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## Sports Participation and Positive Correlates in African American, Latino, and White Girls

Susan C. Duncan, Lisa A. Strycker, and Nigel R. Chaumeton

### Abstract

**Purpose**—The purpose of the study was to examine relations among sports participation and positive correlates across African American, Latino, and white girls. Positive correlate variables were self-perceptions (self-worth, body attractiveness, athletic competence), less depression, and participation in extracurricular activities.

**Methods**—The sample comprised 372 girls (mean age = 12.03 years). Data were analyzed using multiple-sample structural equation models, controlling for age and income.

**Results**—Across all ethnic groups, greater sports participation was significantly related to higher self-worth, body attractiveness, and athletic competence, and to more extracurricular activity. Among Latino and white girls only, greater sports participation also was related to less depression. There were significant age and income influences on the positive correlates.

**Conclusions**—Findings confirm the existence of significant relationships between organized sports participation and positive correlates among early adolescent African American, Latino, and white girls. Despite a few ethnic differences in relationships, the current study revealed more similarities than differences.

### Keywords

sports; girls; ethnicity; self-perceptions

### Introduction

Physical activity (PA) and sports participation, in particular, have been related to numerous positive outcomes during late childhood and early adolescence (Slutzky & Simpkins, 2009). About 44 million boys and girls aged 5–18 years old in the U.S. participate in organized sport activities each year (National Council of Youth Sports, 2008). For example, approximately 58% of high-school-aged students report having played on at least one school or community sports team during the past year (Eaton et al., 2012). The sports domain is an especially important developmental context for youth because it provides opportunities for learning interpersonal and athletic skills, building peer relationships, and

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(Corresponding author) Susan C. Duncan, Ph.D. Senior Research Scientist Oregon Research Institute 1776 Millrace Drive Eugene, OR 97403 Phone: (541) 484-2123 Fax: (541) 484-1108 sued@ori.org.

Lisa A. Strycker, M.A. Senior Research Associate Oregon Research Institute 1776 Millrace Drive Eugene, OR 97403 Phone: (541) 484-2123 Fax: (541) 484-1108 lisas@ori.org

Nigel R. Chaumeton, Ph.D. Senior Research Associate Oregon Research Institute 1776 Millrace Drive Eugene, OR 97403 Phone: (541) 484-2123 Fax: (541) 484-1108 nigelc@ori.org

developing positive self-perceptions (Holt, 2008; Madsen, Hicks, & Thompson, 2011; Mahoney, Larson, & Eccles, 2005; Smith, 2003). Youth sports participation and PA have been linked to less depression (Johnson & Taliaferro, 2011) and higher participation in other extracurricular activities (Duncan, Duncan, Strycker, & Chaumeton, 2002). Nonetheless, only limited research has been done to determine whether associations differ for subgroups at increased risk for low levels of PA and sports participation, such as girls and ethnic minorities.

In general, girls of all ages participate in less PA and sports than boys (Hobin et al., 2012), and there is evidence to suggest that PA patterns differ by ethnicity as well as gender (Centers for Disease Control and Prevention, 2005; Pate, Dowda, O'Neill, & Ward, 2007). Differences in PA across ethnic groups might be expected based on theories of ecological health behavior which posit that health behaviors are influenced by intrapersonal, social, cultural, and physical environment variables, and that the variables likely interact (Sallis & Owen, 1996, 1999). Variations across ethnic groups in PA behavior might occur as a result not only of different cultural influences (Wolf et al., 1993), but also differences in demographic, individual, family, social, and environmental variables, all of which have been shown to influence youth PA and sports participation. For example, youth from different social and cultural backgrounds may have different intrapersonal beliefs and self-perceptions, and receive varying levels of family and peer support for PA and sports participation (e.g., Kelly et al., 2010). Given possible cultural and social differences across ethnic groups and their potential influence on PA and sports involvement, it is likely that not only levels of sports participation vary across ethnic groups, but also that relationships between sports participation and other variables (e.g., intrapersonal beliefs and self-perceptions) might vary. The current study focused specifically on relations between intrapersonal variables and sports participation. Documenting and understanding differences in PA and sport participation between girls from different ethnic groups, as well as relations between such behavior and other variables, can aid in the design of more effective, culturally sensitive and competent interventions to increase PA participation for ethnically diverse girls (Kelly et al., 2010; Perry et al., 2004).

