral judgment, and leadership? Do they differ from their age or grade normative sample? Are there gender differences among gifted students?
3. Do gifted students who partook of an enrichment leadership program versus an academic accelerative program differ in their profiles of emotional intelligence, moral judgment, and leadership? If so, how do they differ?

Our primary hypotheses were that there would be positive correlations between academic and emotional and between academic and moral development among the gifted students. We hypothesized that the academically gifted students would have higher means on measures of emotional intelligence, moral judgment, and leadership compared to the corresponding age normative sample. We also expected that students who participated in the leadership program would evidence higher levels of emotional intelligence, leadership, and moral development than students in the academic summer program.

Methods

Participants

Two hundred and thirty-four gifted students who participated in the Civic Leadership Institute (CLI; $n = 121$) either on a Midwestern or Eastern university campus, or in the Equinox program ($n = 113$) on a Midwestern campus in the summer of 2003 were the participants in this study. Students were in grades 10–12, and 50.9% were males and 49.1% were females. The majority of the students were Caucasian/White (52.8%) or Asian (26.4%), followed by 7.4%

African American/Black and 3.1% Hispanic/Latino. The geographic origin of the student participants in the CLI or the Equinox program consisted of 82.5% (75.6% CLI, 83.2% Equinox) from the Midwest; 6.6% (CLI 4.9%, Equinox 6.7%) from the East; 3.3% (CLI 2.5%, Equinox 3.4%) from the South; 3.3% (CLI 9.8%, Equinox 2.7%) from the West; 0.9% from the Southwest (CLI 2.5%, Equinox 0.7%); and 3.7% from foreign countries (CLI 4.9%, Equinox 3.6%).

Overwhelmingly, the students qualified for participation in the programs via off-level test scores; among 234 students, only 7% ($n = 15$) of the students participated in the CLI ($n = 10$) or the Equinox ($n = 5$) program using an alternative admissions portfolio. The average SAT scores that student participants in the CLI or the Equinox programs obtained through their talent search testing were as follows: Scholastic Assessment Test (SAT)-Verbal = 593 (CLI = 581, Equinox = 630); SAT-Math = 583 (CLI = 579, Equinox = 595); SAT-Combined = 1171 (CLI = 1156, Equinox = 1216). Percentages of talent search students who receive those scores or higher on the SAT were about 8% to 13% for each subtest: 7.8% for SAT-Verbal, 13.4% for SAT-Math, and 8.7% for SAT-Combined. Students in the Equinox program had slightly higher SAT scores than students in the CLI program, but the difference was statistically significant for the SAT-Verbal only, [$t(120) = 2.44, p = .016$]. When compared to the scores (SAT-Verbal = 508, SAT-Math = 518) of students who typically took the SAT in 2005 (i.e., college bound seniors), both CLI and Equinox students had higher mean scores on both verbal and math subtests on the SAT. Thus, student participants in this study scored in about the top 10% of other talent search students of their age who took the SAT, and they were also above the average scores of students who typically take the test (i.e., college-bound seniors).

Civic Leadership Institute

CLI is designed to help outstanding high school students develop leadership skills and civic responsibility through a combination of traditional academic work, hands-on community service, and field experiences. During 3-week residential summer courses, students explore various current social issues such as racism, poverty,

education reform, youth violence, or public health. Class activities consist of discussions and debates based on textbook readings and experiences in the field, and independent or small-group activities that are designed to develop students' leadership, teamwork, and group problem-solving abilities. Field experiences include activities in local community sites such as community tours, visits to local historical sites (e.g., Senators' offices, Holocaust Museum, National Monuments), and meetings with local personnel from political offices, the media, cultural institutions, advocacy organizations, and community groups. In addition, evening lectures by invited local personnel and special events on various social issues related to the topics of the course are provided (e.g., a panel discussion on homelessness, talks about the media's role in social change, the history of community development in Chicago, politics and taking action for social change, philanthropy and business cooperation in communities). Classes are 5 hours long per day with an additional 2 hours daily for study hall that consists of guest speakers, discussions, writing essays, or participating in group activities. There are residential assistants and teaching assistants to support students' activities in and outside of class.

To qualify for the program, the following criteria are considered: students' cumulative GPAs and rank in class; recent American College Test (ACT), SAT, or Preliminary Scholastic Assessment Test (PSAT) scores; participation in extracurricular activities, community service, or work experience; leadership experience including offices held in extracurricular and community organizations; and awards or honors received. Teacher recommendations are also used for evaluating students' leadership potential.

Equinox Program

The Equinox program is a 3-week summer academic program for high school students completing 10th–12th grades. The program offers honors-level and Advanced Placement (AP) courses for high school credit combined with social and cultural activities. Examples of courses are Advanced Creative Writing Honors, AP English: Literature & Composition, AP Macroeconomics, AP Psychology,

Pre-calculus Honors, Physics Honors, Human Biology Honors, and Research Methods Honors. Students take one course for 5 hours daily during the 3-week session and enroll as either residents or commuters. Classes are taught by master teachers experienced with gifted high school students. Each class has an undergraduate residential teaching assistant who provides academic support to students both in and outside of class.

