

**ON THE MULTIDIMENSIONAL VERSUS UNIDIMENSIONAL  
PERSPECTIVES OF SELF-ESTEEM: A TEST USING THE  
GROUP-COMPARISON APPROACH\***

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The purpose of the present studies was to test the unidimensional versus the multidimensional perspectives of self-esteem using a group-comparison approach. In the first study, male and female talented and regular students completed the Perceived Competence Scale (Harter, 1982). This scale assesses self-esteem in three life domains: **cognitive** (school), **physical** (sports and physical activity), and **social**, as well as general self-esteem. Results showed that talented students had higher self-esteem than regular students only in the cognitive domain. In Study 2, we sought to replicate and extend these findings to the context of sports. Male and female talented and regular swimmers completed the PCS as well as a swimming self-esteem subscale. Results showed that talented swimmers had significantly higher levels of swimming self-esteem than regular swimmers. Talented swimmers also reported higher levels of physical self-esteem although to a lesser extent. In addition, male students reported higher levels of self-esteem than females in the physical domain (Studies 1 and 2), as well as in swimming (Study 2). These findings were interpreted as providing strong support for the multidimensional view of self-esteem.

*Keywords:* unidimensional perspectives, multidimensional perspectives, self-esteem, Perceived Competence Scale, physical domain, cognitive domain, social domain, multidimensional view.

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The concept of the self has been the subject of a long and rich research tradition in psychology. One question which has been debated over the years pertains to the structure of the self: Is the self unidimensional or is it multidimensional in nature. Several self-theorists, primarily from the fields of personality and clinical psychology have underscored the unified aspect of the self (e.g., Allport, 1955; Horney, 1950; Lecky, 1945; Maslow, 1954; Rogers, 1950). According to this position, the self represents a core, unified, central structure in personality, assumed to be stable and independent of the changing contexts in an individual's life. In contrast, other theorists, primarily from sociological and social psychological backgrounds, have stressed the existence of multiple selves (e.g., Cooley, 1902; Gergen, 1971; Jourard, 1971; Markus, 1977; Markus & Wurf, 1987; Mead, 1934). According to this position, individuals have multifaceted, changeable and context-dependent selves, in part because of their adaptive responses to the social environment.

Related to the question of the unity vs. multidimensionality of the self structures is that of the nature of self-esteem. While the self-concept refers to self-descriptors, self-esteem represents some evaluation of the value and worth of these self-descriptors (e.g., Harter, 1983). Two major positions can be distinguished with respect to the nature of self-esteem. The first position emphasizes the global nature of self-esteem. According to this position, we experience only a general feeling of self-worth with respect to ourselves (e.g., Coopersmith, 1967). Conversely, the second approach emphasizes the multidimensionality of self-esteem (e.g. Harter, 1982; Shavelson & Marsh, 1986). This position suggests that self-esteem varies as a function of various life domains. Thus, one may have high self-esteem in one domain (e.g., school) but low self-esteem in another (e.g., interpersonal relationships).

Research on self-esteem has recently shifted from emphasizing the unidimensional approach (see Coopersmith, 1967; Rosenberg, 1965) to the multidimensional approach (see Byrne, 1984; Harter, 1983; Shavelson & Marsh, 1986). The support for the multidimensional view of self-esteem stems primarily from studies that have been correlational in nature. For instance, work by Shavelson and Marsh (1986) has shown that confirmatory factor analyses supported their hypothesized multidimensional and hierarchical model of self-esteem. In addition, work by other researchers such as Fleming and his colleagues (e.g., Fleming & Courtney, 1984; Fleming & Watts, 1980) has shown that different self-esteem dimensions related to various measured and individual-difference variables.

Although a correlational approach can be very useful for testing the multidimensional structure of a construct or to assess the relationships between this construct and external variables, this approach does not address the issue of the magnitude of differences in self-esteem between individuals varying as a function of

personal characteristics or interventions. Very few studies have addressed this issue. In one of these studies, Marsh, Richards, and Barnes (1986) showed that subjects who participated in a self-esteem improvement program (the Outward Bound Program) underwent significant changes in the pre to post-scores on the general self-worth as well as on the 12 specific self-esteem subscales of the Self-Description Questionnaire. Marsh and his colleagues concluded that these findings supported a multidimensional view of self-esteem. However, close inspection of the data does not support such an interpretation. Because changes were found in all 13 scales it is not clear if changes reflected a truly multidimensional self-esteem structure or if self-esteem being unidimensional in nature, changes were bound to be found on all self-esteem subscales.

