The Role of Gender and Previous Participation in a Summer Program on Gifted Adolescents' Self-Concepts Over Time

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The purpose of this study was to identify whether gifted adolescents' academic, general, and emotional stability self-concepts would increase or decrease during time spent in a residential summer program for the gifted. Gender and previous summer program participation were also examined as potential moderators. Participants included 140 gifted adolescents enrolled in a 3-week summer program. Self-concept was measured using the Self-Description Questionnaire II (Marsh, 1990). Results were analyzed using a series of repeated measures ANOVAs. Application of the results, limitations, and directions for future research are discussed.

There has been a plethora of research conducted on the self-concepts of gifted students (Bain & Bell, 2004; Colangelo, Kelly, & Schrepfer, 1987; Hoge & Renzulli, 1993), as well as the effects of participating in special programs or summer programs (Humes & Campbell, 1980; Kolloff & Moore, 1989; Vaughn, Feldhusen, & Asher, 1991). What happens when these bright, young students attend summer programs where they take classes with other gifted students? There are various facets of such programs that one must take into consideration. These gifted students have become accustomed to being the brightest and smartest students, and they excel in academics with ease. They are used to being at the top when held in comparison with others in their schools (Marsh, 1984). Yet, summer programs place gifted and talented students in classes with other students who are much like themselves and have equal or higher abilities in academics (Marsh, Kong, & Hau, 2000). Further, the course work in these programs can be challenging.

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However, one must also consider the possible relief gifted students may feel in finding other students who are as talented, creative, and unique as themselves. In many summer programs, students have an opportunity to live on a university campus for several weeks, participate in a variety of activities, and make friends with other gifted students (Enersen, 1993). Many students who participate in such programs reflect that they were positive experiences (Moon, Feldhusen, & Dillon, 1994).

Adolescence can be a challenging time and also an important time for social and emotional development. Adolescents must discover who they are in relation to gender roles, politics, religion, society, and potential occupations. This process may cause an adolescent to experience role confusion (Erikson, 1963, 1968). Some gifted students may view themselves as intelligent and adequate during this time, but others may see themselves as "nerds" or "geeks" (Dixon, 1998). Not only are these gifted students developing their self-concepts during this process, but they are also trying to make sense of how their talents affect how they view themselves, whether this is in relation to school, emotional feelings, or their general self-image. Adolescents have a need to create an identity that is unique, while still being able to connect with others (Ablard, 1997). Summer programs may provide such an outlet for gifted students as they develop their self-concepts.

Self-concept of gifted students is an area of vast interest. Much of that interest is reflected through research pertaining to gifted students' participation in summer programs. Some of this research has focused on how these gifted students view themselves while participating in the programs (e.g., Stocking, Porter, Goldstein, & Oppler, 1993), whereas other research has focused on how students later reflect on their experiences at the programs years after their participation (e.g., Humes & Campbell, 1980).

The purpose of this study is to investigate the short-term effects of a summer program on the academic, general, and emotional stability self-concepts of gifted students, as well as possible gender differences and differences related to whether or not a student has previously participated in a summer program. To provide a theoretical overview of this study, the following review of the literature will explore what

is currently known about the self-concepts of gifted students and the effects of participating in summer programs on those self-concepts.

Review of the Literature

Self-Concept and Gifted Students

A simple definition of *self-concept* could be the image that we hold of ourselves (Hoge & Renzulli, 1993). Byrne (1984) refers more specifically to self-concept as "our attitudes, feelings and knowledge about our abilities, skills, appearance, and social acceptability" (p. 429). The evaluation of an individual by significant others, reinforced perceptions, and one's attributions for his or her own behavior all influence the perceptions held of the self (Marsh & Shavelson, 1985).

