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Extracurricular Involvement, Friendships, and Social Identity Development
in Ethnically Diverse Middle Schools

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requirements for the degree Doctor of Philosophy
in Psychology

by

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ABSTRACT OF THE DISSERTATION

Extracurricular Involvement, Friendships, and Social Identity Development
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Professor Jaana Helena Juvonen, Chair

My dissertation consists of two studies investigating extracurricular activities as a context for social identity development. These studies relied on a sample drawn from 11 multiethnic middle schools as part of a larger project investigating the role of school ethnic diversity in socio-emotional adjustment. Study 1 examined the correlates of extracurricular participation and identification among seventh grade youth ($N = 2,376$). African-American and Latino/Mexican-American adolescents were less likely to both participate in and to identify with their activities, compared to their Asian-American and White/Caucasian peers. In turn, hierarchical linear modeling suggested that activity participation was linked with feelings of belonging at school and academic engagement (measured using self-reports and teacher ratings) for youth of all ethnic backgrounds. Moreover, activity-based social identities were associated with lower social anxiety for all youth and with school belonging for those in team-oriented activities. These

findings suggest that it is important to get ethnic minority middle school students involved in and identifying with extracurricular activities that are linked with positive adjustment. Activities that are structured to be team-oriented may be particularly helpful to promote identification.

Building on Study 1, which focused on single social identities, Study 2 examined the intersections of multiple social identities among students who were engaged in extracurricular activities ($N = 1,497$). Specifically, the ways in which cross-ethnic contact in extracurricular activities is associated with complex, inclusive social identities, as well as with cross-ethnic friendships and attitudes about ethnic outgroups, were investigated. Hierarchical linear modeling revealed that greater cross-ethnic contact in activities was linked with both cross-ethnic friendships in activities and complex, inclusive social identities, each of which were associated with more positive ethnic intergroup attitudes. Thus, opportunities for cross-ethnic contact in activities must be present and taken advantage of to promote positive intergroup attitudes.

Together, these studies suggested that extracurricular activities are associated with both personal well-being at school and with more positive attitudes towards peers from different backgrounds.

These findings have implications for the design and structure of extracurricular activities, suggesting that activities with greater peer interaction (e.g., through collaboration or building friendships) foster school-related adjustment and positive intergroup attitudes.

The dissertation of Casey Anne Knifsend is approved.

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GENERAL INTRODUCTION

Feeling a sense of belonging with others is a fundamental human need (Baumeister & Leary, 1995). Fitting in and relating with peers becomes especially important during early adolescence, in part due to changes in the school environment (e.g., transitioning from elementary to middle school). Middle schools are less structured and on average seven times larger than neighborhood elementary schools, making the school social context increasingly complex and complicated to navigate for young adolescents (e.g., Juvonen, Le, Kaganoff, Augustine, & Constant, 2004). As a result of this contextual change that occurs at the time when there is a heightened need for peer approval, it is crucial for young adolescents to feel connected to their peers at school by forming and maintaining close relationships with those who share similar interests and activities. Hence, identifying with smaller social groups of peers around similar interests and activities becomes increasingly salient at the time when middle schools also offer more opportunities for youth to select extracurricular activity options.

In particular, *extracurricular activities* that occur outside of the regular school curriculum (e.g., school soccer team, drama club, or debate team) become important for many youth during adolescence. Compared to the classroom or unstructured out-of-school time (e.g., watching television or gathering at the mall; Mahoney & Stattin, 2000), these activities provide a context where young adolescents regularly interact with peers who share similar interests (e.g., Dworkin, Larson, & Hansen, 2003), and can enable youth to identify with specific activities within the broader school context (e.g., Eckert, 1989). In contrast with other in-school and out-of-school contexts, extracurricular activities may therefore serve as an ideal setting to explore interests, foster positive peer relations, and form social identities within the school context.

While past research has illuminated how extracurricular activities are associated with positive adjustment, there are several limitations to the existing body of research. First, most studies focus on the “quantity” of participation (e.g., number of activities in which one is involved), rather than the “quality” (i.e., psychological meaning). Second, little is known about activity participation in multiethnic middle schools, or about how activities can help connect peers from different ethnic backgrounds. Addressing these limitations has important implications for our understanding of extracurricular participation and for structuring activities that benefit all youth.

Social Identity Development in Extracurricular Activities

As just mentioned, existing research on extracurricular participation has contributed to a better understanding of the “quantity” of participation. For instance, prior studies have defined participation as whether or not youth are involved, both in general and in broad categories of activities, like sports or arts (e.g., Eccles & Barber, 1999). Greater attention has been paid to the number of activities (i.e., breadth) in which one is involved to better understand the point at which youth are overscheduled (e.g., Fredricks & Eccles, 2010). Other studies have focused on measures of the intensity (e.g., hours per week in the activity; Rose-Krasnor, Busseri, Willoughby, & Chalmers, 2006) or the duration (e.g., involvement over multiple time points; Fredricks & Eccles, 2006) of participation. In general, this body of research suggests that greater levels of participation in high school are linked with positive academic and social adjustment (e.g., feelings of belonging at school or school engagement), as long as youth are not too involved (i.e., in too many activities or hours per week).