Unfortunately, research exploring racial differences is lacking in all aspects of youth PA (Azzarito & Solomon, 2006)—most studies in this area have been conducted with predominantly white samples—especially during early adolescence (Zarrett et al., 2009). Little is known about possible ethnic differences in relations between sports participation and intrapersonal positive correlates, beyond theoretical predictions of their existence. To address this research gap, the current study drew on a multi-ethnic sample of early adolescent girls, and focused on associations between sports participation and the following intrapersonal positive correlate variables: self-perceptions (self-worth, body attractiveness, and athletic competence), depression, and extracurricular activity.

### **Positive Self-Perceptions**

Children's and adolescents' self-perceptions, including self-worth, are of interest because of their proposed links to mental well-being, motivational states, and behavior (Whitehead, 1995). Self-worth appears to be related to both youth exercise (Annesi, 2005) and team

sports participation (Slutzky & Simpkins, 2009). Annesi (2005) showed that preadolescents participating in an exercise program experienced significant improvements in self-concept, and Slutzky and Simpkins (2009) showed that children who spent more time in team sports reported higher self-concept and self-esteem. These authors recommended that future research examine whether girls' self-esteem and self-worth are tied to sports participation at different stages of adolescence, and whether associations with sports participation vary across ethnic groups.

Studies have shown that, as children become adolescents, their self-worth differentiates into more-distinct areas of perceived competencies or adequacies, which are then related to more-global perceptions of self-worth (Harter, 1985). Perceptions of body attractiveness and athletic competence are two key components of global self-worth, which are likely related to sports participation among young adolescent girls. While relations between sport participation and self-worth are generally found to be positive, findings for the relationships between sport participation and body image have been less consistent (Crissy & Honea, 2006; Gill, 2007). For example, some researchers have found positive relations between PA or sport involvement and body satisfaction indicators (e.g., Daley, 2002; Kololo et al., 2012), whereas others have found higher levels of body dissatisfaction among athletes versus nonathletes, or more negative relations (Cox & Thompson, 2000; Parsons & Betz, 2001). Despite the importance of body attractiveness perceptions to self-worth, and the potential influence of sports participation on such perceptions, relatively little is known about how these perceptions and relationships might vary across girls from different ethnic groups.

Similarly, among ethnically diverse girls there is a paucity of research relating perceptions of athletic competence to sports participation. Boone and Leadbetter (2006) proposed that team sports, in particular, provide opportunities for adolescents to develop athletic skills and competence. Donaldson and Ronan (2006) found that increased levels of sports participation were related not only to global self-worth, but also to perceived competence among young adolescents (ages 11–13 years). Perceptions of athletic competence are important because they influence youth PA participation, and may be related to self-worth and positive mental health in adolescence (Baker & Davison, 2011; Humbert et al., 2006). In order to explore associations between sport participation and positive self-perceptions in ethnically diverse girls, the current study examined relations between sports participation and self-worth, body attractiveness, and athletic competence. In addition, because of possible relations between sports participation, self-perceptions, and mental health, this study also examined relations with depression.

## Depression

Late childhood and adolescent depression is a serious public health concern; an estimated 15% to 30% of youth experience an episode of depression during adolescence (Dishman et al., 2006). The prevalence of depression increases during early to mid-adolescence, with the most dramatic increases evident for girls (Garber, Keiley, & Martin, 2002; Hankin, 2006). Research during this developmental period is limited (Larun, Nordheim, Ekeland, Hagen, & Heian, 2009), but some studies suggest a negative relationship between depression and PA

in adolescence (Boone & Leadbeater, 2006; Donaldson & Ronan, 2006; Birkeland, Torsheim, & Wold, 2009; Crews, Lochbaum, & Landers, 2004; Duncan, Seeley, Gau, Strycker, & Farmer, 2012; Harris, Cronkite, & Moos, 2006; Jerstad, Boutelle, Ness, & Stice, 2010). Other studies have failed to find a significant association between early adolescent PA and depression (e.g., Schmitz et al., 2002), and there is limited evidence to suggest that relations are prospective (Birkeland et al., 2009; Larun et al., 2009). Even less research is available among ethnically diverse girls regarding the associations between sports participation and depression, or between depressive symptoms and positive self-perceptions. The current study includes examination of relationships between sport participation and depression symptoms, and self-perceptions and depression symptoms, across African American, Latino, and white girls.