Shavelson, Hubner, and Stanton (1976) proposed a model of self-concept that was multifaceted and hierarchical. Self-concept is theorized as hierarchical because people categorize the wealth of information they have about themselves and connect these categories to each other to form a general self-concept. It is the construction of these categories or dimensions that makes self-concept multifaceted. Shavelson et al. posit that one's self-concept does not merely come into existence as a unidimensional construct but emerges and develops from various facets of self-concept. Examples of different facets of self-concept include academic, emotional, physical, or social facets, which all affect one's general self-concept. For the purpose of the current study, self-concept is explored as a multifaceted construct. Self-concept will be investigated with regard to three separate dimensions: academic, general, and emotional stability self-concept.

Academic Self-Concept. Academic self-concept can be defined as an individual's "ability, enjoyment, and interest in school subjects" (Marsh, 1990, p. 2). Academic self-concept development is associated with students' perceived capability in school situations (Colangelo & Pfleger, 1978) and is shaped mainly "by appraisal of school performances against the standards set by self, teachers, and families" (p. 10).

The multidimensional self-concept has been investigated by comparing the self-concepts of gifted and average-ability adolescents. Pyryt and Mendaglio (1994) examined multiple dimensions of self-concept (including academic, social, and athletic) with 98 junior high school students. Their results suggested that gifted students differ in self-concept from average-ability adolescents, particularly in terms of academic self-concept, such that gifted students had higher academic self-concepts than their average-ability peers. When comparing students identified as gifted, average, and having special learning needs, Colangelo et al. (1987) also found gifted students to have higher academic self-concepts. Similar results were found in the findings of Kelly and Colangelo (1984) in their investigation of the academic and social self-concepts of gifted students, average students, and students with special needs. The research of Hoge and Renzulli (1993) also supports a higher academic self-concept for gifted students. Through their meta-analysis of studies focused on this issue, Hoge and Renzulli concluded that research indicates gifted students generally have higher academic self-concepts.

Gender differences in the academic self-concepts of gifted students have been examined in several studies, most of which have found no significant differences between the academic self-concepts of gifted males and gifted females (Colangelo & Pfleger, 1978; Manor-Bullock, 1994; Ross & Parker, 1980).

General Self-Concept. General self-concept can be defined as an individual's "self-confidence, self-worth, and self-satisfaction" (Marsh, 1990, p. 2). The research comparing the general self-concepts of gifted and nongifted students is conflicting. The research of Lehman and Erdwins (1981) and O'Such, Twyla, and Havertape (1979) supports the notion that gifted students have a higher general self-concept than their nongifted peers. Feldhusen and Kolloff (1981) reviewed the literature concerning the relationship between giftedness and self-concept and concluded that gifted students who are successful, as a group, have a higher general self-concept than students of average ability.

Although the aforementioned research supports the idea that gifted students have higher general self-concepts, the research of

Bracken (1980), as well as Ketcham and Snyder (1977), indicates that there are no significant differences between gifted and nongifted students. Further, VanBoxtel and Mönks (1992) investigated the general self-concepts of 772 male and female adolescents, 94 of whom were classified as gifted. Regarding general self-concept, no significant differences were found between gifted and nongifted participants. The findings regarding general self-concept in gifted children may be conflicting due to differences in instrumentation used to measure self-concept, as well as differences in the number of participants surveyed and/or participants' ages.

Concerning gender differences, there is little research that has investigated the differences in general self-concept between gifted males and gifted females. However, Pyryt and Mendaglio (1994) found no significant effects of gender in their investigation of the multidimensional self-concepts of gifted and average-ability adolescents.

Emotional Stability Self-Concept. Emotional stability self-concept can be defined as an individual's "emotional well being and freedom from psychopathology" (Marsh, 1990, p. 2). Research focusing solely on the emotional stability self-concepts of gifted students is scarce, and research focusing on the emotional stability self-concepts of gifted students in relation to academic summer programs is even more scant. Garg (1992) investigated academic and nonacademic self-concepts and found satisfaction with one's family, family structure, and mental health to be variables positively associated with emotional stability self-concept. Garg also suggests that emotional stability self-concept, rather than general self-concept, works as a buffer against stress. These findings may have relevance to gifted students who often receive a great deal of pressure from within their families to achieve, which can result in considerable stress. If gifted students have a strong emotional stability self-concept, perhaps they will be able to deal with this pressure more easily.

