Construct Validity of the Social Coping Questionnaire

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The Social Coping Questionnaire (SCQ) measures strategies used by gifted adolescents to minimize the negative effect they believe their high ability has on their social interactions. Previous studies have supported the factor structure, internal consistency, and test-retest reliability of the SCQ. The current study provides construct validity evidence for the SCQ by comparing it with the Myers-Briggs Type Indicator (MBTI). Upon entrance to a residential academy, 339 gifted adolescents completed the SCQ and the MBTI. Results were similar to previous research with gifted adolescents in terms of the factor structure of the SCQ, a high frequency of Intuitive (N) and Intuitive/Perceiving (NP) codes on the MBTI, and gender differences on both measures. Participants were most likely to use social interaction and least likely to focus on popularity/conformity in their social coping. Correlations between the SCQ and MBTI were in expected directions, but were not large in magnitude; they provided evidence for the construct validity of the SCQ.

Validity of the Social Coping Questionnaire

For a number of years, various researchers have focused on the social experience of gifted students. Hollingworth (1942) noted that students with very high IQs tend to have difficulty finding peers and gaining access to activities appropriate to their mental level. Since then, others also have found that very highly gifted students have particular difficulty being accepted by their age-mates (see Morelock & Feldman, 2003, and Rimm, 2002). As Gross put it in the title of a

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1989 article, the "pursuit of excellence" and the "search for intimacy" may constitute a "forced-choice dilemma [for] gifted youth."

Recognizing these social issues, Coleman and his colleagues (Coleman, 1985; Coleman & Cross, 1988; Coleman & Sanders, 1993; Cross, Coleman, & Stewart, 1993; Cross, Coleman, & Terhaar-Yonkers, 1991) proposed a "stigma of giftedness" paradigm. This paradigm suggested that gifted students perceive that their abilities lead to negative social interactions and respond via coping strategies aimed at managing the information about them that is available to others. Several such coping strategies have been suggested, either by Coleman and his colleagues or by other authors. For instance, students may attempt to hide the fact that they are gifted from others via a variety of behaviors, such as underachieving (Gross, 1989; Tannenbaum, 1991; Zigler & Farber, 1985), identifying with nonintellectual groups (Brown & Steinberg, 1990; Gross, 1989), or saying things that downplay their abilities (Cross et al., 1991). Buescher (1985) suggested that gifted adolescents may attempt to deny that they are gifted at all, and Johnson (1981) noted that they may intellectualize their reactions to perceived social difficulty. At the time these authors wrote about such strategies, however, no specific instrument was available to measure social coping.

The Social Coping Questionnaire

In 1995, Swiatek introduced the Social Coping Questionnaire (SCQ). The instrument contained items relevant to a number of the social coping strategies suggested in the literature at that time, and factor analysis identified four measurable social coping strategies: Denying Giftedness, Focusing on Popularity/Conformity, Engaging in High Levels of Activity, and Peer Acceptance (which may be seen as denying the negative social implications of being identified as gifted). In 1998, the SCQ was revised to include items reflecting helping others (Swiatek & Dorr, 1998). In 2001, it was further revised by deleting eight items and adding four new items. Of the eight deleted items, four were from a factor included in the original questionnaire for purposes unrelated to measuring social coping; the other four demonstrated low factor loadings in previous research

and were unstable in that they loaded on different factors in the original SCQ study (Swiatek, 1995) than in Swiatek and Dorr's (1998) study. The four new items reflected the use of humor as a coping strategy.

Factor analyses of the SCQ have yielded between four and seven social coping scales, depending on the version of the questionnaire used and the population under consideration. A core group of three scales has been identified in every study: Denying Giftedness, Peer Acceptance, and Social Interaction. In some studies, greater numbers of scales have resulted from the splitting of one scale into two narrower, more specific scales. For instance, one scale reflected a Focus on Popularity and Conformity in some studies (Swiatek, 1995; Swiatek & Dorr, 1998), whereas two distinct scales emerged in other work (Swiatek, 2001). In 2001, the new items reflecting humor that were added to the SCQ formed their own factor (Swiatek, 2001).

