

A Longitudinal Investigation of Sport Participation, Peer Acceptance, and Self-esteem among Adolescent Girls and Boys

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Published online: 6 December 2006
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Abstract The present investigation was designed to explore the relations between sport participation, peer acceptance, and global self-esteem. Peer acceptance was considered as a possible mediator of the relationship between sport participation and global self-esteem. The sample included girls ($N=4,689$) and boys ($N=5,811$) between the ages of 12 and 21 ($M=15$ years) who were part of the National Longitudinal Study of Adolescent Health. Analyses revealed that peer acceptance partially mediated the relation between sport participation and global self-esteem for girls as well as boys. Findings suggest the importance of considering how sport participation and self-evaluations in particular domains may contribute to global feelings of self-worth. The role of peers in this relationship is discussed in relation to changing social attitudes about girls' sport participation.

Keywords Self esteem · Self concept · Athletic participation · Sports · Peer relations · Social acceptance · Gender · Adolescence

This research was supported by a NICHD predoctoral training grant at the University of California, Santa Cruz to the first author (5 T32 MH020025) as well as a faculty research grant from the Social Sciences Division of the University of California, Santa Cruz to the second author. Elizabeth Daniels is now at University of California Los Angeles.

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In the present study, we investigated the interrelations between adolescent girls' and boys' sport participation, self-esteem, and peer acceptance. Given the increased need for belongingness during adolescence, we proposed that peer acceptance would mediate the association between sport participation and self-esteem. It is important to understand factors related to sport participation because of the potentially positive effects of physical activity on school involvement, body image, feelings of physical competence, and a range of other psychosocial outcomes in girls as well as boys (Eccles & Barber, 1999; Marsh & Kleitman, 2003; President's Council on Physical Fitness and Sports, 1997; Richman & Shaffer, 2000). We were particularly interested in exploring similarities and differences in these factors for adolescent girls as well as boys because sport is a highly gendered context (Messner, 2002), and boys participate in sport in greater numbers than girls (4.0 million and 2.9 million, respectively) (National Federation of State High School Associations, 2004).

Girls and Sports in the United States

Historically, sport has been strongly tied to cultural notions of masculinity and considered a male preserve (Messner, 2002; Rader, 1999). However, during the last three decades, girls' and women's participation in sport has increased dramatically in the US and many other Western countries. Before the passage of Title IX in the US in 1972, only 1 in 27 high school girls played sports; today the ratio is 1 in 2.5. In contrast, the rate of sport participation for boys has remained relatively stable at 1 in 2 over the last 30 years (Baum, 1998; Heywood & Dworkin, 2003; National Federation of State High School Associations, 2004).

Despite the historical shift in girls' sport participation, some argue that there has not been a commensurate change in social attitudes whereby sport is deemed equally appropriate for both boys and girls (Kane & Greendorfer, 1994; Messner, 2002). Many girls in sports continue to struggle to reconcile their athleticism with traditional standards of hegemonic femininity that emphasize maintaining a thin body ideal and adhering to a rigid definition of beauty (Choi, 2000; Krane, Choi, Baird, Aimar, & Kauer, 2004; Lenskyj, 1994). Accordingly, social acceptance by peers may be especially important for girls who pursue athletics.

Sport Participation and Self-Evaluations

Conventional wisdom is that sport participation contributes to self-worth. However, empirical research has produced mixed findings. Some studies have shown that sport participation is associated with positive self-evaluations in global and domain-specific aspects of people's self-concepts. For example, Marsh and Jackson (1986) found that female athletes had more positive self-evaluations of their physical competence than did female non-athletes. Athletes also had a significantly higher level of global self-worth (i.e., self-esteem) than did non-athletes, but the average difference was small in magnitude. Other research suggests that the impact of sport participation on self-esteem may depend on domain-specific aspects of individuals' self-concepts. In a retrospective study, Richman and Shaffer (2000) found that girls' high school sport participation predicted global self-worth in college but that self-perceived physical competence, positive body image, and gender-role flexibility were mediators of this relationship. The authors argued that it is important to consider mediators that might link sport participation and self-esteem. Accordingly, we considered adolescents' perceived peer acceptance as a potentially influential factor. In particular, we hypothesized that peer acceptance would mediate the association between adolescents' sport participation and their self-esteem.

