Published in final edited form as:

Hisp J Behav Sci. 2002 November 1; 24(4): 409–429. doi:10.1177/0739986302238212.

Predicting Adolescent Self-Esteem From Participation in School Sports Among Latino Subgroups

Sumru Erkut and Allison J. Tracy

Wellesley Centers for Women

Abstract

Data from the in-school survey of the National Longitudinal Study of Adolescent Health on girls and boys who claim a Mexican, Puerto Rican, or Cuban heritage were employed to test two hypotheses: (1) Participating in a school-based sport is associated with self-esteem, and (2) school attachment and a sense of physical well-being mediate this relationship. The first hypothesis was partially confirmed in that participation in school sports was associated with self-esteem among Mexican American adolescent girls and boys, Puerto Rican girls, and Cuban American boys, but not among Cuban American girls nor Puerto Rican boys. The second hypothesis was confirmed in that, where there was a significant relationship between participating in a school sport and self-esteem, school attachment and physical well-being mediated this relationship. The results underscore the need to study psychosocial processes separately among Latino subgroups and to examine gender within each subgroup.

One of the justifications given for funding school-based athletic programs is that they boost self-esteem. This viewpoint has gained greater prominence since 1961, when Coleman reported on the centrality of athletics for boys within the status system of American high schools. Research has since provided evidence to support the claim that sports participation is associated with higher self-esteem for both boys and girls, but some of this research did not differentiate between physical activity associated with participating in a school-sponsored sport and physical activity in general. For example, Gruber's (1986) meta-analysis of the outcomes of physical activity showed that higher self-esteem is associated with engaging in physical activity through a variety of avenues even for elementary school-age children (and more so for children from economically disadvantaged families and those with mental or physical disabilities). McAuley (1994) also examined the outcomes of many studies to arrive at a similar conclusion; higher self-esteem is one of the several positive outcomes of engaging in physical activity. Recent research, which employed large samples of Caucasian and African American adolescents obtained from the in-school assessment of the National Longitudinal Study of Adolescent Health (Add Health), has shown specifically that participating in a school sport is associated with self-esteem and that this relationship is mediated by adolescents' attachment to school and their sense of physical well-being (Tracy & Erkut, in press).

Do these findings on the relationship between self-esteem and sports participation apply to youth from Latino subgroups? If they do, are the processes by which Latino youth benefit from participating in a school-based sport similar to the processes that operate for Caucasian and African American adolescents? These are the two central research questions addressed in this article.

Research on Latino Youth's Self-Esteem

The body of research on adolescent self-esteem has primarily examined Caucasian youth, and to some extent African American youth, although it has rarely included Latino youth. Information regarding Latino adolescents' self-esteem had been missing until the publication of the American Association of University Women (AAUW)–sponsored survey (American Association of University Women, 1991) described in *Shortchanging Girls, Shortchanging America*. This study of 3,000 students, between grades 4 and 10 at 12 sites nationwide, measured self-esteem using evaluative statements indicating satisfaction with the self in general and also with competencies in specific areas such as in academics. One of the widely quoted results of the AAUW study (e.g., Schuster, 1991) showed a 38 percentage point drop between elementary and high school Hispanic girls in the frequency of responding “always true” to the item “I am happy the way I am,” compared with a 33 percentage point drop for Caucasian girls and a 7 percentage point drop for African American girls. Although with Caucasian girls the largest disparity in general self-esteem scores was observed between elementary and middle school, among Hispanic girls, the largest discrepancy was between middle school and high school. The AAUW study found a general pattern of lower self-esteem scores among middle and high school boys as well, but not to the same extent as that observed among Caucasian and Hispanic girls. Hispanic boys' self-esteem scores were not as high as those of African American boys but were higher than those of Caucasian boys and Hispanic girls.

In their study of body image, pubertal timing, and mental health, Siegel, Yancey, Aneshensel, and Schuler (1999) examined the impact of gender and race/ethnicity on self-esteem among 877 adolescents (ages 12 to 17). Girls in general had lower self-esteem, but not after controlling for body image. Hispanics had lower self-esteem than other racial/ethnic groups, a difference that persisted after controlling for body image.

These findings on Hispanics are hard to interpret because Latinos encompass considerable diversity across as well as within different Spanish-speaking subgroups on the U.S. mainland. The designation of *Hispanic* or *Latino* lumps together Central American refugees, white-collar and professional Cubans who arrived in the United States following the Cuban revolution, the more marginally employed Cubans who came with the Mariel boat lift in the 1980s, Mexican American migrant workers, Spanish-speaking residents of the Southwest (who have populated the area since the arrival of the early Spanish colonizers in the 1600s), and Puerto Ricans with their own internal diversity and frequency of immigration to and from the mainland. In addition, there are Caribbean and Latin Americans, who come from differing mixtures of indigenous, African, and European origins.

There is large variation among different Latino subgroups with respect to income, marital status, sexual attitudes, fertility patterns, health status, school completion, and women's participation in the labor force (see, for example, Darabi, 1987; Oboler, 1995; Schur, Bernstein, & Minkler, 1987; Thierren & Ramirez, 2000). In view of the diversity within and across subgroups, *Latino* or *Hispanic* is not a meaningful research population without further delineation into national-origin based subgroups or by important demographic and social stratification variables such as education, recency of immigration, urbanization of residence, socioeconomic class, education, or occupation. In this study we have benefited from the large sample size of the Add Health data to isolate Latino adolescents by self-reported national-origin subgroups so that we can examine variation both across and within subgroups.