Defining extracurricular participation in these ways, however, might be missing part of the story. Although these activities become meaningful to many youth during the adolescent

years and can facilitate identity exploration (e.g., Dworkin et al., 2003), few studies have captured the degree to which youth come to identify with their activity as an important part of their self-definition. That is, how do youth define themselves as part of their extracurricular activity group, and might this self-definition in turn amplify how participation is linked with positive adjustment?

Activity-based social identities. Self-definition becomes increasingly important during adolescence, as youth strive to figure out who they are and where they fit in amongst their peers (Erikson, 1968; Newman & Newman, 1976). Research on identity development suggests that self-definition occurs at different levels, ranging from the individual level (i.e., personal identity) to the collective level (i.e., social identity). At the individual level, self-definition is based on the unique personal characteristics or traits that distinguish oneself from others (e.g., being a considerate or honest person). Self-definition also takes place at the collective level, where the self consists of memberships in larger categories or groups, such as groups based on social status or activities (e.g., Brewer & Gardner, 1996). While most research on adolescent identity development focuses on self-definition at the individual level, fitting in through collective groups may be especially critical during this time.

Extracurricular activities can provide an ideal setting for the exploration and formation of these collective, or social, identities. Activity participants explore their emerging interests, try out new groups, and interact regularly with fellow activity members, all of which can promote social identity formation (Dworkin et al., 2003). Little research, however, has examined when or how activities contribute to self-definition, and specifically *social* self-definition. The small body of research that has directly examined identity development in extracurricular activities (e.g., Eccles & Barber, 1999; Fredricks, Alfeld-Liro, Hruda, Eccles, Patrick, & Ryan, 2002)

suggests that youth vary in the degree to which their activity group membership is important. In their interview study, Fredricks et al. (2002) found that while many participants defined themselves through their extracurricular involvement (e.g., as an artist, athlete, or musician), some felt that their activities did not reflect who they thought they were or who they wanted to be. Thus, it is vital to further examine why some youth identify strongly with their extracurricular activities while others do not, and whether identification versus mere participation affects how extracurricular involvement is linked with adjustment indicators (e.g., feelings of belonging at school or school engagement).

Multiple, Complex Social Identities in Diverse Activities

Although investigating single activities (and related social identities) in isolation contributes to a better understanding of these activity-based social identities and their possible correlates, youth explore and try out a number of different groups and identities in an effort to find what best defines them. Many youth belong to more than one activity, and more broadly, other types of social groups are also relevant and can provide a basis for identification during early adolescence. Gender and ethnic group memberships as ascribed identities are relevant throughout childhood and continuing into adolescence (e.g., French, Seidman, Allen, & Aber, 2006; Maccoby, 1998; Phinney, 1990), while peer group memberships based on achieved groups, such as extracurricular activities that capture one's interests, become increasingly important during adolescence (e.g., Tanti, Stukas, Halloran, & Foddy, 2011). Additionally, close friendships, cliques, and crowds become especially relevant during this period (e.g., Brown & Klute, 2003; Steinberg & Morris, 2001) and are likely to be internalized as part of one's identity. Thus, youth belong to a number of social groups that can contribute simultaneously to their self-definition.

Given that adolescents identify with multiple social groups simultaneously, a key question is how these social identities are perceived to intersect as part of one's self-definition? This question is of interest because these intersections can affect how many peers are a part of one's network. When social identities are seen as convergent (e.g., all debate team members are also in the honors club), the peer group with which one affiliates is relatively narrow (e.g., honors debate team members). When social identities diverge (e.g., few debate team members belong to the honors club), however, a larger group of peers are connected to one's self. For instance, both non-honors debate team members, and honors non-debate team peers, are connected to the self through a common social identity. Therefore, the degree to which multiple social identities are seen as overlapping can affect how many peers are incorporated into one's self-definition.

These intersections of multiple social identities may be especially crucial to consider in multiethnic school contexts, where cross-ethnic peer relations are of particular concern and may be less likely to form organically (Hamm, Brown, & Heck, 2005). In these schools, could common social identities help connect peers from different *ethnic* groups in ways that are associated with more positive attitudes about ethnic outgroups in general?