Peer Acceptance and Gender Norms

In his interpersonal theory of development, Sullivan (1953) stressed the need for belongingness as critical for the formation a healthy self-concept during late childhood and adolescence. When individuals perceive themselves as positively regarded by significant others, they internalize the positive regard and experience high self-esteem. In contrast, when individuals view themselves as negatively regarded by important others, they internalize the perception and

experience low self-esteem. In support of this theory, peer acceptance has been found to be strongly associated with feelings of global self-worth (see Harter, 1989).

Peer groups tend to enforce societal gender roles (Leaper & Friedman, 2006); therefore, athletic girls risk being labeled masculine depending on their peers' attitudes. This evaluation may negatively impact their level of peer acceptance because they are not conforming to traditional gender roles. Conversely, research suggests that sport can be an important context for boys to gain peer acceptance (Messner, 1989). Whereas athletic ability is often the strongest correlate of popularity among boys, other factors such as physical appearance are often stronger predictors of popularity among girls (e.g., P. A. Adler, Kless, & P. Adler, 1992). However, some research suggests that sport participation may contribute positively to adolescent girls' peer acceptance (e.g., Jaffee & Ricker, 1993).

Summary

We hypothesized that the relationship between girls' sport participation and global self-esteem would be mediated by judgments of peer acceptance. Although our main interest was investigating this relationship for girls, we also tested the mediational model in boys. We anticipated that our hypothesized model would apply to both genders. Further, we looked at this relationship over time in a longitudinal dataset.

Method

Sample

Data collected for the National Longitudinal Study of Adolescent Health (Add Health; Bearman, Jones, & Udry, 1997) was used to test the hypotheses. These longitudinal data were collected at two time points (T1 and T2) between 1994 and 1996 from a nationally representative sample of adolescents. Approximately 1 year elapsed between T1 and T2 data collections. The study used a clustered sampling design that included 80 high schools and 52 junior high schools across the United States. Systematic sampling methods and implicit stratification were employed to ensure that the schools selected were representative of US schools with respect to region of country, urbanicity, size, type, and ethnicity. In total, 119,233 adolescents in grades 7 through 9 were eligible to participate in the Add Health study. There were 90,118 students who completed the in-school survey. A subset of the eligible sample ($N=20,745$) also participated in an in-depth in-home interview.

In the present investigation, 10,500 participants who took part in T1 and T2 in-home interviews and completed items that addressed the three variables of interest in the present study (sport participation, global self-esteem, and peer acceptance) were included in the analyses (girls: $N=4,689$; boys: $N=5,811$). Ages for girls ranged from 12 to 20 years with a mean of 15.43 ($SD=1.59$). Ages for boys ranged from 12 to 21 years with a mean of 15.78 ($SD=1.68$).

Measures

Global self-esteem was measured using the mean of four items: “I have a lot of good qualities;” “I have a lot to be proud of;” “I like myself just the way I am;” and “I feel like I am doing everything just right.” Participants rated each statement on a 5-point scale that ranged from 1=*strongly agree* to 5=*strongly agree*. The α coefficients were 0.79 at Time 1 and 0.81 at Time 2.

Sport participation was measured by responses to the question “During the past week, how many times did you play an active sport, such as baseball, softball, basketball, soccer, swimming, or football?” Response options ranged from *not at all* (0) to *5 or more times* (3). Participants who indicated no sport participation were not included in the present analyses. Therefore, only participants who reported playing an active sport at least one to two times a week were included in the study.

Perceived peer acceptance was measured using the mean of four items: “I feel socially accepted;” “I feel close to people at this school;” “I feel like I am part of this school;” and “I am happy to be at this school.” Response options ranged from 1=*strongly disagree* to 5=*strongly agree*. The α coefficients were 0.74 at both Time 1 and Time 2.

Procedure

One 45- to 60-min class period was designated for completion of the in-school survey. Parents were informed of the survey and could decline participation on their child’s behalf. Students absent on the day that the survey was administered were not able to participate because there was no make-up day. All students who participated in the in-school survey, and those listed on the participating schools’ rosters who did not complete an in-school questionnaire, were eligible for participation in an in-home survey. A subset of the sample was administered an additional 90-min in-home interview. As previously noted, only students who completed the in-home interview, as well as met the other criteria described above, were selected for analysis in the present investigation.