Rumbaut (1994) studied the relationship between ethnic identity and self-esteem as a function of assimilation among immigrant youth that included five Latino subgroups from Latin America and the Caribbean. Based on national origin of the parents, Latino groups in

his study were Mexican, Cuban, Nicaraguan, Colombian, and Latin American (unspecified). The general self-esteem of the Latino subgroups (as measured by Rosenberg's Self-Esteem Scale, 1965) was quite high, but Rumbaut found that adolescents of Mexican background had lower self-esteem than the other four groups. Rumbaut also obtained results that showed adolescent outcomes varied with the adolescents' own and their parents' nativity (born in the United States or abroad), which suggests that acculturation may play a role in self-esteem.

Erkut, Szalacha, García Coll, and Alarcón (2000) examined self-esteem as a multidimensional construct in one Latino subgroup, Puerto Rican early adolescents from the greater Boston area, using Harter's (1985) Self-Perception Profile for Children. The mean levels of self-esteem found among this sample of Puerto Rican girls and boys were generally similar to those found among Harter's sample of predominantly Anglo middle school students from the suburbs of Denver except that Puerto Rican youth did not show gender differences in overall self-esteem. On the other hand, Erkut et al. found that internal comparisons between early adolescent Puerto Rican girls and boys showed the structure of self-esteem (the relationships between the different dimensions of self-esteem and overall self-esteem) to vary both by gender and by the adolescents' psychological and behavioral acculturation.

The research of Rumbaut (1994) and Erkut et al. (2000), which contrasts with the results from the combined data of "Hispanics" in the AAUW survey of 3,000 youth (American Association of University Women, 1991), strongly suggests that Latino subgroups need to be studied separately. Underscoring the value of this, Umaña-Taylor and Fine (2001) have demonstrated that commonly used measures (including Rosenberg's Self-Esteem Scale) have different levels of internal consistency and concurrent validity among Latino adolescents from different subgroups.

Relationship Between Sports Participation and Self-Esteem Among Latino Youth

Although research on Caucasian and African American youth has established the existence of a relationship between sports participation and self-esteem (e.g., Gruber, 1986; McAuley, 1994; Richman & Shaffer, 2000; Tracy & Erkut, in press), few studies have examined this link among Latino youth.

For a diverse sample of girls ages 6 to 18, Erkut, Fields, Sing, and Marx (1996) found that the most frequently given response to the open-ended probe "Tell me about an activity that makes you feel good about yourself" referred to a physical activity. In this study, Latina girls were as likely to identify sports as an activity that made them feel good about themselves as were girls from other racial/ethnic backgrounds.

One of the rare sports studies of a specific Latino subgroup was an investigation of the relationship between activity level and self-esteem among Mexican American boys and girls by Guinn, Vincent, Semper, and Jorgensen (2000). These researchers found that self-esteem is related to activity level among both girls and boys.

Processes That Mediate the Relationship Between Sports Participation and Self-Esteem

Although the research of both Guinn et al. (2000) and Erkut and her colleagues (1996) suggests the presence of a positive link between participating in a sport and self-esteem among Latino youth, there is no research on Latino youth relevant to what processes might mediate this relationship. For this, we need to turn to studies of adolescents from other racial and ethnic backgrounds.

School attachment—When physical activity is defined as participating in a school-sponsored sport, as it is in the database we are using in this research, school attachment is one of the likely mechanisms that mediate the relationship between sports and self-esteem. Social control theory as articulated by Hirschi (1972) offers theoretical insights as to why school attachment might mediate this relationship. Hirschi has argued that adolescents with strong bonds to society are more likely to engage in socially approved behavior and less likely to engage in socially sanctioned behavior. These bonds are established with family and peers and with social institutions such as schools. Secondary schools in the United States typically value and reward students who participate in sports, such that adolescents who behave in ways that are socially approved in school receive rewards for their conformity (Coleman, 1961). Consequently, they become attached to the institution that rewards them, and these rewards make them feel good about themselves. Empirical support for the role of school attachment comes from Marsh's (1993) analysis of the High School and Beyond data set in which he found that participating in a sport in high school is positively related to a number of senior-year and postsecondary outcomes, including self-esteem. This relationship is mediated by identification with the school even after controlling for race, socioeconomic status, gender, ability level, school size, and school climate.

Physical well-being—Advocates of school athletics also justify sports programs in terms of producing healthy bodies. The self-systems theory of self-esteem (Connell & Wellborn, 1991; Damon & Hart, 1988; Harter, 1999) provides a theoretical rationale for understanding the mediating effect of physical well-being on the relationship between participating in a sport and self-esteem. Self-systems theory refers to the internalization of children's perceptions of significant others' view of them: the "me-self," which, through the process of internalization, becomes the "I-self." The self-systems approach to self-esteem postulates that the "healthiest developmental course is one in which realistic standards and positive opinions of others are internalized, such that they become truly self-evaluations that the child comes to personally own" (Harter, 1999, p. 337). Connell and Wellborn emphasize that the motivational bases of a self-system include three fundamental psychological needs: competence, autonomy, and relatedness. Viewed from this perspective, a focus on physical well-being reflects an internalization of what is good for the person—a body that is energetic and healthy, which is relatively independent of others' evaluative opinions. Participating in sports because it is good for your health satisfies the competence and autonomy motives. It also satisfies the relatedness motive because school sports are carried out in the social milieu of the school, and more specifically, the social milieu of the school team. Thus, a sense of physical well-being reflects an internal orientation to one's body and its health, rather than a focus on body image for the benefit of others' appreciation of one's attractiveness.