### **Extracurricular Activities**

Besides PA and sports, youth participate in numerous other organized extracurricular activities. Examples of such activities include participation in religious or volunteer activities or programs, school clubs, student governance, and music programs. Studies have found positive relationships between both cumulative effects and specific effects of different types of extracurricular activities and adolescent psychological outcomes (Fredricks & Eccles, 2006; Linver, Roth, & Brooks-Gunn, 2009). Research indicates that youth who are more physically active and who take part in more organized sports also participate more in other extracurricular activities (Duncan et al., 2002). However, research in this area among early adolescent girls and across different ethnicities is scarce. The current study examined relations between sports participation and extracurricular activities as well as relations between extracurricular activities, positive self-perceptions and depression, across African American, Latino, and white girls.

The overall purpose of this study was to examine the relations between participation in organized sports and hypothesized positive correlates, including self-perceptions, depression, and engagement in extracurricular activities—and determine whether these associations differed, as would be expected based on ecological health behavior theory, across African American, Latino, and white girls. Specifically, the objectives were to determine: (a) the relations between organized sports participation and self-worth, athletic competence, body attractiveness, depression, and extracurricular activities; (b) the relations between self-worth, athletic competence, body attractiveness, depression, and extracurricular activities; and (c) whether relations differed across African American, Latino, and white early adolescent girls. Because of known effects of age and income on PA and sports participation (Centers for Disease Control and Prevention, 2005; Santos, Esculcas, & Mota, 2004; Taylor & Lou, 2011; Whitt-Glover, Taylor, & Floyd, 2009), these variables were controlled for in all analyses.

## **Method**

### **Sample and Participant Selection**

Data are from the first year of a longitudinal study of 372 African American ( $n=128$ ), Latino ( $n=120$ ), and white ( $n=124$ ) girls residing in a northwest U.S. metropolitan area. As part of

the study design, families having a 10-, 12-, or 14-year-old girl were randomly recruited from 41 socioeconomically diverse neighborhoods using telephone, door-to-door, and word-of-mouth methods. Of eligible families, approximately 67.8% recruited by phone or door-to-door methods agreed to participate. The target girl and a parent completed surveys in their home. Girls younger than 12 years of age were administered the survey as an interview. Spanish-language surveys were provided for Spanish-speaking participants. Surveys were translated by an experienced Spanish translator—a native Argentinian with a doctorate degree from a U.S. university and experience in the U.S. as a translator and Spanish teacher—and were back-translated by the project's Spanish-fluent Research Assistants.

Approximately equal numbers of African American, Latino, and white girls were recruited from each age cohort. Mean age was 12.06 years ( $SD = 1.69$ ). The annual household income for the sample was 30% <\$20,000, 40% from \$20,000–\$60,000, and 30% >\$60,000.

### Assessments and Measures

Survey visits lasted about 30–75 minutes. Participants completed individual surveys in private, away from other family members, to enhance confidentiality. Girls were paid \$50 to complete the assessment; parents were paid \$30. This study was approved by an Institutional Review Board. All adult participants gave informed written consent and all girls gave informed written assent prior to study participation. In addition to written informed consent procedures, project Research Assistants orally encouraged girls to be honest in their responses to questions, reiterated that personal information would be kept private and not shared with parents, indicated that girls did not have to answer any questions that made them feel uncomfortable, and stated that they could stop at any time without penalty. These procedures, which we have successfully used in past research, were designed to ensure that girls did not feel they had to answer in a certain way to please the investigators, and to thus reduce socially desirable responding.

**Youth sports participation**—Two youth survey items and one parent survey item were used as indicators of a latent factor representing girls' participation in organized sports (sports). Girls were asked, “In the past year, how often did you go to or take part in an organized sports activity?” Responses ranged from 1 (not at all) to 6 (at least twice a week) (Duncan et al., 2002). Parents were asked the same question about their daughters. In addition, girls indicated the number of sports teams on which they participated in the past year from a list of 18 possible sports (e.g., basketball, soccer, volleyball). Answers were summed to reflect the total number of sports teams. Correlations between the three sports participation items were as follows: youth-report organized sport and parent-report organized sport,  $r = .47$  ( $p < .001$ ); youth-report organized sport and number of sports teams,  $r = .50$  ( $p < .001$ ); parent-report organized sport and number of sports teams,  $r = .42$  ( $p < .001$ ). The similarity in question content and strength of correlations between items warranted their inclusion as a latent factor.

