

district personnel, university personnel, and parents and students. Such sessions provide a closer look at the issues involved with the talent search and allow opportunities for discussion and dialogue.

At a time when special programs for the gifted are difficult to implement due to small budgets and burgeoning priorities in other areas, the mobilization of efforts behind a catalytic force like the Midwest Talent Search can prove highly effective in providing systematic identification and programming for academically talented students in any state.

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Self-Concept Gains by Gifted Middle School Students During a Summer Program

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The study reported here was conducted to determine the relationship between a 2-week Gifted Students Institute summer program and the self-concepts of 37 gifted middle school students, ages 10 to 14. To assess the relationship between the GSI program and the students' self-concepts, the Me Scale (Feldhusen) and the Self-Esteem Inventory (Coopersmith) were administered on the first and final days of the 2-week program. Students also completed a program evaluation, and writing samples describing their personalities. The results of the study indicated that it is possible to enhance gifted students' self-concepts through provision of a supportive educational and social environment of a summer program on a university campus.

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Although programs for the gifted have existed in the United States for many years, relatively few of them have been evaluated with standardized measurement instruments. However, some studies have demonstrated, with precise measurable outcomes, that special groupings of the gifted have definite academic and affective benefits and no negative or harmful effects upon the students in them (Terman & Oden, 1974, 1955; Barbe, 1955; Martinson 1973; Tremaine, 1979; Lynn & Rick, 1980; Kolloff & Feldhusen, 1984).

However, despite the current proliferation of summer programs for gifted students, fewer studies have been reported to document, with other evidence besides attitudinal information, benefits for the students involved. Summer programs have often been justified because students and parents generally like them. Parents make comments about the value of summer programs for the gifted such as:

His father and I think he is more mature as a result of the summer program.

So many good things have happened to her and I honestly believe a good part of it is the support and encouragement of people such as yourself and organizations such as Gifted Students Institute.

Students themselves say:

This was my first exposure to young people with a background different than my own and yet with similar interests and abilities. I remember those ten days, as a significant catalyst to my interest in learning outside the classroom.

These attitudes are certainly valuable and contribute to the subjective judgment that summer programs are a very viable means of fostering the development of gifted students. But if summer programs for the gifted are to make a lasting contribution to the education of students, more research evidence is needed to justify their existence.

This article is a report of a study conducted at the University of Wisconsin - Green Bay, during the summer Gifted Students Institute. The program was designed for middle school students.

The approach used in investigating the relationship between a differentiated program for gifted students and the self-concepts of participating gifted students included the pre-assessment of students' self-concepts, implementation of program, and post-assessment of students' self-concepts. Participants in the Green Bay GSI program were involved in a program designed specifically for gifted students. The program focused on increased self-understanding, appropriate academic experiences, opportunities for achievement, and on positive relationships among gifted students. It was proposed that participants in such a program would experience enhanced self-concept as measured by the Me Scale (Feldhusen) and the Self-Esteem Inventory (Coopersmith).

Method

Subjects

The subjects used in this study were 37 gifted and talented middle school

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students entering grades six through nine, of whom 16 were female and 21 were male. These students were those who applied to and were accepted by the Gifted Students Institute (GSI) to participate in the GSI program at the University of Wisconsin - Green Bay. Twenty-six of the students' resided in the University Village Apartments on campus (residents) during the program, and 11 students commuted daily to campus for classes (nonresidents).

Procedure

The instructors and counselors for the program were accepted for their interest in gifted education and for their expertise in a specific area of study. Courses in computer, geology, and literature for self-understanding were taken by all students. Students also elected to take Dynamics of Flight, Haiku, Drawing from the Right Side of the Brain, or Computer as a choice session. Recreational activities were planned to provide students with organized constructive activities which exposed them to a variety of experiences while increasing their sense of belonging.

The instruments used to help assess students' self-concepts included the Me Scale (Feldhusen, 1979), and the Self-Esteem Inventory (Coopersmith, 1967). Instruments to help support the findings of the Me Scale and the Self-Esteem Inventory were the student attitude survey designed specifically for use with the GSI program and samples of students' responses when asked to write, "My Personality." The instruments were administered the first and final days of the program. A Students' t-test was used to analyze scores from the Me Scale and the Self-Esteem Inventory. Changes in self-concept scores at the .05 or .01 level of probability are considered statistically significant. A rating scale from 1 to 5 was used in interpreting the student evaluation form, and ratio scores reflecting positive as compared to negative adjectives found in students' written work were used to analyze students' writing samples.

Results

The Students' t-test revealed that the greatest gains in the Me Scale scores were attributed to the younger students, ages 10 to 12½, ($t_{17} = 2.54, p < .05$) and in the students residing on campus ($t_{25} = 3.09, p < .01$). The older students, ages 12½ to 14, and the nonresident students made gains which were nonsignificant.

Significant gains in self-concept as reported by the Self-Esteem Inventory were found in the younger students ($t_{17} = 3.75, p < .01$), the older students ($t_{18} = 2.51, p < .01$), and in the resident students ($t_{25} = 3.85, p < .01$).

