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Variety, Enjoyment, and Physical Activity Participation Among High School Students

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Abstract

Background—Federal guidelines state that youth should participate in a variety of physical activity (PA) they find enjoyable. Little is known, however, about how variety and enjoyment are associated with PA participation among adolescents.

Methods—Data came from the 2010 National Youth Physical Activity and Nutrition Survey, a nationally representative survey of adolescents. Path analysis was used to examine the association of a variety of self-reported PA, defined as the *number of activities* and *activity types* (ie, team sports/weightlifting, individual activities, and other competitive/recreational sports), on self-reported PA enjoyment and participation. The analysis also examined whether enjoyment mediates the association between a variety of PA and participation. Separate models were estimated for boys and girls.

Results—Number of activities was associated with increased PA enjoyment and participation. For boys and girls, team sports/weightlifting was associated with increased participation, and individual activities were indirectly associated with increased participation through enjoyment. For boys, team sports/weightlifting was indirectly related with participation.

Conclusions—These findings suggest that participation in a variety of PA is associated with increased PA enjoyment and participation. Providing opportunities for adolescents to engage in a variety of activities might help them identify PA they enjoy and facilitate lifelong PA habits.

Keywords

adolescents; youth; guidelines; recommendations

Physical activity (PA) declines from childhood to adolescence.[1–4] This decline warrants attention, given that federal guidelines recommend youth participate in at least 60 minutes of PA each day—a goal that less than 3 in 10 high school students currently attain.[1,5] Insufficient PA in adolescents is associated with increased rates of obesity and other risk

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factors (eg, high blood pressure and cholesterol) for chronic diseases.[5,6] Because of this, it is important to identify and understand factors that increase adolescent PA.

Opportunities for adolescents to engage in a variety of PA and their enjoyment of these activities could be important factors in increasing adolescent PA. Federal guidelines recommend that youth participate in a variety of PAs and engage in activities that are enjoyable.[5] Researchers have demonstrated that participation in a variety of PA, such as walking or playing team sports, is associated with increased PA among adolescents[7–9]; although, these studies did not examine more than 1 activity with levels of PA. In addition, a recent study showed that adolescents tend to engage in activities that align with their preferences—that is, they do activities they enjoy.[10] If adolescents are more inclined to engage in regular PA when they enjoy the activity, giving them the opportunity to engage in a variety of PA to identify the activities they enjoy should help adolescents attain the recommended daily amount of PA.

Social cognitive theory, theory of reasoned action, theory of planned behavior, and the youth physical activity promotion model support the concept that enjoyment helps determine PA participation.[11–13] These theories suggest adolescents are more inclined to engage in PA if they expect enjoyment from it. Enjoyment reflects one's intrinsic motivation toward PA, which can, in turn, make adolescents more likely to participate and be committed to that activity. Researchers have demonstrated the validity of measuring PA enjoyment in adolescents.[14] Most of the research to date has examined the association between PA enjoyment and regular PA participation with the results either being positive[8,14–18] or having no association.[16,18,19] However, not much research has examined the factors that influence adolescent's PA enjoyment. These factors could be contextual, social, or PA-related such as specific types of activity or opportunities to engage in a variety activities.

During adolescence, PA among girls declines more steeply than it does in adolescent boys.[1–3] Enjoyment of PA might explain this decline as evidence shows that adolescent girls enjoy PA less compared with boys.[15,16,20,21] The enjoyment girls receive from PA might be affected by the types of activities they are exposed to or perceive to be offered. Studies show that girls perceive fewer opportunities to participate in PA relative to boys.[20] These differences for boys and girls are important in the development of PA programs, especially physical education, which should teach adolescents about a variety of PA and help them identify ones they enjoy to support lifelong PA.

There is limited research on the role of variety and enjoyment on PA. Few studies have examined how a variety of PA is associated with PA participation. Even less is understood about how a variety of PA is associated with PA enjoyment. In addition, studies have not included enjoyment as a mediator between a variety of PA and PA participation among adolescents or how these associations might differ for boys and girls. Addressing these research gaps assists in the development of policies and practices aimed at increasing PA levels among adolescents. It also will inform the design of programs to promote PA enjoyment and PA participation among adolescents.