The SCQ has been validated with students in summer programs specifically for gifted individuals (Swiatek, 1995; Swiatek & Dorr, 1998), as well as students in public, private, and parochial high schools (Swiatek, 2001). It has been translated and shortened for use with gifted students in Hong Kong (Chan, 2003, 2004), and the full SCQ was translated into Arabic, slightly adapted, and used in Jordan (W. Breik, personal communication, May 29, 2005). Values of Cronbach's alpha for the social coping scales on the full-length SCQ have ranged from .54 (for Activity Level; Swiatek, 1995) to .82 (for Denying Giftedness; W. Breik, personal communication, May 29, 2005). Swiatek (2001) found test-retest reliabilities, over approximately 8 weeks, ranging from .67 (Helping Others) to .83 (Humor); in Jordan, also over an 8-week interval, these numbers ranged from .57 (Peer Acceptance) to .82 (Denying Giftedness; W. Breik, personal communication, May 29, 2005).

Although several studies have validated the basic factor structure of the SCQ and demonstrated the reliability of the resulting scales, evidence for the construct validity of the measure is lacking. The only information currently available regarding relationships between the social coping strategies measured by the SCQ and similar constructs comes from Chan's (2003) study of social coping and emotional intelligence among students in Hong Kong. Using a translated, abbrevi-

ated form of the SCQ, he reported significant, positive correlations between emotional intelligence and social coping scales he labeled Valuing Peer Acceptance and Involvement in Activities, as well as a significant negative correlation between emotional intelligence and the social coping strategy he called Attempting Avoidance. The strongest correlation ($r = .44$) was between Involvement in Activities and the social skills subscale of emotional intelligence. SCQ factors labeled Denying Giftedness, Prizing Conformity, and Discounting Popularity were uncorrelated with emotional intelligence in his study. Chan (2003) noted that, "in relating different components of emotional intelligence to specific social coping strategies, questions may be raised as to whether the constructs of emotional intelligence and those of social coping could be viewed as overlapping rather than distinct" (Discussion section, para. 3). Based on the results of his study, he concluded that "there were differential associations between specific abilities in emotional intelligence and specific coping behaviors, militating against the notion of a lack of conceptual distinction between emotional intelligence and social coping strategies" (Discussion section, para. 3).

Another potential problem related to the construct validity of the SCQ may be distinguishing between measures of social coping and measures of personality characteristics. For example, the SCQ scale for using Social Interaction as a social coping strategy actually may be a measure of introversion/extraversion; high scores for this coping strategy may indicate extraversion, while low scores may indicate introversion. If this is the case, the SCQ may not be as unique an instrument as some have believed. The current study continues the evaluation of the construct validity of the SCQ by correlating its results with those of the Myers-Briggs Type Indictor (MBTI) among adolescents in a residential academy for academically gifted students (Academy).

The Myers-Briggs Type Indicator and Gifted Students

The MBTI is a widely used instrument created to assess psychological types on four dimensions: Extraversion/Introversion (E/I), Sensing/

Intuition (S/N), Thinking/Feeling (T/F), and Judging/Perceiving (J/P). Extraverts (E) are believed to be oriented toward the outside world and engaged in many endeavors, whereas Introverts (I) are described as having a more internal orientation and resisting participation in social activities. Extraverts (E) are described as gaining energy from social encounters, and Introverts find social activities draining. Sensing (S) types tend to be concrete in their perceptions while focusing on information primarily gained via their senses. On the other hand, Intuitive (N) types are believed to enjoy dealing with abstractions and hidden meanings in situations. Thinking (T) types tend to see things in bipolar dimensions and are logical and organized, whereas Feeling (F) types are described as being skilled in analyzing and understanding others' feelings. Judging (J) types are organized, enjoy being in control, and are planners. Perceiving (P) types are more flexible, curious, and open-minded. They are also thought to be spontaneous and able to adapt well to life.

