

## Brief Research Report

# Domain-Specific Self-Perceptions in Athletes Compared to Non-Athletes: Contributions to Global Self-Esteem

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## ABSTRACT

### Objective

The objective of the present study was to examine the influence of social self-concept and physical self-worth on global self-esteem in college athletes compared to their non-competing peers. It was hypothesized that the unique contribution of each variable on self-esteem would be markedly different between the groups.

### Methods

In a population of 146 undergraduate students, regression analyses revealed significant relationships between the domain-specific self-perceptions and global self-esteem in both groups. It was determined, however, that athletes and non-athletes differed in the distribution of variance explained by the variables. Specifically, the variance in self-esteem in athletes was attributed exclusively to physical self-worth while non-athletes revealed unique contributions from both social self-concept as well as physical self-worth.

### Results and Conclusion

The results of the present study may be meaningful from the perspective of athletic identity and retirement from sport. Further investigation is warranted, both qualitatively and quantitatively, that may assist in developing strategies to ease the transition from participating athlete to non-competitive participation. An additional area of interest may be in examining the relationship between the domain-specific self-perceptions and psychological risk for, and impact of, athletic injury.

### Keywords

Self-esteem; Athletes; Social self-concept; Physical self-worth; Non-athletes.

## INTRODUCTION

Shavelson et al<sup>1</sup> introduced a hierarchical model of the self-concept that highlights the multiple domains that contribute to the composition of the self. These domains included academic, social, emotional and physical self-concepts, all of which collectively contribute to general descriptions of self. According to Shavelson et al,<sup>1</sup> achievement in specific domains should be positively related to self-conceptions within those domains. The accumulation of self-conceptions, then, comprised the global self-concept. Self-esteem is considered the value that an individual places on their collection of self-conceptions accumulated in those multiple domains of functioning.<sup>2</sup>

Self-esteem research has adopted the hierarchical structure of the Shavelson framework and supports a multidimensional

view of self-development. Harter,<sup>3</sup> for example, argued that self-esteem development is unique to the individual's accomplishments and experiences. Research supports this argument as achievements in specific achievement settings have been shown to significantly influence global self-esteem through domain specific paths. Byrne et al,<sup>4</sup> for example, found that academic achievements were significantly related to self-conceptions regarding those achievements in a population of 3<sup>rd</sup>, 7<sup>th</sup> and 11<sup>th</sup> grade students. Similarly, physical activity participation has been shown to positively influence global self-esteem through increases in physical self-worth.<sup>5</sup>

The objective of the present study was to examine contributions to self-esteem in a group of collegiate athletes and to compare them to their non-competing peers. It was expected that both social self-concept and physical self-worth would be significant independent predictors of global self-esteem. However, it was

hypothesized that athletes and non-athletes would display differing patterns of influence on self-esteem based on their experiences in and out of the athletic arena. Specifically, it was expected that the self-esteem of athletes, because of more extensive exposure to achievements in the physical domain, would be more strongly influenced by perceptions of the physical self while that of non-athletes would exhibit a more balanced contribution from both domain specific levels of self-perception.

## MATERIALS AND METHODS

### Participants

Participants in the investigation were 146 college-aged individuals, 46 of whom were student athletes at the university, enrolled in undergraduate courses at a small liberal arts university in the north-east. This university is designated as a Division II institution by the National Collegiate Athletic Association. There were no criteria for inclusion or exclusion from the investigation. All participants reviewed an informed consent form that was in compliance with the University Institutional Review Board's guidelines for the use of human subjects in research.

### Measures

In addition to an extensive demographic questionnaire and exercise history, all participants completed several instruments assessing social, physical, and global self perceptions. Social self-concept was measured using a modified version of the social self-concept scale (SSCS) as developed by Zorich et al.<sup>6</sup> This measure was scored on a five-point Likert type scale with the anchors 1: "strongly disagree" and 5: "strongly agree," and consisted of 28 items that addressed an individual's evaluation of his or her feelings, thoughts and behaviors regarding their social self-perceptions. Sample items included "people view me as an outgoing, sociable person" and "most people view me as having poor social skills." Item scores were summed to yield a scale score representing social self-concept. Higher scale scores were representative of those with higher social self-concept. The authors reported high internal consistency for the original instrument (0.95) in a population of 364 college students. Cronbach's alpha was 0.94 for the present sample.

Physical self-worth was measured using the 6-item physical self-worth subscale of the Physical Self-Perceptions Profile (PSPP) as developed by Fox et al.<sup>7</sup> Scored on a four-point Likert type scale with the anchors 1: "not at all true" and 4: "completely true," participants were asked six items that assessed the value that they placed on their physical capabilities. Sample items included "I am extremely proud of who I am and what I can do physically," and "I feel confident in the physical side of myself." Item scores were summed to a single score representing physical self-worth. Higher scores were indicative of higher perceived worth for the physical self. Fox et al.<sup>7</sup> reported internal consistencies that ranged from 0.81 to 0.92, and test-retest reliability ranging between 0.74 and 0.92 for a 16-day lapse period in multiple samples of college-aged individuals. Cronbach's alpha was 0.88 for the present sample.