An appropriate test of the multidimensional view of self-esteem can be obtained through the group-comparison approach in which individuals known to vary in actual competence in one domain are compared on their domain-specific and global self-esteem. While past research (Fleming & Courtney, 1984; Fleming & Watts, 1980) has related various self-esteem dimensions to some individual-difference variables, no study to the best of our knowledge has systematically used criterion groups to show differences in the magnitude of self-esteem between individuals varying in actual competencies in one domain but not in others. Support for the multidimensional approach would be obtained if individuals' domain self-esteem varied on the criterion (the domain in which actual differences between individuals exist) while no differences were obtained in the other domains **including** that of general self-esteem. The purpose of the research reported in this paper was therefore to use the group-comparison framework in order to compare the unidimensional and multidimensional perspectives in two studies conducted in the realms of education and sports.

## STUDY 1

The purpose of Study 1 was to test the hypothesis that subjects known to differ in actual school competence display higher self-esteem in this domain but not in other domains nor in general self-esteem. Thus, male and female talented and regular students completed the Perceived Competence Scale (PCS; Harter, 1982). In line with the multidimensional view of self-esteem, it was predicted that talented students would perceive themselves to be more competent than regular students on the Cognitive (school) subscale but not on the other self-esteem scales.

## METHOD

### SUBJECTS

Sixty-four male and 70 female French-Canadian students from grade 4 to 6 with a mean age of 10.12 years served as subjects in this study. There were approximately the

same number of talented ( $n = 65$ ) and regular ( $n = 69$ ) students. Students belonged to 6 classrooms in the same elementary school. The academically talented students were members of full-time homogeneous groups receiving an enriched academic program. Talented students had been selected on the basis of an IQ test and two standardized achievement tests (language and math). These selection procedures are quite common in the field of talent and giftedness (see Cox, Daniel, & Boston, 1985).

### QUESTIONNAIRE

Subjects completed a French version (Gauvin, 1982) of the PCS (Harter, 1982). This scale is made up of 4 subscales, a General Self-Esteem subscale and three domain-specific subscales: the Cognitive (school), Physical (Sports/Physical Activity), and Social subscales. Each subscale consists of 7 items. The question format consists of descriptions of two types of individuals, one more competent and one less competent. Individuals must decide which type they are more like, and then check whether the description is “*really true*” for them or “*sort of true*” for them. All items are scored on a scale of 1 to 4, from *low self-esteem* (1) to *high self-esteem* (4). The PCS has repeatedly shown high indices of reliability and validity (see Deci, Nezlek, & Sheinman, 1981; Harter, 1982; Ryan, & Grolnick, 1986). The French version of the PCS has been subjected to rigorous cross-validation procedures and has been found to be both reliable and valid (see Gauvin, 1982). In this study, internal reliability indices (Cronbach alphas) for the Cognitive, Physical, Social and General Self-Worth subscales were respectively: .75, .82, .76, and .71 respectively.

### PROCEDURES

Subjects completed the PCS in one session. In all cases, the PCS was administered by one trained experimenter according to standardized instructions. The experimenter read the instructions and the individual items aloud, and waited for the children to finish each item before proceeding. The questionnaire was administered in group sessions in class and teachers were absent while students completed the questionnaire. Children were assured of the anonymity and confidentiality of their responses. Completing the questionnaire took an average of 20 minutes.

### RESULTS

A 2 (sex) x 2 (status – talented/regular student) MANOVA was conducted with the four subscales of the PCS serving as the dependent variables. As expected, a significant status multivariate main effect was obtained,  $F(4, 119) = 2.66, p < .04$ . Subsequent univariate analyses revealed that only the Cognitive (School) competence subscale showed significant differences. Talented students ( $M = 19.59$ ),  $F(1,122) =$

9.65,  $p < .002$  ( $r = .27$ )<sup>1</sup>. As expected no differences were found on the General Self-Worth subscale or on the other subscales. Self-esteem means as a function of school status appear in Table 1.