In order to qualify for the program, minimum standardized test scores taken in grades 6, 7, 8, or 9 are required and vary by course. For verbal classes, a minimum score of 510 on SAT-Verbal or 24 on ACT-Reading is required, and for math and some science classes a minimum score of 540 on SAT-Math or 20 on ACT-Math is required. For science courses, a minimum score of 510 on SAT-Verbal or 24 on ACT-Science Reasoning is required. Students who do not have test scores or do not meet the test scores criteria are allowed to submit an alternative admissions portfolio consisting of letters of recommendation from teachers, a copy of their latest grade report, a teacher-graded copy of an essay or piece of creative writing, or an expanded admissions essay.

Psychometric Test Instruments

Three psychometric scales, the BarOn Emotional Quotient Inventory: Youth Version, Short Form (BarOn EQ-i: YV(S); Bar-On & Parker, 2000), the Defining Issues Test-2 (Rest, Narvaez, Thoma, & Bebeau, 1999), and the Roets Rating Scale for Leadership (Roets, 1997), were used in this study to examine students' emotional intelligence, moral development, and leadership ability, respectively.

The BarOn EQ-i: YV(S; Bar-On & Parker, 2000) is an abbreviated form of the Emotional Quotient Inventory (EQ-i), a self-rating scale of emotional intelligence for children and adolescents (ages 7–18). The BarOn EQ-i: YV(S) contains 30 items consisting of five scales that assess intrapersonal abilities (e.g., self-awareness, assertiveness, independence, self-actualization); interpersonal abilities (e.g., empathy, social responsibility, interpersonal relationship); adaptability (e.g., flexibility, problem solving); stress management (e.g., stress tolerance, impulse control); and positive impression (e.g., attempt-

ing to create an overly positive self-impression). A rating scale of 1 to 4 (1 = *never, seldom, not true of me*; 2 = *sometimes, just a little true of me*; 3 = *often, pretty much true of me*; 4 = *very often, very much true of me*) is used for each item. There are six items for each subscale, and the approximate time for administration is about 10 minutes. Individuals' emotional quotients (EQ) are calculated by summing the scores from four of the five subscales, excluding positive impression, a scale that identifies respondents who may give exaggerated and overly positive responses about themselves (Bar-On & Parker). For high school students, the reported internal reliability coefficients for the total EQ were .84 for males and females and ranged from .75 to .87 for the subscales across males and females. In addition, the test-retest reliability coefficient for the total EQ was .87 and ranged from .81 to .88 for the subscales. The factorial validity was explored and confirmed that 24 items (6 items for each of the four subscales) loaded at least moderately on their matching factors with very low loadings on the other factors. Correlations between the BarOn EQ-i: YV(S) and other measures of personality that involve elements of emotional intelligence (e.g., the NEO-Five Factor Inventory, the Children's Depression Inventory, the Conners-Wells Adolescent Self-Report Scale) also demonstrated that the BarOn EQ-i: YV(S) identified core measures of emotional intelligence for children and adolescents (see Bar-On & Parker for more information).

The Defining Issues Test-2 (DIT-2; Rest et al., 1999) is one of the most frequently used tests for examining how students (with at least a 12-year-old reading level) define and judge social justice. It is a revision of the original DIT and includes updated stories and clearer instructions compared to the original version. The DIT-2 derives from Kohlberg's (1969, 1984) theory on moral judgment development and uses scenarios that describe current social or moral dilemmas similar to the procedure Kohlberg used for his moral judgment interviews. However, instead of scoring individuals' free responses to the dilemma situations, the DIT-2 consists of a list of 12 items for individuals to rate and rank in terms of their importance in making their judgments using a 5-point rating scale (1 = *great*, 2 = *much*, 3 = *some*, 4 = *little*, 5 = *no*). Individuals are then asked to rank the 4 most important items out of the initial 12 items. Students' responses

are scored by a trained judge at the Center for the Study of Ethical Development at the University of Minnesota who categorizes them into three general moral “schemas” (as described in the manual) consisting of Post-Conventional, Maintaining Norms, and Personal Interest. Each schema is scored in such a way to yield a percentage score that ranges from 0 to 95.

The Post-Conventional schema appeals to moral ideas or a theoretical framework for resolving complex moral issues that is comparable to stages 5 and 6 in Kohlberg’s (1969, 1984) moral judgment development. Individuals who indicate a high level of the Post-Conventional schema tend to “focus on organizing a society by appealing to consensus-producing procedures (e.g., abiding by majority vote), insisting on due process (e.g., giving everyone his day in court), and safeguarding minimal basic rights (stage 5)” (Bebeau & Thoma, 2003, p. 19). They also emphasize “organizing social arrangements and relationships in terms of intuitively appealing ideals (stage 6)” (p. 19).

The Maintaining Norms schema is comparable to Kohlberg’s (1969, 1984) stage 4 and appeals to maintaining social laws and norms. Individuals in this level consider or are aware of “maintaining the existing legal system, existing roles, and formal organizational structure” in situations requiring moral judgment. The Personal Interest schema corresponds to stages 2 and 3 in Kohlberg’s (1969, 1984) theory of moral judgment. It represents considerations that appeal to personal interest in making moral decisions, such as a “focus on the direct advantages to the actor, on the fairness of simple exchanges of favor for favor (stage 2), on the good or evil intentions of the parties, or on the party’s concern for maintaining friendships, good relationships, and approval (stage 3)” (Bebeau & Thoma, 2003, pp. 18–19).