Hawkins (1997/1998) noted that several studies have explored the MBTI types of gifted students and have indicated that types including Intuitive (N) and Intuitive-Perceiving (NP) are particularly common in this group. A study by Parker and Mills (1998), published at about the same time, also showed Intuitive (N) and Intuitive-Perceiving (NP) to be particularly common among gifted students in late elementary school and middle school. In his own research, Hawkins used the MBTI with students in a "public, residential, magnet high school for academically talented and gifted juniors and seniors" (p. 57). He reported that "the most common type was ENFP (16%), followed by ENTP (10%), INFP (9%), and INTP (9%)" (p. 63). Parker and Mills found ENFP and ENTP to be the two most common types in their sample, as well. Intuitive-Perceivers (NPs) made up 45% of Hawkins' magnet school population and 56% of Parker and Mills' sample. Intuitives (Ns) made up nearly 66% of Hawkins' group and 73% of the Parker and Mills sample.

Although several studies have considered the MBTI types of gifted students, very little information has been published on gender differences in this population. Cross, Speirs Neumeister, and Cassady (in press) conducted a study using a large ($N = 931$) sample of students from the same Academy as the participants in the current

study. Their sample included the students in the current sample and also those from a number of other graduating classes. They found a distribution of MBTI types similar to that published by Hawkins (1997/1998) in his study of participants from a similar population. Adding to the existing literature, they also documented gender differences: (a) males were slightly more likely to orient toward Introversion (I) and females were slightly more likely to orient toward Extraversion (E), and (b) males tended to be characterized by Thinking (T), whereas females' scores fell near the center of the Thinking/Feeling (T/F) dimension.

Validity Hypothesis

Some correlation between personality style and preferred social coping strategies is to be expected. To continue the example above, one would expect that Extraverts (E) are more likely than Introverts (I) to cope via social interaction. A correlation at or near zero would be suspicious, as it would suggest a lack of concurrent validity. A correlation at or near 1.0, however, would indicate a lack of discriminant validity. If the SCQ is to be viewed as a measure of social coping, as opposed to personality, the results should be correlations that are in expected directions, but are not large enough in magnitude to suggest that the SCQ and MBTI are measuring the same constructs.

Method

Setting

Students entering a state-funded residential Academy for academically gifted adolescents in years 2003 and 2004 formed the participant group for this study. The Academy is located on the campus of a medium-sized public university in a Midwestern state; its curriculum gives equal emphasis to mathematics, science, and humanities. The Academy is made up of 300 students in the 11th and 12th grades who live in dorms and attend mostly college-level courses taught by the school's faculty, which is made up of 31 full-time and

Table 1

Study Participants by Gender and Graduation Year (*N* = 339)

	Gender			
	Male	Female	Unknown	Total
Class of 2005	68	84	0	152
Class of 2006	83	98	6	187
Total	151	182	6	339

8 part-time professionals. Academy students are able to use the university's facilities, including its research library and many computer labs. To be admitted to the Academy, students must submit information on several criteria. Scholastic Aptitude Test (SAT) scores, other standardized test scores, grades, evidence of passing the state's high school proficiency exam, essays written by the student, and recommendations from three teachers, a guidance counselor, and parents are required. Incoming juniors at the Academy average approximately 1200 on the math and verbal sections of the SAT combined.

Participants

Participants were students who entered the Academy as 11th graders (juniors) in the fall of 2003 (class of 2005) or 2004 (class of 2006). The instruments used in the current study were administered as part of a larger group of surveys and were completed either during the summer before enrollment or upon arrival on the university campus. Therefore, participants completed the instruments before accumulating any significant experience at the Academy. The participant group was comprised of 339 students. Table 1 contains a breakdown of participants by gender and graduation year.

Instrumentation

Social Coping Questionnaire. The current SCQ is the same as the one used by Swiatek in 2001. It is a 34-item questionnaire designed to

assess strategies used by gifted students to cope with the negative stereotypes and social stressors associated with being identified as gifted in the school setting. Respondents provide an answer to each item on a 7-point, Likert-type scale (1 = *Strongly true*, 2 = *Moderately true*, 3 = *Somewhat true*, 4 = *Neither true nor false*, 5 = *Somewhat false*, 6 = *Moderately false*, 7 = *Strongly false*); prior to data analysis, responses were coded so that higher scores always indicated stronger endorsement of a coping strategy. Although the current study did not introduce any revisions to the SCQ, the items were again factor analyzed to ensure that the social coping scales used would be the most appropriate ones for the participant group. The factor analysis and resulting scales are discussed further below.