Direct evidence for the separate and joint mediating effect of school attachment and physical well-being on the relationship between participating in a school sport and self-esteem came from Tracy and Erkut's (in press) analyses of data from Caucasian and African American girls and boys in the National Longitudinal Study of Adolescent Health. In this study, the mediating effect of school attachment and a sense of physical well-being on the relationship between participation in a school sport and self-esteem was tested separately for boys and girls within each racial group. Their results showed that—when controlling for grade in school, participation in nonsport extracurricular activities, social desirability, mother's education, two-parent family, and academic success—school attachment and physical well-being absorbed the statistical effect of participating in a sport for all four gender-by-race groups. For all groups, a sense of physical well-being contributed more powerfully to self-esteem than did school attachment. Together, the independent variable (sports participation), mediating variables (school attachment and physical well-being), and the control variables in the model accounted for 43% of the variance in self-esteem scores for Caucasian girls,

40% of the variance for Caucasian boys, 28% for African American girls, and 36% for African American boys. In addition, Tracy and Erkut (in press) found evidence for race- and gender-related patterns in the mediated relationship. For example, among Caucasian girls, a negative residual effect of sports participation was observed, which suggests that sports participation encapsulates multiple effects with contradictory influences. For African American girls, school attachment by itself was not a significant contributor to self-esteem; its impact was significant only in conjunction with physical well-being.

Hypotheses

The goal of this article is to describe variations in the relationship between self-esteem and participating in a school sport among Latino subgroups and to test a model of the association between sports participation and self-esteem as mediated by school attachment and a sense of physical well-being. Using data from adolescent girls and boys who claim a Mexican, Puerto Rican, or Cuban heritage, we test the following two hypotheses: (a) participating in a school-based sport is associated with self-esteem and (b) school attachment and a sense of physical well-being mediate the relationship between sports participation and self-esteem. Because we expect to find differences across Latino subgroups and gender differences within subgroups, the hypotheses are tested separately for each gender by Latino combination.

Method

We used data from the in-school survey of the National Longitudinal Study of Adolescent Health (Add Health)¹ (Bearman, Jones, & Udry, 1997) to test the hypotheses. These data were collected to assess the health status of adolescents and to explore the causes and consequences of their health-related behaviors. We chose this data set because the data are from a nationally representative sample (Tourangeau & Shin, 1999). Moreover, they include oversampling of minority populations, which yields large samples for analyses with minority subgroups.

The Add Health data were collected using a clustered sampling design in which 80 high schools and 80 paired feeder schools (junior high schools that contributed students to the selected high schools) across the United States yielded a sample of 90,000 adolescents in grades 7 through 12. These students were given the in-school portion of the survey in 1994 and 1995. To correct for biases introduced by the sampling design, cases were weighted to reflect the overall population of students in the United States.

Sample

In the Add Health In-School Survey, “Mexican/Mexican American,” “Chicano/Chicana,” “Cuban,” “Puerto Rican,” “Central/South American,” and “Other Hispanic” were the available response options asking respondents of “Hispanic or Spanish origin” to detail their cultural background. We combined the “Mexican/Mexican American” and “Chicano/Chicana” groups into the single category representing Latinos of Mexican heritage. We omitted the “South/Central American” and “Other Hispanic” subgroups because these categories capture such disparate Latino cultures. Thus, our samples consisted of adolescents of Mexican, Puerto Rican, and Cuban heritage. We selected among these groups only those respondents with complete data on our study variables.

¹The Add Health project was designed by J. Richard Udry (PI) and Peter Bearman and funded by grant P01-HD31921 from the National Institute of Child Health and Human Development to the Carolina Population Center, University of North Carolina at Chapel Hill. Persons interested in obtaining data files from the National Longitudinal Study of Adolescent Health should contact Jo Jones, Carolina Population Center, 123 West Franklin Street, Chapel Hill, NC 27516-3997; jo_jones@unc.edu.

Two other considerations (sampling within schools and regional distribution) went into whether an otherwise eligible adolescent would be included in the sample. First, to correct for nonindependence of observations due to the nesting of students within schools, intercorrelations of responses among students within each school were used within the modeling procedure. Eight respondents who were otherwise eligible for inclusion in our analysis sample were the only eligible students in their school. Because no within-school intercorrelations can be obtained for these students, they could not be included in the analyses. Second, an inspection of the regional geographic distribution of the students in our selected sample showed that Mexican and Cuban students were not evenly distributed across regions. Because very few Mexican students lived in the northeast region of the United States ($n = 53$) and few Cuban students lived outside the southern region (32 lived in the West, 19 lived in the Midwest, and 23 lived in the Northeast), we excluded these respondents from our analysis sample. Our final sample included 3,011 Mexican/Mexican American students, 831 Puerto Rican students, and 800 Cuban/Cuban American students. The mean age of the adolescents in our sample was 15.10 years ($SE = 0.19$).

Constructs and Their Operational Definitions

Dependent variable—A composite variable indicating self-esteem was constructed using the mean of six items available in the survey that had been taken from Rosenberg's (1965) 10-item measure of general self-esteem. The items assessed how strongly the respondent agreed or disagreed with statements such as "I have a lot of good qualities" and "I have a lot to be proud of." Response options ranged from 5 (*strongly agree*) to 1 (*strongly disagree*). A higher score on the composite self-esteem scale indicated a stronger sense of self-esteem. The internal consistency coefficient (Cronbach's α) for this scale ranged from 0.84 to 0.88 across the six Latino subgroup/gender categories.

Independent variable—The in-school Add Health survey asked participants about involvement in sports in the context of 13 different school-sponsored teams. Thus, school-based sports participation was measured by constructing a variable based on 13 types of sports included in the Add Health questionnaire (such as basketball, baseball, tennis, and so forth) in which a respondent reported participating in currently or (to include student athletes in seasonal sports) sports in which he or she planned to participate later in the school year. A dichotomous variable was created that indicated sports participation (current or intended) in at least one sport versus no sports participation.

Mediator variables—Attachment to school was operationalized using the mean of five items that assessed the respondent's level of agreement with such statements as "I feel close to people at this school" and "I feel like I am part of this school" on a 5-point Likert-type scale. A higher score on this scale indicated stronger feelings of attachment. The internal consistency coefficient for the attachment to school scale ranged from 0.68 to 0.76.

