



Friends in Activities, School-related Affect, and Academic Outcomes in Diverse Middle Schools

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Abstract

Participating in school-based activities is linked to positive academic engagement and achievement, but less is known about how peer relationships within activities affect these outcomes. The current study examined friends in extracurricular activities as a predictor of academic outcomes in multiethnic middle schools in California. Specifically, the mediating role of school belonging, and interactions by ethnicity and type of activity, were examined in a sample including African American or Black, East or Southeast Asian, White, and Latino youth in extracurricular activities ($N = 2268$; $M_{\text{age}} = 13.36$ in eighth grade; 54% female). The results of multilevel mediational models suggested that school belonging mediated the link between friends in activities and academic outcomes, and these findings replicated across groups based on ethnicity and the type of activity in which one was involved in general. These results are discussed in terms of how activities can be structured to promote positive peer relations in ways that are linked with academic engagement and achievement.

Keywords Extracurricular activities · Friendships · Academic engagement · Academic achievement · School belonging

Introduction

Participating in school-based extracurricular activities (e.g., sports teams, drama, or honor societies) has been linked with positive outcomes during adolescence. Youth involved in activities, in general, expect to go further in school and to receive better grades than their peers who are uninvolved (e.g., Fredricks and Eccles 2010). Studies have posited that this could be because of factors such as academic-oriented norms among activity members, attention from adults, or opportunities for skill development, such as goal setting (e.g., Dworkin et al. 2003). Much less is known, however, about peer relationships within activity contexts, and how

these relationships are linked with subsequent outcomes. For example, is it enough for youth to participate in activities, or might they benefit most in terms of their academic engagement and achievement when they share the activity experience with friends? The current study addresses this question by investigating the underlying processes by which friendships within school-based activities are associated with academic outcomes among middle school-aged youth. Particularly, we examine whether a higher proportion of friends within activities predicts greater sense of belonging at school, that then is associated with increased academic engagement and achievement. We also test whether these associations vary by the type of activity in which one is involved. Given current disparities in participation within organized after-school activities among minority adolescents, we employ a diverse sample and also examine ethnic differences in these associations.

Friends in Activities

The contexts in which adolescents spend much of their time, such as school, neighborhood, or extracurricular activity settings, affect friendship formation and maintenance through shared experience and interests (McPherson et al. 2001), as well as skill-building associated with positive peer relationships (Dworkin et al. 2003).

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Homophily, or similarity, among individuals is linked with a greater likelihood of friendship, in general (McPherson et al. 2001), and sharing the same extracurricular activity context is associated with a higher likelihood of being friends during middle and high school (Schaefer et al. 2011). Choosing friends within activities has been documented over and above preferences for same-ethnic peers, which is dominant during this developmental period (Schaefer et al. 2018). Extracurricular activities provide an optimal setting for friendships for several reasons. Activities are often chosen based on a special interest, and members share common experiences within their activity, increasing the likelihood of friendship in these settings. Opportunities for skill-building related to increased empathy, intimacy, and communication (e.g., learning about the interests other people have, or feeling like other activity members are family), which are present across many activities, are also likely to strengthen skills related to friendship formation and maintenance (Dworkin et al. 2003). Thus, skills fostered within activities, as well as homophily in terms of common experiences and interests, are each likely to strengthen friendships within activity settings.

Increasingly, greater attention has been paid to understanding if, and why, having friends in one's extracurricular activities (over and above merely participating) is linked with positive adjustment during adolescence. For instance, in a study of Canadian youth, those reporting positive social experiences within their activity group (i.e., including having opportunities to make friends and feeling appreciated within the group) reported fewer depressive symptoms (Denault and Poulin 2016). Although less is known about how positive social experiences within activities are linked with academic outcomes, it may be presumed that similar links would be found based on studies of friends' prosocial norms—generally, linked with activity involvement (Hughes et al. 2016). In a study of eighth grade extracurricular participation, those involved in activities perceived greater prosocial behaviors around academics (i.e., high on positive school behaviors, like doing well in school, and low on problem behaviors, such as skipping school) amongst their friends, in turn affecting ninth grade sense of school belonging, classroom engagement, and grades (Hughes et al. 2016). Although this study suggests that activity involvement is linked with having prosocial friends, it is still unclear if friends unique to one's activity might similarly predict academic outcomes, and if greater feelings of belonging at school in general explain this link.

School Belonging as a Mediator

Participating in extracurricular activities has been shown to strengthen feelings of belongingness during adolescence. For instance, in a study with African American sixth to

ninth graders, feelings of connectedness at school were greatest with more time spent in activity settings (Dotterer et al. 2007). Furthermore, Latino adolescents benefited most, relative to African American and White students, in terms of school belonging when they participated in organized after-school activities (Brown and Evans 2002). Over and above extracurricular participation, the nature of interactions within one's activities may heighten a sense of belonging at school. Positive interactions with school staff, teachers, and peers in school-affiliated activity settings are likely to promote a sense of identification with and belongingness at school in general (Brown and Evans 2002), but this explanation has not been explicitly tested, to our knowledge. We expect that the friendship bonds created within activities may be particularly powerful sources of a sense of school belonging. That is, friendships with soccer teammates or band members in school are presumed to foster a connection that helps youth identify with their school, over and above their activity involvement. We also expect that the close ties established and maintained through activities foster a greater sense of school belonging than any school-based friendships, because the activities help embody the common school identity.

A greater sense of belonging at school is then linked with academic engagement and performance (Benner et al. 2008). In their study of ninth grade students, for instance, Benner and colleagues (2008) found that perceptions of school climate (of which school belonging was a subscale) in turn were linked with academic engagement. Other studies have expanded on this work by examining how friends, in general, affect feelings of belonging, and subsequently, academics. In a study of Latino seventh to twelfth grade students, indicators of friendships, like the number of friends, were associated with greater school belonging, which in turn was linked with grades (Delgado et al. 2016). Guided by stage-environment theory, a school setting which meets one's needs for connectedness with peers is likely to foster academic motivation during middle school (Eccles and Midgley 1989). Thus, school belonging is expected to help account for the association between friendships and academic outcomes. Similarly, in the current investigation, we presume that friendships within activity settings, as a school-affiliated context for bonding, will generalize to broader feelings of belonging, which in turn will be linked with higher academic engagement and achievement. Whether friendships in all types of extracurricular activities function similarly is less clear.

