
Strategies Used by Intellectually Gifted Students to Cope With Stress During Their Participation in a High School International Baccalaureate Program

Gifted Child Quarterly
54(2) 127–137
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DOI: 10.1177/0016986209355977
<http://gcq.sagepub.com>


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Abstract

Individuals respond to threats to affiliation and achievement needs through drawing on a repertoire of coping strategies specific to a given situation. Gifted adolescents in college-preparatory high school programs may be faced with novel stressors, and may have unique coping strategies to manage these challenges. The current study considers responses to surveys of stress and coping as well as focus group interviews of gifted and high-achieving students enrolled in an academically intense curriculum, the International Baccalaureate (IB) Diploma Program. Findings of this secondary analysis of archival data sets indicate gifted students experience levels of stress similar to their IB classmates not identified as gifted. Additionally, gifted students were similar to IB peers not identified as gifted with respect to how they cope with school; likenesses included positive reframing, time and task management, avoiding tasks, and seeking social support. However, gifted IB students differed from IB classmates with respect to anger coping, humor, and problem-solving approaches.

Putting the Research to Use

With the growing interest of International Baccalaureate Programs throughout the United States, educational personnel, researchers, and administrators are considering the social-emotional needs of gifted and high-ability students served in these challenging academic programs. Understanding the needs of this unique population of students is critical to supporting the cognitive and affective growth of IB students, and this study provides a glimpse into the thoughts of IB learners with respect to their stress and coping. The findings of this study suggests that gifted students in IB and their IB peers experience similar stressors and coping responses, though some differences in anger coping, humor, and problem solving were unique among gifted IB students in this sample.

Keywords

qualitative methodologies, social development, emotional development, high school, stress

Specialized instructional programs for gifted learners are recommended to address a multitude of cognitive and affective needs unique to this population. Empirical support documenting the efficacy of such programs in meeting these needs is emerging (Hertberg-Davis & Callahan, 2008; Preuss & Dubow, 2004; Sowa, McIntyre, May, & Bland, 1994), though many compelling theoretical arguments for addressing the social-emotional needs of the gifted have been published (Hartsell, 2006; Peterson, 2003; VanTassel-Baska, 2003). Literature about the education of students with advanced abilities is mostly focused on the elementary school years, particularly because states have often relied on programs not initially designed for gifted learners to fulfill their educational needs at the secondary level (e.g., Advanced Placement and International Baccalaureate Programs; Council of State Directors of Programs for the Gifted & National Association for Gifted Children [NAGC], 2007).

While the cognitive development and academic performance of gifted students have been examined extensively, the study of social-emotional functioning of academically advanced adolescent/high school-age learners has received far less attention in educational research, especially with regard to perceived stress, coping, and mental health and how this population adjusts to academically challenging, specialized programs in secondary education settings. This investigation considers the affective needs related to stress and coping strategies of two groups of academically advanced high school students

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served in an International Baccalaureate program, namely intellectually gifted students and their peers not identified for gifted services.

Affective Needs of the Gifted

Education has long considered facilitating affective development in children and youth through curriculum as a central consideration of students' academic success (Zins, Bloodworth, Weissberg, & Wahlberg, 2004). Likewise, the field of gifted education has a limited, though well-conceptualized foundation for attending to the social and emotional development of children and youth, which was initially investigated by Terman (1925), who found that gifted individuals did not, according to views held at that time, as a group, have social-emotional deficits. Hollingworth (1942) found, however, that profoundly gifted individuals often experience social disconnection. More contemporary research has explored the gifted individual's social-emotional development in the classroom, schools, and communities, including proactive (Peterson, 2003) and responsive approaches for a host of affective issues, including, perfectionism (Speirs Neumeister, Williams, & Cross, 2007), depression (Mueller, 2009), overexcitabilities (Mendaglio & Tiller, 2006; Tieso, 2007), interpersonal relationships (Matthews & Kitchen, 2007), self-actualization (Pufal-Struzik, 1999), underachievement (Reis & McCoach, 2000), and psychological well-being (Jin & Moon, 2006). Though the role that giftedness plays in moderating deleterious outcomes for children and youth has been considered (Neihardt, 1999), additional investigations are warranted to add to the emerging research foundation of affective development among these individuals.

One curriculum that is gaining attention throughout the world because of its emphasis on rigorous academics and the affective component of learning is the International Baccalaureate Diploma Program (International Baccalaureate Organization [IBO], 2005). The International Baccalaureate (IB) Program is a "classic liberal-arts" (Conner, 2008, p. 332) college preparatory curriculum designed to cultivate advanced content knowledge, global awareness, intercultural sensitivity, social competence, inquiry, and problem solving in high school students (IBO, 2005). Currently, there are approximately 1,700 IB schools world-wide, with more than 500 located in the United States (Bunnell, 2008). In the United States, the number of such schools is steadily increasing, as is the recognition of these programs, particularly with more recent attention given to rigorous academic curriculum as an indicator of school quality, which affects school rankings (Kantowitz, 2006; Mathews, 2003). The extensive requirements of the IB program have been noted by students and teachers and have been seen by some learners as time- and labor-intensive (Andain, Rutherford, & Allen, 2006), far exceeding the minimal requirements of typical high school graduation, and often the source of emotional and physical angst, as students report having little time for adolescent social interactions, much-needed sleep, and time to reflect on

learning, living, and growing (Hertberg-Davis & Callahan, 2008; Suldo, Shaunessy, Thalji, Michalowski, & Shaffer, in press). Additionally, students also report that despite the often challenging IB demands, their IB classes, teachers, and peers provide satisfying educational and emotional connections that sustain them throughout their IB years.