The respondent's sense of physical well-being was operationalized by a composite of five items that indicated how strongly the adolescent agreed with statements such as "I have a lot of energy" and "I seldom get sick." A higher score on this variable indicated a greater sense of physical well-being. The internal consistency coefficient for the physical well-being scale ranged from 0.68 to 0.72.

Control variables—A number of control variables were used as covariates in the analyses. These are variables that are known to have relationships with either the dependent, independent, or mediating variables, and/or reveal gender or race/ethnicity differences in the hypothesized relationships. We used grade in school as a proxy for the respondent's age because gender differences in self-esteem increase as a function of age (Kling, Hyde, &

Showers, 1999) and sports participation declines with age (Engel, 1994). Participation in nonsport extracurricular activities (dichotomously coded) was included because of demonstrated associations with self-esteem. Social desirability has been associated with self-esteem (Robins, Hendin, & Trzesniewski, 2001; Seidman, Allen, Aber, Mitchell, & Feinman, 1994; Tournois, Mesnil, & Kop, 2000). Therefore, a single dichotomous item, coded 1 if the adolescent reported never having lied to a parent or guardian in the past 12 months, was employed as a measure of social desirability. Respondents' reports of their mother's educational attainment (as a proxy for socioeconomic status) and living in a two-parent household were included because Latino subgroups differ on these two variables (Thierren & Ramirez, 2000). We also listed an indicator of academic success because both sports participation and self-esteem are associated with academic achievement (Marsh, 1993). Academic success was operationalized as the mean of self-reported grades in English, math, social studies, and science.

Several other control variables specific to issues of cultural and ethnic identity were also employed. Because an adolescent's level of acculturation to dominant values and expectations in the United States is likely to influence his or her self-esteem (Erkut et al., 2000) and propensity to participate in sports (Gibbons, Lynn, & Stiles, 1997), we created a dummy variable to identify students who had been born in the United States versus students who were first generation immigrants. Similarly, because parental nativity is expected to impact our focal constructs as well (Rumbaut, 1994), we created a dummy variable that flagged students who had been born in the United States themselves but who lived with at least one parent who had been born abroad versus those with both parents born on the U.S. mainland. Finally, as an indicator of the presence of ethnic role models, we included a school-level control variable (based on school administrators' report) that identified those schools for which more than 5% of the full-time classroom teachers were Latino. Descriptive statistics for all the analysis variables are given in Table 1.

Analyses

To reflect in our analyses the complex design features of the Add Health sampling structure (i.e., clustering within schools and nonrandom probability sampling), we used design correction procedures in our regression equation models (Shah, Barnwell, & Bieler, 1997). Because we were interested in regional effects, we modeled region as a series of dummy-coded variables, rather than as part of the sampling frame. Because these corrections require a large number of degrees of freedom to calculate, statistical power in the Puerto Rican and Cuban samples was borderline. For these groups, we made a decision to flag effects that are significant at the $p < .10$ level to guard against the possibility of ignoring effects that may be important in the population. A more liberal criterion is appropriate during this exploratory stage of study.

The hypotheses were tested in two stages. In the first, sports participation and the control variables were used to predict self-esteem in each Latino subgroup and gender category. In the second stage, the hypothesized mediators, school attachment and physical well-being, were added to predictors in the first model. We set the following criteria for judging whether the mediation hypothesis was confirmed: (a) sports significantly predicted self-esteem in the first model and (b) the sports effect was significantly diminished when the mediating variables were added in the second model (Baron & Kenny, 1986).

Results

Descriptive findings

Differences across group means (Table 1) were tested for statistical significance by examining the 95% confidence intervals associated with the means. A number of interesting patterns were found in these group differences. For instance, sports participation rates for Cuban adolescents were the lowest of the three subgroups. Cuban girls and boys in this sample were also less likely to report that both they and their parents had been born in the United States than were either of the other two groups. Cuban boys and girls were more likely than were other Latino adolescents to be a member of the first generation in their family born in the United States, but this difference only reached significance in comparison to Mexican boys. Cuban girls and boys were also much more likely to attend schools with an appreciable number of Latino teachers than were other Latino adolescents.

Within each Latino subgroup, girls reported being less involved in sport activities than did boys, but this difference was not significant for Puerto Ricans. Girls also reported lower self-esteem (although not significantly so for Cubans) and lower scores on physical well-being than did boys in each subgroup.

Sports effects

We fit two sets of multiple regression models to the data from each group: one that included covariate and sports participation effects on self-esteem, and a second set that included the hypothesized mediators, school attachment and physical well-being, in addition to the covariate and sports effects. The hypothesis that sports participation predicts self-esteem above and beyond the effects of the covariates was supported in four of the six groups (see Table 2): namely, Mexican girls ($B = 0.13$, $SEB = 0.05$, $p < .01$) and Mexican boys ($B = 0.15$, $SEB = 0.06$, $p < .01$), Puerto Rican girls ($B = 0.18$, $SEB = 0.08$, $p < .05$), and Cuban boys ($B = 0.22$, $SEB = 0.11$, $p < .10$). Puerto Rican boys and Cuban girls had regression parameters that were in the hypothesized direction ($B = 0.09$ and $B = 0.14$, respectively), but these failed to reach statistical significance even at the $p < .10$ level.

The overall model explained more of the variation in Cuban adolescents' self-esteem ($R^2 = 0.15$ for Cuban girls and $R^2 = 0.20$ for Cuban boys) than in the other Latino groups ($R^2 = 0.07$ for Mexican girls and boys, and $R^2 = 0.11$ and 0.10 for Puerto Rican girls and boys, respectively).

Mediating effects

For the four groups showing significant sports effects in the first set of models, we tested the hypothesis that the sports effect is mediated by physical well-being and school attachment. Table 2 shows the results for these models (including parallel models for Puerto Rican boys and Cuban girls for comparison purposes). In each of these four groups, our hypothesis was supported. For Mexican girls, the sports effect dropped from 0.13 to -0.06 ($p < .01$) when the hypothesized mediating variables were included in the model. The drop in the sports effect for Mexican boys was from 0.15 to 0.02 ($p < .01$), in the Puerto Rican girls' model it was from 0.18 to 0.04 ($p < .10$), and for Cuban boys, the drop was from 0.22 to 0.02 ($p < .01$).