Results

Preliminary analyses

Average gender differences Tests for overall gender differences were also carried out. Table 1 displays girls’ and boys’ mean scores for Time 1 (T1) sport participation, T1 peer acceptance, and T1 and Time 2 (T2) global self-esteem for the entire sample. As seen in Table 1, boys in this study had significantly higher levels of T1 sport participation, T1 global self-esteem, and T2 global self-esteem than girls did. Girls’ and boys’ levels of T1 peer acceptance were not significantly different. Of note, average levels of global self-esteem at T1 for both boys and girls are somewhat high on a 5-point scale ($M=4.02$ for girls; $M=4.21$ for boys).

Correlations Bivariate correlation analyses were conducted with T1 sport participation, T2 global self-esteem, and T1 peer acceptance. All three factors were significantly intercorrelated. T1 sport participation was correlated with T2 self-esteem, $r=0.10$, $p<0.01$ and T1 peer acceptance, $r=0.11$, $p<0.01$. Also, T1 peer acceptance was correlated with T2 self-esteem, $r=0.28$, $p<0.01$. See Table 2 for correlations by gender.

Mediational analyses

The preliminary analyses provide some understanding of the similarities and differences in sport participation, global self-esteem, and peer acceptance. Further analyses were carried out to test if and how sport participation influences global self-esteem. A mediational model helps to explain how the relation between sport participation and global self-esteem may depend, in part, on participants’ perceptions of their peer acceptance. Because data are longitudinal, we were able to look at long-term patterns of influence, and could be more confident in the model.

To test for mediation, regression analyses were conducted based on Kenny’s recommendations (see Baron & Kenny, 1986; Kenny, 2003; Kenny, Kashy, & Bolger, 1998). All of the following must be met to satisfy the conditions for mediation: (1) the initial variable (T1 sport participation) must significantly predict the outcome variable (T2 global self-esteem); (2) the initial variable (T1 sport participation) must significantly predict the mediator (T1 peer acceptance); (3) the effect of the initial variable (T1 sport participation) on the outcome variable (T2 global self-esteem) must be reduced when the mediator (T1 peer acceptance) is entered into the equation. (Full mediation is obtained when the effect of the initial variable is no longer significant after controlling for the mediator variable; partial mediation occurs when the initial variable is reduced

Table 1 Means on measures for girls and boys.

| Variable | Girls | | Boys | | <i>t</i> | Cohen's <i>d</i> |
|------------------------|----------|-----------|----------|-----------|----------|------------------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | | |
| T1 sport participation | 1.79 | 0.83 | 2.14 | 0.85 | 21.00** | 0.42 |
| T1 global self-esteem | 4.02 | 0.67 | 4.21 | 0.58 | 16.12** | 0.30 |
| T2 global self-esteem | 4.10 | 0.65 | 4.26 | 0.58 | 13.43** | 0.26 |
| T1 peer acceptance | 3.89 | 0.73 | 3.92 | 0.68 | 1.61 | 0.04 |

N=4,689 girls and *N*=5,811 boys.

T1 Time 1; T2 Time 2.

p*<0.05; *p*<0.01.

but it remains significant.) In addition, an overall test of the mediational effect was conducted using the *z*-value provided in the Goodman (II) test (Goodman, 1960). To address the two hypotheses of this study, mediational analyses were conducted for the entire sample as well as separately for girls and boys.

Mediational analyses for entire sample Analyses on the entire sample were conducted in which T1 global self-esteem was controlled by entering it into the regression model in the first step. The analyses indicated that the model testing the mediational influence of T1 peer acceptance on T1 sport participation and T2 global self-esteem was significant. First, T1 sport participation was significantly related to T1 peer acceptance, $\beta=0.11$, $t(10,498)=11.01$, $p<0.01$. Regression analyses also indicated that T1 sport participation was associated with T2 global self-esteem, $\beta=0.10$, $t(10,498)=9.98$, $p<0.01$. In addition, the relation between T1 sport participation and T2 global self-esteem was weakened when T1 peer acceptance was included in the regression analysis, $\beta=0.03$, $t(10,486)=3.01$, $p<0.01$. The overall test for mediation was significant, $z=7.12$, $p<0.01$. Thus, peer acceptance partially mediated the influence of sport participation on global self-esteem.

Mediational analyses by gender Analyses were conducted separately for girls and boys. T1 global self-esteem was controlled by entering it into the regression model in the first step. The analyses indicated that the model testing the mediational influence of T1 peer acceptance on T1 sport participation and T2 global self-esteem was significant for both boys and girls (Figs. 1 and 2).