TABLE 1  
GLOBAL AND DOMAIN-SPECIFIC SELF-ESTEEM AS A FUNCTION OF STATUS IN SCHOOL

<i>Self-Esteem Scale</i>	<i>Talented Students</i>		<i>Regular Students</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>Cognitive (School)*</i>	21.63	3.50	19.59	4.41
<i>Social</i>	20.48	4.14	19.67	4.91
<i>Physical</i>	18.69	5.34	18.54	4.32
<i>General Self-Esteem</i>	19.58	4.29	18.58	4.12

\* $p < .002$

A significant sex multivariate main effect was also obtained,  $F(4,119) = 3.87$ ,  $p < .005$ . Results of the univariate analyses revealed that significant differences emerged only on the Physical subscale,  $F(1,122) = 7.76$ ,  $p < .006$  ( $r = .24$ ). Boys ( $M = 19.88$ ) perceived themselves to be more competent in the Physical domain than girls ( $M = 17.46$ ). No other significant effects were found.

## DISCUSSION

Results from Study 1 yielded a pattern, which is clearly in line with the multidimensional view of self-esteem. As hypothesized, talented students perceived themselves as more competent than regular students on the Cognitive subscale but not on the other domain-specific subscales or the General Self-Esteem subscale. These findings imply that it is possible to provide a differentiated view of self-esteem. Contrary to previous findings (e.g., Marsh et al., 1986), feeling competent in one domain does not seem to entail generalization to other domains or to general self-esteem.

The sex effect obtained can also be interpreted as supporting the multidimensional nature of self-esteem. In line with previous findings (Fleming & Courtney, 1984; Harter, 1982; Marsh, 1985; Marsh & O'Neill, 1984), boys perceived themselves as being more competent than girls on the Physical subscale. However, these feelings of competence did not generalize to other domains or to general self-worth.

<sup>1</sup> The Pearson  $r$  is reported here as a measure of effect size. The formula used was the following:

$$r = \sqrt{\frac{F_{1,-}}{F_{1,-} + df_e}}$$

(Rosenthal & Rosnow, 1984). For more information see Rosenthal and Rosnow (1984) and Koestner, Zuckerman, and Koestner (1987).

Overall, these findings are in line with a growing body of literature which suggests that the self is made up of one general facet and several more specific facets which are more or less independent from each other (Byrne, 1984; Harter, 1986; Shavelson & Marsh, 1986).

## STUDY 2

Results from Study 1 supported the multidimensional approach to self-esteem. However, Study I considered only the domain of education. If it were possible to replicate findings from Study 1 in another domain, support for the multidimensional view of self-esteem would be greatly strengthened. Thus, one purpose of Study 2 was to compare the unidimensional versus the multidimensional views of self-esteem in another domain of talentedness, namely sports.

Discussion so far has focused on the multidimensional perspective as a whole. However, various multidimensional models have been formulated (see Byrne, 1984). Probably the most popular such model is the hierarchical model (Shavelson & Bolus, 1982; Shavelson, Hubner, & Stanton, 1976; Shavelson & Marsh, 1986). The hierarchical model posits that the multiple facets of self-esteem may be ranked in a hierarchical formation. At the apex of the formation is general self-esteem, followed by domain-specific academic and non-academic (social, emotional, and physical) self-esteem. Each of these self-esteem domains can be further subdivided (e.g., the academic self-esteem can be divided into English, History, Math, and Science self-esteem). Finally, it is believed that the level of generality decreases as one moves down from the apex (general self-esteem) to the base, toward the situation-specific self-esteems. A second purpose of Study 2 was to test one central implication of the hierarchical multidimensional model (e.g., Shavelson & Bolus, 1982; Shavelson, Hubner, & Stanton, 1976), namely that self-esteem differences between individuals varying in levels of actual competence at a specific level of generality should be apparent at this specific level but not at other levels in the hierarchy.

Thus, male and female talented and regular athletes completed the French PCS (Gauvin, 1982) as well as an additional Swimming Perceived Competence subscale. In line with the hierarchical model it was predicted that talented swimmers would perceive themselves to be more competent than regular swimmers on the swimming subscale, and to a lesser extent on the physical subscale. No differences were expected on the other subscales.

## METHOD

### SUBJECTS

Subjects were 38 male and 44 female French-Canadian swimmers from 4 competitive swimming clubs from the Montreal area. Subjects had a mean age of

13.32 years ( $SD = 1.91$  years). There were 38 talented (17 males and 21 females) and 44 (21 males and 23 females) regular swimmers. The talented swimmers were individuals who had achieved national standards in their specialty, and thus who were competent enough to make the national swimming team. The regular swimmers were members of swimming clubs who had not reached national standards and who were not competent enough to make the national team. These selection procedures ensured that the two groups were objectively different from one another in terms of swimming competence.