Validity for the DIT has been documented and serves as the validity information for the DIT-2. There are significant correlations to measures of Moral Comprehension ($r = .60$ s), educational levels (e.g., educational levels accounted for 30% to 50% of the variance of the DIT scores), political attitudes and choices ($r = .40$ to $.65$), and effects of moral education interventions (moderate gains based on effect size = $.41$). The Cronbach alpha reliability coefficient is in the upper $.70$ s

to low .80s, and the test-retest reliability is about the same (see Bebeau & Thoma, 2003). It takes 35–45 minutes to complete the DIT.

The Roets Rating Scale for Leadership (RRSL; Roets, 1997) is a self-report measure appropriate for students in grades 5–12. It consists of 26 items about leadership behaviors and uses a 5-point rating scale (1 = *almost always*, 2 = *quite often*, 3 = *sometimes*, 4 = *not very often*, 5 = *never*) for responses to the items. Examples of items include “I have strong convictions about things;” “I am able to say my opinions in public;” “I know when to lead, to follow, and to get out of the way;” “I can be a peacemaker if want to be;” and “I often lead in projects.” Students’ leadership scores are tabulated by giving 3 points for responses of 1 (*almost always*), 2 points for responses of 2 (*quite often*), and 1 point for responses of 3 (*sometimes*). Evidence for validity of the scale includes a correlation of .71 with the leadership portion of Renzulli’s Scales for Rating Behavioral Characteristics of Superior Students and .77 with Taylor’s Checklist for Leadership. Although this scale was not peer-reviewed, observations with teachers and students’ self-reflective feedback were used in school districts and supported the validity of the scale (L. Roets, personal communication, November 22, 2005). The reported Spearman-Brown Split Half reliability coefficient is .85 (Roets). See Table 1 for demographic comparisons between gifted students in this study and the normative samples by psychometric instrument.

Procedures

Data Collection. In Summer 2003, the BarOn EQ-i: YV(S), the DIT-2, and the RRSL were administered to students who agreed to participate in the study and participated in either the CLI or the Equinox program. The three tests were all given to the student participants in both programs on the first day of their summer session in July or August 2003 in the following order: RRSL, BarOn EQ-i: YV(S), and DIT-2. The completed scales of the DIT-2 were sent out to the Center for the Study of Ethical Development at University of Minnesota in Fall 2003 for scoring.

Data Analysis. Data were analyzed using SPSS 11.0. Descriptive statistics were computed for the three scales. For the BarOn EQ-

i: YV(S), total scale scores (EQ scores) were created by summing up all four subscales. These were converted to national percentile ranks, which were differentiated by gender and age, and were compared with the normative data obtained from similar age adolescents in large, community-based, English speaking locations in the United States and Canada (Bar-On & Parker, 2000). Total and subscale scores were analyzed. A multivariate analysis of variance (MANOVA) was performed to examine whether means on the subscale scores vary by gender and program with the alpha level of .013 (.05/4) using the Bonferroni adjustment to control for inflated Type I errors. Differences by gender and program (CLI vs. Equinox) were examined further using independent samples *t*-tests. Alpha levels were also adjusted for individual items by each subscale, using the Bonferroni method (dividing .05 by the number of items involved).

On the DIT-2,² students' scores on the Post-Conventional, Maintaining Norms, and Personal Interest schemas were compared with students of similar grades in the normative sample after receiving a diskette containing students' raw scores and converted scores in a SPSS format from the Center for the Study of Ethical Development. Normative data for DIT-2 represents responses from 667 students in grades 10–12 whose primary language was English (see Bebeau & Thoma, 2003). The students' scores were also analyzed by gender and program (CLI vs. Equinox) using independent samples *t*-tests.

For the RRS�, students' total leadership scores were converted to national percentile ranks as presented in the technical manual to compare with students in the normative sample consisting of 1,057 students in grades 5–12 living in the United States (see Roets, 1997). Both total scores and individual items were analyzed by the type of program in which students participated (CLI vs. Equinox) via independent samples *t*-tests to explore mean differences. For the individual items, the alpha level was adjusted to .002 by dividing .05 by the number of items ($n = 26$) involved to control for inflated Type I errors. Due to the unavailability of gender information for the normative sample, differences by gender were not examined.