For boys, T1 sport participation was significantly related to T1 peer acceptance, $\beta=0.12$, $t(5,809)=8.98$, $p<0.01$. Regression analyses also indicated that T1 sport participation was associated with T2 global self-esteem, $\beta=0.10$, $t(5,809)=7.67$, $p<0.01$. In addition, the relation between T1 sport participation and T2 global self-esteem was weakened when T1 peer acceptance was included in the regression analysis, $\beta=0.04$, $t(5,803)=3.05$, $p<0.01$. Finally, the overall test for mediation was significant, $z=5.74$, $p<0.01$. Thus, peer acceptance fully mediated the influence of sport participation on global self-esteem for boys.

For girls, T1 sport participation was significantly related to T1 peer acceptance, $\beta=0.09$, $t(4,687)=6.40$, $p<0.01$. Regression analyses also indicated that T1 sport participation was associated with T2 global self-esteem, $\beta=0.04$, $t(4,687)=2.92$, $p<0.01$. Next, the relation between T1 sport participation and T2 global self-esteem was weakened when T1 peer acceptance was included in the regression analysis, $\beta=-0.004$, $t(4,679)=-0.33$, $p=0.74$. Finally, the overall test for mediation was significant, $z=3.24$, $p<0.01$. Thus, peer acceptance fully mediated the influence of sport participation on global self-esteem for girls.

In summary, the results from the mediational tests indicate that the relation between sport participation and global self-esteem is partially dependant on peer acceptance. The model held for both girls and boys.

Discussion

The objective of the present study was to investigate the longitudinal relationships between sport participation, perceived peer acceptance, and overall self-esteem in adolescent girls and boys. As predicted, peer acceptance did indeed mediate the relationship between sport participation and global self-esteem. Our results build on the work of Richman and Shaffer (2000) who also found domain-specific aspects of self-concept mediated the association between sport participation and self-esteem. Together, both investigations suggest the importance of exploring perceived competence in different domains when examining the impact of sport participation on girls' and boys' self-

Table 2 Intercorrelations between variables for girls and boys separately.

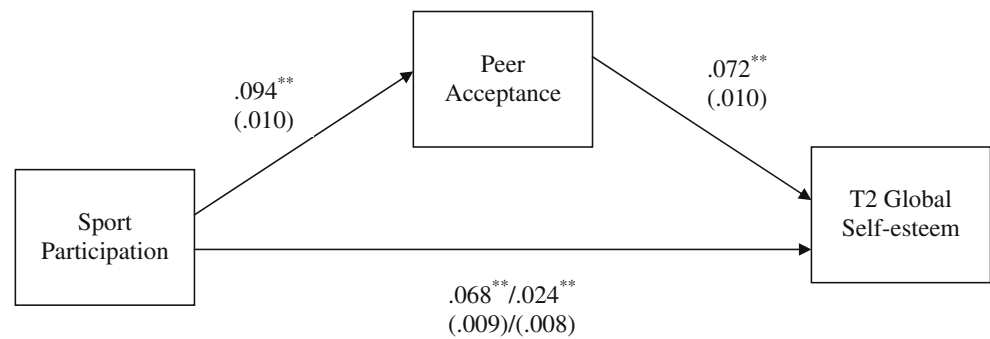
| Variable | 1 | 2 | 3 |
|--------------------------|-------|-------|-------|
| 1. Sport participation | – | 0.04* | 0.09* |
| 2. T2 Global self-esteem | 10* | – | 0.28* |
| 3. Peer acceptance | 0.12* | 0.28* | – |

Correlations for girls (*N*=4,689) and boys (*N*=5,811) appear above and below the diagonal, respectively.

T2=Time 2.

**p*<0.01.

Fig. 1 Peer acceptance as a mediator of sport participation and global self-esteem among boys.



concepts. Moreover, in highlighting the potential role of peer acceptance, our study underscores the importance of viewing sport participation in a larger social context.

As our results indicated, peer acceptance mediated the association between sport participation and later self-esteem for boys and girls. The result for boys is consistent with the strong connection between sport and masculinity in US society. As Messner (1989) has noted, US society typically judges boys by their athletic ability and interest in sports. This notion is captured in remark attributed to Zane Grey, the writer of Old West adventure novels: “All boys love baseball. If they don’t they’re not real boys” (as cited in Messner, 1989, p. 103). Our results suggest that boys’ participation in sports remains an important avenue to peer acceptance and later positive feelings of self-worth.