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The purpose of the current study was to examine among high school students whether a variety of PA affects PA enjoyment, which then, in turn, affects PA participation. The focus on high school students is supported by data showing a decline in PA as students go from ninth grade to 12th grade.[1] Data from the 2010 National Youth Physical Activity and Nutrition Study (NYPANS)[22] were used to examine the direct association of a variety of PA on PA enjoyment and PA participation, whether PA enjoyment mediates the association between a variety of PA and PA participation, and how these associations differed for boys and girls.

Methods

Study Design

Data were from the 2010 NYPANS, a national survey of 11,458 (11,429 after data editing) high school students. Previous documents detailed NYPANS' design.[22] Briefly, NYPANS consisted of a 3-stage cluster sample design that oversampled African American/ Black and Hispanic/Latino students to obtain a nationally representative sample of public- and private-school students in Grades 9 through 12. The school response rate was 82%, the student response rate was 89%, and the overall response rate was 73%. A weighting factor was applied to each record to adjust for school and student nonresponse and oversampling of African American/Black and Hispanic/Latino students. An institutional review board at the study contractor approved the study protocol. Questions developed specifically for NYPANS were subjected to cognitive testing, which resulted in the revision or deletion of problematic questions. The NYPANS questionnaire contains 120 items and is available at http://www.cdc.gov/healthyYouth/yrbs/pdf/nypans/2010nypans_questionnaire.pdf.

Measures

Variety of PA—Variety of PA was assessed by 2 measures—*number of activities* and *activity types*. Adolescents responded to questions regarding their participation in 35 PAs (Table 1).[23] Adolescents were asked to select each activity they did during the past 12 months outside of physical education or gym class. Specifically, students must have engaged in the activity before or after school, in the evenings, or on weekends. The response option was no (0) or yes (1). The 35 items were summed to create a variable that indicates the total number of activities adolescents participated in during that period.

Using the same 35 PAs described above, polychoric factor analysis (addresses the categorical nature of the variables) was used to determine how the 35 activities factored together. Only activities with a factor loading score of 0.300 or higher and that made logical sense based on previous literature were included. Based on this criteria, 3 activity types were identified: *team sports/weightlifting* (baseball/softball, basketball, football, and weightlifting), *individual activities* (jumping rope, roller blading/roller skating, running/jogging, swimming, and walking), and *other competitive/recreational sports* (Frisbee, racquetball, soccer, tennis, and volleyball). The items for each type were summed. Cronbach's alphas for the *team sports/weightlifting, individual activities*, and *other competitive/recreational sports* groups were 0.66, 0.62, and 0.63, respectively. While the

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Cronbach's alphas are low, they are still acceptable and are only an indication of the reliability of the items in the scale but not of the reliability of the factor.[24,25]

PA Enjoyment—Adolescents provided answers to 5 items that measured their enjoyment of PA.[26] The students responded to the following statements: "When I am physically active … I enjoy it; I find it fun; it gives me energy; my body feels good; and it gives me a strong feeling of success." The response format for each of these items was a 5-point Likert scale ranging from "strongly agree" (1) to "strongly disagree" (5). Scores were reverse coded. Higher scores indicated enjoyment of PA. Scores for each item were averaged to calculate a scale score. The Cronbach's alpha was 0.89.

PA Participation—One item was used to measure the dependent variable, PA participation. This item stated, "During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day?" Response categories ranged from "1 day" (1) to "7 days" (7). Zero was not included as a possible option.

Sociodemographic and Other Measures—The adolescent's self-reported grade in school (ninth through 12th), race/ethnicity (White, African American/Black, Hispanic/Latino, and other), participation in team sports, and weight status using measured body mass index (BMI) percentile were included as covariates. Students' height and weight were clinically measured within their schools by NYPANS staff and used to calculate BMI. Adolescent's self-reported biological sex was used to generate the sex-specific models.

Statistical Analysis

Statistical analyses for all variables were conducted in 2014 with Mplus version 6.1, using a robust maximum likelihood algorithm that accounted for the complex sampling design.[27] Sample weights were applied to all analyses to adjust for nonresponse and the oversampling of minority students. The primary outcome variable was PA participation. The primary independent variables were number of activities, activity types, and PA enjoyment.