Table 1
Demographic Comparisons Between Gifted Students
and Normative Sample

	Gifted Students	Normative Sample
BarOn EQ-i: YV(S)	$n = 230$; CLI 117, Equinox 113	$n = 1,461^a$
Age	$M = 16.2$	16–18
Gender		
Male	44.3% (CLI 41.0%, Equinox 47.8%)	51.3%
Female	50.0% (CLI 53.8%, Equinox 46.0%)	48.7%
N/A	5.7%	—
Ethnic background ^b		
Caucasian/White	52.8%	50.8%
Asian	26.4%	2.2%
African American/Black	7.4%	5.0% ^c
Hispanic/Latino	3.1%	35.0%
DIT-2	$n = 214$; CLI 118, Equinox 96	$n = 667^d$
Age	$M = 16.6$	N/A
Gender		
Male	43.5% (CLI 40.7%, Equinox 46.9%)	N/A
Female	48.6% (CLI 54.2%, Equinox 41.7%)	N/A
Education		
Grades 7–9	2.5%	—
Grades 10–12	96.5%	100%
U.S. citizens	92.0%	100%
Native English speaker	93.1%	100%
RRSL	$n = 234$; CLI 121, Equinox 113	$n = 1,057$
Education		
Grades 5–6	—	31.6%
Grades 7–9	—	35.2%
Grades 10–12	100%	33.2%

	Gifted Students	Normative Sample
School		
Public	67.3%	81.6%
Private	31.3%	18.4%
Home-schooled	1.3%	—

Note. ^aThe norming group of the BarOn EQ-i: YV(S) consisted of 9,172 students ages 7–18. As for the normative sample, 1,461 students ages 16–18 who are comparable to our gifted students in age were included as the comparison group in this study. The proportions for gender were based on these 1,461 students, whereas those of ethnic background were based on the entire normative sample. No proportions for ethnicity were available by age. ^bPercentages for ethnicity do not sum to 100% due to missing cases (no responses). ^cIncluded both Black/African (3.8%) and Black/Caribbean (1.2%). Thus, only valid cases were included for ethnicity. ^d667 students in grades 10–12 were considered as the comparable norming group for the gifted students. The entire norming group for the DIT-2 consisted of 10,553 students from grade 7 through individuals with professional degrees. Proportions for educational levels of the entire normative sample were as follows: 0.4% grades 7–9, 6.3% grades 10–12, 1.1% vocational/tech. school, 2.2% junior college, 19.9% freshman, 9.7% sophomore, 12.6% junior, 23.1% senior, 8.1% master's degree, 15.0% professional degree, and 1.6% doctoral degree.

Results

Correlations Among Academic, Emotional, Moral, and Leadership Giftedness

Correlations computed among measures of academic giftedness (SAT-Verbal, SAT-Math, SAT-Combined), emotional intelligence, moral judgment, and leadership were small and not statistically significant, with two exceptions. There was a significant, negative correlation between total scores on the RRSL (leadership) and SAT-Math ($r [102] = -.19, p = .049$) and between the RRSL (leadership) and SAT-Combined ($r [113] = -.20, p = .036$), suggesting that higher levels of mathematical ability or academic ability were associated with lower levels of leadership (see Table 2).

Correlations among subscales or total indices of the three psychometric test instruments were as expected; significant correlations were found between the total EQ score and its subscales and among the subscales of emotional intelligence (e.g., adaptability vs. intrapersonal, intrapersonal vs. interpersonal). A positive correlation was also found between the Personal Interest schema and the Maintaining

Table 2
Correlations Between Academic, Emotional, Moral, and Leadership Abilities in Gifted Students

	SAT				BarOn EQ-i: YV(S)				DIT-2			RRSL
	Verbal	Math	Combined	Total	Adapt	Stress	Intra	Inter	PC	MN	PI	Total
BarOn EQ-i: YV(S)												
Total	-.10	.02	-.02	-	.65**	.50**	.61**	.60**	.06	-.06	-.05	.00
Adapt	-.03	.15	.08	.65**	-	-.05	.26**	.34**	.04	.03	-.05	-.13
Stress	-.12	-.15	-.13	.50**	-.05	-	.05	-.07	.06	-.15*	-.06	.06
Intra	-.06	.04	.05	.61**	.26**	.05	-	.32**	.10	.00	.00	.05
Inter	-.03	-.02	-.02	.60**	.34**	-.07	.32**	-	-.05	.03	.01	.01
DIT-2												
PC	.03	.03	.06	.06	.04	.06	.10	-.05	-	.09	.13	-.05
MN	.10	.08	.10	-.06	.03	-.15*	.00	.03	.09	-	.41**	-.09
PI	.11	.04	.07	-.05	-.05	-.06	.00	.01	.13	.41**	-	-.10
RRSL-Total	-.15	-.19*	-.20*	.00	-.13	.06	.05	.01	-.05	-.09	-.10	-

Note: Adapt = Adaptability, Stress = Stress management, Intra = Intrapersonal ability, Inter = Interpersonal ability, PC = Post-Conventional, MN = Maintaining Norm, PI = Personal Interest. No subscale scores are available for the RRSL.
 * $p < .05$. ** $p < .01$.

Norm schema of the DIT-2. A small, statistically significant negative correlation was found between the stress management subscale of emotional intelligence and the Maintaining Norm schema in the DIT-2 [$r(211) = -.15, p = .028$]. Therefore, except that lower scores on stress management were related to higher scores on the Maintaining Norm schema, the components of emotional intelligence, moral judgment, and leadership measured by the instruments in this study were fairly independent from one another (see Table 2).