School attachment and physical well-being improved the predictive ability of the models in a dramatic way; the variance explained in Mexican girls' self-esteem jumped from 7% to 36%, and it increased from 7% to 44% for Mexican boys, from 11% to 34% for Puerto Rican girls, from 10% to 49% for Puerto Rican boys, from 15% to 44% for Cuban girls, and from 20% to 50% for Cuban boys. Overall, our mediated models did a better job of

accounting for the variance in self-esteem for boys than for girls across the Latino subgroups, but even the least predictive model explained a large proportion of differences in Latino adolescents' levels of self-esteem.

Discussion

In the present study, the predicted relationship between participating in a school-sponsored sport and self-esteem was supported for Mexican American girls and boys, Puerto Rican girls and for Cuban American boys, but not for Cuban American girls or for Puerto Rican boys. Our first hypothesis about the association between sports and self-esteem was therefore confirmed only for these four groups of adolescents. The second hypothesis, which predicts that the relationship between sports participation and self-esteem is mediated by school attachment and physical well-being, was confirmed for all four groups for which there was a significant relationship between participating in a school sport and self-esteem. Thus, when there is a statistically significant relationship between sports participation and self-esteem, as predicted, this relationship is mediated by separate and joint effects of school attachment and physical well-being.

The confirmation of the mediation hypothesis lends support to Tracy and Erkut's (in press) findings with Caucasian and African American adolescent girls and boys that the association of participating in a school-sponsored sport with self-esteem is explained by attachment to school and a sense of physical well-being. The results obtained on Caucasian and African American adolescents in the previous study and the Latino subgroups in this study are also similar with respect to the effect sizes observed: a modest association between participation in a school sport and self-esteem is fully mediated by a sense of physical well-being and school attachment. The strength of the mediating variables' association with self-esteem appears to be a robust finding that holds true for all subgroups examined, even among those in which sports participation is not significantly associated with self-esteem.

This study found differences among Latino subgroups that are worthy of mention. Cuban adolescents were the least likely of the three subgroups to participate in school sports. Their low rates are somewhat surprising in view of the fact that postrevolutionary Cuba is a very sport-oriented society as evidenced by the large Cuban contingents from this small island nation in international sporting events (e.g., the 2000 Olympic Games). It appears that for Cuban Americans, their ancestral heritage plays a less important role in a sports orientation on the mainland than does the cultural niche created by the Cuban American immigrant community in the South.

Cuban boys and girls in this sample were also the most likely of the Latino adolescents to have been born outside of the United States or to be a first generation American citizen and the most likely to attend schools with an appreciable number of Latino teachers. By themselves, these findings point to the differences in the cultures of different Latino subgroups on the mainland and the necessity of studying each separately.

Within each Latino subgroup, girls reported lower involvement in sport activities, lower self-esteem, and lower scores on physical well-being than did boys. A gender difference in participation in sports is consistent with the literature that documents this general finding in the United States (President's Council on Physical Fitness and Sports, 1997) and abroad (Gibbons et al., 1997), even though, over time, the gender difference in sports participation has been diminishing in the United States (President's Council on Physical Fitness and Sports, 1997). Latina girls' lower general self-esteem scores obtained in this study were consistent with the AAUW (1991) results of gender differences in self-esteem among Hispanic youth but contradict Erkut et al.'s (2000) findings of no gender differences in

general self-esteem among Puerto Rican early adolescents. The observed pattern of lower physical well-being for girls relative to boys has not been specifically examined elsewhere among Latinos or other racial and ethnic groups. Future research should examine gender and race/ethnicity patterns in self-reports of physical well-being.

In all three domains on which we have obtained gender differences (sports participation, self-esteem, and physical well-being), the social construction of gender roles in different Latino subcultures is likely to be implicated, but specific definitions of what constitutes femininity and masculinity among Latino adolescents from different subgroups are lacking. The gender difference in sports participation is the largest among Cuban Americans, the group that is least likely to participate in a school sport. It appears that participating in a school sport is even less of a priority for girls than for boys in the Cuban-American community of the South. This finding begs for an in-depth analysis of the social construction of gender roles for Cuban American adolescents in the South. Indeed, although Gil and Vazquez (1996) have provided a compelling examination of the influence of *marianismo*/ *machismo* on Latino adults, comprehensive examination of gender role development among Latino adolescents from different subgroups remains to be accomplished.

Limitations

Given that these are cross-sectional analyses, we cannot make direct inferences about the causal direction of these relationships. It may be that sports participation mediates the relationship between physical well-being and self-esteem rather than the other way around. Alternatively, school attachment and sports participation may be independently influenced by self-esteem or it may be that only adolescents who already have high self-esteem play sports and cultivate an attachment to school. To tease apart the causal effects in this system of interrelationships, we plan to conduct further analyses using multiple waves of data from the Add Health data set.

Because these are secondary analyses on a data set designed for more general purposes, the operationalization of the constructs in the model also limit the results. The sports participation variable employed in our models refers to self-reports of current or intended participation in a number of sports offered at the school. Although all participants in sports can be considered physically active because they get exercise, not all who are physically active get their exercise by participating in a school sport. In this regard, the results of this study cannot be generalized to self-esteem implications of being physically active outside of participating in a school-sponsored sport, which can include playing on neighborhood sports teams, doing nonteam sports on one's own, or getting exercise by jogging or weightlifting outside of a school sport.