Participation in a summer program for the gifted may help to facilitate a stronger emotional stability self-concept. This boost in emotional stability self-concept may occur because gifted students are associating with other gifted students, allowing them to connect

with like-minded peers who are experiencing the same stresses and pressures, but learning helpful coping skills and healthy emotional well-being from one another (Ablard, 1997). However, the findings of Stocking et al. (1993) indicate that gifted students had a low emotional stability self-concept while at a summer program. Stocking et al. investigated the self-concepts of talented adolescents in an intensive summer program and found that there was a relatively high incidence of low scores on a measure of perceived emotional stability.

With regard to gender differences concerning the emotional stability self-concepts of gifted students, research is scarce. Leroux (1988) examined the emotional self-concepts of gifted adolescents and found that gifted males indicated lower emotional self-concepts than gifted females. However, Stocking et al. (1993) found no gender differences for emotional stability in their investigation of the emotional stability self-concepts of gifted students in an academic summer program. Once again, conflicting findings regarding the emotional stability self-concepts of gifted adolescents may be due to differences in the instrumentation used to measure self-concept, as well as differences in the number of participants surveyed and/or the participants' ages.

Effects of Summer Programs

Various researchers have explored summer programs for the gifted. One topic of interest concerns how students view and interpret their participation in such programs. For example, Enersen (1993) examined how gifted students viewed the effects of participation in summer programs on their academic, emotional, and social lives, as well as their reasons for returning each year. Enersen found that summer programs were very important to gifted students, stating, "the satisfaction of challenging course work taught by caring, expert teachers and the opportunity to live on a university campus were significant to them; making friends and gaining confidence in their own abilities were equally vital" (p. 169). That a summer program might affect self-concept is thus not surprising.

Kolloff and Moore (1989) investigated the effects of summer programs on the self-concepts of 508 gifted children in grades 5

through 10. These students, regardless of gender and grade level, experienced an increase in general self-concept. Kolloff and Moore believe their findings indicate students experience a boost in general self-concept due to feeling "safe" in the environment of the summer program. In other words, the students feel more comfortable showing their true selves and do not feel the pressure to hide their academic talents, as they often do in school. Also, students form close bonds with other like-minded peers at summer programs, which may be encouraging for students who have felt isolated in their schools. Knowing that there are other like-minded students and having the opportunity to form friendships with these students may cause the students to view themselves more positively, which could boost self-concept. Although the aforementioned studies display support for the positive effects of summer programs on the self-concepts of gifted students, other research contradicts these findings. For example, Olszewski, Kulieke, and Willis (1987) found gifted students experience a decline in academic self-concept over time when investigating changes in the self-perceptions of students who participate in academic summer programs.

The conflicting research regarding the effects of summer programs on gifted students' self-concepts is explained by specific theoretical applications that are often used to explain a positive or negative effect in this area of research. Two main theories explain the effects of educating gifted students separately from regular students. The first theory suggests that when you take students out of an environment where they have been the highest achievers and place them with other high achievers, their self-concept will decrease due to the realization that there are other people of equal or higher ability with whom to compete. It can be hard to make a change from being a "big fish in a little pond" to a "little fish in a big pond" (Davis, 1966). Thus, when attending an academically selective school, a student will experience a lower academic self-concept than if attending a nonselective school (Marsh, 1987). This effect is often referred to as the big-fish-little-pond effect and is evidenced through multiple studies (Marsh, 1991; Marsh, Chessor, Craven, & Roche, 1995; Marsh & Craven, 2000; Marsh & Hau, 2003; Marsh et al., 2000; Marsh & Parker, 1984).