Given the challenging academic curricula involved in the IB program, understanding the affective needs of the students pursuing the diploma aligns with the program's mission to support the development of the whole child. There is evidence to suggest that gifted learners (IQ = 130+) may possess coping strategies different from their peers who are not identified as intellectually gifted (Preuss & Dubow, 2004). Other investigations of high- and low-achieving college students also indicate self-regulating learning patterns, including task management, time management, problem solving, and self-efficacy may also play a role in the academic success and emotional adjustment of learners, including gifted students (Reis & McCoach, 2000; Ruban & Reis, 2006). Other scholars have proposed that intelligence serves as a buffer for stress, suggesting that cognitive facility functions as a mechanism for evaluating and adapting to stressors through selection of effective coping responses (Lazarus & Folkman, 1984; Sternberg, 1985). The primary focus of literature about coping practices of gifted youth has been on coping with social demands (Chan, 2003, 2004, 2005; Foust, Rudasill, & Callahan, 2006; Rudasill, Foust, & Callahan, 2007; Swiatek, 1995, 2001, 2002; Swiatek & Dorr, 1998); these investigations have explored the development, tenability, and cross-cultural fit of the Social Coping Questionnaire (SCQ). Findings from these studies indicate gifted learners in elementary and secondary schools use a variety of responses to social distress, including denying and hiding giftedness, minimizing popularity, assisting others with coursework, and conforming to mask giftedness. In initial development of the SCQ, humor was included as a response style (Swiatek, 2001, 2002), though subsequent studies did not find support for this as a viable factor (Foust et al., 2006; Rudasill et al., 2007). There is, however, a paucity of research about the strategies high-achieving youth and gifted learners use in response to academic stressors, with only a few investigations considering the unique coping responses of these populations of students (Preuss & Dubow, 2004; Suldo, Shaunessy, Michalowski, & Shaffer, 2008). Studying a sub-set of intellectually gifted students in the IB program can provide much-needed information about ways these learners cope with stress, for instance the extensive demands (e.g., frequent examinations, independent research projects, mandatory extra-curricular activities, expectations to achieve) inherent in this internationally-recognized, rigorous curriculum, or other typical stressors associated with adolescence, such as peer pressure or family conflict.

Aims of the Current Study

The purpose of this study is twofold. First, it will be determined if intellectually gifted learners experience levels of

perceived stress that are comparable with other students in the IB program. Second, the coping behaviors of IB students (a) identified as intellectually gifted and (b) their IB peers not identified for gifted education services (though nevertheless high-achieving students) will be compared for notable differences using both a traditional inventory of coping behaviors as well as a taxonomy of coping specific to IB learners.

Theoretical Framework

Though evidence exists that interdisciplinary, complex academic coursework can positively affect student achievement (VanTassel-Baska, 2003), few examinations of the significant role stress and coping play in academic programs for gifted or high-achieving adolescents have been reported. Stress and coping of the gifted have been examined to a limited degree in prior studies, including qualitative descriptions of young gifted students (Sowa et al., 1994); a model of understanding creative producers/high achievers (Olszewski-Kubilius, 2000); peer and school stressors of gifted and general education learners (Preuss & Dubow, 2004); relationships among mental health (i.e., academic self-efficacy, academic achievement, life satisfaction, and psychopathology), stress, and coping of learners in the IB program (Suldo, Shaunessy, & Hardesty, 2008); and unique coping strategies used by IB students to manage elevated levels of stress (Suldo, Shaunessy, Michalowski, et al., 2008).

Stress is a state of thinking, feeling, and acting in response to a trigger event. For adolescents there are exponentially more daily stressors incurred during this developmental period than typically exists in earlier years of childhood, such as friendships, romantic relationships, parent conflicts, school pressures, and the transition to adulthood (McNamara, 2000). For students in advanced programs, the additional stressors of ongoing high achievement and school performance, preparing for end-of-course exams, and meeting a variety of deadlines for school projects are added stressors not experienced to the same degree by learners from other curricular settings (Matthews & Kitchen, 2007; Suldo, Shaunessy, Michalowski, et al., 2008). Stress is exacerbated when efforts to minimize the effect of a stressor are beyond an individual's coping skill set (Lazarus & Folkman, 1984). Historically, youth who indicate high levels of perceived stress are at a greater risk for challenges, including underachievement in school (Schmeelk-Cone & Zimmerman, 2003), drug abuse (Galaif, Sussman, Chou, & Wills, 2003), and psychopathology (Martin, Kazarian, & Breiter, 1995).

Individuals respond to these stressors by drawing on cognitive, emotional, and behavioral skills. *Coping*, or the process of negotiating the external stressors through these internal responses, may be effective or ineffective, depending on the individual's response-strategy skill base (Lazarus & Folkman, 1984), and is usually framed as either problem- or emotion-focused. In the former, an individual responds to a specific source of stress, whereas in the latter, efforts to reduce negative emotional reactions are targeted to minimize discomfort.

Various populations of youth use specific coping styles for given stressors. Nounopoulos, Ashby, and Gilman (2006), for example, found adaptive perfectionists in middle school sought family support, sought acceptance by peers, and developed academic competence as primary coping responses, which differed from classmates with less adaptive perfectionistic tendencies. Preuss and Dubow (2004) found intellectually gifted children responded to stressors through problem solving to a greater degree than their peers. Hart's (1991) study of high school students indicated that students who became angry in response to academic stressors tended to also seek more support (i.e., social-emotional assistance, resource guidance, or information from others) and were less likely to attempt positive appraisal coping efforts (e.g., optimistically reframing, perspective taking).

In this study, we build on preliminary investigations of the stress, coping, and mental health of students in an IB program, which indicated that IB students (both gifted and nongifted/high achieving) perceived higher levels of stress than adolescents in a general education program (i.e., those not served through an IB program) and employed a variety of creative and original coping behaviors in response to the rigors of this curriculum (Suldo, Shaunessy, & Hardesty, 2008; Suldo, Shaunessy, Michalowski, et al., 2008). The most recent research from this larger study identified a taxonomy of coping behaviors unique to IB students. Several of the coping strategies (e.g., actively managing time such that a balanced life was ensured, fixating on problems without taking action, attempting to handle problems alone, sharing assignments with peers, renegotiating schedules and deadlines) were unique in that they had not emerged in earlier studies of coping among general samples of youth (Suldo, Shaunessy, Michalowski, et al., 2008). In the current study, we aim to further consider the distinct coping behaviors of gifted learners within this group (i.e., IB students).