**Positive correlate variables**—Self-worth was measured using an adapted version of the subscale from Harter's (1985) Self-Perception Profile for Children. The self-worth scale was constructed from six items (e.g., “I am happy with myself”) rated on a scale from 1 (really

untrue) to 4 (really true). Body attractiveness and athletic competence were measured via subscales from the children's version of the Physical Self-Perception Profile (C-PSPP; Whitehead, 1995; Fox & Corbin, 1989). The attractive body scale consisted of four items (e.g., "I am confident about how my body looks") rated on a scale from 1 (really untrue) to 4 (really true). The athletic competence scale comprised five items (e.g., "I do very well at all kinds of sports") rated on a scale from 1 (really untrue) to 4 (really true). In the present study, the three scales of self-worth, body attractiveness, and athletic competence had good internal consistency reliabilities of  $\alpha = .88, .86, \text{ and } .89$ , respectively. The eight-item Center for Epidemiologic Studies Depression (CES-D) scale (Radloff, 1997), which has been validated with adolescent girls (Hales et al., 2006), was used to measure self-reported youth depression, and in this study carried a reliability coefficient of  $.71$ . To document participation in extracurricular activities, girls were asked how often in the past year they participated in volunteer, religious, ethnic or cultural, performance, academic club, and student government activities (Duncan et al., 2002). Responses for the six items, which ranged from 1 (not at all) to 6 (at least once a week), were summed to create a single variable reflecting combined extracurricular activity.

**Demographic variables**—Age and family income per capita (family income taken from the parent survey, measured in six categories, divided by number of family members) were included to control for their possible effects on sports participation and hypothesized correlates.

## Analyses

Structural equation modeling (SEM) was employed to examine relations between the positive correlate variables and the sports latent factor. Because of the associational nature of the research questions and the cross-sectional data, a direction of influence was not specified between sports participation and positive correlate variables. Instead, the latent factor and positive correlates were specified to covary (correlate). The positive correlate variables also were correlated with each other, and age and family income per capita were included as control variables. To determine whether differences existed across the three ethnic groups, multiple-group (by ethnicity) SEM was employed. Multiple-group analyses permit simultaneous evaluation of results across multiple populations (Bentler, 2005; Duncan, Duncan, Strycker, Li, & Alpert, 1999). In this study, the analyses tested for significant differences by ethnic group in regression parameters, covariances, and means and variances. Missing data were minimal (0.8%). Models were estimated using Mplus software (version 6.1; Muthén & Muthén, 1998–2011), which uses the Expectation Maximization (EM) algorithm to account for missing data in the model.

## Results

Means and variances for variables in the model are shown in Table 1.

The values in Table 1 suggest that, on average, girls participated in one to two sports teams in the past year, and took part in an organized sports activity approximately once a month. On average, girls reported they were not very confident with how their body looked, had low to moderate levels of perceived athletic competence, had fairly high levels of self-worth, and



reported low levels of depression. They were involved, on average, either in multiple extracurricular activities occasionally, or in one to two extracurricular activities regularly (approximately once a week). The most frequently reported physical activities across ages and ethnicities were walking, running, dancing, swimming, and bicycling. African American girls reported more participation in basketball and volleyball than the other groups, and Latino girls participated in less rollerblading and weight training than African American and White girls (all  $p < .05$ ).

### Model specification

Figure 1 illustrates the model, in which participation in sports was hypothesized to relate to the positive correlates of self-worth, body attractiveness, athletic competence, less depression, and extracurricular activities. The positive correlate variables also were covaried with each other.

As shown in Figure 1, the sports participation latent factor comprised three items (# sports teams in the past year, youth self-reported organized sports, parent-reported organized sports) described in the Measures section. To set the scaling for the latent sports factor, the loading of one variable (# sports teams in the past year) was set at 1. The three survey items loaded significantly on the sports latent factor ( $p < .001$ ), indicating it was a viable and reliable factor. To determine mean differences across groups on the variables of interest, a preliminary multiple-group unconditional model (without regression effects) was tested. This model revealed significant differences across groups for the mean of the sports factor (African American girls had higher levels than Latino and white girls), depression (white girls reported less depression than African American and Latino girls) and income (white girls had higher incomes than African American and Latino girls). In addition, Latino girls had significantly lower means than African American and Latino girls in their reports of body attractiveness, athletic competence, and participation in extracurricular activities.