Interactions by Type of Activity

The type of activity in which one is involved (e.g., sports, arts, academic-oriented, or other clubs, or involvement in multiple activities) is likely to affect how involvement, as

well as peer relationships in the activity, are linked subsequently with school-related affect and academic outcomes. In their study of middle and high school students, Schaefer et al. (2011) found that the extent to which youth had friends in their activities varied depending on the type of activity; those in arts activities during middle and high school were more likely to be friends than those in sports activities, with the odds of friendships in academic activities falling in the middle. Moreover, the association between extracurricular involvement and academic outcomes varies across distinct types of activities (Darling et al. 2005). For instance, high school students in school clubs (e.g., student government) and sports had higher grade point averages (GPA), but involvement in prosocial activities was not associated with GPA (Fredricks and Eccles 2006). More recently, greater attention has been paid to the ways in which specific types of peer interactions, like teamwork or leadership opportunities, may differ within and across activities (Simpkins 2015). Given that norms around academic work are likely to vary across activities depending on the peer group involved (Eccles and Barber 1999), we presume that specific types of activities could strengthen how friendships are linked with school-related affect and academic outcomes. Although our tests of interactions by type of activity are mainly exploratory, we presume that participating in academic activities (e.g., Science Club), as a school-oriented group often with members who affiliate with academics, may amplify effects of friends in activities on school-related affect and academic outcomes.

Interactions by Ethnicity

Adolescents from ethnic minority backgrounds are less likely to participate in activities than White youth (Fredricks and Simpkins 2012). Previous studies have cited barriers internal (e.g., micro-aggressions; Lin et al. 2016) and external (e.g., limited access to transportation; Simpkins et al. 2013) to organized after-school activities that may limit youth involvement. When marginalized ethnic minority youth are involved in extracurricular activities, they can benefit in terms of academic success and development of related skills (Fredricks and Simpkins 2012), although the experiences one has within the activity matter. Ethnic minority youth report experiences with discrimination, offensive remarks, and unfair treatment (including micro-aggressions) by activity leaders or other adults (Gutiérrez et al. 2017). We presume that feeling a positive sense of affiliation with peers within one's activity, as reflected in part by number of friendships within one's activity, will be particularly impactful for ethnic minority youth (i.e., Black and Latino students), who may benefit from the support that friendships provide in these sometimes challenging settings. It is also likely that the meaning and experience of activity

participation may vary based on structural factors like the ethnic composition of the school in which the activity is situated. For instance, the experience of being Latino in a school where one's ethnic group is the numerical majority may differ from that of being Latino in a more diverse school where one's group is not the numerical majority, in terms of factors such as the likelihood of activity participation and experiences of micro-aggressions or discrimination (Lin et al. 2016). Hence, we account for school-level ethnic diversity within our analyses.

Current Study

The main goal of this study is to examine how having friends in their school-based extracurricular activities is associated with adolescents' academic engagement and performance by the end of middle school (i.e., eighth grade). We focus on eighth grade because we presume that friendships in activities may become more likely as one nears high school (Schaefer et al. 2011). We test two main hypotheses. First, we investigate the associations between friends in activities and academic outcomes. We hypothesize that perceiving a greater proportion of friends in one's activities will be associated with higher teacher- and student-rated academic engagement and grade point average. To test this, we control for the type of activity in which one is involved and the total number of peer nominations of friendships, which includes any friends both inside and outside of the activity. Friendships in general were controlled because we were specifically interested in how close relationships in one's activity are linked with academic engagement and achievement—that is, for those who are involved, does having more friends in one's activity further associate with academic outcomes? Second, we examine if these associations are mediated by school-related affect. That is, we hypothesize that those with a greater proportion of friends in their activities will report greater belonging at school, which in turn will be associated with greater academic engagement and performance. We also examine if indirect effects vary by the type of activity. Although different patterns have been found across studies, we expect that academic-oriented activities may strengthen these associations (Eccles and Barber 1999).

Capitalizing on a large ethnically diverse sample, we also examine ethnic differences in extracurricular involvement by type of activity, and test whether the associations between activity-related friends, sense of belonging in school, and academic engagement and performance vary across ethnicity. When youth from different ethnic backgrounds do get involved, they might vary in terms of the types of activities in which they participate. For instance, Latino youth have been shown to be less likely to

participate in service activities (e.g., community service clubs), while Asian youth are more likely to participate in academic activities, than their White peers in high school (e.g., Camacho and Fuligni 2015). White and Black youth have been shown to be more involved in sports than their Latino peers, while White youth are also more involved in performing arts groups than Latino youth (e.g., Im et al. 2016). Yet, other studies find few differences in types of activities across ethnic groups (e.g., Bartko and Eccles 2003). We expect that Black and Latino youth may benefit the most in terms of school-related affect and academic outcomes when they have friends within their activities. Hence, we hypothesize that paths between activity-related friends, sense of belonging, and academic outcomes are stronger for Black and Latino youth compared to Asian and White students.

Methods

The current study relied on data from a large, longitudinal study investigating the associations between school ethnic diversity and psychosocial adjustment in 26 public middle schools (grades sixth through eighth) in large metropolitan areas in California ($N = 5991$). The schools were selected based on their ethnic compositions, such that ethnic groups varied in their relative size across the schools. Analyses for the current study rely on data from the eighth grade, during which $N = 4700$ completed a survey. The schools sampled included students from middle socio-economic status and working-class communities. The free-reduced lunch eligibility ranged from 18 to 82% during the eighth grade year. The schools range in size and reflect the overall diversity of the metropolitan areas in which they were collected.

Participants

The analytic sample of 2268 eighth grade students reporting being involved in one or more activities and with data on our predictor, proportion of friends in activities (see Measures below), represents 48% of the overall sample ($N = 4700$). Of the analytic sample (54% female; $M_{\text{age}} = 13.36$), 28% were Latino ($n = 623$), 24% White ($n = 549$), 14% East or Southeast Asian ($n = 320$), 11% African American or Black ($n = 252$), and 23% Other (i.e., South Asian, Filipino or Pacific Islander, Middle Eastern, or Other, including Native American) or Multiethnic ($n = 524$).

Analyses with chi-square tests comparing those in the analytic sample ($n = 2268$) with those uninvolved in activities ($n = 2416$) showed differences by gender and ethnicity. Activity participation was more frequent among girls than boys, $\chi^2(1) = 8.89$, $p < .003$. Ethnic differences were also found overall, $\chi^2(4) = 69.32$, $p < .001$. Latino

youth were less likely to be involved than all other ethnic groups, p 's $< .001$. Those involved also had higher feelings of belonging at school, teacher- and student-rated engagement, and grade point average, compared to those uninvolved, p 's $< .001$.