Myers-Briggs Type Indictor. The MBTI (Myers, 1962) was chosen to explore patterns of psychological type. Some researchers analyze MBTI scores as continuous data, whereas others treat the scores as categorical data. Carlyn (1977) reported two means of determining internal consistency for categorical data but stated that phi coefficients tended to underestimate reliability and tetrachoric coefficients tended to overestimate reliability. Consequently, internal consistency coefficients for categorical data should fall somewhere between the following phi and tetrachoric coefficients. Carlyn's phi coefficients ranged from .55 to .65 (Extroversion/Introversion [E/I]), .64 to .73 (Sensing/Intuition [S/N]), .43 to .75 (Thinking/Feeling [T/F]), and .58 to .84 (Judging/Perceiving [J/P]); the tetrachoric coefficients ranged from .70 to .81 (E/I), .82 to .92 (S/N), .66 to .90 (T/F), and .76 to .84 (J/P).

For the continuous data, Carlyn (1977) reported both Pearson product-moment correlations (split-half) and Cronbach's α. Similar coefficients were found, ranging from .76 to .82 (E/I), .75 to .87 (S/N), .69 to .86 (T/F), and .80 to .84 (J/P). As anticipated, the coefficients from the continuous scores were slightly higher than those from the dichotomous categories. Test-retest reliability coefficients (interval unspecified) ranged from .73 to .83 (E/I), .69 to .78 (S/N), .48 to .82 (T/F), and .69 to .82 (J/P), and most individuals' typing category remained the same over time (Carlyn, 1977).

Procedure

All incoming juniors were given the MBTI during a 2-day orientation session held during the summer prior to the beginning of the school year. The instrument was administered in four groups of approximately 40 students each, with each group supervised by an Academy staff member. MBTI data are gathered every year as part of the college counseling agenda.

The SCQ was given during the students' orientation during their first 2 days on campus for the fall term. Each incoming junior was called to an information meeting about the SCQ that was hosted by his or her Student Life Counselor (SLC). There were approximately 22 Academy students per SLC. The SLC answered questions from the students about the scale and returned the forms to the Director of Residential and Student Affairs upon completion. The SCQ was factor analyzed (n = 299 participants with complete data), using principal axis factoring and a varimax rotation, to determine the most appropriate set of social coping factors for the participants in the current study.

Results

Preliminary Analysis of the SCQ

Results yielded five factors that accounted for 42.0% of the variance: Denying Giftedness, Social Interaction, Humor, Focus on Popularity/Conformity, and Peer Acceptance. Specific items comprising each factor, along with their factor loadings, are listed in Table 2. Responses were coded so that higher scores always indicated greater endorsement of a coping strategy, and scores for each scale were obtained by averaging each participant's responses to the items in that scale. Cronbach's α for the social coping scales ranged from .61 (Peer Acceptance) to .77 (Denying Giftedness).

Table 2

SCQ Factors and Factor Loadings (*n* = 299)

Factor	Item	Factor Loading
Denying giftedness	I don't think that I am gifted	.82
	People think I am gifted, but they are mistaken	.73
	I am not gifted; I am just lucky in school	.69
	As I get older and academic work gets more difficult, people will stop seeing me as gifted	.57
	Most of the successes I experience are due to luck	.51
	There are many people who are more gifted than I am	.44
	I try not to be too successful at the things I do	.32
	I don't tell people that I am gifted	.30
Social interaction	I find friends who have interests similar to mine by getting involved in extracurricular activities	.71
	I spent a lot of time on extracurricular activities	.62
	Because of all my activities, I don't have time to worry about whether or not I am popular	.50
	I explain course material to other students when they don't understand it	.48
	I keep myself quite busy most of the time	.46
	I use what I know to help others	.45
	People come to me for help with their homework	.32
	I spend part of my time in group study sessions	.23