An additional limitation concerns the measure of self-esteem employed in the study. Self-esteem can be both global, such that it can be measured as a unidimensional construct, and specific to different domains of competence, which requires a multidimensional measure (Harter, 1999; Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). What was available to us in the Add Health data was a global measure of self-esteem, which measures how one feels about oneself in general. Researchers who have focused on specific dimensions of self-esteem have reported strong relationships between evaluations of the physical self-system (Sonstroem, 1997a, 1997b) or athletic competence (Harter, 1999) with physical activity, stronger than the relationship between general self-esteem and physical activity. In other words, the specific dimension of self-esteem that reflects the domain of physical competence is most closely related to being physically active. Indeed, Sonstroem (1997b) argued that evaluations of the physical self mediate the relationship between physical activity and general self-esteem. Future research should examine this specific dimension of self-esteem as a mediator alongside school attachment and physical well-being.

A further limitation of this study is the unavailability of other constructs relevant to the relationship between participating in a school sport and self-esteem, most prominently gender roles and body image. The Add Health study did not include items that measure these constructs. Future research that is specifically designed to examine the relationship between sports participation and self-esteem should collect data on gender roles and body image.

Implications

This study underscores the need to empirically examine the generalizability across ethnic subgroups of results obtained on majority culture adolescents or broad categories of minorities. In the present study, the hypothesized relationship between participating in a school-sponsored sport and self-esteem previously found to apply to Caucasian and African American adolescents (Tracy & Erkut, in press) was supported for Mexican American girls and boys, Puerto Rican girls and for Cuban American boys but not for Cuban American girls or for Puerto Rican boys. Similarly, both the average levels of sports participation and self-esteem were found to vary across subgroups and by gender within subgroups. The research implications of these differences point to the need to go beyond the general grouping of Hispanics or Latinos as research populations and to study Latino subgroups separately.

The results of this study have implications for social interventions. When the goal is to increase self-esteem among Latino adolescents, investing in sports programs holds promise as an effective intervention possibility for Mexican American girls and boys, Puerto Rican girls, and Cuban American boys. However, because among Puerto Rican boys and Cuban American girls self-esteem was not associated with participation in school sports, a sport-based intervention is not recommended for these groups. Directly investing in programs designed to increase school attachment and a sense of physical well-being is likely to be successful for all three Latino groups. On the other hand, without a sports component, such programs may not be so popular and easy to fund: well-developed sports programming is part of many school boards', parents', and alumni's notions of a good high school.

In this study on Latino adolescents and in Tracy and Erkut's (in press) research with African American and Caucasian adolescents, physical well-being was a powerful mediator of the effect of sports participation on the self-esteem of all gender and race groups and a powerful predictor of self-esteem outside a sports-related context. This is a finding that has important implications for understanding self-esteem in school settings. It appears that adolescents benefit psychologically from physical activities when their focus is on health rather than on more superficial concerns such as body image or physical attractiveness. The self-esteem benefits of a focus on physical well-being are in line with the shifting health promotion paradigm from a concern over weight control to a focus on physical wellness (Cogan, 1999; Cogan & Ernsberger, 1999). The new paradigm emphasizes healthy lifestyles and positive attitudes toward health and self-care in contrast to meeting predetermined weight standards (Ernsberger & Koletsky, 1999). Given the powerful effect of physical well-being, sports programs should incorporate messages about the health benefits of physical activity to achieve higher levels of impact on the self-esteem of all their adolescent participants, regardless of gender or ethnicity.

Acknowledgments

Research reported here was funded by a grant (1 R01 HD38530-01A1) from the National Institute of Child Health and Human Development. Ineke Ceder's comments on earlier drafts are gratefully acknowledged.

References

- American Association of University Women. Shortchanging girls, shortchanging America. Washington, DC: Author; 1991.
- Baron RM, Kenny DA. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology* 1986;51(6):1173–1182. [PubMed: 3806354]
- Bearman, PS.; Jones, J.; Udry, JR. The National Longitudinal Study of Adolescent Health: Research design. 1997. Retrieved November 20, 2001, from www.cpc.unc.edu/projects/addhealth/design.html
- Cogan JC. A new national health agenda: Providing the public with accurate information. *Journal of Social Issues* 1999;55(2):383–400.
- Cogan JC, Ernsberger P. Dieting, weight, and health: Reconceptualizing research and policy. *Journal of Social Issues* 1999;55(2):187–205.
- Coleman, JS. The adolescent society: The social life of the teenager and its impact on education. New York: Free Press; 1961.
- Connell, JP.; Wellborn, JG. Competence, autonomy, and relatedness: A motivational analysis of self-system processes. In: Gunnar, MR.; Sroufe, LA., editors. *Self processes and development*. Vol. 23. Hillsdale, NJ: Lawrence Erlbaum; 1991. p. 43-77.
- Damon, W.; Hart, D. Self-understanding in childhood and adolescence. New York: Cambridge University Press; 1988.
- Darabi, KF. Childbearing among Hispanics in the U.S.: An annotated bibliography. Westport, CT: Greenwood; 1987.
- Engel A. Sex roles and gender stereotyping in young women's participation in sport. *Feminism and Psychology* 1994;4(3):439–448.
- Erkut, S.; Fields, JP.; Sing, R.; Marx, F. Diversity in girls' experiences: Feeling good about who you are. In: Leadbeater, B.; Way, N., editors. *Urban adolescent girls: Resisting stereotypes*. New York: New York University; 1996.
- Erkut S, Szalacha LA, García Coll C, Alarcón O. Puerto Rican early adolescents' self-esteem patterns. *Journal of Research on Adolescence* 2000;10(3):339–364.
- Ernsberger P, Koletsky RJ. Biomedical rationale for a wellness approach to obesity: An alternative to a focus on weight loss. *Journal of Social Issues* 1999;55(2):221–260.
- Gibbons JL, Lynn M, Stiles DA. Cross-national gender differences in adolescents' preferences for free time activities. *Cross-Cultural Research: The Journal of Comparative Social Science* 1997;31:55–69.
- Gil, RM.; Vazquez, CI. The Maria paradox: How Latinas can merge old world traditions with new world self-esteem. New York: G. P. Putnam's Sons; 1996.
- Gruber, JJ. Physical activity and self-esteem development in children: A meta-analysis. In: Stull, GA.; Echert, HM., editors. *Effects of physical activity on children*. Vol. 19. Champaign, IL: Human Kinetics; 1986. p. 30-48.
- Guinn B, Vincent V, Semper T, Jorgensen L. Activity involvement, goal perspective, and self-esteem among Mexican American adolescents. *Research Quarterly for Exercise and Sport* 2000;71:308–311. [PubMed: 10999268]
- Harter, S. Unpublished manuscript. University of Denver; 1985. Manual: Self-perception profile for children.
- Harter, S. The construction of the self: A developmental perspective. New York: Guilford; 1999.
- Hirschi, T. Causes of delinquency. Berkeley: University of California Press; 1972.
- Kling KC, Hyde JS, Showers CJ. Gender differences in self-esteem: A meta-analysis. *Psychological Bulletin* 1999;125(4):470–500. [PubMed: 10414226]
- Marsh HW. The effects of participation in sport during the last two years of high school. *Sociology of Sport Journal* 1993;10:18–43.
- McAuley, E. Physical activity and psychosocial outcomes. In: Bouchard, C.; Shephard, RJ.; Stephens, T., editors. *Physical activity, fitness and health*. Champaign, IL: Human Kinetics; 1994. p. 551-568.