The primary model tested for similarities and differences across groups in relationships among the sports factor and positive correlates, and effects of age and income on sports and positive correlates. In this model, initial constraints were placed across the three ethnic groups requiring equality of parameter estimates for the coefficients, covariances, means, and variances of all variables (except for age and income means and variances, which were unconstrained). Model fitting procedures for the hypothesized fully constrained model yielded the following fit indices:  $\chi^2(126, N = 372) = 197.233, p < .001$ , comparative fit index (CFI) = .901, Tucker-Lewis index (TLI) = .896, and root mean square error of approximation (RMSEA) = .068. A non-significant chi-square, CFI and TLI of .95 or greater, and RMSEA of .06 or less are considered indications of acceptable model fit (Hooper, Coughlan, & Millen, 2008; Hu & Bentler, 1999; Steiger, 2007); thus the original model was not considered an adequate fit to the data.

Modification Indices in Mplus were used to determine whether there were significant differences across groups on the variables of interest. The Modification Indices provide information regarding whether the relaxing of a constraint across groups will result in a significant chi-square decrease, thus indicating a significant difference across groups. Only relevant and appropriate constraints were examined. These included cross-group constraints

for the covariances between the sports latent factor with the positive correlate variables, covariances among the positive correlate variables, regression coefficients for age and income on the sports factor and positive correlates, and variances and intercept means. Constraints were relaxed one at a time and the model re-estimated each time until no further constraints were found to be significant.

### Model fit

The final model (with significant cross-group constraints relaxed) resulted in the following fit indices:  $\chi^2(115, N = 372) = 111.864, p = .565, CFI = 1.000, TLI = 1.005, \text{ and } RMSEA = .000.$

### Regression effects

Income was significantly positively related to the sports latent factor (.389,  $p < .001$ ) and to body attractiveness (.249,  $p < .05$ ) across the three groups. Age was positively related to depression (.534,  $p < .001$ ) and significantly negatively related to self-worth (-.055,  $p < .001$ ) across all groups. In addition, for Latino and white girls only, age was significantly negatively related to perceived body attractiveness (-.060,  $p < .05$ ). The negative relationship between age and athletic competence was significant for all groups, but significantly greater for Latino girls (-.067,  $p < .01$ ) compared to African American and white girls (-.049,  $p < .05$ ).

### Correlations

Significant correlations and ethnic differences are presented in Table 2. The sports factor significantly positively covaried with perceived body attractiveness, athletic competence, and self-worth, and, for Latino and white girls only, significantly negatively related to depression. The sports factor also significantly positively covaried with extracurricular activities across all three groups. Perceived body attractiveness, athletic competence, and self-worth were all significantly positively interrelated. Self-worth and body attractiveness were negatively related to depression, as was athletic competence, but only for Latino and white girls. Self-worth and athletic competence were significantly and positively related to extracurricular activities across all three groups, but the relationship between depression and extracurricular activities was significant and negative only for white girls.

### Discussion

The current study explored relations between sports participation and positive self-perceptions, depression, and extracurricular activities during the late elementary and early middle school years across African American, Latino, and white girls. PA during early adolescence is underexplored (Zarrett et al., 2009), yet this is an important period in the development of self-perceptions. Because sports may be the most popular organized activity in which youth engage (Holt, 2008), it is important to understand how sports participation relates to positive correlates, especially in girls from different ethnic groups who are at increased risk for low PA.



Some significant mean differences emerged across ethnic groups. The higher mean income levels for white girls' families compared to African American and Latino girls' families is in line with prior research (Santos et al., 2004; Whitt-Glover et al., 2009). On average, African American girls had significantly higher sports participation than Latino and white girls. These data appear to run counter to prior results showing that African American youth are less active than white youth (Taylor & Lou, 2011); one explanation may be that past research has focused primarily on general PA across ethnic groups rather than specific participation in sports, thus it is possible that sports participation differs across ethnic groups but overall PA participation does not.