Procedure

In sixth grade, students were recruited to participate in a study examining sociocultural factors contributing to outcomes such as perceptions of school or broader psychosocial well-being. After a short presentation, students brought home parental consent forms and informational letters explaining the study. To increase the number of returned consent forms (either allowing or not allowing study participation), students and parents returning the consent form were entered into a raffle of \$50 gift cards. The average recruitment rate (i.e., average number of students returning consent forms) across all schools was 81% (range = 72–94%). Only students who returned a parent consent form permitting participation and assented to participate at Wave 1 in fall of sixth grade were included in the study (average rate = 83%) and invited to participate over the course of middle school. Data on extracurricular participation, friends in activities, and academic outcomes were collected during the eighth grade. The researchers, who were the principal investigators, graduate students, or trained undergraduate students, read most items aloud to the students. Students received \$10 for their participation in the eighth grade.

Measures

Type of activity involvement

Students were asked to list all the clubs and extracurricular activities they were involved in during the eighth grade at their school. On average in the analytic sample, students listed 1.56 activities (SD = 1.00; range from 1 to 7 activities). Students' open-ended responses were categorized into activity types based on previous research (e.g., Camacho and Fuligni 2015), and categorization from previous waves (Knifsend and Juvonen 2017): sports (e.g., soccer), academics (e.g., Science Club), arts (e.g., band), special interest clubs (e.g., Cards Club), and after-school programs (e.g., Boys and Girls Club). To use as covariates and as moderators in the current analyses, dummy coded variables were then created reflecting whether youth were involved in: sports only (0 = No; 1 = Yes; $n = 599$; 26.4% of sample), arts only ($n = 383$; 16.9%), other clubs (i.e., including special interest, after-school programs, and uncategorized clubs) only ($n = 375$; 16.5%), or multiple activities ($n = 569$; 25.1%); those in academic activities were the

comparison group ($n = 342$; 15.1%). Of youth in multiple activities, the most common patterns were: arts and academic activities ($n = 125$), sports and academic activities ($n = 102$), and sports and arts activities ($n = 97$).

Proportion of friends in activities

Students participating in activities in eighth grade were asked to estimate how many of their friends were in each activity listed, on a five-point scale (1 = None or Hardly Any to 5 = All or Almost All). For those in multiple activities, ratings were averaged. In general, students reported having “some” friends in their activities ($M = 3.06$, $SD = 1.06$).

School belonging

School belonging was measured with items adapted from the School Climate measure developed by Gottfredson (1984). Students responded to four items assessing their feelings of connectedness to others at school (e.g., *I feel close to people at this school*; 1 = No Way to 5 = For Sure Yes; $\alpha = .83$; $M = 3.78$, $SD = .76$).

Academic outcomes

Three academic-related outcomes were assessed: teacher-rated engagement, student-rated engagement, and school records of grade point average. For *teacher-rated engagement*, teachers of the class participating in the study responded to six items reflecting each student’s engagement in the classroom (e.g., *Concentrates on doing his/her work*; 1 = Never to 4 = Always; $\alpha = .92$; $M = 2.85$, $SD = .75$; Connell and Wellborn 1991). To measure *student-rated engagement*, six items measured self-reported engagement in the classroom (e.g., *How often do you pay attention in class?*; 1 = Never to 5 = Almost All the Time; $\alpha = .81$; $M = 4.26$, $SD = .60$; Masten et al. 2008). For *grade point average*, school records of grades in all of one’s classes during their eighth grade year were compiled (0 = F to 4 = A; $M = 3.18$, $SD = .76$).

Demographic and school-level covariates

Students reported their ethnicity from a checklist with 13 categories, with the option to fill in if belonging to more than one ethnic group or one unlisted. Based on small n ’s in some ethnic groups, these responses were recoded into five categories employed in our analyses (i.e., Latino, White, East or Southeast Asian, African American or Black, and Other/Multiethnic), with White adolescents as the comparison group. Students also self-reported their gender in the fall of sixth grade and provided friendship nominations in

the eighth grade. Friendship nominations given consisted of listing one’s good friends at their school in the current grade (i.e., *List the names of your GOOD FRIENDS in the 8th grade at this school*). The total number of these unlimited, unidirectional friendship nominations provided was used as an individual-level covariate ($M = 4.86$, $SD = 2.03$). School-level covariates included the proportion of free or reduced lunch recipients and school ethnic diversity (Simpson 1949) in the eighth grade (see Knifsend and Juvonen 2017 for description of diversity index and its calculation), given potential differences in school settings and their effects on academic outcomes. Indices were calculated using data from the California Department of Education (California Department of Education 2011). The number of extracurricular activities offered in the eighth grade was also controlled at the school-level, based on the number of unique activities reported by youth in our eighth grade sample ($M = 38.45$ activities, $SD = 11.02$). Thus, although this list is likely not exhaustive, we viewed it as an adequate proxy for the number of opportunities to join activities in each school.

Results

Given the diversity of our sample, the first part of this section provides descriptive information about ethnic differences in our variables of interest. Our main analyses investigate how school belonging mediates the association of friends in activities and academic outcomes (teacher-rated engagement, student-rated engagement, and grade point average). To test the role of type of activity, we test if any indirect effect found varies depending on the activity in which they were involved. Finally, we examine interactions by ethnicity.

Ethnic Group Differences

Differences in type of involvement, friends in activities, as well as academic engagement and achievement, were first examined by ethnicity given the diversity of this sample. First, ethnic groups differed in the types of activities (i.e., sports only, arts only, clubs only, academic only, multiple) in which they were involved (sports: $\chi^2(4) = 37.64$, $p < .001$; arts: $\chi^2(4) = 26.70$, $p < .001$; clubs: NS ; academic: $\chi^2(4) = 17.15$, $p = .002$; multiple: $\chi^2(4) = 29.91$, $p < .001$). Specific comparisons reported below are significant at $p < .005$, accounting for 10 comparisons of ethnic groups. For sports only, Black youth (35%) were more involved than Other/Multiethnic (24%), White (22%), and Asian (19%) youth; similarly, Latino youth (33%) had higher rates of involvement than Other/Multiethnic, White, and Asian peers. In arts activities only, White youth (23%) were more