- Oboler, S. *Ethnic labels, Latino lives*. Minneapolis: University of Minnesota Press; 1995.
- President's Council on Physical Fitness and Sports. Physical activity and sport in the lives of girls: Physical and mental health dimensions from an interdisciplinary approach. 1997. Retrieved November 20, 2001, from www.kls.coled.umn.edu/crgws/pcpfs/pcpfs.html
- Richman EL, Shaffer DR. "If you let me play sports": How might sport participation influence the self-esteem of adolescent females? *Psychology of Women Quarterly* 2000;24:189–199.
- Robins RW, Hendin HM, Trzesniewski KH. Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin* 2001;27(2):151–161.
- Rosenberg, M. *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press; 1965.
- Rosenberg M, Schooler C, Schoenbach C, Rosenberg F. Global self-esteem and specific self-esteem: Different concepts, different outcomes. *American Sociological Review* 1995;60:141–156.
- Rumbaut RG. The crucible within: Ethnic identity, self-esteem, and segmented assimilation among children of immigrants. *International Migration Review* 1994 winter;28:748–794.
- Schur CL, Bernstein AB, Minkler D. The importance of distinguishing Hispanic subpopulations in the use of medical care. *Medical Care* 1987;25:627–641. [PubMed: 3121952]
- Schuster, S. *Shortchanging girls, shortchanging America: Proceedings of the Today's Girls, Tomorrow's Leaders Symposium*. New York: Girl Scouts of the U.S.A; 1991.
- Seidman E, Allen L, Aber JL, Mitchell C, Feinman J. The impact of school transitions in early adolescence on the self-system and perceived social context of poor urban youth. *Child Development* 1994;65(4):507–522. [PubMed: 8013237]
- Shah, BV.; Barnwell, BG.; Bieler, GS. *SUDAAN user's manual, release 7.5*. Vol. 2. Research Triangle Park, NC: Research Triangle Institute; 1997.
- Siegel JM, Yancey AK, Aneshensel CS, Schuler R. Body image, perceived pubertal timing, and adolescent mental health. *Journal of Adolescent Health* 1999;25:155–165. [PubMed: 10447043]
- Sonstroem, RJ. Physical activity and self-esteem. In: Morgan, WP., editor. *Physical activity and mental health*. Philadelphia: Taylor & Francis; 1997a. p. 127–143. (Series in health psychology and behavioral medicine)
- Sonstroem, RJ. The physical self-system: A mediator of exercise and self-esteem. In: Fox, KR., editor. *The physical self: From motivation to well-being*. Champaign, IL: Human Kinetics; 1997b. p. 3–26.
- Thierren, M.; Ramirez, RR. *The Hispanic population in the United States: March, 2000*. Washington, DC: U.S. Census Bureau; 2000. p. 20–535. p. 1–7. (Current Population reports)
- Tourangeau, R.; Shin, H-C. *National Longitudinal Study of Adolescent Health: Grand sample weight*. Carolina Population Center, University of North Carolina; Chapel Hill: 1999 Oct. Unpublished report
- Tournois J, Mesnil F, Kop JL. Autodupé et hétérodupé: Un instrument de mesure de la désirabilité sociale [Self-deception and other-deception: A social desirability questionnaire]. *Revue Européenne de Psychologie Appliquée* 2000;50(1):219–233.
- Tracy A, Erkut S. Gender and race patterns in the pathways from sports participation to self-esteem. *Social Perspectives*. in press.
- 2000 Olympic Games. Medal count by country—Rank by total. 2001. Retrieved December 21, 2001, from <http://sports.yahoo.com/oly/medals.html>
- Umaña-Taylor AJ, Fine MA. Methodological implications of grouping Latino adolescents into one collective ethnic group. *Hispanic Journal of Behavioral Sciences* 2001;23:347–362.

Biographies

Sumru Erkut is a senior research scientist and associate director of the Center for Research on Women at the Wellesley Centers for Women. She received a doctorate in social psychology from Harvard University. Her recent research focuses on adolescent development, the effects of sports on girls' development and sexual behavior, gender equity,

racial and ethnic diversity, and evaluating youth-serving agencies' programs for adolescents. In addition, she directs a research program on Puerto Rican youth development.