Two path analyses were conducted. In the first model, the number of activities was used to assess the association with PA enjoyment and participation. Direct and indirect relations were tested and evaluated. The direct pathway between the number of activities and PA participation was examined, along with the indirect path from the number of activities by way of PA enjoyment. Participants' grade, race/ethnicity, weight status, and participation in team sports were included in the model as covariates. Multigroup analysis was used to run separate models for boys and girls. The model test command was used in Mplus to perform a Wald test to examine whether coefficients for specific pathways differed between boys and girls. Because of the complex sampling design, mediators were identified using joint significance tests (ie, testing each link in the mediation chain).[28]

The second path analysis examined the paths between activity types, PA enjoyment, and PA participation. This model was fully identified; the variances and covariances of all model measures were accounted for in the model. Therefore, nonsignificant independent variables that were consistent for both boys and girls were excluded. By deleting the nonsignificant independent variables, group-invariant (ie, constrain parameters to be the same) and group-

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variant (ie, allow parameters to vary) models were able to be compared using model-data fit to determine if boys and girls should be included in different models. Deleting the nonsignificant predictors did not have a significant impact on the findings.

Results

Of the 11,458 cases, 3,616 cases (analytic sample = 7,842) were missing complete data in the number of activities path model, while 2953 cases (analytic sample = 8,505) were missing complete data in the activity types path model. Only observations with complete data were used in the models. Relative to the missing cases, the analytic samples had larger percentages of White adolescents, lower percentages of African American/Black adolescents, and higher percentages of adolescents that participated in team sports. The majority of cases without complete data were missing BMI percentile.

Descriptive and Correlational Analyses

Boys comprised 51% of the analytic sample and were similar to girls across the demographic variables (Table 1). More boys than girls participated in the activities listed for team sports/weightlifting and other competitive/recreational sports. More girls than boys participated in the activities listed for individual activities except for running. Means and standard errors were provided for the variables used in the path analyses (Table 2), showing that compared with girls, boys engaged in a higher number of activities, enjoyed PA more, and participated in more PA.

Correlations among all the key variables in the exploratory path analysis are included in Table 2. The 3 activity types were positively correlated with each other and PA enjoyment. Adolescents' PA participation was positively related to all of the predictors. This was consistent for boys and girls.

Path Analysis With Number of Activities, Enjoyment, and Participation

The statistically significant paths are shown in Figure 1 for boys and girls. For both boys and girls, number of activities was positively associated with PA enjoyment and participation. Number of activities also was indirectly associated with PA participation through PA enjoyment (boys: $b = 0.02$, $z = 2.95$, $P = .003$; girls: $b = 0.03$ $z = 4.70$, $P < .001$). Based on the Wald test, the associations were not significantly different between boys and girls.

Exploratory Path Analysis With Activity Types, Enjoyment, and Participation

For the path model for *activity types*, both the variant and invariant models, respectively, yielded the following satisfactory fit indices:[29] comparative fit index (CFI) = 1.00, standardized root mean squared residual (SRMR) = 0.001, and root mean square error of approximation (RMSEA) = 0.00; and CFI = 0.99, SRMR = 0.01, and RMSEA = 0.01. The Satorra–Bentler test was used to obtain the correct chi square difference test statistic for models estimated with multiple linear regression ($\chi^2 = 27.10$, df = 20, $P = .13$), indicating boys and girls did not have path coefficients that are significantly different. While group-invariant and group-variant models were ran, the group-variant results were reported because of the differences between boys and girls shown in the literature.

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Boys-Only Model—The model for boys is presented in Figure 2a. Team sports/weightlifting had a direct positive association with PA participation. In addition, team sports/weightlifting and individual activities had a direct positive association with PA enjoyment. Enjoyment was positively associated with PA participation. PA enjoyment was a significant mediator between PA participation and team sports/weightlifting ($b = 0.01$, $z = 2.79$, $P = .005$) and individual activities ($b = 0.02$, $z = 3.43$, $P < 0.001$). This result shows that enjoyment of these activity types was associated with increased PA levels. Hispanic boys had significantly higher levels of PA enjoyment, and both Hispanic and African American/Black boys had significantly lower levels of PA participation compared with White boys.