Table 1 Ethnic group differences in friends in activities and academic outcomes

Ethnicity	Proportion of friends in activities	Teacher-rated academic engagement	Student-rated academic engagement	Grade point average
Asian	3.03 (1.01)	3.18 (0.67)	4.42 (0.53)	3.55 (0.60)
Black	3.11 (1.11)	2.56 (0.70)	4.15 (0.63)	2.47 (0.99)
Latino	3.00 (1.07)	2.67 (0.74)	4.15 (0.66)	2.67 (0.97)
Other/multiethnic	3.20 (1.08)	2.89 (0.73)	4.26 (0.62)	3.01 (0.91)
White	3.00 (1.01)	2.94 (0.75)	4.30 (0.56)	3.22 (0.81)

Note: *M*(*SD*) reported in Table

likely to be involved than their Black (13%) and Latino (12%) peers. Other/Multiethnic youth (18%) were also more involved than Latino youth. In academic activities only, Asian (20%) and Latino (18%) youth were more involved than those who were White (11%). Lastly, in multiple activities, White (32%) youth were more involved than Black (21%) and Latino (19%) peers. Asian (27%) and Other/Multiethnic (27%) youth were also more likely than Latino youth to be involved in multiple activities. In sum, findings generally aligned with prior research (e.g., Black youth with higher rates in sports, White youth in arts activities, and Asian youth in academic activities), although Latino youth looked to be more involved in sports and academic activities in our sample.

Ethnic groups differed overall in the proportion of friends in activities, $F(4, 2263) = 3.73, p = .009$ (see Table 1, Column 2 for means). Specifically, Latino and White teens had fewer friends in their activities than those who were Other/Multiethnic, p 's < .05; those who were Asian and Black did not differ significantly from other groups.

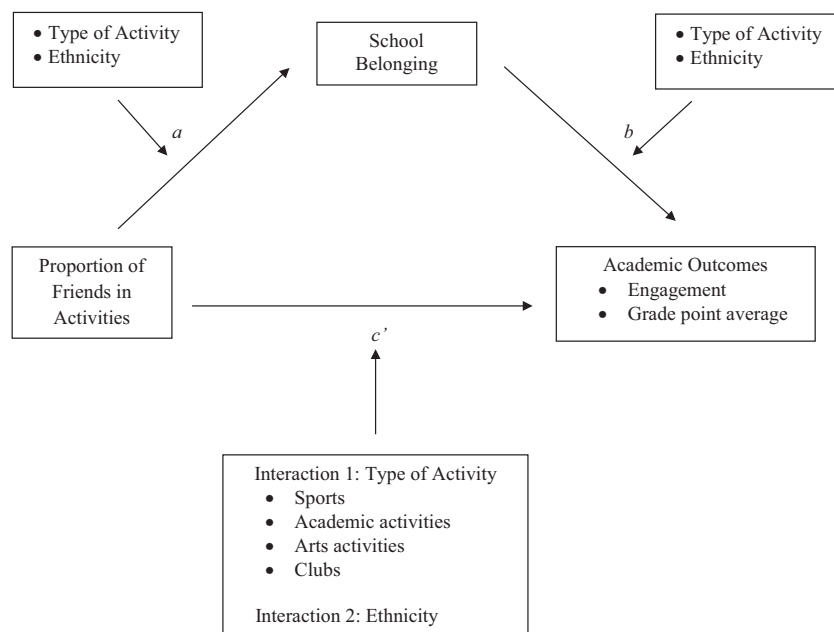
Ethnic groups also differed in teacher-rated engagement ($F(4, 2141) = 34.83, p < .001$; Table 1, Column 3), student-rated engagement ($F(4, 1416) = 9.17, p < .001$; Table 1, Column 4), and grade point average ($F(4, 2127) = 61.35, p < .001$; Table 1, Column 5). For teacher-rated engagement, Asian youth were rated as significantly higher than Black ($t(525) = 104.12, p < .001$), Latino ($t(872) = 97.73, p < .001$), Other/Multiethnic ($t(803) = 31.74, p < .001$), and White peers ($t(841) = 21.71, p < .001$); additionally, White youth were rated significantly higher than Black and Latino youth, p 's < .001. For student-rated engagement, Asian youth reported greater engagement than Black ($t(356) = 19.56, p < .001$) and Latino ($t(584) = 26.02, p < .001$) youth; similar differences were found for White youth (p 's < .001) compared to Black and Latino youth. Lastly, for grade point average, Asian teens had higher grades than Black ($t(530) = 239.21, p < .001$), Latino ($t(900) = 210.36, p < .001$), Other/Multiethnic ($t(792) = 82.41, p < .001$), and White peers ($t(820) = 37.52, p < .001$); similarly, White teens were higher than their Black, Latino, and Other/Multiethnic peers, p 's < .001. Given these differences, until it was

employed as a moderator, ethnicity was accounted for as a covariate in each subsequent model.

Analytic Plan for Mediation Analyses

All main analyses were conducted in SAS Studio using the PROC MIXED command, allowing for modeling of individuals (Level 1) nested within schools (Level 2). Fully unconditional two-level models, as assessed using intraclass correlation coefficients (i.e., ICCs), reflected some school-level variability for school belonging (ICC = 2% of total variance), teacher-rated academic engagement (ICC = 3% of total variance), student-rated academic engagement (ICC = 3% of total variance), and grade point average (ICC = 17% of total variance), thus suggesting that multilevel modeling was the best fit for our analyses. Given our focus on hypotheses regarding mainly fixed effects, Maximum Likelihood estimation is used in each model, allowing for comparison of models with different fixed effects (e.g., testing interaction terms by type of activity, over and above main effects of friends in activities). Maximum Likelihood is also recommended in cases where data are missing at random for the outcome variable (Allison 2012); in our sample, complete data were available for 99.5% of students for school belonging, 94.6% on teacher-rated engagement, 94.2% on grade point average, and 62.5% on student-rated engagement. Student-rated engagement, as part of a block of planned missingness, was tested using both Maximum Likelihood and multiple imputation, as reported below. Only intercepts (not slopes) were allowed to vary across schools. All predictors, mediators, and outcome variables were standardized for interpretability. All models controlled for gender, ethnicity, and number of friendship nominations at Level 1, and proportion of free/reduced lunch students, school diversity, and number of activities at school at Level 2.