The second theory concerning the effects of educating gifted students separately from regular students involves a positive effect on self-concept and is known as the reflected glory effect (Cialdini et al., 1976). This type of effect is commonly studied in social psychology research, but it has also been applied to gifted education. The reflected glory effect can occur when high-ability students experience a boost in self-concept upon acceptance to a selective program. An increase in self-concept, or "basking in reflected glory," is a strategy that is used when individuals increase the association they have with a successful person or group of people (Cialdini et al., 1976). In strengthening that association in their own minds, individuals bask in reflected glory to enhance their ego or self-perception (Marsh et al., 2000; Wann, Hamlet, Wilson, & Hodges, 1995). This boost in self-concept is also supported by various other research findings (e.g., Aberson, 1999; Burger, 1985; Cialdini & Richardson, 1980).

Current Study

The purpose of this study is to identify whether gifted adolescents' academic, general, and emotional stability self-concepts increase or decrease during time spent in a residential summer program for the gifted. Adolescents' self-concepts were measured at the beginning of a summer program (Time 1) and again at the end of a summer program (Time 2) in order to measure whether their self-concepts increased or decreased during the time spent at the summer program. The data collection sessions were about 2.5 weeks apart. Gender differences were also examined with regard to the adolescents' academic, general, and emotional stability self-concepts. Although gifted males and gifted females generally do not differ on measures of academic self-concept, little research has been conducted on gender differences of general self-concept, and previous research has suggested gender differences might occur on measures of emotional stability self-concept (Leroux, 1988).

In addition to time and gender differences, previous participation in a summer program was also examined. Previous participation in a summer program refers to participation in the same summer

program or in one that is similar. Some students have attended such programs and have one or more years of experience. However, other students have never participated in such a program and have no previous experiences. Therefore, previous participation could be a confounding variable if not examined in this study.

For the purpose of this research, giftedness is defined in relation to how students performed on the Scholastic Aptitude Test (SAT) or the American College Test (ACT). Participants in this study were identified for eligibility in an academic summer program by the Duke University Talent Identification Program (TIP). To qualify for this program, seventh graders who score in the top 3% on standardized achievement tests for their school are given the opportunity to take the SAT or ACT. If minimum scores are met, students are eligible to enroll in various programs for gifted students, including the summer program for the gifted that participants were attending in this study.

The current study is important for both theoretical and practical reasons. Concerning theoretical importance, the findings from this study contribute to the research literature pertaining to gifted students, to literature pertaining to the multifaceted nature of self-concept, and to literature pertaining to the effects of gifted programs on multiple types of self-concept, including academic self-concept, general self-concept, and emotional stability self-concept. Research concerning the emotional stability self-concepts of gifted students is especially scarce, and the current study could add insight and further knowledge about how gifted students' emotional stability self-concepts are affected by participating in summer programs. Although the academic and general self-concepts of gifted adolescents have been previously examined, findings from this study will contribute to the limited amount of research concerning gender differences and the effects of previous participation in a summer program on adolescents' self-concepts. Additionally, the repeated measures design provided further depth to the results.

The current study also has several practical implications. If parents were notified of the potential positive and/or negative effects that some summer programs have on their children's self-concepts, they may be more aware of how the program may affect their chil-

dren. Also, these findings could be useful in deciding how to structure such programs so that they may best benefit students and be more likely to have a positive effect on self-concept rather than a negative effect (Stocking et al., 1993).

Method

Participants

The current study included 140 participants (78 males and 62 females) enrolled in a residential summer camp. The racial/ethnic makeup of the sample included 1 American Indian/Alaskan Native, 1 Black/African American, 17 Asian or Pacific Islanders, 117 White students, and 6 students who did not indicate their racial or ethnic background. The mean age for the sample was 14.3.

The summer camp was held at a comprehensive university in the South and is a residential, 3-week academic program. The summer camp is intense and rigorous, involving 6 hours of class each day and 1 hour of study hall per night, 5 days a week, for a 3-week period. The students were allowed to choose their course from a variety of choices (e.g., math, biology, chemistry, physics, writing, psychology). Various social activities are also part of the camp, which take place daily after class, during evening hours, and on weekends.