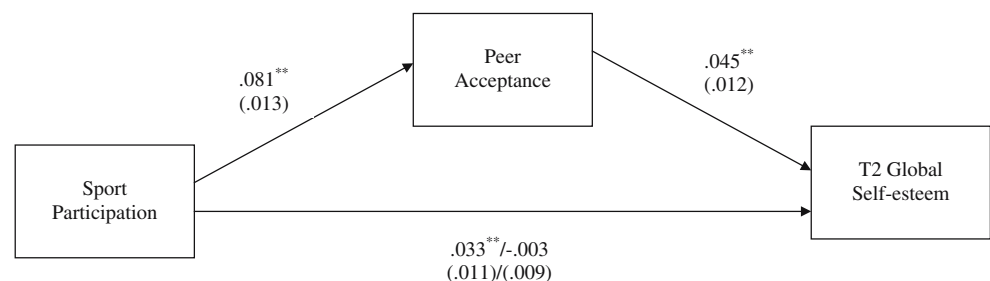
Peer acceptance was also a significant mediator of the self-esteem that adolescent girls derived from sport participation. We believe that peer acceptance may be especially important for girls given the continuing resistance that some athletic girls may experience (Guillet, Sarrazin, & Fontayne, 2000; Smith & Leaper, 2006). As noted earlier, sport has not historically been a socially acceptable activity for girls and women in the US. Since the passage of Title IX legislation, however, youth may be more accepting of girls’ sport participation than in the past (e.g., Jaffee & Ricker, 1993). Thus, physically active girls accepted by their peers are likely to experience increased feelings of global self-esteem. We anticipate that increased societal acceptance of girls’ and women’s athleticism will make it easier for girls to obtain positive socioemotional benefits from their sport participation. This expectation is consistent with recent research that shows that sport involvement predicts increased school attachment and lower levels of

social isolation (Eccles & Barber, 1999; Stone, Barber, & Eccles, unpublished manuscript, retrieved February 15, 2006 from <http://rcgd.isr.umich.edu/garp/articles.htm>).

We believe that the mediational model identified in our analyses contributes to our understanding of how sport participation is related to global self-esteem. The large sample size and longitudinal design are notable strengths of the design. At the same time, we also want to acknowledge some limitations. First, the magnitude of the correlations between sport participation, peer acceptance, and self-esteem were small ($r_s < 0.10$). We readily acknowledge that many factors, besides athletic participation, contribute to adolescents’ global self-esteem over time. However, the fact that these correlations existed across time lends some additional confidence to the validity of the observed model. Also, the small effect sizes may have been due partly to limitations with the measures available in the Add Health data set. The relevant measure of sport participation was based on adolescents’ reported sport participation *in the past week*. Therefore, this measure did not distinguish between regular versus sporadic play. Nor did it distinguish between sport activities that were and those that were not school-affiliated. Further, the peer acceptance measure was not ideal because it was self-report, although this is a common practice in many studies. Thus, as with any study based on a data archive, we were limited to the measures that had been chosen by others. We believe that the large sample size helped to mitigate these sources of error, but it did incur the cost of reduced effect sizes.

We suggest that future researchers investigate whether our findings hold across a variety of sports including so-called alternative sports, such as skateboarding, which might entail resistance to the larger peer group’s attitudes

Fig. 2 Peer acceptance as a mediator of sport participation and global self-esteem among girls.



(e.g., Beal, 1996). Youth in alternative sports may define peer acceptance in terms of their clique, or small group, rather than the larger peer group. An understanding of whether and how peer acceptance and overall self-esteem function for youth who pursue alternative sports may be valuable for the development of intervention efforts aimed at isolated youth. These contexts may be a place for youth who reject, or are rejected by, the mainstream to gain positive feelings about themselves with like-minded peers.

Acknowledgements We thank Margarita Azmitia for her thoughtful comments and suggestions. This research uses data from Add Health, a program project designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris, and funded by a grant P01-HD31921 from the National Institute of Child Health and Human Development, with cooperative funding from 17 other agencies. Special acknowledgment is due Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Persons interested in obtaining data files from Add Health should contact Add Health, Carolina Population Center, 123 W. Franklin Street, Chapel Hill, NC 27516-2524 (<http://www.cpc.unc.edu/addhealth/contract.html>).

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