Emotional Intelligence: BarOn EQ-i: YV(S)

Comparisons to Norms. Gifted male students in this study showed a level of emotional intelligence comparable to students of similar age in the normative data ($M = 66.2$ vs. 67.3), but gifted female students were lower than the norm in overall emotional intelligence ($M = 66.2$ vs. 69.5). A statistically significant difference was also found between the gifted female students and the normative sample [$t(822) = -3.69, p = .00$] with a small effect size ($d = -.42$) for the mean difference. Comparisons by gender and by program showed no differences in overall EQ scores. Mean scores of the gifted males and females were 66.2 for both genders and those of the gifted students who participated in CLI versus the gifted students who participated in Equinox were 66.1 and 66.4 , respectively, with a negligible effect size for the mean difference ($d = .05$).

Subscale Scores. Gifted students in this study showed strengths on adaptability compared to the normative sample. They had higher scores on the adaptability scale across gender [male $t(850) = 6.26, p = .00$; female $t(822) = 4.19, p = .00$], indicating advanced cognitive ability and flexibility related to validating and adjusting one's emotions, and identifying, defining, and solving problems. The mean ($M = 19.5$) of gifted male students was ranked in the 81st percentile, indicating that scores of our male students were higher than or equal to 81% of scores for students in the normative sample. Similarly, female students outperformed their age peers in the normative sample on adaptability ($M = 18.3$, percentile rank = 76th vs. $M = 16.8$, percentile rank = 42nd).

Our gifted students were considerably lower on stress management and impulse control ability compared to the normative sample. Mean scores of the gifted students were lower than those of the norm group for both genders [male $t(850) = -9.28, p = .00$; female $t(822) = -11.55, p = .00$] with percentile ranks for the means both below 20 (males = 16th percentile, females = 14th percentile), lower than those of the normative sample (males = 46th percentile, females = 50th percentile). Large effect sizes (male $d = -1.00$, female $d = -1.27$) for these mean differences suggested that the gifted males and females were more prone to being upset or angry, or were not good at controlling anger or impulses compared to the normative sample.

No significant differences were found for intrapersonal [male $t(850) = 1.41, p = .16$; female $t(822) = -1.43, p = .15$] and interpersonal [male $t(850) = 1.25, p = .21$; female $t(822) = 2.22, p = .03$] abilities between the gifted students and students in the norm group with effect sizes for the mean differences all within the small category for both males and females. See Table 3 for comparisons with the normative sample on each subscale.

Comparisons Within Gifted Students. When compared to each other using a multivariate analysis of variance (MANOVA), the Wilks' Lambda of .85 was significant [$F(4, 208) = 9.50, p = .00$, partial $\eta^2 = .15$], indicating that scores of the gifted males and females were significantly different on the four subscales of the test. The Box's M test of equality of covariance matrices was not significant [$F(10, 205,743) = 1.98, p = .03$], indicating no gender differences in the covariance matrices made up of the students' scores on the four subscales. The univariate ANOVAs were significant for the following two subscales: adaptability [$F(1, 211) = 6.57, p = .01$, partial $\eta^2 = .03$] and interpersonal ability [$F(1, 211) = 15.54, p = .00$, partial $\eta^2 = .07$]. Yet, the values of η^2 showed that only 3% to 7% of the multivariate variance of these subscales was associated with gender. On adaptability, a higher mean score was found for males than females, while females had a higher mean score on interpersonal ability. Effect sizes for mean differences were medium for interpersonal ability ($d = -.52$) and small for adaptability ($d = .35$). On the stress management and intrapersonal ability scales, no differences were found between males and females ($p > .013$). See Table 4 for more information.

Table 3
Means, Standard Deviations, Percentile Ranks, and Effect
Sizes Between Gifted and Normative Sample
on BarOn EQ-i: YV(S)

Scale	Gifted Mean (SD)	CP	Norm Mean (SD)	CP	<i>t</i>	<i>d</i>
Males	<i>n</i> = 102	<i>n</i> = 750				
Adaptability	19.5 (3.5)	81.1	17.1 (3.5)	49.2	6.26*	.61
Stress Management	12.2 (4.5)	16.8	16.6 (4.3)	46.4	-9.28*	-1.00
Intrapersonal Ability	14.9 (2.8)	53.7	14.3 (4.0)	53.7	1.41	.17
Interpersonal Ability	19.7 (3.0)	51.3	19.3 (2.9)	51.3	1.25	.14
Total EQ	66.2 (8.7)	46.9	67.3 (9.2)	50.3	-1.10	-.12
Females	<i>n</i> = 113		<i>n</i> = 711			
Adaptability	18.3 (3.4)	76.4	16.8 (3.4)	42.1	4.19*	.44
Stress Management	12.1 (3.6)	14.2	17.0 (4.1)	50.1	-11.55*	-1.27
Intrapersonal Ability	14.7 (2.4)	43.5	15.3 (4.2)	50.9	-1.43	-.18
Interpersonal Ability	21.1 (2.4)	57.8	20.5 (2.6)	46.3	2.22	.24
Total EQ*	66.2 (6.6)	33.9	69.5 (8.8)	49.1	-3.69*	-.42

Note. CP = Cumulative Percentage. According to the technical manual (Bar-On & Parker, 2000), if the raw score does not appear in the table for cumulative percentage, the next lower raw score is used for reference for the appropriate cumulative percentage. For example, in the above table, the CP of 14.9 was referenced to that of 14 in the norm table for CP. *d* = Cohen's *d*. **p* < .0001.