Self-esteem was measured using the Rosenberg Self-Esteem (RSE) Scale.<sup>8</sup> The Rosenberg scale is one of the most widely used instruments employed for the assessment of self-esteem. Scored using a four-point Likert type format with the anchors 1: "strongly disagree" and 4: "strongly agree," respondents were asked the extent to which each of ten items was indicative of their global self-perceptions. Sample items include "I certainly feel useless at times," and "on the whole, I am satisfied with myself." Items were summed to yield a single scale score representing self-esteem. Higher scores were indicative of greater self-esteem. Fleming et al.<sup>9</sup> reported an internal consistency of 0.88 for the Rosenberg scale. Cronbach's alpha was 0.89 for the present sample.

### Procedures

Participants were recruited for the study from undergraduate courses and participation was voluntary. Participants reviewed a document highlighting their rights and responsibility as participants in the investigation and then completed a packet of inventories containing a general demographics questionnaire in addition to the measures described previously. Completion and return of the packet served as an indication of consent to participate in the investigation.

### Analytical Strategy

Statistical Package for the Social Sciences (SPSS) version 13.0 for Windows was used to examine the relationships of interest. Linear regression was utilized to assess the contributions of physical self-worth and social self-concept on global self-esteem. The following steps were followed to assess the contributions of each domain specific self-perception on global self-esteem. First, physical self-worth was regressed on self-esteem, then both physical self-worth and social self-concept were regressed on self-esteem and the significance of the change in  $R^2$  was analyzed.

## RESULTS

Descriptive statistics showed that the population had an average age of 19.4-years and were predominately in their first or second year of undergraduate study (69% freshmen or sophomore standing). The sample was 52.7% female and nearly 90% Caucasian (89.7). Respondents indicated an average of 3.97-days per week of regular activity at a moderate intensity for more than 30-minutes per bout.

Tables 1 and 2 summarize the analysis of study hypotheses for non-athlete and athlete populations. Consistent with hypotheses, both social self-concept and physical self-worth were significant independent predictors of variance in global self-esteem. Furthermore, the contributions of the domain specific self-perceptions on self-esteem were markedly different for athletes compared to non-athletes. These findings are presented in greater detail below.

Multiple regression analysis was used to test if physical self-worth and social self-concept were significant, independent predictors of participants' ratings of self-esteem in the non-athlete

population. Results of the regression indicated that physical self-worth explained 36.2% of the variance ( $R^2=0.362$ ,  $F(1,98)=54.92$ ,  $p<0.01$ ). Results also indicated that social self-concept explained 23.8% ( $R^2=0.238$ ,  $F(1,99)=30.57$ ,  $p<0.01$ ). When considered together, results of the regression revealed that both physical self-worth and social self-concept explained 48% of the variance ( $R^2=0.483$ ,  $F(2,98)=44.80$ ,  $p<0.01$ ). As hypothesized, it was also determined that each domain specific measure contributed uniquely to the total variance in self-esteem scores. It was found that physical self-worth significantly predicted self-esteem ( $\beta=0.51$ ,  $p<0.01$ ), as did social self-concept ( $\beta=0.36$ ,  $p<0.01$ ).

**Table 1. Summary of Hierarchical Regression Analysis for Variables Predicting Self Esteem in Non-Athletes (N=100)**

Variable	Model 1			Model 2		
	B	SE B	$\beta$	B	SE B	$\beta$
Physical Self-Worth	0.975	0.132	0.601	0.829	0.123	0.511
Social Self-Concept				0.149	0.031	0.360
R <sup>2</sup>	0.362			0.483		
F for change in R <sup>2</sup>				4.743*		
SE: Self-Esteem. *indicates significance						

Multiple regression analysis was then used to test if physical self-worth and social self-concept were significant, independent predictors of participants' ratings of self-esteem in the athlete population. Results of the regression indicated that physical self-worth explained 41.2% of the variance ( $R^2=0.412$ ,  $F(1,44)=30.10$ ,  $p<0.01$ ). Results also indicated that social self-concept explained nearly 29% ( $R^2=0.288$ ,  $F(1,45)=17.76$ ,  $p<0.01$ ). When considered together, results of the regression revealed that both physical self-worth and social self-concept explained 42% of the variance ( $R^2=0.421$ ,  $F(2,44)=15.242$ ,  $p<0.01$ ). As hypothesized, it was found that physical self-worth significantly predicted self-esteem ( $\beta=0.539$ ,  $p<0.01$ ), whereas social self-concept did not ( $\beta=0.14$ ,  $p=0.428$ ).