### QUESTIONNAIRE

Subjects completed the same questionnaire (the PCS) as that used in Study 1 (Gauvin, 1982). In addition, subjects completed a swimming perceived competence subscale, also developed by Gauvin (1982). This scale is made up of 7 items and assesses perceived competence in swimming using the same format as the PCS. In this study, reliability indices (Cronbach alphas) were as follows: Social (.76), Physical (.77), Swimming (.75), Cognitive (.67), and General Self-Worth (.79).

### PROCEDURES

Procedures were very similar to the ones employed in Study 1 except that subjects completed the questionnaire in the locker room rather than in the classroom. Subjects completed the PCS in one session. In all cases, the PCS was administered by one trained experimenter according to standardized instructions. The experimenter read the instructions and the individual items aloud, and waited for the children to finish each item before proceeding. The questionnaire was administered in group sessions and coaches were absent while subjects completed the questionnaire. Children were assured of the anonymity and confidentiality of their responses. Completing the questionnaire took an average of 25 minutes.

### RESULTS

A 2 (sex) x 2 (status - talented/regular swimmers) MANOVA was conducted with the five subscales of the PCS serving as the dependent variables. As expected, a significant status multivariate main effect was obtained,  $F(5,74) = 2.91$ ,  $p < .02$ . Subsequent univariate analyses revealed that significant differences were obtained only on the Physical and Swimming subscales. As expected, talented swimmers perceived themselves as significantly more competent in swimming ( $M = 19.66$ ) than regular swimmers ( $M = 16.89$ ),  $F(1,78) = 14.69$ ,  $p < .001$  ( $r = .40$ ). In addition, talented swimmers also reported perceiving themselves as more competent in physical activity in general ( $M = 21.50$ ) than regular swimmers ( $M = 19.77$ ),  $F(1,78) = 4.31$ ,  $p < .04$  ( $r = .23$ ). We further assessed whether the levels of significance between these two

effects were significant. Results showed that these two effects tended to be statistically different although the effect failed to reach conventional levels ( $p < .12$ )<sup>2</sup>. As expected no differences were found on the other subscales. Self-esteem means as a function of swimming status appear in Table 2.

TABLE 2  
GLOBAL AND DOMAIN-SPECIFIC SELF-ESTEEM AS A FUNCTION OF STATUS IN SWIMMING

<i>Self-Esteem Scale</i>	<i>Talented Swimmers</i>		<i>Regular Swimmers</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>Cognitive (School)*</i>	21.79	3.93	21.82	4.75
<i>Social</i>	20.76	3.66	20.02	4.75
<i>Physical (Sports)</i>	21.50	4.31	19.77	4.39
<i>Swimming**</i>	19.66	3.15	16.89	4.27
<i>Global Self-Esteem</i>	20.82	4.12	19.68	4.68

\* $p < .04$

\*\* $p < .001$

A significant sex multivariate main effect was also obtained,  $F(5,74) = 5.28$ ,  $p < .001$ . Results of the univariate analyses revealed that significant differences emerged only on the Physical and Swimming subscales,  $F_s(1,78) = 17.34$ ,  $p < .001$  ( $r = .43$ ), and  $18.30$ ,  $p < .001$  ( $r = .44$ ), respectively. Boys perceived themselves to be more competent on the Physical ( $M = 22.53$ ) and Swimming ( $M = 19.84$ ) subscales than girls ( $M_s = 18.89$  and  $16.73$ , respectively). No other significant effects were found.

## DISCUSSION

Results from Study 2 provided strong evidence for the multidimensional view of self-esteem. Talented swimmers reported significantly higher self-esteem than regular swimmers on the more specific Swimming subscale as well as on the general Physical subscale. Since no differences were found on the other self-esteem subscales, it can be seen that differences only occurred in the sport/physical activity domain as would be predicted by a multidimensional approach to self-esteem.

<sup>2</sup>The formula used for testing the statistical significance of the two effects was the following:

$$p = \sqrt{\frac{Z_1 - Z_2}{\frac{1}{N_1 - 3} + \frac{1}{N_2 - 3}}}$$

See Rosenthal and Rosnow (1984) for more information.