Factor	Item	Factor Loading
Humor	I tell a lot of jokes in school	.79
	I'm good at making people laugh	.70
	People think of me as a class clown	.63
	Most people see me as serious	-.46
	I don't like to give the appearance of being studious	.21
Conformity	I don't worry about my popularity	-.62
	I try to act very much like other students act	.61
	It doesn't matter what other people think of me	-.56
	I try to look similar to other students	.44
	Being popular is not important in the long run	-.42
	I try to get involved in sports so people don't think of me as a "geek"	.35
Peer acceptance	Being gifted does not hurt my popularity	.66
	I would fit in better if I were not gifted	-.55
	Other students do not like me any less because I am gifted	.50
	I prefer doing things alone over doing things with other people	-.37
	If I were not gifted, people would not like me any more or less than they do now	.37
	I try not to tell people my test grades	-.34
	I hide my giftedness from other students	-.29

Table 3

Means and Standard Deviations for SCQ and MBTI Scales, With Internal Consistency Data for SCQ Scales (*n* = 302)

Scale	Cronbach's α	Mean	Standard deviation
Social coping scales[a]			
Denying Giftedness	.77	3.63	1.00
Social Interaction	.69	5.24	0.84
Humor	.68	4.27	1.03
Popularity/Conformity	.66	2.70	0.98
Peer Acceptance	.61	4.44	0.88
MBTI scales[b]			
Introversion/Extraversion	N/A	99.80	27.64
Intuitive/Sensing	N/A	112.66	25.45
Feeling/Thinking	N/A	92.63	24.64
Perceiving/Judging	N/A	107.63	28.37

[a]Range: 1–7. [b]100 = Neutral point.

Descriptive Statistics

SCQ. Mean scores on the social coping scales indicated that participants were most likely to report Social Interaction (M = 5.24, SD = .84) and least likely to report Focus on Popularity/Conformity (M = 2.70, SD = .98). The internal consistency, mean, and standard deviation for each scale are presented in Table 3.

MBTI. The most frequent MBTI types represented in the overall sample were ENTP (11.2%), ENFP (10.6%), INTP (10.3%), INTJ (7.7%), INFP (7.4%), and INFJ (5.3%). All other types were obtained by 5% or fewer of the sample. See Table 4 for a frequency list of all MBTI types.

Scores in each MBTI domain also were scaled so that 100 was a neutral score. Scores greater than 100 indicated Introversion (I),

Table 4

Frequencies of MBTI Types

Type	Frequencies (%)		
	Total	Boys	Girls
ENTP	11.2	14.6	8.8
ENFP	10.6	5.3	15.4
INTP	10.3	13.2	8.2
INTJ	7.7	9.9	6.0
INFP	7.4	7.3	7.7
INFJ	5.3	4.6	6.0
ESTJ	5.0	4.6	5.5
ISTJ	5.0	6.6	3.8
ENFJ	4.7	3.3	6.0
ENTJ	4.4	5.3	3.8
ISTP	4.1	7.3	1.6
ESTP	3.8	4.0	3.8
ESFP	3.5	1.3	4.9
ISFP	2.9	2.0	3.8
ISFJ	2.7	0.7	4.4
ESFJ	1.5	0.7	2.2

Note. Thirty-three participants are not included in Table 4 because of missing data in one or more of the four MBTI dimensions. Therefore, the column totals do not sum to 100%, and the numbers in Table 4 do not exactly match those presented in the Discussion of MBTI Data.

Intuitive (N), Feeling (F), and Perceiving (P), whereas scores less than 100 indicated Extraversion (E), Sensing (S), Thinking (T), and Judging (J), respectively. For the sake of clarity, throughout this paper, labels associated with higher scores will be placed first in each pair: Introversion/Extraversion (I/E), Intuitive/Sensing (N/S), Feeling/Thinking (F/T), and Perceiving/Judging (P/J). For the participant group as a whole (n = 302 who had continuous scores for all MBTI domains), mean scores ranged from 92.63 on the Feeling/Thinking (F/T) dimension to 112.66 on the Intuitive/Sensing (N/S) dimen-

sion. A complete list of means and standard deviations is presented in Table 3.