Data Collection

Demographics. Data such as gender, age, race, and grade level were collected via registration information.

Self-Concept. The Self-Description Questionnaire-II (SDQ-II; Marsh, 1990) is a self-report questionnaire that measures adolescents' self-concepts across a number of both academic and nonacademic domains and is specifically designed for use with adolescents in grades 7–10. The SDQ-II is based on the theoretical notion that self-concept is multifaceted and hierarchically arranged (Marsh & Shavelson, 1985; Shavelson et al., 1976).

The SDQ-II has 102 items that assess the following 11 dimensions of self-concept: physical abilities, physical appearance, opposite-sex relations, same-sex relations, parent relations, honesty-trustworthiness, emotional stability, math, verbal, general school, and general self (Marsh, 1990). The items are presented as statements, which the student evaluates on a 6-point, Likert-type scale (1 = *False* to 6 = *True*). Thus, a higher score on the scale reflects a higher self-concept, whereas a lower score reflects a lower self-concept. The SDQ-II is one of the most widely used instruments to measure self-concept in adolescents. Thus, much research supports the reliability and validity of the SDQ-II (see Abeel, 2000; Antunes & Fontaine, 2004; Gilman, Laughlin, & Hubner, 1999; Hubner, Gilman, & Laughlin, 1999; Kong, 2000; Marsh, Plucker, & Stocking, 2001; Plucker, Taylor, Callahan, & Tomchin, 1997; Tomchin & Callahan, 1996). For the purposes of this study, only the general school, general self, and emotional stability subscales were used.

The general school subscale relates to one's interests and abilities in schoolwork and was used to assess academic self-concept. A sample item from this subscale is, "I learn things quickly in most school subjects" (Marsh, 1990, p. 6). Internal consistency for the normative sample was reported as 0.87. Within the current sample, internal consistency is 0.80 for Time 1 and 0.89 for Time 2.

The general self subscale measures one's feeling of self-worth, self-confidence, and self-satisfaction. This subscale was used to assess general self-concept. A sample item from this subscale is, "If I really try I can do almost anything I want to" (Marsh, 1990, p. 6). Internal consistency for the normative sample was reported as 0.88. Within the current sample, internal consistency is 0.92 for Time 1 and 0.90 for Time 2.

The emotional stability subscale pertains to one's freedom from emotional dysfunction and was used to assess emotional stability self-concept. A sample item from this subscale is, "Other people get more upset about things than I do" (Marsh, 1990, p. 5). From the normative sample, internal consistency was reported as 0.83. Within the current sample, internal consistency is 0.89 for Time 1 and 0.91 for Time 2.

Procedure

Parental consent forms were presented to parents on the first day of the camp during registration. Only the students whose parents had signed the consent forms were allowed to participate in the study. An announcement was made the first night at camp during a general assembly inviting students whose parents had signed consent forms to participate in a study concerning gifted students and summer programs. The participating students were given the questionnaire packet the following night after their first day in camp and then again 2 days before camp ended.

Results

Data collected in the Time 1 and Time 2 sessions were analyzed using a repeated measures analysis of variance (ANOVA) approach. Although the dependent variables for this study were found to be somewhat intercorrelated, a MANOVA approach was not used because the dependent variables were not correlated beyond a moderate level. A correlation matrix of the dependent variables can be found in Table 1.

Baseline Equivalency (Time 1)

Comparison Between Genders. No significant differences were found between males and females with regard to academic self-concept or general self-concept. However, significant differences were found between males' and females' emotional stability self-concept scores at Time 1 ($t = 2.22$, $p < .05$). Males had higher scores ($M = 4.18$, $SD = 1.15$) than females ($M = 3.76$, $SD = 1.08$) at Time 1.