Complex social identities in multiethnic schools. Prior research suggests that these intersections of multiple social identities are linked with ethnic intergroup attitudes in ethnically diverse middle schools (Knifsend & Juvonen, 2014). For example, when an adolescent identifying as a Latina and with the volleyball team views her important social ingroups as highly convergent (e.g., all volleyball team members are Latina), a strong social identity may increase prejudice based on ethnicity. However, when one's important social ingroups are viewed as relatively differentiated (e.g., few volleyball team members are Latina), ethnic

outgroup peers are connected to the self through a common identity. In this case, a strong social identity can lessen prejudice based on ethnicity. Whereas prior research examining single social identities suggests that a strong identity heightens prejudice by reinforcing the boundaries differentiating ingroups from outgroups (i.e., Social Identity Theory; Tajfel & Turner, 1979), this research suggests that a strong social identity can be linked with lower prejudice when the identity is inclusive. A key question, then, is what factors promote these complex, inclusive social identities?

Extracurricular activities may be in an ideal position to connect peers from different ethnic backgrounds in ways that promote complex and inclusive social identities. While practices such as tracking and teaming can work to keep youth from different ethnic groups apart in their classes, ethnically diverse extracurricular activities can bring together cross-ethnic peers in ways that promote complex social identities. Sharing similar interests in an activity, for instance, can provide a common ground on which cross-ethnic peers relate to and connect with each other, heightening awareness that outgroups can be connected to one's ingroup. While this question has not been tested explicitly in extracurricular activity contexts, adults with outgroup neighbors have more complex social identities (Miller, Brewer, & Arbuckle, 2009). Extracurricular activities, when they are diverse, might function in a similar way in multiethnic schools.

Aims of My Dissertation

My program of research strives to better understand extracurricular activities as a context for social identity development in multiethnic middle schools. I am interested in not only how activities are linked with one's own well-being at school (Study 1), but also to relations with and attitudes about other ethnic groups (Study 2), a question that has received less attention.

To achieve this goal, Study 1 has multiple objectives. Given that few studies have investigated extracurricular participation during middle school, I first examine ethnic group differences and correlates of participation in multiethnic middle schools. Because my primary interest is in studying activity-based social identities, I also describe the factors that are associated with identification with activities. Lastly, I contrast levels of school connectedness (i.e., broadly defined as academic engagement, feelings of school belonging, and social anxiety) among youth who identify with an extracurricular activity, those who participate but do not identify, and non-participants. This research provides an important contribution by bridging literature in developmental and social psychology to better understand what it means to belong to and identify with an extracurricular activity during early adolescence. Because the majority of research on extracurricular involvement has focused on high school samples that are ethnically homogeneous, these questions are examined in a multiethnic, middle school sample.

In addition to understanding how extracurricular activities are linked with peer relations and social identities, my program of research considers these questions explicitly in multiethnic school contexts. Study 2 investigates how cross-ethnic contact in activities is associated with multiple, complex social identities. Rather than studying single social identities (as was my focus in Study 1), I examine multiple social identities because the ways in which social identities are seen as divergent (or convergent) has been linked with intergroup attitudes in past research. I also examine the link between cross-ethnic contact in activities and cross-ethnic friendships, based on research discussed in the prior section suggesting that activities are a context for friendship formation and maintenance (e.g., Fredricks et al., 2002). This study builds on prior research in samples with two predominant ethnic groups (e.g., Patchen, 1982) by investigating how activities are linked with intergroup attitudes in a multiethnic sample. Moreover,

complementing research focusing on the development of single social identities, I consider the intersections of multiple social identities that youth hold.

Together, these studies hold important implications for extracurricular programming in urban middle schools. First, if my hypotheses are supported, this research would highlight the importance of fostering activity-based social identities, in addition to extracurricular participation, and would suggest ways of promoting these identities (e.g., participating in team-oriented activities). Second, this work would underscore the importance of diverse activities that include ethnic minority youth. Schools may be in the position to encourage cross-ethnic contact in extracurricular activities by providing a range of activities that are accessible and interesting to all youth, and by encouraging youth from ethnic minority backgrounds (i.e., African-American and Latino/Mexican-American, in particular) to join in. Given that middle school extracurricular activities are often the first to be cut when budgets are reduced, research illuminating the benefits of extracurricular involvement in multiethnic schools is especially timely.