**Table 2. Summary of Hierarchical Regression Analysis for Variables Predicting Self Esteem in Athletes (N=46)**

Variable	Model 1			Model 2		
	B	SE B	$\beta$	B	SE B	$\beta$
Physical Self-Worth	1.112	0.203	0.642	0.934	0.302	0.539
Social Self-Concept				0.061	0.077	0.140
R <sup>2</sup>	0.412			0.421		
F for change in R <sup>2</sup>				0.800		
SE: Self-Esteem.						

**DISCUSSION**

The objective of this investigation was to examine the unique contributions to global self-esteem in a population of Division II

college athletes compared to their non-competing peers. It was expected, based primarily on the achievements and experiences distinctive to the college athlete population, that patterns by which domain specific self-perceptions influenced global self-esteem would be markedly different between the groups. Consistent with study hypotheses, it was determined that athletes used primarily physical self-perception information as their source of self-esteem while the non-athlete peers exhibited a more balanced pattern of influence.

It is important to note that the amount of variance explained by physical self-worth was consistent with other studies of this kind. Sonstroem et al,<sup>5</sup> for example, in their original expansion of the Exercise-Self-Esteem Model<sup>2</sup> were able to attribute 32.8% of the variance in self-esteem to physical self-worth in a population of 216 female aerobics participants. Additionally, while the model tested accounted for 42% and 49% of the variance in self-esteem, it is recognized that there is a room for improvement as over half of the variance is yet to be explained. It will be important for future studies to incorporate other aspects of the self in examinations of domain specific contributions to self-esteem.

As Shavelson et al<sup>1</sup> suggested, multiple facets must be addressed in fully understanding the development of the global picture of the self. Yet, existing studies examining the relationships in physical activity participants, including athletes, have focused almost entirely on self-esteem as a function of physical self-perceptions.<sup>2,5</sup> Investigations of the role of sport participation and self-concept in other domains in the Shavelson framework are warranted, specifically, the academic and emotional self-concepts. Previous research has established a relationship between physical activity participation and several other psychological outcomes such as depression,<sup>10</sup> perceived quality of life<sup>11</sup> and positive well-being.<sup>12</sup> Given these established relationships, it is conceivable that sport participation may influence self-esteem through the emotional self-concept as a function of the psychological benefits derived from participation. Similarly, being that the participants in the present investigation were student-athletes, it is expected that some of the variance in their self-esteem may also be attributed to the esteem garnered from their academic pursuits. Expansions of the present investigation based on the above hypotheses would provide an even broader understanding of the impact of athletic participation on all facets of self-esteem development.

Design limitations in the present investigation are also recognized. The sample size, while small, was representative of the student body at the university as a whole. It will be necessary to examine the associations of interest using additional participants as well as participants at varying levels of athletic participation, recreational *vs.* organized, for example. Additionally, the athlete population in the present study consisted primarily of self or partially funded individuals at the Division II level of competition. These relationships also warrant investigation at higher levels of participation such as the major Division I level. Similarly, while there is a great deal of research investigating various psychological variables in scholarship student-athletes, investigations comparing scholarship and non-scholarship athletes is surprisingly scarce. It

would be interesting, and necessary, to examine the relationships of interest in the present study in fully funded student athletes *vs.* non or partial scholarship teammates, as opposed to non-athletes in general. Scholarship status has been shown to influence intrinsic motivation.<sup>13</sup> It is reasonable to suggest that the relative contributions to self-esteem in scholarship athletes, some of whom may be using their college scholarship as a vehicle to reach the professional levels, may be markedly different than those participating with an understanding that professional participation may not be in their future.

## CONCLUSION

Notwithstanding, results of the investigation may be meaningful from the perspective of athletic identity, specifically with reference to inevitable retirement from sport, whether due to injury, personal choice or exhaustion of eligibility. Much has been written about the issues that athletes face upon retirement from sport with much of this research concluding that athletes must be proactive in the diminishment of their athletic identity in preparation for the transition to non competition. Lally<sup>14</sup> for example, in a longitudinal study of 3 male and 3 female university student athletes, concluded that it was necessary for athletes to begin redefining their self-concept well in advance of retirement in order to experience less disruption upon transition to leaving sport. Similarly, Webb et al<sup>15</sup> found that higher athletic identity was related to greater retirement difficulties in a population of 93 high school, college, and professional athletes. It will be necessary for future investigations of the relationships described in the present study to employ qualitative methods in determining whether athletes whose self-esteem centers primarily on their physical self-perceptions face future difficulty upon pending or actual retirement from competitive participation.

An additional area of interest may be related to the psychological impact of athletic injury. The psychosocial factors related to injury occurrence, efficiency of rehabilitation and ease of transition back to competition have received a well spring of interest over the last several decades. Research has determined that the extent to which an individual identifies as an athlete plays a critical role in how they react to experiencing injury,<sup>16</sup> how they approach their rehabilitation,<sup>17</sup> and their emotional states through the rehabilitation and return to play process. It will be interesting to examine whether development of the whole person might be of benefit in preparing for the psychological impact of injury.

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