Method

We conducted a secondary data analysis of two archival databases to investigate the social-emotional needs of gifted and high-achieving students in IB. One database consists of quantitative data obtained from student self-report surveys about stress levels and coping behaviors (see Shaunessy, Suldo, Hardesty, & Shaffer, 2006; Suldo, Shaunessy, & Hardesty, 2008). The second database consists of qualitative data obtained from focus groups conducted to identify unique dimensions of student coping not captured through existing self-report inventories (see Suldo, Shaunessy, Michalowski, et al., 2008).

Participants

Surveys were collected in December 2004 from students enrolled in one high school in a rural southeastern state; the school was selected because it housed both an IB program and a general education curriculum in a single school building. The programs had administrators specific to the programs (one principal for each curriculum); students in IB and

general education shared facilities and faculty. A total of 141 students in the IB program gained parental consent, provided written assent, and then completed the surveys.

Based on information obtained from school records, researchers classified participants as gifted ($n=52$), or high-achieving IB students ($n=89$). The state's identification criteria for intellectual giftedness includes (a) individual IQ score of two standard deviations or higher, (b) need for specialized educational services, and (c) majority of gifted behaviors exhibited according to a standard checklist (Florida Department of Education, 2008). Of the 52 gifted youth, 11 were admitted under "Plan B" such that they were identified as gifted on criteria other than IQ score. Of the 41 students identified through the state's traditional mechanisms (i.e., superior performance on standardized tests of intellectual functioning), full scale or composite IQ scores obtained during the individual psychoeducational assessment conducted for eligibility determination ranged from 117 to 149 ($M = 133.54$, $SD = 6.38$). Specific information regarding the demographic characteristics (grade level, gender, ethnicity, socioeconomic status [SES] as assessed by qualifying or not for free/reduced-price school lunch) of the gifted and high-achieving IB youth who participated in this phase of the research is included in Table 1. Both gifted and high achieving study participants met rigorous IB school admission criteria, including teacher recommendations, strong writing ability as evidenced on an application essay, and a history of promising academic achievement in middle school coursework.

School records did not contain information about the cognitive abilities of the high achieving students (presumably because they had not participated in earlier district-conducted psychoeducational evaluations to assess for intellectual giftedness), thus it is unknown if students in this subgroup had similar cognitive abilities but perhaps simply had not been evaluated for eligibility for gifted education or had been screened but not identified for intellectually gifted services. With regard to academic achievement, mean weighted grade point averages (GPA) for the two subgroups were statistically similar, $t(139) = .46$, $p = .64$, indicating that both gifted and high-achieving students excelled in their academic coursework (GPA: $M = 4.11$, $SD = .39$ for the gifted sample; $M = 4.15$, $SD = .38$ for the high-achieving IB sample) during the year in which they took part in the current study.

The following year, 8 focus groups were conducted with 48 of the original 141 survey participants, including 22 gifted (4 focus groups) and 26 high achieving (4 focus groups) learners. As shown in Table 2, students in the focus groups were from Grades 10 to 12, represented both genders, and were predominately Caucasian. During the focus groups, students were asked to describe how they responded to stress, and then asked to specify which strategies they viewed as helpful as well as those reactions that did not seem to help (i.e., were ineffective ways to cope).

Measures and Indicators

Perceived Stress Scale. The original Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983). PSS assessed

both stress and coping with 14 items. As a more comprehensive assessment of coping was used in the current study (see below), only the six items from the PSS that were identified in an earlier exploratory factor analysis (Golden-Kreutz, Browne, Frierson, & Anderson, 2004) as indicative of perceived distress were used in the current study to measure student perceptions of stress. Respondents rate the degree they find their lives to be "unpredictable, uncontrollable and overloading" (Cohen et al., 1983, p. 387) according to a 5-point Likert-type scale. Specifically, respondents consider their experiences in the prior month and rate from 0 (*never*) to 4 (*very often*) how often they felt, for instance "difficulties were piling up so high that you could not overcome them," "nervous and stressed," and "unable to control the important things in your life." In line with the global nature of the items, the PSS purports to measure general stress rather than stress perceived from a particular demand, such as school.

Though there are multiple understandings of stress, in the PSS, stress is conceptualized as a transactional construct, or based on how an individual perceives stressors as well as the nature of the stressor (Galaif et al., 2003). Correlations between global objective measures of stress and the PSS are relatively small (.17 to .39), and moderate relationships with event impact (.24 to .49) and prediction of depression and health challenges (.65 to .76) in comparison with objective stress assessments (.14 to .18) have been documented (Cohen et al., 1983).

Adolescent Coping Orientation for Problem Experiences. Initially, coping was assessed through the Adolescent Coping Orientation for Problem Experiences (ACOPE; Patterson & McCubbin, 1981 as cited in Patterson & McCubbin, 1987), a 54-item self-report coping inventory designed to identify the behaviors that adolescents use most frequently to manage problems presented by difficult situations.

Although the ACOPE was originally intended to identify 12 coping styles, a four-factor solution identified reliably with multiple samples of youth (e.g., Fanshawe & Burnett, 1991; Howard & Medway, 2004) was used in analyses in the current study. These four separable ways of coping include responding to stress via the following strategies: positive appraisal (view a stressful situations in a positive light or focus on friendships), negative avoidance (use of alcohol, cigarettes, or drugs), family communication (seeking advice from, and harmonious relationships with, family members), and anger (complaining, blaming, and/or yelling). For descriptions of the specific ACOPE items included within each coping style, see Suldo, Shaunessy, and Hardesty (2008).

Results

Research Question 1: Do intellectually gifted learners experience diminished or elevated levels of perceived stress compared to other students in the IB program?