Associations were tested in two main steps. Given proposed links between the proportion of friends in activities, school-related affect, and academic outcomes, we first tested mediational models. To explain the associations between friends in activities (X) and academic outcomes

Fig. 1 Moderated mediation models

(*Y*), particularly, school belonging (*M*) was tested as a mediator in three separate models predicting teacher-rated engagement (Model 1), student-rated engagement (Model 2), and grade point average (Model 3). First, we were interested in the overall indirect effect of school belonging. Mediation analyses were conducted following procedures developed by Bauer et al. (2006), where the *a* path (*X* to *M*) and *b* path (*M* to *Y* with *X* in model) are tested simultaneously to compute the indirect effect. The *c'* path is also modeled (*X* to *Y* with *M* in model). Subsequently, a series of moderated mediation models tested if type of activity interacted with the *a* path and/or *b* path, and if the indirect effect varied (see Table 2 for descriptives). Consistent with Bauer et al. (2006), interactions on the *c'* path are also modeled and reported, although they are not essential to calculating the indirect effect (see Fig. 1). Interactions tested in the same model compared those in academic activities only (as the comparison group) to those in sports only, arts only, clubs only, and multiple activities. All models were tested as 1-1-1 models, with the predictor, mediator, and outcome each modeled at Level 1. Individual- and school-level effects were partitioned by group-mean centering Level 1 predictors and entering the school-level mean of each predictor as a control in each model (Zhang et al. 2009). Significant individual-level coefficients, then, reflect within-group effects (Zhang et al. 2009). Significance of indirect effects of school belonging were tested using the Monte Carlo Method for Assessing Mediation (MCMAM; Selig and Preacher 2008) in R-3.3.1 for Windows, generating 95% confidence intervals of indirect effects based on 20,000 estimates of regression coefficients ($a*b$). These

steps were also repeated when examining interactions by ethnicity.

Mediational Analyses

Correlations of main model variables are shown in Table 3. Our main analyses tested school belonging as a mediator of the association between the proportion of friends in activities and academic outcomes overall. First, friends in activities were associated directly with higher teacher-rated engagement, student-rated engagement, and grade point average (*c* paths; see Table 4), even when controlling for type of activity (i.e., in general, those in sports, arts, and clubs only had lower engagement than those in academic activities, and grade point average was lower for those in sports and clubs only) as well as individual- and school-level covariates. Second, youth with more friends in activities reported greater belongingness at school (*a* path: $\beta = .13$, $SE = .02$, $p < .001$). Greater belongingness, in turn, was associated with higher teacher-rated engagement (*b* path in Model 1: $\beta = .11$, $SE = .02$, $p < .001$), student-rated academic engagement (*b* path in Model 2: $\beta = .28$, $SE = .03$, $p < .001$), and grade point average (*b* path in Model 3; see Fig. 2). MCMAM testing indicated a significant, but small, indirect effect of school belonging for each academic outcome (teacher-rated engagement: standardized $a*b = .01$, 95% CI [.01, .02]; student-rated engagement: standardized $a*b = .03$, 95% CI [.01, .03]; grade point average: standardized $a*b = .01$, 95% CI [.01, .02]).

Table 2 Differences by type of activity in friends in activities and academic outcomes

Type of activity	Proportion of friends in activities	Teacher-rated academic engagement	Student-rated academic engagement	Grade point average
Sports only	3.20 (1.06)	2.64 (0.74)	4.07 (0.65)	3.00 (0.78)
Arts only	3.13 (1.12)	2.88 (0.70)	4.25 (0.55)	3.21 (0.67)
Clubs only	2.93 (1.20)	2.79 (0.73)	4.21 (0.65)	3.05 (0.84)
Academic only	2.96 (1.11)	3.04 (0.77)	4.36 (0.59)	3.29 (0.77)
Multiple	3.02 (0.83)	2.97 (0.74)	4.42 (0.51)	3.37 (0.69)

Note: *M*(*SD*) reported in Table

Table 3 Pearson's correlations of friends in activities, school belonging, and academic outcomes

	1	2	3	4	5
1. Proportion of friends in activities	–	.14***	.05*	.04	.02
2. School belonging		–	.29***	.11***	.15***
3. Teacher-rated academic engagement			–	.43***	.62***
4. Student-rated academic engagement				–	.53***
5. Grade point average					–

* $p < .05$, *** $p < .001$

Interactions by type of activity

An interaction term by type of activity on the *a* path, *b* path, and *c*' path were then tested in three models predicting teacher-rated engagement, student-rated engagement, and grade point average. Interactions on the *a* path and *b* path were not significant in models predicting teacher-rated engagement and student-rated engagement, suggesting that the indirect effect did not vary by type of activity for engagement. Interactions on the *c*' path (*X* to *Y*) were significant, however. For teacher-rated engagement, a significant interaction, $F(4,2080) = 4.00$, $p = .003$ revealed that a higher proportion of friends in activities was linked with greater teacher-rated engagement for those in academic activities ($\beta = .19$, $SE = .05$, $p < .001$), but not for other groups. For student-rated engagement, a significant interaction ($F(4,1385) = 2.75$, $p = .03$) revealed that a greater number of friends in activities was linked with lower engagement for those in sports ($\beta = -.12$, $SE = .06$, $p = .04$), but not for those in other types of activities.

In the model predicting grade point average, interactions were significant on the *a* path ($F(4,2211) = 2.38$, $p = .05$) and the *c*' path ($F(4,2047) = 2.49$, $p = .04$). For those in sports only ($\beta = .19$, $SE = .04$, $p < .001$), multiple activities ($\beta = .18$, $SE = .05$, $p < .001$), and academic activities ($\beta = .15$, $SE = .05$, $p = .002$), simple slopes analyses revealed a greater number of friends was linked with a higher sense of belonging, but this finding was not significant for the

other groups. On the *c*' path, a greater number of friends was linked with a higher grade point average for those in academic activities ($\beta = .12$, $SE = .04$, $p = .01$), but not for those in the other groups. MCMAM testing revealed a small, indirect effect of school belonging for those in academic activities (standardized $a*b = .02$, 95% CI [.003, .04]), but not for those in sports or multiple activities.

Interactions by Ethnicity

As noted above, adolescents from different ethnic backgrounds differed in rates of extracurricular involvement, the number of friends in their activities, and in their academic outcomes. However, when examining mediational links by ethnicity on the *a* path, *b* path, and *c*' path, with White adolescents as the comparison group, adolescents from different ethnic backgrounds did not differ from one another, p 's $> .05$.

To check for robustness of our findings, we also ran regression models operationalizing friends in activities as the largest number of friends one has in their activity, rather than the average, for those in multiple activities. These analyses replicated our main findings. Given missing data on our variable reflecting student-rated engagement, we also tested the link between friends in activities and student-rated engagement using multiple imputation, the findings of which were similar to those reported in text.