Comparison Between Groups Related to Previous Participation. No significant differences were found between students with previous participation in a summer program and students without previous participation with regard to academic self-concept or emotional stability self-concept. However, significant differences were found between the general self-concept scores of students with previous

Table 1

Correlations of Variables of Interest

	Academic Self-Concept Time 1	Academic Self-Concept Time 2	General Self-Concept Time 1	General Self-Concept Time 2	Emotional Stability Self-Concept Time 1	Emotional Stability Self-Concept Time 2
Academic Self-Concept Time 1	—					
Academic Self-Concept Time 2	0.76**	—				
General Self-Concept Time 1	0.66**	0.44**	—			
General Self-Concept Time 2	0.52**	0.65**	0.70**	—		
Emotional Stability Self-Concept Time 1	0.35**	0.28**	0.59**	0.50**	—	
Emotional Stability Self-Concept Time 2	0.26**	0.38**	0.49**	0.59**	0.85**	—

**$p < .01$.

summer program participation and students with no previous participation at Time 1 ($t = 2.25$, $p < .05$). Students with no previous summer program participation had higher scores ($M = 5.30$, $SD = 0.62$) than students with previous participation ($M = 4.97$, $SD = 0.89$) at Time 1.

Outcomes

Within the repeated measures ANOVA design, gender (male and female) and previous camp participation (no previous participation and previous participation) were the between-subjects factors and time (Time 1 and Time 2) was the within-subjects factor. Dependent variables included academic self-concept, general self-concept, and emotional stability self-concept. Box's test of the assumption of equality of covariance matrices was found to be significant. Considering both the sample sizes are roughly equal in the current study and ANOVA is such a robust statistic, the test can largely be disregarded (see Field, 2000).

Findings Regarding Academic Self-Concept. The means for the academic self-concept subscale scores can be found in Table 2. As indicated by Wilks' Lambda, there were no significant findings across time with regard to academic self-concept. Further, no main effects or interactions were found.

Findings Regarding General Self-Concept. The means for the general self-concept subscale scores can be found in Table 2. As indicated by Wilks' Lambda, there were significant changes across time with regard to general self-concept, $F(1, 134) = 5.67$, $p < .05$, partial $\eta^2 = .04$. There was also a main effect for previous summer program participation, $F(1, 134) = 5.21$, $p < .05$, partial $\eta^2 = .04$. Students who had previously participated in a summer program had lower scores at both Time 1 and Time 2 than students who had not previously participated in a summer program. No other significant main effects or interactions were found. See Table 3 for more information.

Table 2

Means for Academic, General, and Emotional Stability Self-Concept Scores (*N* = 140)

	Group	*M*	*SD*	*n*
Academic Self-Concept Time 1	Male			
	No	5.45	0.49	37
	Yes	5.41	0.61	39
	Female			
	No	5.46	0.58	25
	Yes	5.35	0.64	36
Academic Self-Concept Time 2	Male			
	No	5.51	0.53	37
	Yes	5.47	0.60	39
	Female			
	No	5.46	0.64	25
	Yes	5.40	0.52	36
General Self-Concept Time 1	Male			
	No	5.27	0.65	38
	Yes	4.89	0.93	39
	Female			
	No	5.34	0.58	25
	Yes	5.06	0.84	36
General Self-Concept Time 2	Male			
	No	5.41	0.47	38
	Yes	5.12	0.78	39
	Female			
	No	5.30	0.78	25
	Yes	5.21	0.61	36
Emotional Stability Self-Concept Time 1	Male			
	No	4.33	0.95	36
	Yes	4.08	1.32	39
	Female			
	No	3.92	1.13	25
	Yes	3.66	1.04	36
Emotional Stability Self-Concept Time 2	Male			
	No	4.44	1.05	36
	Yes	4.26	1.27	39
	Female			
	No	4.10	1.20	25
	Yes	3.96	0.97	36

Note. Group = Gender and previous participation in a summer program (no or yes).