Allison J. Tracy is a research scientist and methodologist at the Wellesley Centers for Women. She received her doctorate degree in human development and family studies with a minor in statistics at the Pennsylvania State University. Her recent research includes the modeling of clustered data, latent variable mixture modeling, and measurement construction, as well as the substantive topics of sports and sexuality in adolescents, the quality of adolescents' peer, mentor, and community relationships, gender ideology among adolescents, and the evaluation of character development programs for youth.

Table 1
Group Means^d of Analysis Variables (Adjusted for Nonprobability Sampling), by Latino Subgroup and Gender

Variable	Range	Mexican Girls (<i>n</i> = 1,552)		Mexican Boys (<i>n</i> = 1,459)		Puerto Rican Girls (<i>n</i> = 426)		Puerto Rican Boys (<i>n</i> = 405)		Cuban Girls (<i>n</i> = 411)		Cuban Boys (<i>n</i> = 389)	
		<i>M</i>		<i>M</i>		<i>M</i>		<i>M</i>		<i>M</i>		<i>M</i>	
Grade in school	7–12	9.61 _a		9.62 _a		9.84 _a		9.86 _a		9.67 _a		9.95 _a	
Nonsport activities ^e	0–1	0.55 _b		0.39 _a		0.64 _b		0.41 _{a,b}		0.59 _b		0.46 _{a,b}	
Social desirability ^e	0–1	0.16 _{a,b,c}		0.21 _{b,c}		0.10 _a		0.14 _{a,b}		0.16 _{a,b,c}		0.28 _c	
Mother's education ^e	0–1	0.17 _a		0.18 _{a,b}		0.31 _c		0.26 _{a,b,c}		0.30 _{b,c}		0.28 _{a,b,c}	
Two-parent family ^e	0–1	0.71 _a		0.68 _a		0.64 _a		0.59 _a		0.68 _a		0.67 _a	
Academic success	1–4	2.92 _a		2.83 _a		2.82 _a		2.76 _a		2.79 _a		2.68 _a	
Parents born in United States ^e	0–1	0.51 _b		0.54 _b		0.55 _b		0.57 _b		0.09 _a		0.10 _a	
First generation ^e	0–1	0.33 _{a,b}		0.28 _a		0.31 _{a,b}		0.31 _{a,b}		0.54 _b		0.45 _b	
Latino teachers ^e	0–1	0.20 _a		0.24 _a		0.09 _a		0.06 _a		0.91 _b		0.83 _b	
Sports participation ^e	0–1	0.48 _b		0.61 _c		0.49 _{b,c}		0.65 _c		0.25 _a		0.45 _b	
School attachment	1–5	3.42 _b		3.43 _b		3.18 _a		3.40 _{a,b}		3.43 _b		3.48 _b	
Physical well-being	2.5 ^f –5	3.64 _a		3.90 _b		3.62 _a		4.03 _b		3.70 _a		3.93 _b	
Self-esteem	2.5 ^f –5	3.77 _{a,b}		3.98 _c		3.74 _a		3.97 _{b,c}		3.88 _{a,b,c}		4.02 _c	

NOTE: Means for the Mexican subgroups do not represent Mexicans from the Northeast and underrepresent Mexicans from the Midwest. Means for the Cuban subgroups represent only Cubans from the South.

^dMeans with the same subscript are not significantly different.

^eThese values represent the proportion of respondents endorsing the selected category in a dichotomous variable. For this study, these selected categories include respondents' reports of involvement in a nonsport extracurricular activity, never having lied to their parents in the past year, mother's education or training beyond high school, both adolescent and parent born in the United States, adolescent born in the United States but parent born abroad, attending a school where more than 5% of the full-time classroom teachers are of Latino or Spanish origin, and current or anticipated participation in at least one active sport.

^fThese variables have been truncated to reduce the effect of outliers in the distribution.

Table 2
Linear Regression Coefficients for Sports and Mediator Variables in Models Predicting Self-Esteem^a, by Latino Subgroup and Gender

	Mexican Girls (<i>n</i> = 1,552)		Mexican Boys (<i>n</i> = 1,459)		Puerto Rican Girls (<i>n</i> = 426)		Puerto Rican Boys (<i>n</i> = 405)		Cuban Girls (<i>n</i> = 411)		Cuban Boys (<i>n</i> = 389)	
	<i>B</i>	(SEB)	<i>B</i>	(SEB)	<i>B</i>	(SEB)	<i>B</i>	(SEB)	<i>B</i>	(SEB)	<i>B</i>	(SEB)
Unmediated models												
Sports participation	0.13	(0.05)***	0.15	(0.06)***	0.18	(0.08)**	0.09	(0.09)	0.14	(0.11)	0.22	(0.11)*
<i>R</i> ²	0.07		0.07		0.11		0.10		0.15		0.20	
Mediated models												
Sports participation	-0.06	(0.04)	0.02	(0.04)	0.04	(0.07)	-0.05	(0.07)	0.07	(0.08)	0.02	(0.07)
School attachment	0.29	(0.04)***	0.26	(0.03)***	0.31	(0.05)***	0.36	(0.05)***	0.22	(0.07)***	0.39	(0.06)***
Physical well-being	0.44	(0.04)***	0.50	(0.03)***	0.36	(0.06)***	0.43	(0.06)***	0.49	(0.06)***	0.38	(0.06)***
<i>R</i> ²	0.36		0.44		0.34		0.49		0.44		0.50	
Significantly mediated? ^b	Yes		Yes		Yes		N/A		N/A		Yes	

^aControl variables were also included in the models above but are not shown in this table.

^bWhen the confidence interval for the sports effect in the mediated model does not contain the point estimate for the sports effect in the unmediated model, we can conclude that the sports effect is significantly mediated by the added variables (Baron & Kenny, 1986). For Mexicans, a 95% confidence interval was constructed; for Puerto Ricans and Cubans, a 90% confidence interval was constructed due to lower levels of statistical power in these groups.

*
p < .10.

**
p < .05.

p < .01.