Comparisons by Program. The gifted students who partook of CLI versus the gifted students who partook of Equinox were not different on any of the four subscales. MANOVA indicated that the Wilks' Lambda (.99) was not significant [$F(4, 220) = 9.50, p = .50$, partial $\eta^2 = .015$] and the value of η^2 was small, suggesting that the type of program students participated in accounted for less than 2% of the variance in their performance on the test. The Box's M test of equality of covariance matrices [$F(10, 234, 289) = 1.22, p = .27$]

Table 4
Gender Differences Among Gifted Students
on BarOn EQ-i: YV(S)

Scale	Male vs. Female	<i>d</i>
Adaptability*	19.5 (3.5) vs. 18.3 (3.4)	.35
I can understand hard questions.	3.4 (0.8) vs. 3.2 (0.7)	.27
I can come up with good answers to hard questions.	3.2 (0.8) vs. 3.0 (0.8)	.25
I can come up with many ways of answering a hard question when I want to.	3.2 (0.7) vs. 3.1 (0.8)	.13
I can easily use different ways of solving problems.	3.2 (0.7) vs. 3.0 (0.7)	.29
When answering hard questions, I try to think of many solutions.	3.1 (0.8) vs. 2.9 (0.8)	.25
I am good at solving problems.	3.3 (0.7) vs. 3.1 (0.7)	.29
Stress management	12.2 (4.5) vs. 12.1 (3.6)	.02
Intrapersonal ability	14.9 (2.8) vs. 14.7 (2.4)	.08
Interpersonal ability*	19.7 (3.0) vs. 21.1 (2.4)	-.52
I care what happens to other people.**	3.4 (0.7) vs. 3.7 (0.5)	-.49
I am able to respect others.	3.4 (0.7) vs. 3.5 (0.6)	-.15
I like doing things for others.**	3.1 (0.8) vs. 3.4 (0.7)	-.40
I feel bad when other people have their feelings hurt.**	3.2 (0.8) vs. 3.5 (0.6)	-.42
I can tell when one of my close friends is unhappy.**	3.4 (0.7) vs. 3.6 (0.6)	-.31
I know when people are upset, even when they say nothing.	3.2 (0.7) vs. 3.4 (0.7)	-.29

Note. Items of two subscales are presented because of their statistical significance ($p < .05$). d = Cohen's d . * $p < .013$. ** $p < .008$.

confirmed that the covariance matrices of the four subscales were equal across the type of program. Effect sizes for mean differences were all negligible on each of the subscales ($.08 \leq d \leq .16$).

Moral Judgment: DIT-2

Comparisons to Norms. A higher mean was found for gifted students on the Post-Conventional schema compared to students in the normative sample ($M = 42.6$ vs. 33.1). Difference in means was sta-

Table 5
Comparisons Between Gifted Students and Normative Sample on DIT-2 and RRS�

Schemas	Gifted Mean (SD)	Norm Mean (SD)	<i>t</i>	<i>d</i>
DIT-2	<i>n</i> = 214	<i>n</i> = 667		
Post-Conventional	42.6 (21.0)	33.1 (17.0)	6.29*	.50
Maintaining Norms	32.5 (20.1)	33.2 (14.8)	-.52	.04
Personal Interest	26.5 (20.3)	28.3 (12.6)	-1.45	-.11
RRSL	<i>n</i> = 234	<i>n</i> = 1057		
Total Leadership Score	56.1 (11.1)	48 (13)	8.25*	.67

Note. *d* = Cohen's *d*. **p* < .0001.

tistically significant [$t(879) = 6.29, p = .00$] with a medium effect size ($d = .50$). This implies that gifted students were more likely to rely on unanimous procedures, due process, defending basic human rights, and intuitively appealing ideas in making moral judgments. There were no differences in scores on the Maintaining Norms and the Personal Interest schemas between the gifted students and students in the normative sample (see Table 5).

Comparisons Within Gifted Students. The gifted males and females in this study were significantly different on the Post-Conventional and the Maintaining Norms schemas. Females had a higher mean than males on the Post-Conventional schema ($M = 45.8$ vs. 37.0), while males had a higher score than females on the Maintaining Norms schema ($M = 33.9$ vs. 28.2), indicating the gifted females had a higher developed level of moral judgment than the gifted males. The effect sizes for mean differences were medium for Post-Conventional ($d = .47$) and small for Maintaining Norms ($d = .33$).

Comparisons by Program. No statistically significant differences were found between students in CLI versus students in Equinox on any of the three schemas [Post-Conventional $t(212) = .07, p = .95$; Maintaining Norms $t(212) = 1.36, p = .18$; Personal Interest $t(212) = 1.57, p = .12$]. Effect sizes for these mean differences were either negligible or within the small category ($d \leq .21$).

Leadership: Roets Rating Scale for Leadership

Comparisons of means (total leadership score) between the gifted and normative samples revealed that the gifted students were generally above average on leadership ability. The gifted students had a higher mean score [$t(1,289) = 8.25, p = .00$] and a higher percentile rank for the mean (70th percentile vs. 46th percentile) compared to the normative sample. A medium effect size ($d = .67$) was found for the mean difference between both groups of students. Specifically, the mean score of the CLI students ranked in the 73rd percentile and that of the Equinox students in the 67th percentile, a difference which was not statistically significant [$t(222) = 1.09, p = .28$]. A negligible effect size ($d = .14$) was detected for this mean difference between the CLI and Equinox students.