Table 3

Repeated Measures ANOVA Results for Time, Gender, and Participation on General Self-Concept (*N* = 140)

Variable	*df*	Error *df*	*F*	Partial η^2
Within Subjects				
Time	1	134	5.67*	0.04
Time x Gender	1	134	1.66	0.01
Time x Participation	1	134	2.10	0.02
Time x Gender x Participation	1	134	0.28	0.00
Between Subjects				
Gender	1	134	0.21	0.00
Participation	1	134	5.21*	0.04
Gender x Participation	1	134	0.44	0.00

*$p < .05$.

Findings Regarding Emotional Stability Self-Concept. The means for the emotional stability self-concept subscale scores can found in Table 2. As indicated by Wilks' Lambda, there were significant changes across time with regard to emotional stability self-concept, $F(1, 132) = 12.24$, $p < .01$, partial $\eta^2 = .09$. No other significant main effects or interactions were found. See Table 4 for more information.

Discussion

The purpose of this study was to identify whether gifted students' academic, general, and emotional stability self-concepts would increase or decrease during time spent in a residential summer program for the gifted. In addition, gender differences and previous participation in a summer program were examined. There was no significant change across time for academic self-concept. However, significant findings were found for general self-concept and emotional stability

Table 4

Repeated Measures ANOVA Results for Time, Gender, and Participation on Emotional Stability Self-Concept (*N* = 140)

Variable	*df*	Error *df*	*F*	Partial η^2
Within Subjects				
Time	1	132	12.24**	0.09
Time x Gender	1	132	0.70	0.01
Time x Participation	1	132	0.91	0.01
Time x Gender x Participation	1	132	0.07	0.00
Between Subjects				
Gender	1	132	3.82	0.03
Participation	1	132	1.22	0.01
Gender x Participation	1	132	0.00	0.00

**$p < .01$.

self-concept scores. No gender differences were found across time, but a main effect was found for those with and without previous participation in a summer program.

Academic Self-Concept

Although there was no significant increase in academic self-concept, the scores did not decrease either. This lack of change does not support the big-fish-little-pond effect, which posits that if students are put in an environment with students of equal or higher ability, their academic self-concepts will decrease (Davis, 1966; Marsh, 1987). Concerning the academic self-concept scores, research supports that gifted students may have higher academic self-concepts when held in comparison with average-ability students (Hoge & Renzulli, 1993; Kelly & Colangelo, 1984). Considering the likelihood that these gifted students came into the summer program environment with academic self-concepts that were already higher than their aver-

age-ability peers, there may have been less room for growth. Also, the academic self-concept subscale of the SDQ-II, as with the entire SDQ-II, has a ceiling, so a large amount of growth is not allowed within the measure itself when one already has a high academic self-concept (Marsh, 1990). Thus, because of the structure of the instrument used to measure academic self-concept, students may not have had the option of rating themselves significantly higher at the end of the summer program, if they had already chosen a high rating at the beginning of the program.

General Self-Concept

Overall, the gifted adolescents experienced a significant increase in general self-concept during the time spent at the summer program. However, the effect size for this finding was very small, which may translate to little practical significance. These findings may support the reflected glory effect, whereby high-ability students experience an increase in their self-perceptions upon acceptance to a selective program (Cialdini et al., 1976). While at the program, the gifted adolescents were spending time in and out of the classroom with students of equal or higher ability level. Perhaps students began to associate themselves as a part of this group of talented individuals. They developed a sense of pride in their group, and thus an elevated perception of the individual self was also developed. In strengthening their association with each other in their own minds, students enhanced their general self-concepts. Parents, educators, and those working with programs for the gifted should be aware of the potential impact of academic programs on gifted adolescents' general self-concepts.