Mean ethnic group differences in depression, body attractiveness, athletic competence, and participation in extracurricular activities are also noteworthy. On average, white girls in this study reported less depression overall than African American and Latino girls; Latino girls, compared to African American and white girls, reported less body attractiveness, athletic competence, and extracurricular activity. Research in this area is extremely limited, although there is some prior evidence that Latino girls may have higher rates of depression (e.g., Tienda & Kleykamp, 2000) than other ethnic groups. Body image issues have been found to be similar across adolescents from diverse ethnic groups, but social, cultural, and economic risk factors specific to ethnically and racially diverse groups are believed to play a role in the development of body image (Edwards George & Franko, 2009). Ethnic differences in perceptions of athletic competence and participation in extracurricular activities have not been studied. Clearly, further research is needed among ethnically diverse girls to determine consistencies in mean differences and to explicate these findings.

Despite some mean differences between ethnic groups, results of this study provide evidence that sports participation relates to greater perceived self-worth, body attractiveness, and athletic competence regardless of ethnic group. That is, African American, Latino, and white girls who participate in more sports also perceive more self-worth, body attractiveness, and athletic competence. This finding is consistent with literature showing that sports participation can be associated with both positive (e.g., goal setting, persistence, problem solving, teamwork, managing emotions and time) and negative (e.g., stress, negative peer dynamics and inappropriate coach behavior) developmental experiences (Larson, Hanson, & Moneta, 2006). The findings of this study point to a positive relationship between sports participation and self-worth, body attractiveness, and athletic competence self-perceptions that goes beyond any ethnic or cultural differences (Annesi, 2005; Kololo et al., 2012; Marsh & Kleitman, 2003; Suris & Parera, 2005). Slutzky and Simpkins (2009) found that youth in team sports had higher self-concept and self-esteem, and Donaldson and Ronan (2006) found that increased levels of sports participation were related not only to global self-worth, but also to perceived competence among young adolescents (ages 11–13 years). The present study provides evidence of a positive relationship between sport involvement and perceptions of body attractiveness across African American, Latino, and white girls, but results of past studies in this regard have been more equivocal (Crissy & Honea, 2006; Gill, 2007). It may be that the potential link between sports participation and body attractiveness or body image is influenced more by the particular sport in which girls participate (e.g., gymnastics, basketball) than by ethnic group.

The positive relationship of sports participation with extracurricular activities may be expected because sports participation can be considered a form of extracurricular activity, with structure, supervision, adult leaders, opportunities for personal development, emotional regulation, and teamwork (Larson, Hansen, & Moneta, 2006). Research has shown that youth who participate in one kind of organized activity often participate in others (Linver et al., 2009). Furthermore, the PA participation literature indicates that, while youth sports participation is often a positive experience that carries positive developmental outcomes, it may be particularly positive when combined with participation in other organized out-of-school activities (Bartko & Eccles, 2003; Linver et al., 2009; Zarrett et al., 2009). Therefore, this study and others suggest that participation in a mixture of positive activities may lead to the most beneficial outcomes for youth. Future studies of longitudinal relations between youth sports, extracurricular activity participation, and positive outcomes across different ethnic groups would help increase understanding of these relationships and the specific mechanisms linking them (Bartko & Eccles, 2003). Future research might also move beyond mere participation assessments to measure the extent to which youth are engaged in physical activities—and to consider the quality of coaching or climates created by coaches, as these have been linked to positive youth development in several studies (e.g., Gould & Carson; Gould, Flett, & Lauer, 2012; Zarrett et al., 2007).

In this study, greater sports participation related to significantly less depression only for Latino and white, not African American, girls. It is unclear why this relationship was not significant for African American girls. Cultural, individual, or family variables might explain the difference; it may be that ethnic groups hold different cultural beliefs about the nature or value of sports participation. Further research is needed to replicate and help explain this finding.

In this study, the three ethnic groups had similar patterns of relationships among the positive correlates, with higher levels of one related to higher levels of the other. Greater self-worth was related to greater perceived body attractiveness and athletic competence, and greater body attractiveness to higher perceived athletic competence. These findings support prior research documenting associations between self-worth, perceived physical appearance, and athletic competence in adolescent girls (Craft, Pfeiffer, & Pivarnik, 2003), and between self-esteem and body image (Morin, Mañano, Marsh, & Nagengast, 2011). This study also found that greater self-worth and athletic competence were significantly related to more extracurricular activity across all three groups, whereby girls participating in more organized extracurricular activities also had higher levels of self-worth and athletic competence. The lack of significant differences in these relations across the three groups is an important result, suggesting that positive associations between PA and correlates transcend ethnic or cultural differences.