Overall Sample

My dissertation relies on data from the UCLA Middle School Diversity Project, which is a large, longitudinal study investigating the role of school ethnic diversity in socio-emotional adjustment in urban middle schools across northern and southern California. Data were collected in four waves, spanning fall and spring of sixth grade (Wave 1 and Wave 2), spring of seventh grade (Wave 3), and spring of eighth grade (Wave 4). The larger sample is comprised of three cohorts. Cohort 1, which was initially recruited in 2009, consisted of students from six middle schools in the greater Los Angeles area. Cohort 2 schools were recruited in 2010, consisting of 14 schools (eight in the Los Angeles area and six in Northern California). Cohort 3 was initially recruited in 2011 and consisted of six schools (five in the Los Angeles area and one in Northern

California). Schools in this study were selected to range in their ethnic compositions, falling into three major categories. Schools with one majority ethnic group had a group that made up at least 50% of the school population, and was at least twice as large as the next largest group. Other schools had two balanced groups, where the two ethnic groups comprise at least 70% of the school population, neither of the two groups is more than twice as large as the other, and each group is at least twice as large as each remaining group. Lastly, diverse schools had no majority group and did not have two balanced groups. All schools chosen had a percentage of free/reduced lunch eligibility (our school-level indicator of socio-economic status) of at least 18% (*range* = 18% to 93%).

Relying on this sample drawn from schools that vary in their ethnic compositions allowed me to test important questions about extracurricular involvement in multiethnic middle schools. In Study 1, I investigate whether ethnic groups differ in their rates of extracurricular involvement and identification, and in turn how these levels of extracurricular engagement are linked with academic and social adjustment. In addition to understanding how participation can be associated with adjustment, Study 2 examines how cross-ethnic contact in activities is linked with attitudes about *other* ethnic groups. Extending Study 1, which examines single, activity-based social identities, I investigate whether the intersections of multiple social identities (e.g., extracurricular and ethnic identities) may help to explain this association. Together, these studies extend research by applying a social identity perspective to understand both single and multiple social identities related to extracurricular activities, and by investigating how activities are linked with both one's own adjustment and attitudes about others, in a multiethnic, middle school sample.

Study 1: Extracurricular Activity-based Social Identities and Adjustment in Urban Middle Schools

Fitting in and relating to one's peers at school becomes an especially important task during early adolescence, as youth navigate a larger, less structured middle school context compared to elementary school (Eccles & Midgley, 1989; Juvonen, Le, Kaganoff, Augustine, & Constant, 2004). For many youth, school-based extracurricular activities (e.g., school soccer team, drama, or speech and debate) play a central role in feeling connected to and identifying with others in this broader school context (Barnett, 2006; Dworkin, Larson, & Hansen, 2003; Eccles & Barber, 1999; Eckert, 1989; Kinney, 1993). Although extracurricular activities can become an important, school-based social identity, few studies have focused on these activity-based social identities. The goal of the current study is to better understand the factors associated with extracurricular activity participation and identification in an urban, ethnically diverse middle school sample. This question is particularly crucial to examine given how extracurricular involvement is associated with feelings of belonging at school and academic performance. Hence, I investigate how extracurricular participation and identification are linked with social connectedness and academic engagement in my multiethnic middle school sample.

As mentioned above, extracurricular involvement has been shown to be associated with positive school-related adjustment. For instance, youth who are involved in activities like school, feel a greater degree of belonging, are more engaged in the classroom, have a higher grade point average, and report greater educational aspirations (Blomfield & Barber, 2010; Eccles & Barber, 1999; Fredricks & Eccles, 2010; Knifsend & Graham, 2012; Rose-Krasnor, Busseri, Willoughby, & Chalmers, 2006), than peers who are uninvolved. Participating in activities may be especially beneficial for youth from ethnic minority backgrounds, in particular

(e.g., Latino/Mexican-American; Davalos, Chavez, & Guardiola, 1999). However, relatively little is known about what might account for this link between extracurricular involvement and these indices of positive adjustment, and even less is known about what makes youth identify with their activities. Could activity-based social identities strengthen the links between extracurricular participation and positive adjustment, and does this sense of identity depend on the type of activity in which youth are involved? Moreover, might these factors reveal any ethnic group differences that are relevant to understanding the alienation from school common among societal minority groups (Daly, Buchanan, Dasch, Eichen, & Lenhart, 2010)?

Activity Interdependence

When considering how extracurricular activity participation and identification are associated with positive school-related adjustment, it may be important to consider the type of activity with which youth identify. Most studies differentiating between types of activities focus on sports, arts, or other activities (e.g., Eccles & Barber, 1999). Given that peer relations become especially central during the adolescent years, and affect both identity development (e.g., Hogg, 1996) and school adjustment (e.g., Berndt & Keefe, 1995), understanding peer interactions within the activity also may be particularly relevant. Because different activities vary in the degree to which members collaborate to achieve a common group goal (Van de Ven, Delbecq, & Koenig, 1976), activity interdependence might be a relevant factor to consider. When group members interact and work together to achieve a common group goal (i.e., in a team-oriented activity, such as a soccer team), task interdependence is high. On the other hand, when group members do not need to directly interact with each other to contribute to group goals (e.g., in an individual-oriented activity, such as a golf team), task interdependence is low. Although task interdependence has mainly been studied in terms of work or sports teams (e.g.,

Feltz, Short, & Sullivan, 2008), drawing from this literature to study extracurricular activities might contribute to a better understanding of peer interaction within these activities.