The global stress levels (i.e., mean score on the PSS) of two groups of students in the same IB program were compared. The "gifted group" consisted of the 52 students who

Table 1. Demographic Characteristics of Students Who Participated in Surveys

Variable	Gifted IB (<i>n</i> = 52)		High-Achieving IB (<i>n</i> = 89)		Total (<i>N</i> = 141)	
	<i>n</i>	Percentage	<i>n</i>	Percentage	<i>n</i>	Percentage
Grade level						
9	20	38.46	26	29.21	46	32.62
10	10	19.23	22	24.72	32	22.70
11	10	19.23	20	22.47	30	21.28
12	12	23.08	21	23.60	33	23.40
Gender						
Male	21	40.38	34	38.20	55	39.01
Female	31	59.62	55	61.80	86	60.99
SES						
Low	3	5.77	6	6.74	9	6.38
Moderate to high	49	94.23	83	93.26	132	93.62
Ethnicity						
African American	3	5.77	1	1.12	4	2.84
Asian American	11	21.15	12	13.48	23	16.31
Caucasian	33	63.46	64	71.91	97	68.79
Hispanic	2	3.85	8	8.99	10	7.09
Native American	1	1.92	—	—	1	0.71
Other	2	3.85	4	4.49	6	4.26

Note: IB = International Baccalaureate; SES = socioeconomic status.

Table 2. Demographic Characteristics of Students Who Participated in Focus Groups

Variable	Gifted IB (<i>n</i> = 22)		High-Achieving IB (<i>n</i> = 26)		Total (<i>N</i> = 48)	
	<i>n</i>	Percentage	<i>n</i>	Percentage	<i>n</i>	Percentage
Grade level						
10	12	54.55	10	38.46	22	45.83
11	6	27.27	9	34.62	15	31.25
12	4	18.18	7	26.92	11	22.92
Gender						
Male	9	40.91	7	26.92	16	33.33
Female	13	59.09	19	73.08	32	66.67
SES						
Low	2	9.09	1	3.85	3	6.25
Moderate to high	20	90.91	25	96.15	45	93.75
Ethnicity						
African American	1	4.55	—	—	1	2.08
Asian American	1	4.55	2	7.69	3	6.25
Caucasian	18	81.82	19	73.08	37	77.08
Hispanic	1	4.55	2	7.69	3	6.25
Native American	—	—	—	—	—	—
Other	1	4.55	3	11.54	4	8.33

Note: IB = International Baccalaureate; SES = socioeconomic status.

had previously been identified by the district as gifted, whereas the “high-achieving IB group” consisted of the 89 students who had not been identified as gifted. A *t*-test indicated these two groups of students perceived similar levels of stress, $t(139) = -0.41, p = .68, d = .07$. Thus, gifted learners do not perceive elevated levels of perceived stress compared with other students in the IB program. Instead, the mean level of stress perceived by students in each group was

in the moderate range ($M = 3.46, SD = 0.96$ for the gifted sample; $M = 3.40, SD = 0.82$ for the high-achieving IB sample).

Research Question 2: What are the differences between the coping behaviors of IB students on the ACOPE and according to focus group findings by student group (gifted, high-achieving IB)?

Table 3. Frequency Students Used Coping Strategies Assessed via the ACOPE

Coping Strategy	Gifted IB (<i>n</i> = 52)		High-Achieving IB (<i>n</i> = 89)		Tests of Between-Group Differences		Effect Size
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>	<i>d</i>
Positive appraisal	3.22	0.93	3.33	0.70	0.77	.44	.15
Family communication	2.87	0.73	3.01	0.78	1.08	.28	.19
Negative avoidance	1.21	0.35	1.22	0.35	0.20	.84	.04
Anger	2.99	0.79	2.70	0.68	-2.26	.03	.39

Note: ACOPE = Adolescent Coping Orientation for Problem Experiences; IB = International Baccalaureate.

Table 4. Frequency With Which Each Coping Strategy That Was Described as Employed or Effective Was Mentioned Within Each Group of Students Within IB

Coping Strategy	Gifted (<i>n</i> = 22)		High Achieving (<i>n</i> = 26)		Total (<i>N</i> = 48)	
	<i>n</i>	Percentage	<i>n</i>	Percentage	<i>n</i>	Percentage
1. Taking deliberate action steps to address problems	51	100	69	100	120	100
Managing tasks	28	100	41	100	69	100
Focusing efforts and energy on enacting plan	16	100	7	75	23	88
Managing time	7	75	11	75	18	75
Decision making relevant to demands	0	0	10	100	10	50
2. Avoiding demands	67	100	43	100	92	110
Engaging in activities unrelated to problem	47	100	24	100	71	100
Procrastinating	16	100	15	100	31	100
Fixating on problem without taking action	4	50	4	75	8	63
3. Seeking social support from people within immediate environment	28	100	27	100	55	100
Seeking social support from IB classmates	7	75	7	75	14	75
Placing problems in perspective	12	75	9	75	21	75
Seeking social support from family members	9	75	11	75	20	75
4. Giving self permission to feel positive emotions	16	100	23	100	39	100
Engaging in relaxing activity	9	100	23	100	32	100
Laughing and maintaining a sense of humor	7	50	0	0	7	25
5. Maintaining relationships with people outside of immediate environment	13	75	17	75	30	75
Seeking social support from non-IB peers	13	75	5	50	18	63
Investing in close friends	0	0	12	75	12	38
6. Sleeping	13	100	14	75	27	88
7. Reducing workload	15	100	6	75	21	88
Renegotiating expectations, activities, deadlines	11	100	3	50	14	75
Divvying up assignments with classmates	4	50	3	25	7	38
8. Be alone	3	50	5	75	8	63

Note: IB = International Baccalaureate; *n* = number of times strategy mentioned in each group; percentage = proportion of groups in which the strategy was mentioned at least one time.