A few ethnic differences emerged with regard to relationships between depression and positive correlates. Across all three ethnic groups, higher self-worth and perceived body attractiveness were significantly related to less depression, a finding that supports previous research (Dishman et al., 2006). However, greater athletic competence was significantly related to less depression only for Latino and white girls. The similar finding for the relationship between sports participation and depression (nonsignificant for African

American girls) suggests that the relationship between depression and sports (participation and perceptions) might be different for different subgroups and should be examined separately across ethnically diverse groups of girls. Future studies should include potential individual or family (e.g., importance of sport participation; family support) variables that might help to explain this difference. More extracurricular activity was related to less depression only for white girls. Prior work in this area has generally not examined associations across different ethnic groups, or specifically for girls; thus, the reasons for this finding are unknown, but may relate to differing perceptions of extracurricular activities that occur in schools, places of worship, and the community in general. In addition, the extracurricular activities variable was a combination of multiple activities; future research investigating individual activities and their relationship to depression might shed some light on differences across ethnic groups.

As expected, there were significant age effects, but not for the sports factor, perhaps because of the restricted age range (10–14 years). Older girls had lower perceptions of athletic competence and self-worth, and reported more depression. For Latino and white girls only, older girls perceived less body attractiveness. Prior research indicates a cultural difference in body attractiveness or body image, whereby African American girls may view their bodies differently than other ethnic groups (Perry, Rosenblatt, & Wang, 2004), generally selecting a larger ideal body size. It may be that African American girls' perceived body attractiveness varies less as they age compared to Latino and white girls. Higher household income was related to both greater participation in organized sports and more positive perceptions of body attractiveness. Across all ethnic groups, greater income is likely to enable participation in a variety of sports and may provide more opportunities to make oneself feel more attractive (e.g., by purchasing more expensive, fashionable clothes), and is likely related to other variables that influence perceived body attractiveness (e.g., healthy eating, opportunities to be physically active).

The current study had several limitations, including moderate correlations among the three variables comprising the youth sports participation latent variable and the use of cross-sectional data, which did not permit directional hypothesis testing of the predictive effects of sports participation on positive attributes. Also, the positive correlate variables analyzed represent only a few of many potential outcomes important for early adolescent girls. The analyses controlled for known effects of age and household income, but there are likely more factors (e.g., physical maturation, body mass index) and other confounding variables that were not controlled for in the analyses. Due to the potential cultural, demographic, individual, family, social and environmental differences that might affect sports participation and relations between participation and other variables across ethnic groups, it is important that future research include hypothesized influential variables from all these domains, to help explain differences in means and associations across ethnic groups. The current study included only demographic and intrapersonal variables. Thus, future research should include additional potential ecological variables (e.g., family, school, neighborhood environment) to more thoroughly examine ecological health behavior theoretical influences. The inclusion of such variables could be in the form of control variables, interactions, or moderating or mediating variables. Strengths of the study include the use of multiple informants, multiple measurement methods, and a latent factor representing sports

participation; the randomly recruited sample; and a design that documented similarities and differences across African American, Latino, and white early adolescent girls. Future research should continue to recruit ethnically diverse groups; to examine similarities and differences across these groups on sports participation, general PA, and positive self-perceptions, activities and behaviors; and to explore how relations change with age.

Overall, the findings of the present study support the existence of significant relationships between sports participation and positive self-perceptions and activities among early adolescent African American, Latino, and white girls. It has been suggested that self-perceptions, such as perceived athletic competence and body image, may be central to adolescents' feelings of self-worth (Barnett, Morgan, van Beurden, & Beard, 2008). Sports participation may help to increase these self-perceptions, or, as has been shown in reviews of other studies (e.g., Biddle, Whitehead, O'Donovan, & Nevill, 2005), it may be that girls with higher levels of these self-perceptions are more likely to choose and/or continue in sports and those with lower levels are more likely to self-select out of sports participation. It is quite likely that at least some of these relationships are reciprocal or bidirectional. Most reported studies have been cross-sectional, thus future longitudinal studies are needed to try to understand possible directional and bidirectional relationships. There also appears to be a relationship between sports and other extracurricular activity participation across African American, Latino, and white early adolescent girls, and between sports participation and less depression in white and Latino girls. Despite a few ethnic differences in mean levels and relationships between variables, however, the current study reveals more similarities than differences. Because sport participation and PA patterns, and their relations with self-perceptions and other activities, remain poorly understood in early adolescent girls from different ethnic groups, further research is needed to continue to improve our understanding of these relationships, and to learn how change occurs over time at different stages of childhood and adolescence.

