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## The Multidimensional Self-Concept: A Comparison of Gifted and Average-Ability Adolescents

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*The purpose of this paper is to describe the self-concept of gifted and average-ability adolescents from a multidimensional perspective. Four dimensions of self-concept (academic, social, athletic, and social) were examined using an instrument that incorporates three theoretical perspectives (reflected appraisals, social comparison, and attribution). Ninety-eight junior high school students from a large urban centre in Western Canada participated in the study. Results of a MANOVA followed by a discriminant analysis indicated that gifted students differ in self-concept from average-ability adolescents, particularly in terms of academic self-concept.*

This paper describes the self-concept of gifted and average-ability adolescents from a multidimensional perspective including four dimensions of gifted and average ability adolescents' self-concept—academic, social, athletic, and evaluative (good/bad). These were examined using an instrument that incorporates three theoretical perspectives on self-concept development (reflected appraisals, social comparison, and attribution). The effects of gender differences are also examined.

Recent empirical literature (Byrne, 1984; Marsh, Byrne & Shavelson, 1988; Marsh & Hocevar, 1985) has provided support for a new conceptualization of self-concept. This conceptualization, which was introduced by Shavelson, Hubner, and Stanton (1976) views self-concept as a multidimensional construct consisting of dimensions such as academic self-concept, social self-concept, and physical self-concept. The evaluative dimension adopts the terminology of Osgood, Suci, & Tannenbaum (1957) who have demonstrated through factor analyses of numerous semantic differential scales that judg-

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ments of goodness vs. badness underlie people's conceptual systems. The inclusion of this dimension is also influenced by the work of Fitts (1964) who incorporated a moral-ethical self as a dimension in the *Tennessee Self-Concept Scale*. The multidimensional approach recognizes the possibility for intra-individual variability in the dimensions of self-concept.

Self-concept comparisons between gifted and average students (e.g., Coleman & Fults, 1982; Janos, Fung, & Robinson, 1985; Karnes & Wherry, 1981; Kelly & Colangelo, 1984; O'Such, Havertape, & Pierce, 1979; Schneider, Clegg, Byrne, Ledingham, & Crombie, 1989; Winne, Woodlands, & Wong, 1982) generally favor gifted students. The major problem with the research reported is the typical focus on global self-concept (Friedman, 1992; Schneider, 1987). Methodological limitations such as sampling problems have also been noted (Hoge & Renzulli, 1991; Olszewski-Kubilius, Kulieke, & Krasney, 1988). These studies also lack a theoretical perspective (Mendaglio & Pyryt, 1991).

The current study adds to the literature by comparing the self-concept of gifted and average-ability students using an instrument that assesses the multidimensional nature of self-concept from three theoretical perspectives (reflected appraisals, social comparison, and attribution).

## Methods

### Sample

Ninety-eight eighth and ninth grade students from a junior high school in a large urban centre in Western Canada served as subjects. Forty-five of the subjects (20 males and 25 females) were participants in a program for intellectually gifted students called "Education Plus." The particular program is based on the Enrichment Triad Model (Renzulli, 1977). Multiple criteria are used to identify those students with above-average ability, task commitment, and creativity). The particular school system begins identifying gifted students at selected schools at Grade 4. A composite score of 120 on the Canadian Cognitive Abilities Test, a group-administered intelligence test is a minimum requirement for entrance into the program. Fifty-two students (18 males, 33 females, 1 indeterminate) not participating in the gifted program comprised the comparison group. One male respondent from the comparison group indicated previous participation in the gifted program and was dropped from the gifted/

non gifted comparison phase of the study. In the particular junior high school in which the study was conducted, students participating in the Education Plus Program are homogeneously grouped. At each grade level, there is one Education Plus homeroom and three non-Education Plus homerooms. Students in non-Education Plus homerooms in Grade 8 and Grade 9 served as the comparison subjects. The particular homerooms were selected by the school administration.