Girls-Only Model—In the model for girls (Figure 2b), team sports/weightlifting had a direct positive association with PA participation. In addition, individual activities were direct positive predictors of PA enjoyment. Enjoyment was positively associated with PA participation. PA enjoyment was a significant mediator between PA participation and individual activities ($b = 0.02$, $z = 3.91$, $P < .001$), showing that enjoyment of this activity type was associated with increased PA participation. African American/Black girls had significantly lower levels of PA enjoyment compared with White girls, whereas Hispanic girls had significantly lower levels of PA participation compared with White girls.

Differences Between Boys and Girls—The positive indirect association between team sports/weightlifting and PA participation was significant for boys, but not for girls. However, based on the Wald test, this association was not significantly different between boys and girls.

Disussion

Findings from this study show that participating in a variety of PA (number and type) has the potential to influence students' overall PA participation. These findings underscore the recommendations in the federal PA guidelines,[5] showing support for participating in a variety of PAs to help adolescents develop the skills and confidence needed to engage in many PAs as well as identify activities they enjoy.

This is the first study, to our knowledge, to examine how a variety of PA is associated with PA participation with a nationally representative sample of adolescents. This allows us the opportunity to generalize the findings to the U.S. population. Numerous activities and activity types were positively associated with PA participation in adolescents. While the analysis for activity types was exploratory, it showed that these different types of activities play an important role in influencing PA participation and enjoyment. It also demonstrates that activity types and number of activities are capturing different aspects of a variety of PA, and, therefore, examining both might provide a more comprehensive explanation of a variety of PA.

The results provided insight into whether enjoyment is associated with PA participation. The direct association between PA enjoyment and PA participation found here also provides insight into the mixed findings regarding whether such an association exists. This study's results illustrate that adolescents' enjoyment may play a crucial role in their PA

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participation.[8,16–18] In addition, enjoyment served as a mediator, indicating that a variety of PA was associated with enjoyment, which, in turn, was associated with PA participation. This is an important research finding and has potential implications for practice. While this finding supports instructing adolescents in a variety of PA, it does not explain how this can be done. However, 1 explanation is giving students the knowledge of these PAs and opportunities to practice them to increase their self-efficacy for PA which has been shown to increase both PA enjoyment and participation.[6,30,31] Schools are the ideal place to support these opportunities, especially in physical education class where physical education teachers can offer a variety of age-appropriate PAs, allowing students to identify ones they enjoy as their PA motor skills develop.

Furthermore, demonstrating that PA enjoyment serves as an indirect association between a variety of PA and PA participation confirms previous research illustrating that enjoyment is a proximal motivator for PA.[21] The results also support the notion that perceptions of enjoyment is associated with PA behaviors.[13] Therefore, because enjoyment is a modifiable variable, enhancing enjoyment of PA should be considered a goal for physical education and PA programs for adolescents.

Another important finding is that enjoyment mediated the association between some of the activity types (ie, team sports/weightlifting and individual activities) and not others (ie, other competitive/recreational sports). One explanation might be the role that social influences (ie, engage in activities to hang out with friends) or other environmental influences such availability of activities in the community has on adolescents engaging in these activities and determining whether they enjoy the activity or not. Researchers need to consider these influences in future studies and analyses.

The pathway difference between boys and girls—the mediating effect of enjoyment between team sports/weightlifting and PA participation— may imply that boys play team sports for enjoyment,[32] whereas girls play team sports for some other motivation, such as social interactions with peers or expectations from parents.[8] Surprisingly, there was only this 1 difference found for boys and girls. While this is not consistent with what is supported in the literature, there may have been more differences found if other activity types (eg, aesthetic/creative, which includes dance, cheerleading, and gymnastics) were included. However, this could also suggest that the pathways for variety, enjoyment, and participation in PA operate similarly for both sexes.

Similar to previous research, the model for this study found that as adolescents get older (change grades), they are less likely to be physically active (Figures 1 and 2a and b).[2–4,33] Interestingly, we found that grade was positively associated with PA enjoyment, which suggests that in order for adolescents to remain physically active over time, they need to experience activities they enjoy. This result, plus the others highlighted, implies that a possible practice to help adolescents avoid a decrease in PA as they get older is to encourage them to participate in a variety of PAs throughout their school years. Therefore, as adolescents progress through school levels (eg, 9–12), they would be able to consistently identify activities they enjoy, allowing them to maintain, and possibly increase, their PA levels as they get older.