Traditional inventory of adolescent coping styles. The mean frequency with which the two groups of students (gifted and high-achieving IB) reported using each of the coping styles assessed by the ACOPE was compared via a series of *t*-tests. Since multiple (i.e., four) tests were conducted, the significance level was adjusted via a Bonferroni correction in order to control for experiment-wise probability of making a Type I error, resulting in a revised alpha of .0125. As shown in Table 3, the two groups of students reported similar use of positive appraisal, negative avoidance, and family communication strategies to cope with stressors. Although there was a trend for gifted students to report employing angry behaviors

(e.g., become sarcastic, complain, yell) more often in times of stress, the difference between groups was not statistically significant when the conservative alpha level was employed. Because the relatively small sample sizes and conservative alpha increases the likelihood of researchers failing to identify an effect of group even in the event that a true effect exists, effect sizes were calculated to provide additional information about the reliability of differences in coping behaviors between groups. According to Cohen's (1992) guidelines for interpreting effect sizes, the magnitude of the between-group differences with respect to frequency of use of anger coping strategies is small, suggesting that gifted and

Table 5. Frequency With Which Each Coping Strategy That Was Described as Ineffective Was Mentioned Within Each Group of Students in IB

Coping Strategy	Gifted (<i>n</i> = 22)		High Achieving (<i>n</i> = 26)		Total (<i>N</i> = 48)	
	<i>n</i>	Percentage	<i>n</i>	Percentage	<i>n</i>	Percentage
1. Avoiding demands	12	100	22	100	34	100
Engaging in activities unrelated to problem	6	100	8	75	14	88
Procrastinating	4	75	8	75	12	75
Fixating on problem without taking action	2	25	6	50	8	38
2. Venting	3	50	6	50	9	50
3. Sleeping	1	25	4	50	5	38
4. Giving self permission to feel positive emotions: engaging in relaxing activity	3	50	1	25	4	38

Note: IB = International Baccalaureate; *n* = number of times strategy mentioned in each group; percentage = proportion of groups in which the strategy was mentioned at least one time.

high-achieving IB students likely display relatively similar levels of anger in times of stress.

Coping strategies specific to students in IB. Table 4 displays the frequency with which the subgroups within IB (i.e., gifted and other students) discussed the specific types of coping behaviors identified in a prior exploratory study of the coping strategies employed by students in an IB program (thus, for a complete description of the methodological approach, data collection, analysis, as well as the definitions of the themes and definitions of subthemes within themes as appropriate, see Suldo, Shaunessy, Michalowski, et al., 2008). As shown in the table, gifted IB learners and their high-achieving peers in IB reported frequently engaging in several coping strategies, including those related to taking deliberate action steps to address stressors, as well as seeking social support from a variety of sources within one's immediate environment. Methods mentioned by both groups only a few times included attempting to handle problems alone and collusion, or working with other students to complete assignments, though without explicit permission from the instructor to do so.

Gifted learners' responses were more frequent (i.e., mentioned at least approximately twice as often or in a higher proportion of the focus groups) for five of the coping strategies reported. Specifically, compared to their high-achieving IB peers who were not identified as gifted, the gifted students more often discussed (a) avoiding demands by engaging in activities unrelated to the stressor (mentioned 47 times in the 4 focus groups with gifted students vs. 24 times in the 4 focus groups with high-achieving students); (b) taking deliberate action steps to alleviate the stressor by focusing their efforts and energy on enacting a plan (i.e., just working hard to get the work done rather than dwelling on a to-do list; 16 vs. 7 mentions); (c) seeking social support from friends who were not in their curriculum (13 vs. 5 mentions); (d) reducing their academic stressors by renegotiating expectations, activities, and deadlines with their teachers (11 mentions across all focus groups with gifted students vs. 3 mentions by only 50% of the high-achieving focus groups); and (e) responding with humor (7 mentions across half

of the focus groups with gifted students vs. no mentions by high-achieving students). Conversely, gifted students were less likely than IB learners not identified as gifted to discuss three strategies, specifically (a) engaging in active, conscious problem solving and decision making relevant to the stressors (mentioned no times by the gifted students but 10 times in 100% of focus groups composed of high-achieving students); (b) spending more time with close friends (mentioned no times by gifted students but 12 times in 75% of focus groups with high-achieving students); and (c) responding to stress by engaging in relaxing activities (9 vs. 23 mentions).

Table 5 presents the frequency with which the two groups of IB students discussed specific coping strategies as ineffective ways to deal with stress. Four coping strategies were emphasized as ineffective less often (i.e., approximately half as frequently) by gifted students, including the avoidance strategies of procrastinating (4 vs. 8 mentions) and dwelling on a problems without taking action (2 vs. 6 mentions), as well as responding to stressors by venting (3 vs. 6 mentions) and sleeping (1 vs. 4 mentions). Gifted students identified attempting to relax (e.g., via listening to music, showering, mediation) as an ineffective way to respond to stress more often (3 mentions) than their classmates (1 mention).

Discussion

Results of previous research with the data set analyzed in the current study have indicated that the typical student in the IB program perceives a significantly higher level of overall stress than the typical student in general education (Suldo, Shaunessy, & Hardesty, 2008). The current follow-up study, which considers the responses of gifted and not-identified gifted learners in an IB program, provides more information about these two groups of IB students than were previously considered. This study clarifies that gifted students in the IB program are quite similar to their high-achieving peers who were not previously identified as gifted in terms of overall stress levels. Though prior research shows IB students reported greater perceived

distress than general education classmates (Suldo, Shaunessy, & Hardesty, 2008), the current study indicates that regardless of gifted status, IB learners in this study perceived similar levels of stress. The finding that gifted IB students did not experience a particularly low level of stress relative to their IB classmates not identified as gifted contradicts previous assertions that high intellectual abilities may serve as a buffer for stress (Sternberg, 1985). Although not unique with respect to overall levels of stress, IB students identified as gifted did indicate a preference for certain types of strategies used to cope with the stress of their curriculum. For instance, gifted IB students displayed a tendency to be somewhat more likely than their IB classmates to report responding to stress by becoming angry (e.g., engaging in such behaviors as getting angry and yelling at people, blaming others for what's wrong, saying sarcastic comments, and complaining to friends and family about their problems). During follow-up focus groups, high-achieving IB students not identified as gifted explicitly described ventilating feelings as an ineffective way to manage stress twice as often as the gifted students, suggesting that fewer gifted students were cognizant of the negative repercussions of responding to stress by becoming angry or negative.