Considering the degree of task interdependence could be especially important when investigating activity-based social identities, because social identities may be stronger in team-oriented settings. Research on small group identities suggests that shared goals and interpersonal interaction within a group, which are characteristic of team-oriented activities, can strengthen one's sense of identification with the group as a whole (Hogg, 1996). Moreover, according to Social Identity Theory (Tajfel & Turner, 1979), greater similarity between ingroup members can help facilitate group-based social identities. To the extent that team-oriented activity members collaborate to reach common goals, they should develop a strong sense of similarity that can help foster their activity-based social identity. To my knowledge, however, the degree of interdependence in school-based extracurricular activities has not been investigated in relation to activity-based social identities.

Activity-based Social Identities in Multiethnic Schools

Understanding these questions about extracurricular involvement, activity-based social identities, and school-related adjustment is especially crucial in multiethnic, urban middle schools. While many youth begin to disengage from school during middle school, ethnic minority youth are at a heightened risk of disconnecting from school compared to their peers (Daly et al., 2010). Similarly, ethnic minority youth are less involved in extracurricular activities than their peers during high school (Darling, Caldwell, & Smith, 2005; Davalos et al., 1999; McNeal, 1998), which have been shown to be beneficial to school connectedness (e.g., Eccles & Barber, 1999). Given that the small body of research examining identity development in activities focuses on predominantly White/Caucasian samples (Dworkin et al., 2003; Fredricks,

Alfeld-Liro, Hruda, Eccles, Patrick, & Ryan, 2002), it is unknown whether ethnic minority groups are also less likely to identify with their activity. Because few studies have examined ethnic differences in participation during middle school, it is important to know if minority youth are missing out on opportunities to get involved and to feel connected to school through meaningful school-based activity identities.

Current Study

The goal of the current study is to better understand extracurricular participation and identification in urban, multiethnic middle schools. Because few studies on extracurricular participation focus on ethnically diverse, young adolescent samples, I first describe activity participation across seventh graders from the four major pan-ethnic groups. Similar to patterns found in high school samples, I hypothesize that ethnic minority youth will be less involved than their peers. Second, I examine how activity participation is correlated with school-related adjustment. I expect that academic engagement (measured using student and teacher ratings) and feelings of belonging at school will be greater, and social anxiety lower, for those participating in activities. I focus on these correlates because school connectedness and engagement begin to decline during early adolescence, especially for ethnic minority youth (Daly et al., 2010), and social anxiety is linked with low connectedness with peers at school (Shochet, Dadds, Ham, & Montague, 2006).

While the hypotheses above extend prior research on extracurricular participation to multiethnic middle school contexts, my main analyses focus on the role of identification with activities. After examining ethnic differences in activity identification, I test whether youth are indeed more likely to identify with team-oriented activities, due to the interdependence these activities foster. Additionally, associations between activity-based social identities and school-

related adjustment are examined. I predict that Identifiers will be more engaged in school, feel a greater sense of belonging, and have less social anxiety, because identifying with an activity should help youth find their niche and connect with others at school (Eckert, 1989), more so than merely participating. Moreover, I hypothesize that these associations will be strongest when youth identify with team-oriented activities (compared to individual-oriented), because peer connectedness and a sense of common identity in the larger school context may be greatest when one is part of a team.

Method

The current study relied on data from the UCLA Middle School Diversity Project, a large, longitudinal study investigating the role of school ethnic diversity in social and academic adjustment across four time points in middle school. Analyses for the current study rely on data from the seventh grade (Wave 3) from a subset of 11 schools in which I was able to administer the social identity measure ($N = 2,826$), which required an additional day of data collection.

Participants. Students included in the main analytic sample completed both the extracurricular and the social identity measures (84%; $n = 2,376$). Based on self-reports of ethnicity, the analytic sample (52% female) is 37% Latino/Mexican-American ($n = 876$), 20% White/Caucasian ($n = 478$), 14% Black/African-American ($n = 327$), 8% East or Southeast Asian ($n = 185$), with 21% identifying as Other or Multiethnic ($n = 510$).

Procedure

In sixth grade, students brought home parent 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 is 81%. 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 retention rate = 83%). Seventh grade data were collected during two class periods to allow for the social identity measure to be administered. Researchers, who are the principal investigators, graduate students, or trained undergraduate students, read most items aloud to the students. Students received \$10 for their participation.