In addition, the present findings also supported a specific multidimensional model of self-esteem, namely the hierarchical model (e.g., Shavelson & Bolus, 1982). Results showed that talented swimmers had higher self-esteem than regular swimmers mainly on the more specific Swimming subscale and to a lesser extent on the general Physical subscale. Thus, self-esteem differences among the two groups were stronger on the proper level of the hierarchy (i.e., swimming) and progressively diminished as one moved up toward the apex of the hierarchy (i.e., physical self-esteem, and general self-esteem). These findings yield important support for the presence of a self-esteem hierarchy in line with tenets from the hierarchical model.

The sex effect obtained in Study 1 was replicated and extended in this study. In line with previous findings (Fleming & Courtney, 1984; Harter, 1982; Marsh, 1985; Marsh & O'Neill, 1984), females perceived themselves to be less competent than males on the Physical subscale. However, females also reported lower perceptions of competence in the more specific activity of swimming. Thus, these gender differences deal with the entire domain of sports/physical activity and not just swimming. What is striking in these sex differences is that the female athletes in this study, and especially the talented swimmers, were quite good. And still, they had lower levels of self-esteem in this area than males. It is not clear why females would perceive themselves as less competent than males in swimming and in sport in general. Self-presentation (from the males' perspective) can be ruled out since subjects did not differ on the other subscales. One possibility is that females, in addition to comparing their performance among themselves, also compare their performance to that of males. Since males' objective performances are usually better than females', it would follow that females' self-esteem would be lowered by such cross-sex comparisons. Although speculative, this hypothesis is directly testable and could help understand these pervasive sex differences in physical self-esteem.

## CONCLUSIONS

The purpose of the present investigations was to test the unidimensional versus multidimensional views of self-esteem. The results support the following conclusions.

First, the multidimensional approach to self-esteem was strongly supported. As predicted, differences were consistently found in specific self-esteem domains as a function of group comparison, while no differences were obtained in other self-esteem domains and general or global self-esteem. Because these domain-specific differences were obtained in two different life domains (education and sports), these findings appear quite robust. Research and theorizing on the multidimensional approach would therefore appear fruitful.

It is our belief that the multidimensional perspective can provide important contribution to our understanding of self-esteem. One such contribution is that it helps explain the feeling of stability that we experience even in the face of change. It may be possible for individuals to change in a certain domain (e.g., to have a higher level of cognitive self-esteem) without affecting our general self-esteem. One would then experience a feeling of stability with respect to his or her overall self, in the face of change in a given domain.

In addition, adopting the multidimensional view of self-esteem allows one to make sense of why past research on the effects of academic interventions and psychotherapy on self-esteem have often yielded nonsignificant findings (see Sheirer & Kraut, 1979; Wylie, 1979). These studies have typically used global self-esteem measures. By doing so, researchers were unable to measure those domain-specific changes which may have ensued from their interventions. As suggested by the present findings, domain-specific changes may occur in the absence of effects at the level of general self-esteem. Thus, only measuring general self-esteem may lead to the erroneous conclusion that interventions are ineffective. Future research would do well to consider self-esteem from a multidimensional perspective in order to fully account for changes in the self structures.

A second conclusion which can be drawn from the present set of studies is that the hierarchical model represents a viable multidimensional model of self-esteem (e.g., Shavelson & Bolus, 1982). While the results from the factor analysis research (e.g., Shavelson & Bolus, 1982; Shavelson & Marsh, 1986) have already shown that the proposed hierarchical structure is basically sound, the results from Study 2 imply that mean differences between comparison groups do occur at the appropriate levels in the hierarchy. These two sets of findings combined provide solid evidence for the validity of the model. Thus, we would encourage future research on the implications of the model's hypothesized hierarchical structure for self-esteem research.

A third and final conclusion is that more attention should be directed at sex differences in self-esteem. More specifically, one should try to understand the determinants of sex differences in the physical activity/sports self-esteem domain. Why are such differences taking place? Are cross-sex social comparison processes involved as intimated earlier? Or are some other processes implicated? What are the consequences of these sex differences for behavior? These and other questions related to this matter should be pursued by self-esteem researchers.

In sum, the present findings support the multidimensional perspective of self-esteem while casting doubts on the utility of the unidimensional approach. Further research is needed in order to better understand the intricacies of the multidimensional perspective of self-esteem.

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