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The current findings have important programmatic and research implications. Offering a variety of PA across the school year might facilitate adolescents engaging in 60 minutes of PA per day,[6] so that students have several years to identify activities they enjoy and develop the skills to do them. In addition, community PA programs can also reinforce what adolescents learn in school by providing many options for sports and other PA types. By being allowed to identify PA types they enjoy, more students may meet their daily PA levels and develop positive lifelong PA habits. One strategy to help adolescents identify types of PA they enjoy is to provide professional development opportunities on innovative instructional strategies to teachers and other community PA leaders working with adolescents.[31] In addition, the findings for PA enjoyment and PA participation for Hispanic and African American/Black students indicate that future studies might want to consider examining PA for boys and girls by race/ethnicity to better understand other possible programmatic strategies for these students.

Limitations

Several limitations should be noted. First, this study was unable to include or control for influential factors (eg, contextual, social). Specifically, it did not explain how the context might have influenced enjoyment of PA beyond the type of activity and number of activities, for example, if the student played basketball in the driveway with friends versus played basketball on a team. In addition, the cross-sectional data used in the analyses do not allow for conclusions regarding the direction of the modeled causal relationships. Our model represents only 1 of several possible ways in which the variables of interest could be related. For instance, it is likely that PA enjoyment affects the activity types or even the number of activities students participate in. Another limitation is that although the model fit the data well, the overall amount of variance explained suggests additional variables need to be incorporated into future research, such as a wider range of activity types.

While many of the statistically significant effects were small in magnitude, there were some medium-sized effects such as the association between number of activities and PA enjoyment as well as the association between PA enjoyment and participation in all the models.[34] The relationship between team sports and PA participation could be due to participation on school-based sports teams. Students who belong to a school-based sports team would presumably engage in the sport more frequently (eg, after school practices and games). However, the model controlled for such membership, which partially accounts for this possibility.

Students' inability to select "0" for the number of days during a week they were physically active is also a limitation. However, only 200 students did not participate in at least 1 of the 35 PAs surveyed during the same week; this implies that most students were physically active for at least 1 day; although whether students engaged in this activity for 60 minutes remains unknown.

Finally, the results are based on student self-report responses to self-administered questionnaires, raising the possibility of reporting error or social-desirability bias. Given these limitations, the data should be interpreted cautiously and judicially.

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Conclusion

The federal guidelines recommend that youth should participate in a variety of PA and engage in activities that are enjoyable. Exposing adolescents to a number of activities and allowing them to identify ones they find enjoyable is a potential strategy for increasing activity levels in adolescents, shaping their attitude about the value of PA, and, ultimately, achieving positive health outcomes.

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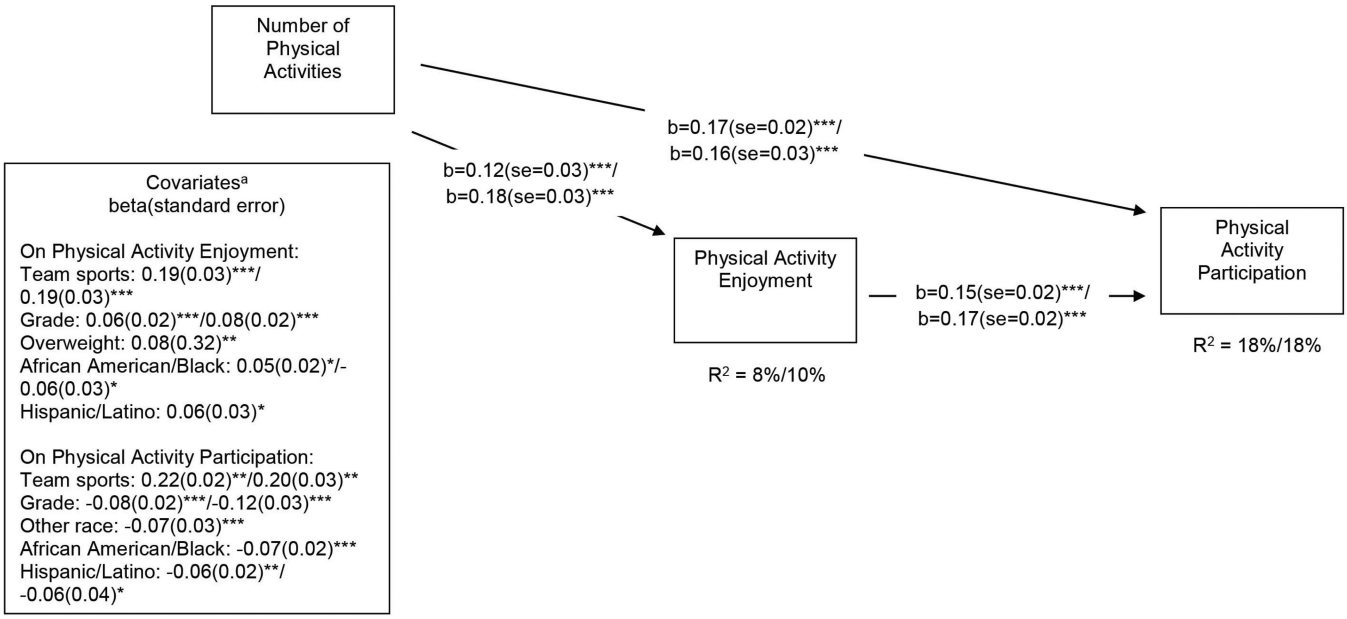