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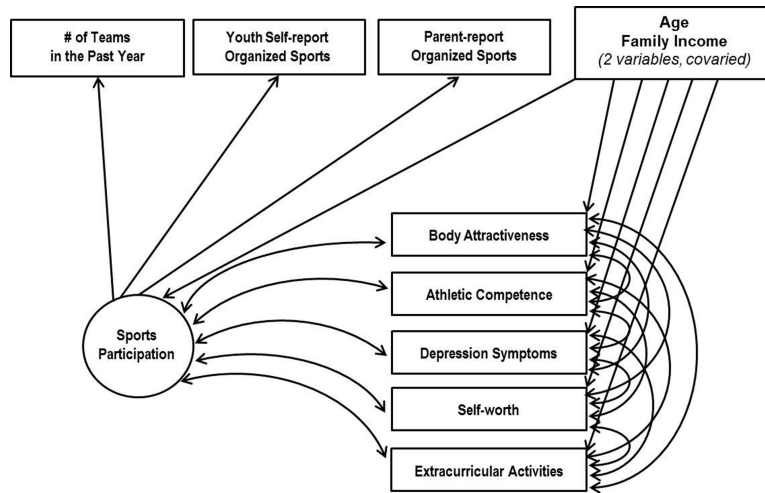
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**Figure 1.** Illustration of the model in which sports participation is hypothesized to covary with positive attributes. In line with SEM conventions, observed variables are in boxes and latent variables are in circles. The double-headed arrows represent correlations between variables, the single-headed arrows represent regression coefficients. The multiple-group model employed in this study tested for significant differences in estimates across African American, Latino, and white ethnic groups.

**Table 1**

## Descriptive Statistics of Variables in the Models

	<b>African American Mean (SD)</b>	<b>Latino Mean (SD)</b>	<b>White Mean (SD)</b>
Age (years)	12.03 (1.81)	12.06 (1.66)	12.14 (1.61)
Income per capita (6-point scale divided by # family members)	.75 (.46)	.65 (.49)	1.11 (.45)
# sports teams past year	1.69 (1.46)	1.05 (1.53)	1.22 (1.30)
Self-report sports activity	3.55 (2.00)	2.43 (1.86)	3.65 (2.16)
Parent report sports activity	3.63 (2.01)	2.47 (2.02)	3.65 (2.07)
Attractive body	3.17 (.73)	2.83 (.79)	2.98 (.79)
Athletic competence	2.82 (.80)	2.49 (.77)	2.71 (.74)
Self-worth	3.56 (.55)	3.49 (.51)	3.48 (.61)
Depression symptoms	5.82 (4.10)	6.25 (3.97)	4.79 (3.63)
Extracurricular activities	14.80 (6.59)	12.32 (5.13)	13.99 (5.26)

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**Table 2**

Significant Correlations and Differences across Ethnic Groups in the Final Model

		African American Corr. ( <i>r</i> )	Latino Corr. ( <i>r</i> )	White Corr. ( <i>r</i> )
Sports with:	Attractive body	.158*	.143*	.158*
	Athletic competence	.501**	.501**	.501**
	Depression	<b>.154</b>	-.200*	-.234*
	Self-worth	.204**	.204**	.204**
	Extracurricular activities	.351**	.430**	.430**
Attractive body with:	Athletic competence	.380**	.344**	.380**
	Depression	-.309**	-.281**	-.363**
	Self-worth	.629**	.571**	.629**
Athletic competence with:	Depression	<b>.014</b>	-.224**	-.262**
	Self-worth	.426**	.426**	.426**
	Extracurricular activities	.181**	.222**	.222**
Depression symptoms with:	Self-worth	-.378**	-.378**	.444**
	Extracurricular activities	.074	.091	-.265**
Self-worth with:	Extracurricular activities	.107*	.131*	.131*

*Notes.* Correlations denoted by \* and \*\* are significant at  $p < .05$  and  $p < .001$ , respectively. Those in **bold** type denote a significant difference between that group and other groups (equality constraint relaxed).