In sum, peer relationships within one's activity were associated with greater engagement and academic performance, and this link was explained by feelings of connectedness within the larger school context. Although these findings generalized across activity contexts and ethnic groups for the most part, associations between friends in activities and teacher-rated engagement, as well as grade point average, were strongest in academic activities, like leadership or honor societies.

Discussion

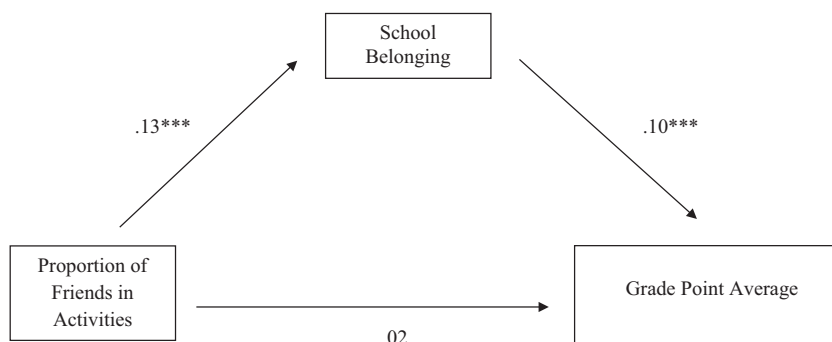
Participation in school-affiliated extracurricular activities has been shown to be linked with academic performance

Table 4 Standardized regression coefficients testing friends in activities predicting academic outcomes

	Teacher-rated academic engagement	Student-rated academic engagement	Grade point average
Level 1 (individual)			
Female	0.09***	0.11***	0.12***
Asian	0.09***	0.07*	0.08***
Black	−0.16***	−0.04	−0.20***
Latino	−0.19***	−0.07*	−0.24***
Other/multiethnic	−0.06*	0.01	−0.09***
Number of friendships	−0.00	−0.02	0.00
Sports only	−0.17***	−0.17***	−0.11***
Arts only	−0.07*	−0.07*	−0.04
Clubs only	−0.12***	−0.09**	−0.11***
Multiple activities	−0.02	0.04	0.02
Proportion of friends in activities	0.05*	0.07**	0.04*
Level 2 (school)			
Ethnic diversity	0.02	0.03	0.15**
Free or reduced lunch	0.05	−0.02	−0.04
Activities at school	0.03	0.06	−0.06

* $p < .05$, ** $p < .01$, *** $p < .001$

Fig. 2 Mediation model of the association of friends in activities and grade point average, with school belonging as a mediator. *** $p < .001$



(Fredricks and Eccles 2010). Recently, greater attention has been paid to peer relationships and social experiences within activities (e.g., Schaefer et al. 2018), although much less is known about how these factors affect academic outcomes. The current study examined whether having friends in one's extracurricular activity was associated with academic engagement and achievement in the eighth grade, and if feelings of belonging at school mediated this association. We showed that school belonging mediated associations between friends in activities and academic outcomes. Although activities have been shown to provide a setting for friendship formation and maintenance (Schaefer et al. 2011), to our knowledge, this study is one of few to consider friendships within extracurricular activities as a predictor of school-related affect, academic engagement, and academic achievement. These findings contribute to an

emerging literature examining peer relationships within extracurricular activities, by suggesting that having friends in one's activities is linked with a sense of school belonging and positive academic outcomes.

Consistent with our hypotheses, a greater proportion of friends in activities was associated with higher school belonging, and in turn, higher teacher-rated academic engagement, student-rated academic engagement, and grade point average. These findings suggest that the positive experience of having a higher proportion of friends participating in the same extracurricular activity generalizes to feelings of connectedness to the larger school context (Brown and Evans 2002). Notably, this effect was found over and above the type of activity in which one was engaged and the total number of friends (i.e., including those not in activities), among other covariates. This finding

underscores the importance of being able to form or maintain meaningful relationships within the context of extracurricular activities, over and above just being involved. In turn, consistent with a larger body of research, feelings of belonging at one's school were linked with both academic engagement (i.e., teacher- and student-rated) and achievement (Benner et al. 2008). Overall, these findings suggest that positive peer relationships within extracurricular activities generalize to broader feelings of school belongingness, and ultimately, academic success.

Testing moderated mediation models, an indirect effect of school belonging was found in the association between friends in activities and grade point average for those in academic activities. Additionally, direct associations between friends in activities and teacher-rated engagement, as well as grade point average, were strongest in academic-oriented activities, like honor societies or leadership. Academic activities, as explicitly school-oriented, may foster a stronger sense of identification with the larger school as a whole, or those who seek out academic activities may feel better integrated into the school context. Alternatively, academic activities, given their focus, may reinforce skills and norms relevant to academic success (Eccles and Barber 1999). Interestingly, for those in sports, having friends in activities was linked with lower student-rated academic engagement, which contrasts with other studies suggesting positive effects of friends' prosocial norms for academics on teacher-rated engagement within sports (Hughes et al. 2016). Potentially, a closer examination of types of activities within broad categories (i.e., individual vs. team sports; Hughes et al. 2016), and the academic norms shared by members of different activities, would shed light on the role of friends in extracurricular activities. Despite these differences found, however, indirect effects remained significant across types of activities in general, showing that having friends in academic activities, sports, arts activities, and clubs is beneficial in most instances.

Future directions include using longitudinal data, further understanding of characteristics of the activities in which youth are involved, explicit comparison of activity-related vs. non-activity-related friendships, and consideration of additional mediators. With cross-sectional data, it is unclear if there are selection effects driving our findings, as well as how friendships arise in activities. For example, it would be important to know the extent to which youth join activities with their existing friends (Loder and Hirsch 2003) or make friends within their activities over time (Schaefer et al. 2011), how each experience affects findings regarding academic outcomes, and if these effects extend over time. Secondly, when examining the type of activity, characteristics of the activity that could affect academic engagement and performance, like the criteria for grade point average, were unknown. Additional research is needed to understand

if these criteria enhance academic outcomes. Third, comparing activity-related vs. non-activity-related friends in terms of quality, and subsequent effects, would better highlight the role of friends in activities for those in activities. That is, given factors like consistent time spent together, skill building, and homophily based on shared interests in the activity (Dworkin et al. 2003)—do friendships in activities tend to be stronger, on average, than non-activity based friendships, in ways that amplify the effects of extracurricular involvement? In addition to self-reported friends in activities, objective measures of friends in activities (linking nominations of friends with friends' own reported extracurricular involvement) would strengthen these findings by understanding networks of friends in and out of activities. Lastly, this study provides an important first step towards understanding the mechanisms underlying the link between friends in activities and academic outcomes; however, it is possible that other mediators can explain this association, especially given the small indirect effects. For instance, activities are often found to provide a context for skill-building (e.g., in terms of initiative or goal setting; Larson et al. 2006). Like feelings of belonging, it may be that having friends in one's activity heightens the extent to which one learns and acquires such skills, affecting subsequent academic outcomes.