Inferential Statistics

SCQ and MBTI Differences by Gender. *T*-tests were used to compare mean scores on the SCQ and MBTI between male and female participants. For each measure, alpha levels required for statistical significance were divided by the number of scales (i.e., 5 for the SCQ, 4 for the MBTI) to reduce the likelihood of Type I error. The resulting alpha levels required for significance were .01 on the SCQ and .0125 on the MBTI. Gender differences were found for two SCQ scales. Females ($M = 3.80$) were more likely than males ($M = 3.43$) to report Denying Giftedness ($t = 3.18, p < .005, d = .37$), and males ($M = 4.48$) were more likely than females ($M = 4.12$) to report using Humor ($t = 3.26, p < .005, d = .37$). Gender differences also were found for two MBTI scales. Males tended to be more Introverted (I) than females (male $M = 105.08$, female $M = 95.8, t = 2.94, p < .005, d = .34$). Also, whereas females scored at the neutral point on the Thinking/Feeling (T/F) dimension ($M = 100.12$), males scored into the Thinking (T) part of the range ($M = 83.06, t = 6.21, p < 0.001, d = .73$).

Correlations Between the SCQ and MBTI. Eight statistically significant correlations were found between scales on the SCQ and scales on the MBTI. Using guidelines provided by Sprinthall (2000), only one of these correlations was large in magnitude: Humor with Introversion/Extraversion (I/E; $r = -.433, p < .001$). Four of the significant correlations were of medium effect size: Social Interaction with Introversion/Extraversion (I/E; $r = -.352, p < .001$), Humor with Intuitive/Sensing ($r = .259, p < .001$), Humor with Perceiving/Judging (P/J; $r = .347, p < .001$), and Peer Acceptance with Introversion/Extraversion (I/E; $r = -.325, p < .001$). Three correlations were small in magnitude: Denying Giftedness with Intuitive/Sensing (N/S; $r = -.134, p < .05$), Focus on Popularity/Conformity with Intuitive/Sensing (N/S; $r = -.218, p < .001$), and Peer Acceptance with Feeling/Thinking (F/T; $r = .157, p < .05$). See Table 5 for the correlation matrix.

Table 5

Correlations Between SCQ and MBTI Scores

	Introversion/ Extraversion (I/E)	Intuitive/ Sensing (N/S)	Feeling/ Thinking (T/F)	Perceiving/ Judging (P/J)
Denial of Giftedness	.092	-.134*	.058	-.017
Social Interaction	-.352**	.020	.008	-.112
Humor	-.433**	.259**	.026	.347**
Popularity/ Conformity	-.067	-.218**	-.001	-.105
Peer Acceptance	-.325**	-.017	.157**	.118

*$p < .05$. **$p < .01$.

Discussion

Social Coping Strategies

Analysis of the SCQ yielded social coping factors very similar to those in previous studies in terms of content and internal consistency, as well as the proportion of variance for which they accounted. The three core scales found in previous studies (i.e., Denying Giftedness, Peer Acceptance, and Social Interaction) were evident, and the additional factors in the current study (i.e., Humor and Focus on Popularity/Conformity) also have been found in previous work (see Swiatek, 1995, 2001; Swiatek & Dorr, 1998).

Mean scores on the SCQ indicated that, prior to any significant experience at the Academy, students tended to use Social Interaction most frequently and Focus on Popularity/Conformity least frequently as social coping strategies. The lack of focus on popularity and conformity is not surprising, as the decision to attend the Academy represents a departure from the typical high school trajectory. Students who feel a strong desire to behave like others their age probably would be unlikely to leave their high schools after 2 years to attend a university-based, residential school specifically designed for

students whose abilities depart from the norm. The standard deviations for the social coping scales were rather large, however, covering approximately one point on the 7-point scale. Apparently, students in the sample varied considerably in their endorsement of the social coping strategies upon enrollment at the Academy.