Measures

Extracurricular participation. Students were asked to list all of the school-based clubs and extracurricular activities they had participated in during the year at their school. Particularly, participants were prompted with examples of extracurricular activities, including academic clubs or honor societies, intramural sports, arts groups, community service clubs, special interest groups, or any other activities that were offered at school. Based on students' responses, information found on school websites, and consultation with school administrators, a list of activities was generated to code each student's extracurricular involvement during the seventh grade year. Across the 11 schools, there were 284 different activities included in the coding manual (*range* = 15 – 43 activities per school). On average, four students listed each activity ($M = 3.79$, $SD = 4.03$, *median* = 2, *range* = 1 - 30). Forty-nine percent of students in our sample ($n = 1,176$) listed at least one activity during their seventh grade year. For the analyses, youth were categorized as participating in at least one activity, or none.

Types of extracurricular activities. To generate the variable reflecting activity interdependence, I focused on a subsample of extracurricular participants who could be categorized as belonging to either team-oriented activities only or individual-oriented activities only ($n = 782$; 66% of participants). Sports, arts and academic activities were considered when

calculating this variable because they can range in their degree of interdependence (e.g., soccer vs. track, drama vs. art club, or leadership vs. honor society). While activity interdependence has typically been conceptualized on a continuum (e.g., ranging from low to high levels of interdependence; Feltz et al., 2008), a dichotomous variable (0 = Individual-oriented; 1 = Team-oriented) was used in the current study to have sufficient *n*'s in each group. Two trained research assistants categorized activities as team- or individual-oriented with high interrater reliability ($\kappa = .84$).

Extracurricular identification. To further separate extracurricular participants by whether or not they identify with their activity, I relied on a measure of social identities that was adapted from an adult version developed by Roccas and Brewer (2002) to measure social identity complexity. On the first day of data collection, participants were asked to list the three social groups that described them as a person (see Appendix A). Before listing their groups, participants were provided with the types of groups that might describe them and with four to five examples of each, including: sports (e.g., basketball player), religious groups (e.g., Christian), social groups (e.g., popular), out-of-school groups (e.g., gamer), school clubs (e.g., honor society), or other activities/interests (e.g., chess). Following these examples, participants were provided with examples of what three other (hypothetical) kids said when asked what groups described them (e.g., Catholic, jock, and surfer). Participants were then asked to imagine that they were filling out a new Facebook page describing themselves to people who do not know them, and to list three groups that best describe them as a person.

Extracurricular activity-based social identities were measured by comparing whether or not participants listed at least one extracurricular activity (from the extracurricular measure) as one of the three groups that describe them on the social identity measure. Two trained research

assistants categorized activity-based social identities with good interrater reliability ($\kappa = .74$). Of youth in the sample, 26% listed at least one extracurricular activity as a social identity (i.e., Identifiers; $n = 610$), 24% participated in an activity but did not list it as an important social identity (i.e., Non-identifiers; $n = 566$), and 51% did not participate in any extracurricular activities during their seventh grade year (i.e., Non-participants; $n = 1,200$).

School-related adjustment. *Academic engagement* was measured using student and teacher reports. Students responded to six items (e.g., How often do you pay attention in class?) that were rated on a five-point scale (1 = *never* to 5 = *almost all the time*; $\alpha = .83$). In the classroom in which we conducted data collection, teachers responded to six items (e.g., Pays attention) on a four-point scale (i.e., 1 = *never* to 4 = *always*; $\alpha = .91$). To understand students' social adjustment, I relied on measures of school belonging and social anxiety. Four items measuring *school belonging* were adapted from Gottfredson's (1984) Effective School Battery (e.g., I feel close to people at this school), and were rated on a five-point scale (1 = *no way!* to 5 = *for sure yes!*; $\alpha = .88$). *Social anxiety* consisted of six items (e.g., I worry about what others think of me) rated on a five-point scale (1 = *not at all* to 5 = *all the time*; $\alpha = .79$; LaGreca & Lopez, 1998).

Demographics. Students self-reported their gender (i.e., male or female), ethnic group, and generational status, and parents reported their highest level of education, in the fall of sixth grade.

Results

The results section consists of four parts. I first describe extracurricular participation among youth in this ethnically diverse middle school sample. In the second part, I investigate how academic engagement and social connectedness are correlated with extracurricular

involvement. Third, I examine whether there are also ethnic differences in social identities based on activities, as well as how the type of activity (i.e., whether it is team- or individual-oriented) is linked with these activity-based social identities. Fourth, I investigate whether activity-based social identities are associated with academic engagement and social connectedness in school.

Statistical Analyses

My main analyses were conducted using Hierarchical Linear Modeling (HLM; Bryk & Raudenbush, 1992) in SAS version 9.2. HLM was used to account for students (Level 1) who were nested within schools (Level 2) in ways that might account for variance in school-related adjustment variables. Activity-level groupings were not tested for these analyses because many youth were involved in zero or multiple activities ($n = 1,699$; 72% of sample).