Figure 1.

Path analysis model describing direct and indirect associations between the number of activities, physical activity (PA) enjoyment, and PA participation among 3,938 boys and 3,904 girls. Only significant beta coefficients and standard errors (beta [SE]) are shown for the primary variables. The beta (SE) to the left of the forward slash (/) are for boys and to the right of the forward slash are for girls (ie, boys/girls). The independent variables were associated with 8% for boys and 10% of the variance in physical activity enjoyment and 18% of the variance in physical activity participation for boys and girls. [a] Controlled for sex, grade, weight status, race/ethnicity, and team sports participation—only statistically significant beta coefficients and standard errors (beta [SE]) covariates are shown. * $P \leq .05$; ** $P \leq .01$; *** $P \leq .001$.

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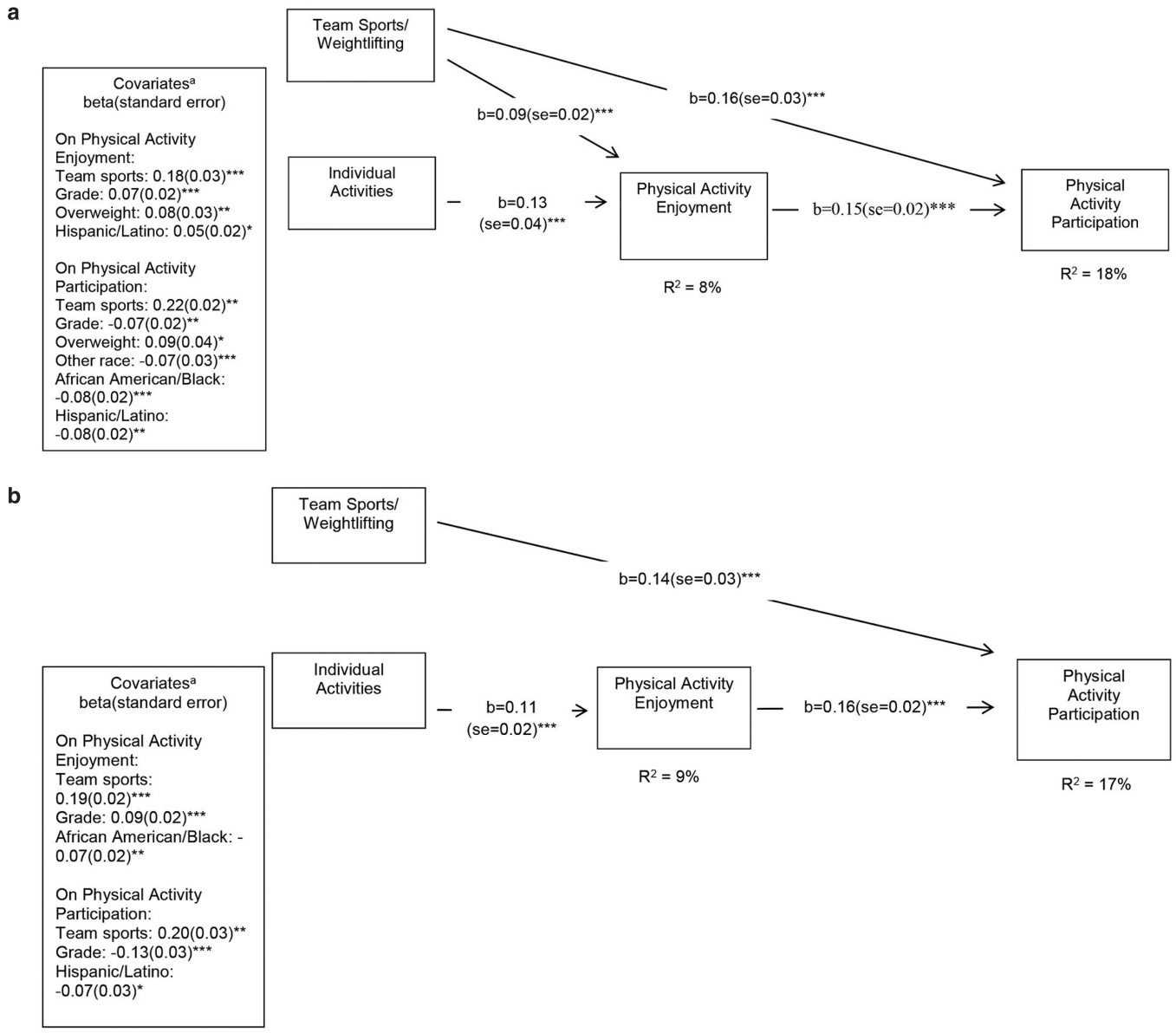