MBTI Data

Previous findings that MBTI types containing Intuitive (N) and Intuitive-Perceiving (NP) are particularly common among gifted students (Parker & Mills, 1998; see also Hawkins, 1997/1998) were supported in the current data. All six of the most common types among Academy students were Intuitive (N), and four of these were Intuitive-Perceiving (NP). Also, there were numerous similarities between Hawkins' data and that collected in the present study. First, all four of the types Hawkins found to be most common in his study of students in a setting similar to the Academy were represented in the top six types among Academy students, although the order in which they were found was different. Second, in both cases, Intuitive (N) was the most commonly represented code within the MBTI type; close to 66% of Hawkins' participants were Intuitive (N), and 68.3% of the participants in the present study were Intuitive (N). Third, the current study showed, as Hawkins did, that there were slightly more Perceiving (P) orientations than Judging (J) orientations (59.8% vs. 40.2% in Academy data). Fourth, approximately half of the current participants were Extravert (E) types and half were Introvert (I) types, as was the case with Hawkins' participants. Like Cross et al. (in press), however, the present study found slightly more Thinking (T) preferences (57.2%) than Feeling (F) preferences (42.8%), whereas Hawkins found an equal split on the Thinking/Feeling (T/F) dimension. Nevertheless, as is the case with the study by Cross et al. (in press), current results were strikingly similar to those obtained by Hawkins, despite the fact that data were collected more than 5 years apart and there were geographical differences between the schools (i.e., Southern vs. Midwestern United States).

Gender Differences

In this sample of gifted adolescents, the females were more likely than the males to report Denying Giftedness. It is important to note that neither females nor males were likely to deny their giftedness in an overall sense—that is, mean scores for both genders fell below the neutral point of 4.0 on the SCQ scale. This is to be expected, given that the choice to enroll at the Academy implies that students recognize their giftedness, at least to some extent. Nevertheless, some previous research with the SCQ also has found girls to be more likely than boys to deny their abilities (Swiatek, 2001; Swiatek & Dorr, 1998). In fact, the effect sizes of these differences across all three studies are nearly identical: d = .38 in the Swiatek and Dorr study, d = .39 in the 2001 Swiatek study, and d = .37 in the current study. In each case, the effect size is small (see Sprinthall, 2000), but the consistency of the finding raises concern, especially as Denying Giftedness has been shown to be negatively related to self-concept in the domains of scholastic competence, social acceptance, and behavioral conduct (Swiatek, 2001). That is, Denying Giftedness appears to be a relatively unhealthy coping strategy, and it is disturbing that girls rely on it more than boys, even though their overall endorsement of the strategy is weak and the difference from boys is small. The gender difference indicating that gifted males are more likely than gifted females to use Humor as a social coping strategy also has been found previously (Swiatek, 2001). Further, it is consistent with research on general coping strategies that has been performed with nongifted samples (e.g., Patterson & McCubbin, 1987).

Interestingly, no significant gender difference was found in the current study for the social coping strategy of Social Interaction. In past SCQ research (Swiatek, 2001; Swiatek & Dorr, 1998), females have been found to be significantly more likely than males to endorse this strategy—a pattern consistent with general coping research among nongifted samples, which has shown that females are more likely than males to use socially oriented coping strategies (Bird & Harris, 1990; Buescher & Higham, 1987; Frydenberg & Lewis, 1991, 1997; Langram, 1997; Patterson & McCubbin, 1987; Strop & Hultgren, 1985; Tomchin, Callahan, Sowa, & May, 1996). Again, it may be relevant that the current study involved participants

who chose to leave their home schools permanently to participate in a special educational program. In other studies of gifted students using the SCQ, participants were enrolled in either temporary, summer programs for gifted students (Swiatek & Dorr, 1998) or typical high schools (Swiatek, 2001). Perhaps gifted girls who are not highly involved in the activities available in their high schools are those most willing to give up the last 2 years of their time in a typical high school to attend an institution like the Academy.

Because Cross et al. (in press) used a sample that included the students in the present sample, it is not surprising that current results mirrored theirs in terms of gender differences on the MBTI. Both the present study and that by Cross et al. (in press) found that, on average, girls scored near the center of the range on the Thinking/Feeling (T/F) dimension, whereas boys scored well into the Thinking (T) range. Cross et al. (in press) noted that, despite a significant gender difference within the gifted sample, both boys and girls showed a stronger orientation toward Thinking (T) than has been observed in gender norms based on the general population. The other significant gender difference showed that boys scored slightly into the Introversion (I) range and girls scored slightly into the Extraversion (E) range. Cross et al. (in press) noted that, despite the significant difference, both boys and girls scored near the center point on this dimension, thereby showing both the ability to benefit from relationships and the ability to work alone. They also indicate that scoring near the center of the Introvert/Extrovert (I/E) dimension is not typical in the general population, where it is more common for scores to be polarized. That both genders in our sample scored near the center of this dimension also may be related to the lack of a gender difference for Social Interaction on the SCQ. It would be interesting to know whether previous SCQ samples, which showed that girls were more likely than boys to report high levels of Social Interaction, were characterized by a greater gender difference in Introversion/Extraversion (I/E), as well.