The anger-focused coping strategies employed by some gifted IB students are similar to the response to academic stressors described by Hart (1991), though his investigation of anger-inducing situations among 63 high school students was not specific to gifted or high-achieving students. Hart (1991) speculated that anger-focused coping may have intensified distress among adolescents, though experiences of anger might also have a short-term consequence of engendering "affiliation-seeking behavior . . . which reduces distress in the long run via social comparison and other processes" (p. 367). Furthermore, with respect to experiencing and responding to academic stressors, Hart found that student anger levels were positively correlated with coping through seeking support and inversely related to coping by focusing on the positive side of the situation. The current study did not differentiate between types of stress, though the same transactional model of stress and coping framed both investigations.

High achievers in Rijavec and Brdar's (1997) study of coping with school failure, conducted with a sample of 500 youth aged 9 to 18 years in Croatia, identified minimally with anger coping as a strategy for managing academic distress, whereas students considered average and low achievers reported more frequent reliance on this strategy. Our investigation, conversely, found IB students identified as gifted reported anger coping in response to perceived stress, whereas IB students not identified as gifted reported using anger coping to a lesser degree. These findings differ from Boekaerts's (1993) investigation, which considered anger and achievement outcomes (as reflected by GPA) in elementary learners and found anxiety-prone students to be more academically at-risk if they frequented in anger expression, though frequency of anger when controlling for anxiety is positively related to GPA if inwardly expressed, but does not affect GPA if outwardly

expressed, such as through yelling. The differences in anger coping may be attributed to age of participants, as the IB students in our study were older than the elementary students in Boekaerts' study. Level of academic challenge, adolescent angst, and the confluence of these stressors in gifted IB students may also explain why students in this study were more likely to resort to anger coping.

In the current study, students in both groups reported tackling stressors head-on (i.e., taking deliberate action steps to address problems), including through extensive time- and task-management efforts. However, whereas their nongifted classmates more often described explicit strategies for thinking through problems and making conscious choices, gifted students were apparently more likely to experience this decision-making process at an unconscious or intuitive level, as they never discussed employing an active problem-solving process. Instead, they discussed the importance of simply buckling down and focusing their time on getting their work done, which is in effect a form of carrying out one's chosen strategy to alleviate the stressor via work completion (vs. procrastination or other forms of avoidance). These findings are consistent with Rijavec and Brdar's (1997) investigation of students' responses to school failure, as high achievers reported engaging in similar efforts (described in their study as "accepting responsibility") to address academic challenges, including working more diligently to achieve academic goals, considering alternative methods for attaining more positive outcomes, and retracing steps that led to recent academic stressors. Ruban and Reis's (2006) work provides a frame for understanding responses from gifted students in the present study, as they hypothesized that high achievers may have been afforded more frequent school opportunities than low achievers in college—through advanced projects and coursework—to practice self-regulatory strategies associated with metacognitive thinking and "deep processing" of content, allowing them to "internalize" these approaches "to the extent that they almost became second nature" (p. 154). Aside from focusing on one's workload, another solution gifted students applied to their stressors involved actively attempting to reduce their workload through taking easier courses, reducing their personal expectations for success, or attempting to collaborate with teachers to reduce assignments or create more manageable deadlines.

Regarding avoidance of stressors, gifted youth often discussed coping by throwing themselves into activities that served to refocus their attention, including demanding activities such as sports or "mindless" diversions, such as playing video games, surfing the Internet, and watching television. However, they appeared to prefer these temporary diversions to more nonproductive forms of avoidance, such as purposefully procrastinating or dwelling on one's problems. Interestingly, gifted students were less likely to explicitly identify these latter methods as ineffective ways to cope with stressors. They also less commonly viewed sleeping as an ineffective way to cope.

Regarding coping via friendships, the function of the relationships with students outside of IB differentiated gifted students. Specifically, gifted students discussed the importance of maintaining ties to youth outside of IB primarily for a frame of reference, such that hearing the stressors and views of their non-IB peers helped them to reframe their own problems in a different light. On the other hand, their IB classmates who were not identified as gifted often discussed turning to close friends in times of stress primarily as companions in endeavors for fun activities such as shopping and movies that provided temporary breaks from their current stressors.

Differences were also apparent within the specific way in which gifted youth sought out positive emotional experience in response to stressors. Specifically, gifted students in college-preparatory programs or with high class rankings highlighted the adaptive function of humor, previously identified by Swiatek (2001, 2002) as a social coping strategy in response to "perceived negative social effects of recognized high ability" (Swiatek, 2001, p. 19). Participants identified as gifted in the current study also identified relaxation as a coping strategy through such means as taking a bath, eating, or listening to music, though they engaged in these responses to academic distress somewhat less often than their IB classmates. Furthermore, multiple gifted students explicitly noted that they found relaxation to be an ineffective stress management technique. In Rijavec and Brdar's (1997) study, high achievers reported using positive coping strategies (i.e., accepting responsibility) in response to a situational failure in school (i.e., failure of a test), whereas low-achieving students resorted more frequently to negative coping strategies, including anger, disengagement, and blaming in response to achievement threats. Unlike the current study, high achievers in Rijavec and Brdar's investigation reported relaxation as a helpful coping response to school failure. Because giftedness was not considered in their selection of participants, and the participants were from a country that has experienced significant political and cultural turmoil during the past two decades, differences in relaxation as a coping strategy may be because of intelligence or cultural practices.

Limitations

As this study emanated from exploratory investigations (Suldo, Shaunessy, & Hardesty, 2008; Suldo, Shaunessy, Michalowski, et al., 2008) with a convenience sample of students from one school in the southeast, there are limitations with regard to generalizing the findings to other IB programs or with other populations of gifted and high-ability learners in secondary school settings. Furthermore, as this study occurred in a real school setting, the challenges of obtaining equal sample sizes of gifted and high-achieving IB students were evident, and additional investigations to replicate the findings of this study are warranted with a larger sample of gifted youth. Other limitations of this investigation can be addressed in future studies using more rigorous methodology. Given that the current study

utilized a measure of perceived, general stress, it is not certain that stressors were limited to school-related concerns, or actually reflected the presence of objectively-stressful situations (e.g., large exams or projects, multiple academic deadlines). Additional research is needed to explore the nature of academic stressors experienced by secondary students in advanced curricular programs, including IB as well as Advanced Placement, residential and special high schools for the gifted, and in locales where such options are not afforded to gifted and high-achieving learners, ideally using measures that isolate specific types of stressors (i.e., academic stress) to better determine if gifted students experience difference levels of stress related to schooling than their non-gifted peers. Furthermore, consideration of context-specific stressors, changes in coping behaviors over time, and exploration of the relationship between coping strategy efficacy and achievement (e.g., IB test scores, IB diploma achievement, and Advanced Placement test scores) are warranted to further elucidate the social-emotional needs and related academic outcomes of advanced learners.