Additionally, future research should consider how youth from ethnic minority backgrounds differ in their extracurricular participation, as well as the subsequent benefits of being involved. In our diverse sample, participating in organized after-school activities was associated with school belonging, which in turn predicted better engagement and grades—and this was true for all ethnic groups. However, groups differed in the types of activities in which they were involved, their friends in activities, as well as in their academic outcomes. Differences in participation, in general, aligned with prior studies (e.g., Camacho and Fuligni 2015), in that Black youth had higher rates of participation in sports only, White youth in arts only, and Asian youth in academic activities only. Latino eighth graders were less likely to be involved in arts and multiple activities, had fewer friends in their activities, and lower engagement and achievement, although they were more involved in sports and academic activities than other groups. In line with research showing lower rates of participation in general among Latino youth (e.g., Darling et al. 2005), examining methods to overcoming barriers to participation may be especially critical.

However, a greater understanding of experiences within activities across groups is also needed. For instance, African American and Latino youth receive disproportionately lower academic expectations from teachers (Tenenbaum and Ruck 2007)—do these lowered expectations replicate in sports activities where these youth may be overrepresented?

Similarly, if both Asian and Latino youth are highly involved in academic activities, can similar benefits be inferred across activities when Latino youth may experience micro-aggressions or other discriminatory acts within these settings (e.g., Gutiérrez et al. 2017)? Given the importance of friends in activities, it may not be enough to encourage ethnic minority youth to join, but rather to ensure that activity leaders are equipped to foster a positive peer climate among diverse youth (Gutiérrez et al. 2017). Moreover, it would be important to know if youth from minority backgrounds are more (or less) likely to participate in activities with same-ethnic peers. Our study was limited, given open-ended responses to the extracurricular measure; however, considering the quantity or quality of same- or cross-ethnic friends within activities could help explain ethnic differences in participation or friends in activities. Additional research in diverse samples would illuminate the experiences of diverse youth within activities.

Conclusion

The current study contributes to literature on the benefits of extracurricular activity settings, showing specifically that having friends in activities is linked with academic engagement and performance in the eighth grade, and that this link is mediated by school belonging. This study fills a gap through its focus on peer relationships within activity settings, about which much less is known, as well as examination of this topic in a diverse, young adolescent sample. These findings hold important implications for extracurricular programming in middle school and after-school settings. In general, findings underscore the importance of peer relationships within extracurricular activities, as evidenced by having friends in one's activity being linked with academic engagement and achievement. Thus, it may not be enough to encourage youth to join an activity, but once they join, efforts should be made towards improving peer relationships in activities. Activity leaders likely can play a key role in fostering a positive peer climate by affording time and meaningful opportunities for activity members to interact, and intervening when observing instances of ostracism or other forms of peer victimization. Based on our findings, affiliating with others within activity settings may generalize to a sense of belonging with others at school more broadly, suggesting an important avenue through which perceptions of school climate, critical to academic outcomes, can be improved. Given that effects on teacher-rated engagement and grade point average looked to be strongest in academic-oriented activities, schools should ensure they afford accessible opportunities for all youth to get involved in these types of activities (e.g., student council). The current analyses highlight ways in which

relating to one's peers in extracurricular activities can generalize to positive feelings about school, and subsequently, academic engagement and achievement.

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Data Sharing Declaration The manuscript's data will not be deposited.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures involving human participants in this study were in accordance with the ethical standards of the University's Institutional Review Board and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all participants included in this study.

References

- Allison, P. D. (2012). Handling missing data by maximum likelihood. *SAS Global Forum Proceedings*, Orlando, FL, 1–21.
- Bartko, W. T., & Eccles, J. S. (2003). Adolescent participation in structured and unstructured activities: A person-oriented analysis. *Journal of Youth and Adolescence*, 32(4), 233–241. <https://doi.org/10.1023/A:1023056425648>.
- Bauer, D. J., Preacher, K. J., & Gil, K. M. (2006). Conceptualizing and testing random indirect effects and moderated mediation in multilevel models: New procedures and recommendations. *Psychological Methods*, 11(2), 142–163. <https://doi.org/10.1037/1082-989X.11.2.142>.
- Benner, A. D., Graham, S., & Mistry, R. S. (2008). Discerning direct and mediated effects of ecological structures and processes on adolescents' educational outcomes. *Developmental Psychology*, 44(3), 840–854. <https://doi.org/10.1037/0012-1649.44.3.840>.