Planned missingness. School belonging and social anxiety were administered to two-thirds of all students as part of a planned missing design to shorten the length of the survey (e.g., Graham, Taylor, Olchowski, & Cumsille, 2006). Multiple imputation procedures in SAS version 9.2 using PROC MI were used to estimate these missing data. Auxiliary variables that were consistent with my hypotheses were included in the multiple imputation, including the type of school (e.g., one majority ethnic group, two balanced groups, or diverse), gender, ethnicity, generational status, parental education, the total number of extracurricular activities in which one was involved, extracurricular participation and identification, and each correlate measured at both Wave 3 and at a prior wave (Wave 2, spring of sixth grade). Given the percentage of missing data, ten datasets were imputed to achieve at least 95% efficiency of the imputation estimators (e.g., Yuan, 2000). Main analyses averaged results across the ten imputed datasets.

Ethnic Group Differences in Extracurricular Participation

To better understand activity-based social identities, it was first important to investigate who participates in extracurricular activities in urban, multiethnic middle schools. As shown in Figure 1, ethnic group differences in whether or not seventh grade youth participated in activities were tested and found to be significant. Latino/Mexican-American youth were less involved than Asian-American ($\chi^2 = 23.16, df = 1, p < .001$), White/Caucasian ($\chi^2 = 61.82, df = 1, p < .001$), and Other/Multiethnic ($\chi^2 = 19.74, df = 1, p < .001$) youth. Similarly, African-American adolescents were less involved than Asian-Americans ($\chi^2 = 15.53, df = 1, p < .001$), European-Americans ($\chi^2 = 35.10, df = 1, p < .001$), and Other/Multiethnic adolescents ($\chi^2 = 9.69, df = 1, p = .002$). These differences were mainly explained by performing arts activities (e.g., drama or band), where White/Caucasian youth (46%) were more likely to participate than both African-American (30%; $\chi^2 = 8.76, df = 1, p = .003$) and Latino/Mexican-American (24%; $\chi^2 = 33.00, df = 1, p < .001$) peers, and by other clubs (e.g., honor societies and special interest groups), where Asian-Americans (75%) participated at higher rates than African-Americans (52%; $\chi^2 = 13.34, df = 1, p < .001$) and Latino/Mexican-Americans (55%; $\chi^2 = 13.22, df = 1, p < .001$), as well as White/Caucasians (58%; $\chi^2 = 9.82, df = 1, p = .002$).

Looking at ethnic differences in the degree of interdependence of the activity in which youth were involved, which was one of my main variables of interest, Asian-American youth (53%) were less likely to be in team-oriented activities than African-American (78%, $\chi^2 = 11.25, p = .001$), Latino/Mexican-American (71%, $\chi^2 = 7.69, p = .006$), and Other/Multiethnic (73%, $\chi^2 = 9.05, p = .003$) peers.

Correlates of Extracurricular Involvement

Subsequently, I was interested in whether extracurricular involvement (i.e., whether or not youth were involved) was correlated with school-related adjustment. In these models, the

intercept varied randomly, but all other effects were held fixed based on preliminary analyses suggesting that random effects were not significant. Covariates consisted of gender, ethnicity, generational status, parental education, and total number of activities at Level 1, and type of school (i.e., one majority group, two balanced groups, and diverse) and school-level mean number of activities at Level 2, based on preliminary analyses suggesting associations with these variables. Analyses revealed that extracurricular participants were more engaged in school, as reported by both themselves ($b = .16, p < .001$) and by their teachers ($b = .17, p < .001$), and felt a greater degree of belonging at school ($b = .15, p < .001$), than non-participants. Interactions by ethnicity were not significant, suggesting that these associations were similar across all groups. Together, these results suggested that ethnic minority youth were less involved in extracurricular activities that were associated with feelings of belongingness at school and academic engagement.

Predicting Activity-based Social Identities

To preface my analyses of the correlates of activity-based social identities, I investigated differences in these social identities based on ethnicity and on the interdependence of the activity.

Ethnic group differences. In light of ethnic differences in extracurricular participation in our seventh grade sample, it was also important to understand whether there were ethnic differences in activity-based social identities. As shown in Figure 2, White/Caucasian adolescents were more likely to identify with their activity than African-American ($\chi^2 = 5.32, df = 1, p = .02$) and Latino/Mexican-American ($\chi^2 = 5.91, df = 1, p = .02$) youth. Similar to rates of participation, these differences may be explained by performing arts activities, in which White/Caucasian youth (79%) were more likely to identify than African-American (51%; $\chi^2 =$

11.23, $df = 1$, $p = .001$) and Latino/Mexican-American (60%; $\chi^2 = 9.10$, $df = 1$, $p = .003$) peers. Additionally, White/Caucasians (51%) had higher rates of identification with other clubs (e.g., honor societies and special interest groups), compared to Latino/Mexican-Americans (32%; $\chi^2 = 12.82$, $df = 1$, $p < .001$). Thus, following results suggesting ethnic differences in participation, ethnic minority youth were also less likely to identify with their activity.