On the individual items, no significant differences were found between the CLI and Equinox students ($p > .002$). Effect sizes for mean differences were all within the small category ($d < .40$).

Summary and Discussion

The results of our study supported the common belief that academically gifted students are more morally sensitive and advanced in moral reasoning and possess greater leadership potential than heterogeneous groups of youngsters. The academically gifted students in this study had higher scores on average on the DIT-2 and the RRSI compared to the normative samples. Our research also showed that academically gifted students were not advanced in emotional intelligence compared to heterogeneous groups of students of comparable chronological age as evidenced by lower scores on the EQ. Specifically, gifted males had similar scores to students in the age norm on overall EQ and had a high level of adaptability, which involved problem solving and flexibility, but gifted females lagged behind the normative sample slightly on overall EQ. When compared to the gifted males, the gifted females had higher interpersonal abilities that included being aware of, understanding, and caring of others' feelings and emotions. It is difficult to compare our findings regarding the EQ to previous research that has tended to find indications of higher emotional and intellectual over-

excitabilities (OEs) for gifted students compared to nongifted students (e.g., Ackerman, 1997; Breard, 1994; Gallagher, 1986; Miller et al., 1994; Piechowski & Colangelo, 1984; Schiever, 1985). The constructs of emotional intelligence and emotional overexcitability are similar in that both deal with emotions and feeling but they are also different. Our results regarding gender are somewhat consistent with previous research that found gender differences favoring higher emotional OE scores for females and higher intellectual OE scores for males (Miller et al.). We found that females were higher on aspects of emotional intelligence involving others, and males were higher on those aspects involving problem solving. Our results support the traditional belief that females show high levels of emotion related to caring for and being aware of others, while cognitive intellectual areas such as problem-solving ability related to emotional intelligence are strengths of males (Miller et al.).

For our gifted students, an overall weakness was found in stress management, tolerance, and ability to control impulses compared to the normative sample. Our academically gifted students had lower scores on this scale of the EQ than the heterogeneous group of students in the norm. This was the most surprising and interesting finding of our study. While we did not identify creatively gifted students, there is some research linking traits, such as egocentrism, spontaneous reactions with a high level of energy, resistance to domination, physical or mental overreaction, and uncooperativeness, to giftedness, and especially high levels of creativity (Smith, 1966; Torrance, 1962, 1981, 1988). Further research needs to examine why the gifted students in this study indicated lower levels of emotional control, management, and tolerance than the age norm; whether this suggests that the development of academic giftedness may occur at the expense of some aspects of emotional intelligence for some gifted students (Miller et al., 1994); and whether this is a reliable, if somewhat disconcerting, aspect of academic giftedness.

The gifted students' advanced moral judgment was apparent in their performances on the DIT-2. Most of the students in this study fit into the postconventional stage of moral judgment development, which means that they relied on unanimous procedures, due process, human rights, and intuitively appealing ideals in making moral

judgments. Similar to previous research indicating a higher level of moral development for gifted students compared to their age levels or peers (Gross, 1993; Howard-Hamilton, 1994; Janos & Robinson, 1985; Kohlberg, 1964; Tan-Willman & Gutteridge, 1981; Terman, 1925; Thorndike, 1940), the students in this study had scores on the DIT comparable to individuals with high levels of education, such as master's or professional degrees, in the norm group (see Bebeau & Thoma, 2003). Gender differences were also found in that the gifted females were more likely to make moral judgments with a concern for issues typical of Kohlberg's (1969, 1984) postconventional stages (stages 5 and 6), while males tended to use reasoning (with foci on existing legal systems, laws, and norms in society) typical of Kohlberg's (1969, 1984) stages 3 and 4. Therefore, our findings support previous literature, indicating differences by gender and the level of education (Baumrind, 1986; Bebeau & Thoma) and males' tendency to refer to personal interest more than females in making moral judgments (Bebeau & Thoma). Yet, this is contrary to previous studies that generally found higher (postconventional stages) moral development for males than females (Baumrind) or no consistent gender differences in moral reasoning (Walker, 1984, 1986).

The gifted students in this study showed an above-average level of leadership ability compared to the norm group. To some extent, the present study supported the findings of Chan (2003), who used the same test instrument (RRSL) and found a greater level of self-competence or self-efficacy on the scale for gifted adolescents who participated in a university-based leadership program. However, we also acknowledge that our results were not completely comparable to Chan's findings because his study used a translated, abridged version of the RRSL instead of the original scale. As in the cases of emotional intelligence and moral judgment, differences were not found in overall leadership abilities between the gifted students who chose to be in the civic leadership program (CLI) and in the accelerated summer program (Equinox). Differences were also not found on each of the leadership items. It may be that differences were not detected because our groups were, in reality, relatively similar to each other. Students who participated in CLI were not all equally interested in attending that program. Some chose it as a second choice. Thus, dif-

ferences by program may be more difficult to detect because lack of interest on the part of some participants may have blurred differences between the students. All the summer program students, regardless of program, were likely to have higher leadership scores on average, suggesting that students who choose summer educational programs of any type tend to have greater leadership potential. Alternatively, it may be that other variables (e.g., desire to have an impact, self-efficacy) besides leadership may be more salient as characteristics of students who are interested in social entrepreneurship and civic leadership. Thus, our instruments simply may have not been assessing important characteristics that distinguish these groups.