- Brown, R., & Evans, W. P. (2002). Extracurricular activity and ethnicity: Creating greater school connection among diverse student populations. *Urban Education, 37*(1), 41–58. <https://doi.org/10.1177/0042085902371004>.
- California Department of Education. (2011). *DataQuest* [Data file and code book]. <http://www.cde.ca.gov/ds/>.
- Camacho, D. E., & Fuligni, A. J. (2015). Extracurricular participation among adolescents from immigrant families. *Journal of Youth and Adolescence, 44*(6), 1251–1262. <https://doi.org/10.1007/s10964-014-0105-z>.
- Connell, J. P., & Wellborn, J. G. (1991). Competence, autonomy and relatedness: A motivational analysis of self-system processes. In M. Gunnar & L. A. Sroufe (Eds.), *Minnesota symposium on child psychology, Vol. 23: Self processes in development* (pp. 43–77). Chicago: University of Chicago Press.
- Darling, N., Caldwell, L. L., & Smith, R. (2005). Participation in school-based extracurricular activities and adolescent adjustment. *Journal of Leisure Research, 37*(1), 51–76.
- Delgado, M. Y., Etekal, A. V., Simpkins, S. D., & Schaefer, D. R. (2016). How do my friends matter? Examining Latino adolescents' friendships, school belonging, and academic achievement. *Journal of Youth and Adolescence, 45*(6), 1110–1125. <https://doi.org/10.1007/s10964-015-0341-x>.
- Denault, A., & Poulin, F. (2016). What adolescents experience in organized activities: Profiles of individual and social experiences. *Journal of Applied Developmental Psychology, 42*, 4240–4248. <https://doi.org/10.1016/j.appdev.2015.11.004>.
- Dotterer, A. M., McHale, S. M., & Crouter, A. C. (2007). Implications of out-of-school activities for school engagement in African American adolescents. *Journal of Youth and Adolescence, 36*(4), 391–401. <https://doi.org/10.1007/s10964-006-9161-3>.
- Dworkin, J. B., Larson, R., & Hansen, D. (2003). Adolescents' accounts of growth experiences in youth activities. *Journal of Youth and Adolescence, 32*(1), 17–26. <https://doi.org/10.1023/A:1021076222321>.
- Eccles, J. S., & Barber, B. L. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular involvement matters? *Journal of Adolescent Research, 14*(1), 10–43. <https://doi.org/10.1177/0743558499141003>.
- Eccles, J. S., & Midgley, C. (1989). Stage-environment fit: Developmentally appropriate classrooms for young adolescents. In C. Ames, R. Ames (eds.) *Research on Motivation in Education* (Vol. 3). San Diego: Academic Press.
- Fredricks, J. A., & Eccles, J. S. (2006). Is extracurricular participation associated with beneficial outcomes? Concurrent and longitudinal relations. *Developmental Psychology, 42*(4), 698–713. <https://doi.org/10.1037/0012-1649.42.4.698>.
- Fredricks, J. A., & Eccles, J. S. (2010). Breadth of extracurricular participation and adolescent adjustment among African-American and European-American youth. *Journal of Research on Adolescence, 20*(2), 307–333. <https://doi.org/10.1111/j.1532-7795.2009.00627.x>.
- Fredricks, J. A., & Simpkins, S. D. (2012). Promoting positive youth development through organized after-school activities: Taking a closer look at participation of ethnic minority youth. *Child Development Perspectives, 6*(3), 280–287. <https://doi.org/10.1111/j.1750-8606.2011.00206.x>.
- Gottfredson, G. (1984). *Effective school battery*. Odessa, FL: Psychological assessment resources, Inc.
- Gutiérrez, V., Larson, R. W., Raffaelli, M., Fernandez, M., & Guzman, S. (2017). How staff of youth programs respond to culture-related incidents: Nonengagement vs. going “full-right-in”. *Journal of Adolescent Research, 32*, 64–93. <https://doi.org/10.1177/0743558416664028>.
- Hughes, J. N., Cao, Q., & Kwok, O. (2016). Indirect effects of extracurricular participation on academic adjustment via perceived friends' prosocial norms. *Journal of Youth and Adolescence, 45*(11), 2260–2277. <https://doi.org/10.1007/s10964-016-0508-0>.
- Im, M. H., Hughes, J. N., Cao, Q., & Kwok, O. (2016). Effects of extracurricular participation during middle school on academic motivation and achievement at Grade 9. *American Educational Research Journal, 53*(5), 1343–1375. <https://doi.org/10.3102/0002831216667479>.
- Knifsend, C. A., & Juvonen, J. (2017). Extracurricular activities in multiethnic middle schools: Ideal context for positive intergroup attitudes? *Journal of Research on Adolescence, 27*(2), 407–422. <https://doi.org/10.1111/jora.12278>.
- Larson, R. W., Hansen, D. M., & Moneta, G. (2006). Differing profiles of developmental experiences across types of organized youth activities. *Developmental Psychology, 42*(5), 849–863. <https://doi.org/10.1037/0012-1649.42.5.849>.
- Lin, A. R., Menjívar, C., Etekal, A. V., Simpkins, S. D., Gaskin, E. R., & Pesch, A. (2016). ‘They will post a law about playing soccer’ and other ethnic/racial microaggressions in organized activities experienced by Mexican-origin families. *Journal of Adolescent Research, 31*(5), 557–581. <https://doi.org/10.1177/0743558415620670>.
- Loder, T. L., & Hirsch, B. J. (2003). Inner-city youth development organizations: The salience of peer ties among early adolescent girls. *Applied Developmental Science, 7*(1), 2–12. https://doi.org/10.1207/S1532480XADS0701_1.
- Masten, C. L., Juvonen, J., & Spatzier, A. (2008). Relative importance of parents and peers: Differences in academic and social behaviors at three grade levels spanning late childhood and early adolescence. *The Journal of Early Adolescence, 29*, 773–799. <https://doi.org/10.1177/0272431608325504>.
- McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology, 27*, 1415–1415. <https://doi.org/10.1146/annurev.soc.27.1415>.
- Schaefer, D. S., Simpkins, S. D., & Etekal, A. V. (2018). Can extracurricular activities reduce adolescent race/ethnic friendship segregation? In D. Alwin, D. Felmler & D. Kreager (Eds.), *Together Through Time: Social Networks and the Life Course*.
- Schaefer, D. R., Simpkins, S. D., Vest, A. E., & Price, C. D. (2011). The contribution of extracurricular activities to adolescent friendships: New insights through social network analysis. *Developmental Psychology, 47*(4), 1141–1152. <https://doi.org/10.1037/a0024091>.
- Selig, J. P., & Preacher, K. J. (2008). Monte Carlo method for assessing mediation: An interactive tool for creating confidence intervals for indirect effects [Computer software]. <http://quantpsy.org/>.
- Simpkins, S. D. (2015). When and how does participating in an organized after-school activity matter? *Applied Developmental Science, 19*(3), 121–126. <https://doi.org/10.1080/10888691.2015.1056344>.
- Simpkins, S. D., Delgado, M. Y., Price, C. D., Quach, A., & Starbuck, E. (2013). Socioeconomic status, ethnicity, culture, and immigration: Examining the potential mechanisms underlying Mexican-origin adolescents' organized activity. *Developmental Psychology, 49*(4), 706–721.
- Simpson, E. H. (1949). Measurement of diversity. *Nature, 163*, 688. <https://doi.org/10.1038/163688a0>.
- Tenenbaum, H. R., & Ruck, M. D. (2007). Are teachers' expectations different for racial minority than for European American students? A meta-analysis. *Journal of Educational Psychology, 99*(2), 253–273. <https://doi.org/10.1037/0022-0663.99.2.253>.
- Zhang, Z., Zyphur, M. J., & Preacher, K. J. (2009). Testing multilevel mediation using hierarchical linear models: Problems and

solutions. *Organizational Research Methods*, 12(4), 695–719. <https://doi.org/10.1177/1094428108327450>.

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