Educational Importance of the Study

Teachers of the gifted should be aware that these students may have particular preferences for how to cope with the stress of academic demands. Whereas the typical high-achieving student may be more likely to make conscious decisions regarding how to deal with a program, it may be quite normal for gifted teenagers to respond to stress immediately by alleviating the negative emotions through seeking diversions, laughing, or reducing their workload. While educators who work with gifted students may find it necessary to explicitly teach them the problem-solving process when appropriate, gifted students rely on a wealth of positive coping strategies (e.g., task- and time-management strategies, seeking social support from friends and family) that may protect them from the deleterious effects of stress.

Gifted students may need explicit direction to use resources in district, including professional supports (i.e., guidance counselors and school psychologists) for assistance in managing stress or developing more effective coping strategies. However, students may not have identified seeking the support of these professionals if the professions convey little to no understanding of the affective needs of gifted or high ability students, which has been cited as a concern in prior research (Peterson, 2003).

Directions for Future Research

Though schools have been primarily concerned with how learners' cognitive growth is addressed, especially in the current climate of accountability and the intense pressure schools and students face to show achievement via high-stakes testing and increased scrutiny and school performance, a more comprehensive view of education includes careful consideration of students' needs beyond subject-area assessments.

Furthermore, schools should provide appropriate support services to all learners, including academically advanced students. A greater understanding of how stress and coping strategies influence the mental health of IB students is needed to understand and address social-emotional concerns, which in the short term may affect school performance, but will likely be of equal or greater importance to their lifelong development and emotional well-being.

Declaration of Conflicting Interests

The authors declared no conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The authors received no financial support for the research and/or authorship of this article.

References

- Andain, I., Rutherford, J., & Allen, P. (2006). Implementing the IBDP: Three retrospective accounts. In T. Pound (Ed.), *The International Baccalaureate Diploma Programme* (pp. 47-68). New York: Routledge.
- Boekaerts, M. (1993). Anger in relation to school learning. *Learning and Instruction, 3*, 269-280.
- Bunnell, T. (2008). The global growth of the International Baccalaureate Programme over the first 40 years: A critical assessment. *Comparative Education, 44*, 409-424.
- Chan, D. W. (2003). Dimensions of emotional intelligence and their relationship with social coping among gifted adolescents in Hong Kong. *Journal of Youth and Adolescence, 32*, 409-418.
- Chan, D. W. (2004). Social coping and psychological distress among Chinese gifted students. *Gifted Child Quarterly, 48*, 30-41.
- Chan, D. W. (2005). The structure of social coping among Chinese gifted children and youths in Hong Kong. *Journal of for the Education of the Gifted, 29*, 8-29.
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*, 155-159.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 385-396.
- Conner, J. O. (2008). From international schools to inner-city schools: The first principles of the International Baccalaureate Diploma Program. *Teachers College Record, 110*, 322-351.
- Council of State Directors of Programs for the Gifted & National Association for Gifted Children. (2007). *State of the states in gifted education*. Washington, DC: National Association for Gifted Children.
- Fanshawe, J. P., & Burnett, P. C. (1991). Assessing school-related stressors and coping mechanisms in adolescents. *British Journal of Educational Psychology, 61*, 92-98.
- Florida Department of Education. (2008). Rule 6A-6.03019 *Special instructional programs for students who are gifted*. Retrieved January 13, 2008, from https://www.flrules.org/Gateway/View_notice.asp?id=1062070
- Foust, R. C., Rudasill, K. M., & Callahan, C. (2006). An investigation into the gender and age differences in the social coping of academically advanced students. *Journal of Advanced Academics, 18*, 60-80.
- Galaif, E., Sussman, S., Chou, C. P., & Wills, T. (2003). Longitudinal relations among depression, stress and coping in high risk youth. *Journal of Youth and Adolescence, 32*, 243-258.
- Golden-Kreutz, D. M., Browne, M. W., Frierson, G. M., & Anderson, B. L. (2004). Assessing stress in cancer patients: A second-order factor analysis for the Perceived Stress Scale. *Assessment, 11*, 216-223.
- Hart, K. E. (1991). Coping with anger-provoking situations: Adolescent coping in relation to anger reactivity. *Journal of Adolescent Research, 6*, 357-370.
- Hartsell, B. (2006). Teaching toward compassion: Environmental values education for secondary students. *Journal of Secondary Gifted Education, 17*, 265-271.
- Hertberg-Davis, H., & Callahan, C. M. (2008). A narrow escape: Gifted students' perceptions of Advanced Placement and International Baccalaureate Programs. *Gifted Child Quarterly, 52*, 199-216.
- Hollingworth, L. S. (1942). *Children above 180 IQ Stanford-Binet: Origin and development*. New York: World Book.
- Howard, M. S., & Medway, F. J. (2004). Adolescents' attachment and coping with stress. *Psychology in the Schools, 41*, 391-402.
- International Baccalaureate Organization. (2005). *Education for life*. Retrieved June 1, 2006, from <http://www.ibo.org>
- Jin, S., & Moon, S. M. (2006). A study of well being and school satisfaction among academically talented students attending a science high school in Korea. *Gifted Child Quarterly, 50*, 168-184.
- Kantrowitz, B. (2006). The 100 best high schools in America [Electronic version]. *Newsweek*. Retrieved August 1, 2006, from <http://www.msnbc.msn.com/id/7761678/site/newsweek/>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Martin, R. A., Kazarian, S. S., & Breiter, H. J. (1995). Perceived stress, life events, dysfunctional attitudes, and depression in adolescent psychiatric inpatients. *Journal of Psychopathology and Behavioral Assessment, 17*, 81-95.
- Mathews, J. (2003, June 2). The 100 best high schools in America. *Newsweek*, pp. 48-54.
- Mathews, D., & Kitchen, J. (2007). School-within-a-school gifted programs: Perceptions of students and teachers in public secondary schools. *Gifted Child Quarterly, 51*, 256-271.
- McNamara, S. (2000). *Stress in young people: What's new and what can we do?* New York: Continuum.
- Mendaglio, S., & Tiller, W. (2006). Dabrowski's theory of positive disintegration and giftedness: Overexcitability research findings. *Journal for the Education of the Gifted, 30*, 68-87.
- Mueller, C. E. (2009). Protective factors as barriers to depression in gifted and non-gifted adolescents. *Gifted Child Quarterly, 53*, 3-14.
- Neihardt, M. (1999). The impact of giftedness on psychological well being: What does the empirical literature say? *Roeper Review, 22*(1), 10-17.
- Nounopoulos, A., Ashby, J. S., & Gilman, R. (2006). Coping resources, perfectionism, and academic performance among adolescents. *Psychology in the Schools, 43*, 613-622.