Emotional Stability Self-Concept

Students also experienced an overall significant increase in emotional stability self-concept during the time spent in the summer program. Again, though, the effect size for this finding was very small. Summer programs can be very positive experiences for gifted students. At these programs, gifted students have opportunities to

gain confidence in their abilities and make new friends. Students who have participated in summer programs have reported that the programs are very important to them (Enersen, 1993). Throughout their school year, many students eagerly anticipate going to summer programs and regret having to leave when the program ends. Strong relationships with teachers and close friendships with peers are quickly formed during the time spent at the program. Thus, as a result of forming these relationships and feeling a sense of pride at being welcomed and accepted at the program, students could experience a boost in their emotional stability self-concepts, as was seen in this study. Again, parents, educators, and those working with programs for the gifted should be aware of the potential impact of academic programs on the emotional stability self-concept of gifted adolescents.

Summer Program Participation Group Differences

Students with no previous summer program participation were found to have higher general self-concept scores than students with previous summer program participation experience at Time 1 and Time 2. In addition to having matured and further progressed in their search for an identity (Ablard, 1997; Erikson, 1963, 1968), students with previous summer program participation experience may have a more realistic self-perception after having been around other gifted students. Students who attend the program for the first time are often younger students who are typically in late middle school or early high school. Perhaps these students had not had as many experiences as older students in making an accurate self-appraisal, as self-concept becomes increasingly more multifaceted and specific as an individual moves from childhood to adulthood (Marsh & Shavelson, 1985). However, the change in general self-concept over time was not dependent upon previous participation in a summer program, as both students with no prior summer program participation experience and students with summer program experience both experienced an increase in general self-concept scores.

Limitations and Directions for Future Research

Several limitations must be addressed when interpreting the results of this study. Although there are multiple academic summer programs for gifted students across the nation, each program and host university has different aspects that can prevent researchers from generalizing the results of this study. Some programs are longer than others, and some programs may offer different courses or activities in which the students can participate. Also, many of the programs cater to local students who qualify for participation (e.g., students from New York or the New England area), whereas others cater to students from all over the nation. In the present study, 84% of the participants were White. A more diverse sample is needed to generalize the results to other ethnic groups. Thus, due to the potential differences concerning programs and student populations, generalization to other programs and student populations should be made with caution. More research should be conducted with diverse groups of gifted students so that findings may have more generalizability across student populations.

The current study only examines gifted students' self-concepts at two points in time and only during the time they spent at a summer program. When students leave the summer program and return to their home environment, researchers are left unsure about the effects of the program on self-concept. Without multiyear, multicontext longitudinal data, it is unclear whether the positive program effects on self-concept will last over time. Research conducted over a longer time interval is necessary to determine how lasting the effects of the summer program are on the multidimensional self-concepts of gifted adolescents.

Also, little research addresses the experiences of average-ability students in summer programs in comparison to those of gifted students. Summer programs likely have positive effects on the self-concepts of various groups, including preadolescent females (Eckman, 1996) and students with dyslexia (Westervelt, Johnson, Westervelt, & Murrill, 1998). There is a possibility that summer programs can positively affect any group of students. Such an effect is referred to as a post-group-euphoric effect, which is the good feeling students have

after the completion of intensive group experiences (Hay, Byrne, & Butler, 2000). Thus, gifted students are not the only students who can benefit from participation in a summer program. It would be advantageous to examine both gifted and average-ability students' self-concepts during the time spent in a summer program to increase knowledge about what affects the self-concepts of each group and why one group may or may not be experiencing more self-concept growth than another from participation in summer programs. Future research should also examine whether it is the type of camp that fosters growth (e.g., academic or social/activities camp) or whether it is simply being in a warm and accepting environment with a caring staff and the opportunity to make friends and learn more about oneself that is fostering growth.

Conclusion

Results from this study indicate, within this particular sample, that gifted students who are enrolled in a residential summer program experience an increase in their general and emotional stability self-concepts during time spent at the program. Although the gifted students in this study did not experience an increase in their academic self-concepts, this may be due to gifted students already having high academic self-concepts (Hoge & Renzulli, 1993). Future research should examine the multiyear, multicontext longitudinal effects of summer programs on the self-concepts of gifted students. In addition, future research should focus more on the emotional stability self-concepts of gifted students, as scarce research currently exists in this area.

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