### Procedures

Subjects completed a survey instrument called the Pyryt-Mendaglio Self-Perception Survey (PMSPS). The PMSPS is a research instrument that asks respondents to rate their academic, social, athletic, and evaluative self-concepts from three perspectives (reflected appraisals, social comparison, and attribution.) The instrument consists of 24 four-point Likert-type items. There are 16 reflected appraisal items that ask respondents to indicate their perception of the evaluation of four "significant others" (mother, father, favorite teacher, best friend) for each of the four dimensions. For example, the item "I perceive that my mother thinks that I am a good person" is an evaluative self-concept item with the mother as the significant other. There are four social comparison items, one for each dimension. The item, "I am smarter than other children my age" is an example of an academic self-concept item derived from the social comparison perspective. There are four attribution items, one for each dimension, which require personal acknowledgment of an accomplishment in each of the four areas. The item, "I have demonstrated leadership ability" is an example of a social self-concept item derived from the attribution perspective. For the purposes of this research report, six items representing the three perspectives are embedded in the scoring of responses for each of the four self-concept dimensions.

Pyryt and Mendaglio (1992) described the psychometric properties of the instrument. The internal consistency reliability of the four self-concept dimension scores using Cronbach's (1951) alpha were .88 (academic), .75 (social), .95 (athletic), and .79 (evaluative). A maximum likelihood factor analysis (Jöreskog & Lawley, 1968) supported the construct validity of the hypothesized factor model. Correlations with the Rosenberg Self-esteem Scale (Rosenberg, 1965), a measure of general self-esteem were .51, .42, .23, and .61 for the academic, social, athletic, and evaluative self-concept dimensions respectively. These results indicate convergent validity (Campbell & Fiske, 1959) for the academic, social, and evaluative dimensions of

self-concept. Perceived athletic ability was unrelated to general self-esteem. Intercorrelations among the self-concept dimensions indicated that evaluative self-concept is correlated with academic, social, and athletic self-concept.

### Data Analysis

A two-factor multivariate analysis of variance (MANOVA) was performed to determine if there were ability and gender differences on the self-concept survey. Scores on the four dimensions of self-concept were the dependent variables. Giftedness and gender were the independent variables. Discriminant analysis was used as a post hoc procedure to follow up significant effects (Tatsuoka, 1971). The significance level for all analyses was set at .01. Due to item omissions, the analysis was performed on complete data sets provided by 88 subjects.

### Results

Results of a multivariate analysis of variance indicated a significant main effect for Ability (Wilks'  $\lambda = .74$ ,  $F_{4,81} = 7.16$ ,  $p < .01$ ). The main effects for Gender and Gender  $\times$  Ability interactions were not statistically significant. Means and standard deviations for each ability group are shown in Table 1. A discriminant analysis was performed as a post hoc procedure to follow up the significant effect. Standardized discriminant function coefficients and structure coefficients (correlations between scores on each self-concept dimension and discriminant function scores) are also presented in Table 1. Examination of standardized discriminant function coefficients indicated that academic self-concept contributed most to group discrimination. Examination of the structure coefficients indicated that the academic, evaluative, and social dimensions contributed to group discrimination. A classification analysis was performed to examine the effectiveness of the discriminant function. Results indicated that 76% of the subjects were correctly classified.

### Discussion

The purpose of this study was to describe the self-concept of adolescents from a multidimensional perspective. The results of the

Table 1

### Means, Standard Deviations, Standardized Discriminant Function Coefficients, and Structure Coefficients for the Ability Effect

VARIABLE	ABILITY LEVEL				COEFFICIENTS	
	Gifted (N=42)		Average (N=46)		Standardized Discriminant Function	Structure
	Mean	SD	Mean	SD		
Academic	20.98	2.40	17.76	3.13	1.07	.99
Social	20.36	2.20	18.89	3.06	.05	.43
Athletic	17.81	4.74	16.50	4.57	-.08	.23
Evaluative	21.24	2.06	19.59	2.74	-.12	.55

MANOVA suggest that there is a significant difference between gifted and non-gifted students, with the gifted students scoring higher on average. The major source of this difference stems from the higher scores of gifted adolescents on the academic dimension, with the social and evaluative dimensions also contributing to lesser extent. These findings are consistent with previous research (Kelly & Colangelo, 1984; Schneider et al., 1989). It may very well be that gifted students receive a great deal of reinforcement for their intellectual prowess and academic achievements in a manner disproportionate to other aspects of self.

Future research should focus on gifted students' perceived importance of the various dimensions of self-concept. There is also a need to determine the influence of the three theoretical approaches (reflected appraisals, social comparison, and attribution) to the multidimensional self-concept from a developmental perspective.

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