- Olszewski-Kubilius, P. (2000). The transition from childhood giftedness to adult creative productiveness: Psychological characteristics and social supports. *Roeper Review*, 23(2), 65-71.
- Patterson, J. M., & McCubbin, H. I. (1987). Adolescent coping style and behaviors: Conceptualization and measurement. *Journal of Adolescence*, 10, 163-186.
- Peterson, J. S. (2003). An argument for proactive attention to affective concerns of gifted adolescents. *Journal of Secondary Gifted Education*, 14, 62-70.
- Preuss, L. J., & Dubow, E. F. (2004). A comparison between intellectually gifted and typical children in their coping responses to a school and a peer stressor. *Roeper Review*, 26(2), 105-111.
- Pufal-Struzik, I. (1999). Self-actualization and other personality dimensions as predictors of mental health of intellectually gifted students. *Roeper Review*, 22(1), 44-47.
- Reis, S. M., & McCoach, D. B. (2000). The underachievement of gifted students: What do we know and where do we go? *Gifted Child Quarterly*, 44, 152-170.
- Rijavec, M., & Brdar, I. (1997). Coping with school failure: Development of the School Failure Coping Scale. *European Journal of Education*, 12, 37-49.
- Ruban, L., & Reis, S. M. (2006). Patterns of self regulatory strategy use among low-achieving and high-achieving university students. *Roeper Review*, 28(3), 148-156.
- Rudasill, K. M., Foust, R. C., & Callahan, C. (2007). The Social Coping Questionnaire: An examination of its structure with an American sample of gifted adolescents. *Journal for the Education of the Gifted*, 30, 353-371.
- Schmeelk-Cone, K. H., & Zimmerman, M. A. (2003). A longitudinal analysis of stress in African American youth: predictors and outcomes of stress trajectories. *Journal of Youth and Adolescence*, 32, 419-430.
- Shaunessy, E., Suldo, S. M., Hardesty, R. B., & Shaffer, E. J. (2006). School functioning and psychological well-being of International Baccalaureate and general education students: A preliminary examination. *Journal of Secondary Gifted Education*, 17, 76-89.
- Sowa, C., McIntyre, J., May, K., & Bland, L. (1994). Social and emotional adjustment themes across gifted children. *Roeper Review*, 17(2), 95-98.
- Speirs Neumeister, K. L., Williams, K. K., & Cross, T. L. (2007). Perfectionism in gifted high school students: Responses to academic challenge. *Roeper Review*, 29(5), 11-18.
- Sternberg, R. J. (1985). *Beyond IQ: A triarchic theory of human intelligence*. Cambridge, UK: Cambridge University Press.
- Suldo, S. M., Shaunessy, E., & Hardesty, R. (2008). Relationships among stress, coping, and mental health in high achieving students. *Psychology in the Schools*, 45, 273-290.
- Suldo, S. M., Shaunessy, E., Michalowski, J., & Shaffer, E. J. (2008). Coping strategies of high school students in an International Baccalaureate program. *Psychology in the Schools*, 45, 1-18.
- Suldo, S. M., Shaunessy, S. E., Thalji, A., Michalowski, J., & Shaffer, E. J. (in press). Sources of stress for students in high school college preparatory and general education programs: Group differences and associations with adjustment. *Adolescence*.
- Swiatek, M. A. (1995). An empirical investigation of the social coping strategies used by gifted students. *Gifted Child Quarterly*, 39, 154-161.
- Swiatek, M. A. (2001). Social coping among gifted high school students and its relationship to self-concept. *Journal of Youth and Adolescence*, 30, 19-39.
- Swiatek, M. A. (2002). Social coping among gifted elementary school students. *Journal for the Education of the Gifted*, 26, 65-86.
- Swiatek, M. A., & Dorr, R. M., (1998). Revision of the Social Coping Questionnaire: Replication and extension of previous findings. *Journal of Secondary Gifted Education*, 10, 252-259.
- Terman, L. M. (1925). *Genetic studies of genius: Vol. 1. Mental and physical traits of a thousand gifted children*. Palo Alto, CA: Stanford University Press.
- Tieso, C. (2007). Patterns of overexcitabilities in identified gifted students and their parents: A hierarchical model. *Gifted Child Quarterly*, 51, 11-22.
- VanTassel-Baska, J. (2003). *Curriculum planning and instructional design for gifted learners*. Denver, CO: Love.
- Zins, J. E., Bloodworth, M. R., Weissberg, R. P., & Wahlberg, H. J. (2004). The scientific base linking social and emotional learning to school success. In J. E. Zins, M. R. Bloodworth, R. P. Weissberg, & H. J. Wahlberg (Eds.), *Building academic success on social and emotional learning: What does the research say?* (pp. 3-22). New York: Teachers College Press. Retrieved February 2, 2008, from <http://www.casel.org/downloads/T3053c01.pdf>

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