Figure 2.

(a) Path analysis model describing direct and indirect associations between activity types, physical activity (PA) enjoyment, and PA participation among 4,256 boys. Only significant beta coefficients and standard errors (beta [SE]) for the primary variables are shown. The independent variables were associated with 8% of the variance in physical activity enjoyment and 18% of the variance in physical activity participation. [a] Controlled for sex, grade, weight status, race/ethnicity, and team sports participation—only statistically significant beta coefficients and standard errors (beta [SE]) for covariates are shown. * $P \leq .05$; ** $P \leq .01$; *** $P \leq .001$. (b) Path analysis model describing direct and indirect associations between activity types, PA enjoyment, and PA participation among 4,249 girls. Only significant beta coefficients and standard errors (beta [SE]) for the primary variables are shown. The independent measures were associated with 9% of the variance in physical activity enjoyment and 17% of the variance in physical activity participation. [a] Controlled

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for sex, grade, weight status, race/ethnicity, and team sports participation—only statistically significant beta coefficients and standard errors (beta [SE]) for covariates are shown. * $P \leq .05$; ** $P \leq .01$; *** $P \leq .001$.

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Table 1

Demographic Characteristics, Activity Types, Number of Activities, PA Enjoyment, and PA Participation[a]

	Boys		Girls	
	%	95% CI	%	95% CI
Demographic characteristics				
Sex	51.0	49.3–52.6	49.0	47.4–50.7
Grade				
9	28.6	26.3–31.0	27.3	26.0–28.7
10	25.3	23.4–27.2	25.3	22.8–27.9
11	24.1	21.7–26.6	24.2	22.0–26.5
12	22.1	20.3–24.0	23.2	21.7–24.8
Race/ethnicity				
African American/Black	13.0	10.0–16.6	13.2	9.9–17.3
Hispanic/Latino	18.8	14.9–23.6	18.4	14.1–23.6
White	59.6	53.7–65.2	59.8	52.9–66.3
Other	8.6	7.0–10.5	8.6	6.8–11.0
Weight status[b]				
Underweight/normal weight	64.4	61.4–67.2	62.9	59.9–65.8
Overweight	18.0	16.3–19.9	17.2	15.8–18.6
Obese	17.6	15.8–19.6	19.9	17.5–22.6
Participation in team sports	65.6	62.6–68.5	56.9	52.8–60.9
Activity types[C]				
Team sports/weightlifting				
Baseball/softball	39.1	35.2–43.2	27.9	24.9–31.1
Basketball	69.9	67.1–72.6	45.6	42.5–48.7
Football	62.9	60.5–65.3	23.9	21.6–26.4
Weightlifting	71.5	69.2–73.7	39.2	35.6–43.0
Individual sports				
Jump roping	29.8	26.9–33.0	37.6	34.2–41.2
Roller blading/roller skating	17.9	15.2–20.9	24.4	20.8–28.5
Running	79.7	77.1–82.0	78.7	75.9–81.2
Swimming	52.2	48.7–55.8	56.5	52.2–60.7
Walking	81.9	80.0–83.6	87.2	85.5–88.7
Other competitive/recreational				
Frisbee	26.5	23.8–29.3	18.1	15.5–21.0
Racquetball	12.8	9.03-17.9	7.4	5.7–9.6
Soccer	36.4	32.0–41.1	28.8	26.4–31.3
Tennis	25.8	22.3–29.7	24.6	21.3–28.2