We did not find evidence of relationships among academic giftedness, emotional intelligence, moral judgment, and leadership except for small negative correlations between SAT-Math, SAT-Combined, and leadership. Higher levels of intellectual abilities among this gifted sample were not associated with increasingly higher levels of emotional intelligence. Clearly, advanced abilities to reason and think verbally or mathematically do not give one an advantage in the handling or understanding of one's own or others' emotions. We found a similar situation with respect to leadership abilities, moral reasoning, and academic giftedness, although, in these areas, our students were, on average, advanced, whereas they were average or below average on emotional intelligence. We do not think that the correlations were affected by a restriction in range on SAT scores. Even though the Equinox program had specific minimum SAT scores for entrance (and these are around 510 for a subtest), we actually had a broader range of students in terms of ability, because both Equinox and CLI admit students on the basis of other criteria and do not adhere strictly to SAT cut-off scores. We had expected higher correlations simply on the basis of some shared cognitive component to all of the constructs we studied, particularly between SAT-Verbal and leadership scores. Our results suggest that for gifted students, educators could expect advanced capacities in leadership and moral reasoning but might not expect a greater advancement in the emotional area compared to nongifted students.

Our results are supportive of the independence of these various domains, as higher levels of moral reasoning or emotional intelligence

were not associated with higher levels of leadership, at least among our academically gifted students identified via the SAT. One might have expected, for example, that students high in leadership would also evidence advanced levels of moral reasoning. These do not necessarily go together. Our results also suggest that to promote healthy development of gifted children, special attention needs to be given to their skills and abilities regarding emotions by teachers and parents just as with non-gifted children. Similarly, while academically gifted students appear to have some propensity for reaching higher levels of moral development and demonstrating leadership, special and specific programs and interventions are also needed to optimize the development of these attributes. Advanced cognitive reasoning abilities may help an individual understand the nuances of a moral dilemma or a political situation, but they do not propel gifted students to take the right actions.

Limitations

Because this study included gifted students who were identified as academically gifted according to program criteria and compared them with their age or grade norms, a major limitation was the lack of a more adequate comparison group. There are some known differences between the summer program students and the normative groups. For example, on socioeconomic status (SES), our students are probably more homogeneous in being relatively affluent, while the normative sample is probably more diverse with respect to SES. Also, there was a noticeable difference in the representation of Asian and Hispanic/Latino students across the gifted and normative samples, which might have influenced our results. Our sample of students is representative of academically gifted students as defined by the measures used to select them. Therefore, they do not represent the broadest range of students identified as gifted by other various means, and our results may not be generalized to all gifted students.

Future Research

Our results suggest that, compared to other students of their age, gifted students have strengths in some areas of emotional intelli-

gence, consistent with previous research (Neihart, 1999), but also some potential areas of vulnerability and weakness that need further investigation. Future research should delve into the interesting finding here that our students had lower levels of stress management and impulse control than the normative sample. Are these characteristics associated with academic giftedness? Stress management is important for all students, but it is particularly important for gifted students, such as the Equinox students in this study, who place themselves in accelerated summer programs. One might think that because most of these students are already in gifted programs in school, they would have highly developed or advanced stress management skills. The same could be said about impulse control. The students in this study chose to participate in an academically challenging intense summer program. The surveys they completed as part of this study were given on the first day of the program. Would we have obtained different results if we had measured these attributes at the end or middle of the program? Do students who seek rigorous and challenging out-of-school experiences tend to have a gutsy, thrill seeking personality that makes them more likely to indulge impulses and display stress reactions? Future research is needed to determine whether these are reliable findings and to further understand stress management and impulse control among gifted students, particularly given the effects of challenging academic programs.

Also, although a major weakness found for the gifted students had to do with stress management and impulse control abilities, this does not simply mean that the gifted students are socially mal-adjusted. They functioned well in our summer programs without significant adjustment or discipline problems. What then is the role and significance of stress management and impulse control abilities? How are they related to academic giftedness? What do they mean in terms of students' general well-being, mental health, and ability to function well? Do we need to change our notion of optional functioning for gifted individuals? Do these characteristics facilitate giftedness and creativity? Should they be viewed differently for gifted individuals? Future research is needed to address these issues.

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Endnotes

¹In revised statements, psychomotor ability was excluded due to the perceptions that artistic psychomotor abilities, such as dancing and mime, can be included in the area of visual and performing arts, and athletically gifted students are generally well served in out-of-gifted programs (Davis & Rimm, 1998).

²The entire scoring process was conducted by the Center for the Study of Ethical Development at the University of Minnesota using a scoring program after scanning the tests filled out by the students (see Bebeau & Thoma, 2003). Therefore, in this paper, we were not able to include any other detailed information about scoring.

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