Table 1
Group A and Group B Pretest and Posttest Scores
as Measured by the Me Scale

Me Scale Pretest Avg.	Me Scale Posttest Avg.	Avg. Gain/Loss	t
	* Group A N = 19		
30.37	31.21	.84	1.49
	* Group B N = 18		
30.55	32.22	1.67	*2.54
	* Group A and B Residents N = 26		
30.75	32.37	1.62	**3.09
	* Group A and Group B Nonresidents		
29.77	30.09	.32	.47

* $p < .05$

** $p < .01$

* Group A

students 12½ - 14 yrs. old

** Group B

students 10 - 12½ yrs. old

Table 2
Pretest and Posttest Gains in Self-Concept as Reported by
the Self-Esteem Inventory

SEI Total Score	N	Pre- test Avg.	Post- test Avg.	Avg. Gain/ Loss	t
Older Students Ages 12½ - 14	19	75.41	79.10	3.69	**2.51
Younger Students Ages 10 - 12½	18	75.78	83.88	8.10	**3.75
Resident Students	26	76.15	82.26	6.11	**3.85
Non-resident Students	11	74.27	79.45	5.18	2.02

* $p < .05$

** $p < .01$

The majority of the students (93%) reported very good to excellent attitudes on the student attitude form. The ratio scores from students' writing samples revealed that students used approximately three times as many positive as negative adjectives in the first essay as compared to nearly nine times as many positive as negative adjectives in the final essay.

Both the Me Scale and the Self-Esteem Inventory identified resident students and younger students as making the greatest gains in self-concept. The students' attitude form also revealed positive student attitudes toward the main components of the program while students' writing samples also suggested student gains in self-concept as was shown by increased positive expression concerning themselves.

Discussion

The greatest gains in self-concept as measured by the Me Scale and the Self-Esteem Inventory were made by students residing on campus. Residents were exposed to increased student interaction as a result of residing in the University Village Apartments with gifted peers. They encountered more opportunities to form deeper relationships with counselors and supervisors of the program. Students residing at the campus spent their entire day and night in a university atmosphere which was clearly different than the morning and evening at home of the nonresident. Exposure to a greater sense of responsibility, group recreation

and free time, and a greater understanding of the other students and staff, all seemed to help enhance the resident students' sense of belonging and understanding of others and themselves.

The younger students made the greatest gains in self-concept as shown by the Self-Esteem Inventory scores. The younger students' capacity to be influenced by outside forces was greater than that of the older students who had formed firmer attitudes and were less adaptive concerning those attitudes.

The responses to the student attitude form supported the findings of the Me Scale and the Self-Esteem Inventory. Students were asked to rate the major components of the program which included differentiation of instruction, supervision of students, recreation, classes offered, campus facilities, and gained self-understanding. The students rated all components highly which reflects very positive attitudes toward the program. This positive attitude toward the major components of the program as indicated by the students' ratings, helped students gain the most from the program and helped enhance students' self-concepts.

The students' writing samples revealed an increase in using positive adjectives to describe their personality. This more subjective measure supports the findings of the objective measures used.

The results of the project indicate that homogeneously grouped gifted participants in a 2-week GSI program did experience significant improvements in self-concept as measured by the Me Scale (Feldhusen) and the Self-Esteem Inventory (Coopersmith). The student attitude form and the student writing samples' findings supported the findings from the self-esteem inventories. Programs such as the GSI Green Bay program, designed for gifted students, help students gain in self-esteem and in establishing educational and personal goals in accordance with their potential.

Based on this research, it is suggested that schools establish goals and objectives in the cognitive and affective realm which help students gain an understanding of themselves and others within the school. The results of a 2-week GSI experience indicate that through focusing on the creation of a sense of belonging, and through relating to other gifted students, self-esteem can be enhanced. The constant provision of these components in a school setting may provide for permanent patterns of self-actualization for gifted students within a school. The following components are suggested for further research:

1. Established goals and objectives in the cognitive realm to provide for challenging academic experiences as well as a system of rewards for meeting those challenges.
2. Established affective goals and objectives which will provide the gifted with opportunities to deal with psychological needs.
3. Provision of high empathy gifted teachers, sensitive to and understanding of gifted students.
4. Provision of opportunities to relate with and be stimulated by other gifted students in hopes that students will build a sense of community and belonging to a group in which gifted is "normal."

The gains in self-concept as related to a 2-week GSI program may be temporary or permanent; however, the same provision for gifted as those provided by the GSI experience, duplicated throughout students' Kindergarten through Grade Twelve educational career would most probably have a permanent impact upon gifted students' self-concepts and therefore upon their patterns of self-actualization. Further research using control and experimental groups, as well as a group larger than 37 is needed to substantiate this hypothesis. However, enough evidence has been gained from this study to support the establishment of gifted programs, both within and outside of school. Enhancing the confidence and self-understanding of gifted students will lead to better use of individual abilities and will ultimately be reflected in individual and societal gains.

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A Baker's Dozen of Years Applying All Four Aspects of the Study of Mathematically Precocious Youth (SMPY)

Julian C. Stanley

Since its inception in 1971, the Study of Mathematically Precocious Youth (SMPY) has expanded from a local program serving 19 mostly seventh graders to a national program with an enrollment of 1600. This article discusses trends experienced during the thirteen-year period and their implications for the program's future.

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The Study of Mathematically Precocious Youth (SMPY) began at The Johns Hopkins University on 1 September 1971 as the direct result of a five-year grant of \$266,100 to Julian C. Stanley by the then-new Spencer Foundation of Chicago. This enabled Dr. Stanley and his staff, consisting mainly of Lynn H. Fox, Daniel P. Keating, and Lois S. Sandhofer, to launch a major talent search in March of 1972. They then started a fast-paced mathematics class for seventh graders in June of 1972. The first journal article about the study (Keating & Stanley, 1972) appeared during the first grant year. By the third grant year a widely reviewed, favorably received book edited by Stanley, Keating, and Fox (1974) had set forth the rationale of the study and its initial results.

That volume, entitled *Mathematical Talent, was subtitled Discovery, Description, and Development*. This indicated the first three of the four D's that