Construct Validity of the SCQ

Correlations between social coping scales and Introversion/Extraversion (I/E) were in expected directions, which supports

the concurrent validity of the SCQ scales. Specifically, relatively extraverted individuals were more likely than introverted individuals to report Humor and Social Interaction as coping strategies. Interestingly, extraverts also were likely to obtain relatively high scores for Peer Acceptance. Gifted adolescents score high for Peer Acceptance when they indicate that their giftedness has no negative effect on their peer relationships (e.g., agreeing with the statement "Being gifted does not hurt my popularity" and disagreeing with the statement "I would fit in better at school if I were not gifted"). In previous studies, this factor has been conceptualized as a denial of the negative effects of giftedness on popularity, because research has indicated that gifted students typically do perceive that their abilities carry with them negative implications for peer relationships (e.g., Coleman, 1985; Coleman & Cross, 1988; Coleman & Sanders, 1993; Cross et al., 1993; Cross et al., 1991; Gross, 1989). The current results suggest that being Extraverted can, to some extent, mitigate the negative effects of being gifted, at least from the gifted individual's point of view. The direction of the other correlations was difficult to predict in advance, due to a lack of research from which to draw hypotheses. Overall, however, the correlations between the SCQ and MBTI are small enough to indicate that the two instruments are measuring different constructs.

Summary and Conclusions

The results of the current study provide further validation of the factor structure of the SCQ, as the factors identified in the current sample are very similar to those identified in previous samples of gifted adolescents. Prior to their experience at the Academy, participants were most likely to rely on Social Interaction to find friends and cope with the negative stereotypes of giftedness. There were no gender differences on this scale, although previous studies have found that girls are more likely than boys to report high levels of social interaction as a coping strategy. Perhaps girls who choose to attend a residential school away from home tend to be those who do not have particularly high levels of social involvement at their high schools. Students in the sample were least likely to report Focus on

Popularity/Conformity as a social coping strategy, which also may be related to their willingness to break from the typical high school experience by leaving home to attend the Academy. Girls were significantly more likely than boys to report Denying Giftedness—a troubling finding that is consistent with previous studies. Boys were more likely than girls to use Humor as a coping strategy, which is consistent with previous SCQ research and also with general coping research using nongifted samples. Future research should continue to broaden the types of samples in SCQ research. Also, the stigma of giftedness paradigm suggests that social coping strategies should be less necessary in environments in which gifted students are similar to their peers, rather than different from them. Changes in social coping that may occur in various types of educational programs (e.g., homogeneous classrooms, homogeneous schools, acceleration-based programs) should be explored to test this hypothesis.

Our findings regarding MBTI types are consistent with those of previous researchers. Types including Intuitive (N) and Intuitive-Perceiving (NP) were particularly common in our sample; N was the single most frequently represented code within the MBTI type and the sample contained slightly more Perceiving (P) than Judging (J) types and was evenly divided between Extraverts (E) and Introverts (I). We also found gender differences indicating that boys were more likely than girls to be slightly Introverted (I) and to endorse Thinking (T), whereas girls were slightly more Extraverted (E) and scored very close to the neutral point on Thinking/Feeling (T/F). Studies of the personality characteristics of gifted students using measures other than the MBTI may expand on these findings.

To the extent that correlations could be predicted between the SCQ and MBTI, they were in expected directions, which provided evidence of concurrent validity for the SCQ. The magnitude of the correlations was not very large, however, which provided evidence of discriminant validity. Overall, the results of the current study support the construct validity of the SCQ. Further efforts to validate the SCQ, perhaps with other personality inventories, would help to firmly establish its psychometric properties.

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