Volleyball	27.9	23.9–32.3	39.1	36.1–42.2

Abbreviations: PA, physical activity; CI, confidence interval.

Note. n = 8,505.

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[a]These data were weighted to adjust for nonresponse.

[b]Measured weight and height were used to calculate BMI. Underweight/normal weight was defined as body mass index (BMI) <85th percentile, overweight was defined as BMI ≥85th to <95th percentile, and obese was defined as BMI ≥95th percentile, based on reference data.

[C]Not all 35 activities were included in the "Activity Types" due to the results of the polychoric factor analysis. The activities not included were active video games (62.0% boys, 65.1% girls), aerobics (26.3%, 39.3%), bike riding (52.8%, 44.2%), cheerleading (1.5%, 13.6%), dance (21.1%, 59.1%), field/street/roller hockey (13.1%, 7.27%), golf (23.8%, 8.9%), gymnastics/tumbling (6.1%, 15.4%), ice skating (13.5%, 20.1%), skateboarding (23.6%, 13.6%), surfing (6.3%, 4.5%), track and field (20.3%, 17.7%), waterskiing (9.7%, 7.9%), wrestling (23.5%, 9.0%), and yoga (9.1%, 31.4%).

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Table 2

Means, Standard Errors, and Correlations[a] of Key Path Analysis Variables for Boys and Girls

	Boys		Girls					
	Mean	**SE**	**Mean**	**SE**	**1**	**2**	**3**	**4**
Number of activities[b]	10.3	0.26	9.6	0.24	—	—	—	—
1. Team sports/weightlifting[c]	2.0	0.04	1.1	0.03	—	—	—	—
2. Individual activities[d]	2.6	0.05	2.8	0.06	0.46/0.44	—	—	—
3. Other competitive/recreational sports[e]	1.3	0.07	1.2	0.05	0.41/0.45	0.53/0.55	—	—
4. PA enjoyment[f]	4.2	0.02	4.0	0.03	0.16/0.14	0.16/0.18	0.06/0.15	—
5. PA participation[g]	4.7	0.05	3.8	0.05	0.27/0.26	0.20/0.20	0.16/0.18	0.22/0.23

Abbreviations: PA, physical activity; SE, standard error.

Note. n = 8,505.

[a]All correlations were significant at the $P < .001$. The correlations to the left of the forward slash (/) are for boys and the correlations to the right of the forward slash are for girls (i.e., boys/girls).

[b]Total number of activities adolescents participated in during the past 12 months out of 35 activity types.

[c]Total number of team sports/weightlifting activities (baseball/softball, basketball, football, and weightlifting) adolescents participated in during the past 12 months.

[d]Total number of individual activities (jump roping, roller blading/roller skating, running/jogging, swimming, and walking) adolescents participated in during the past 12 months.

[e]Total number of other competitive/recreational activities (Frisbee, racquetball, soccer, tennis, and volleyball) adolescents participated in during the past 12 months.

[f]Averaged scale score computed from a 5-item scale that measured enjoyment of PA. Higher scores indicate enjoyment toward PA.

[g]Number of days (from 1 to 7 days) that adolescents engaged in PA for at least 60 minutes.