Activity interdependence. Given that activity-based social identities were hypothesized to be more likely in team-oriented activities, this association was also examined using the PROC GLIMMIX procedure in SAS version 9.2. A fully unconditional, two-level model showed some variability of students within schools (5% of total variance). Thus, the subsequent model in these analyses was a two-level model examining students (at Level 1) nested within schools (at Level 2). Based on preliminary analyses, the model controlled for gender, ethnicity, whether the activity was a sport, performing arts, or academic activity, and the total number of activities in which one was involved at Level 1. Results suggested that youth in team-oriented activities (*Probability* = .63) were more likely to identify with their activity than those in individual-oriented activities ($P = .42$), $F(1,761) = 19.48$, $p < .001$. Interactions by ethnicity were not significant, suggesting that team-oriented activities were associated with activity-based social identities in the same way across all ethnic groups. Together, these analyses suggest that both demographic (i.e., ethnicity) and structural factors (i.e., activity interdependence) are linked with activity-based social identities. Given these differences, it is then important to understand how activity-based social identities are correlated with school-related adjustment.

Correlates of Activity-based Social Identities

In these analyses, I contrasted Non-participants ($n = 1,200$), Non-identifiers ($n = 566$), and Identifiers ($n = 610$) in their academic engagement, feelings of belongingness at school, and

social anxiety. I hypothesized that Identifiers would be the most engaged in school (as self-reported and rated by their teachers), feel the greatest sense of belonging, and have the lowest social anxiety, compared to their peers. Moreover, I expected these associations to be strongest in team-oriented activities due to the interdependence fostered in these activities.

Unconditional models. Unconditional models were first tested to examine the degree to which school-level groupings are linked with school-related adjustment. Activity-level groupings were not tested for these analyses because many youth were involved in zero or multiple activities ($n = 1,699$; 72% of sample). The intraclass correlation coefficient (ICC), reflecting the amount of between-group variance, was computed. A fully unconditional, two-level model showed variability of students within schools for school belonging (3% of variance; $\chi^2 = 82.06, p < .001$), student-rated engagement (7% of variance; $\chi^2 = 265.72, p < .001$), and teacher-rated engagement (6% of variance; $\chi^2 = 141.00, p < .001$). School-level groupings did not account for a significant proportion of variance in social anxiety. To be consistent, all subsequent models testing the correlates of involvement were two-level models examining students (Level 1) nested within schools (Level 2).

Main models. First, I was interested in how participating and identifying with activities is linked with academic and social adjustment. In these models, the intercept varied randomly, but all other effects were held fixed based on preliminary analyses suggesting that random effects were not significant. Covariates consisted of gender, ethnicity, generational status, parental education, and total number of activities at Level 1, and type of school and school-level mean number of activities at Level 2. As reported in Table 1, differences were found for both academic and social adjustment variables, mainly between Identifiers and Non-participants. Identifiers ($M = 4.41, SD = .58$) were more engaged in school than Non-participants ($M = 4.18,$

$SD = .66$), as suggested by student reports. Similarly, teachers rated Identifiers ($M = 2.79$, $SD = .68$) to be more engaged than Non-participants ($M = 2.62$, $SD = .70$). School belonging followed a similar pattern as well, where Identifiers ($M = 3.80$, $SD = .67$) felt a greater degree of belonging than Non-participants ($M = 3.61$, $SD = .71$). For social anxiety, Non-participants did not differ from either participant group. However, Identifiers ($M = 2.08$, $SD = .69$) were less socially anxious than Non-identifiers ($M = 2.15$, $SD = .76$). Interactions testing ethnic group differences for each adjustment variable were not significant. Thus, while the main difference for academic engagement and school belonging was between Identifiers and Non-participants, the contrast of activity-based social identities was relevant only for social anxiety.

Interaction of activity interdependence. Because the interdependence of the activity with which one is involved and identifies might affect these associations, interactions were tested in a subsample of extracurricular participants who were categorized as belonging to team- or individual-oriented activities only ($n = 782$). The interaction term was significant only for school belonging, $b = .25$, $p = .05$. As shown in Figure 3, those who identified with a team-oriented activity ($n = 349$) reported greater belonging than those who did not identify with their team ($n = 197$). Differences in activity-based social identities in individual-oriented activities were not significant.

In sum, lower rates of activity participation among ethnic minority seventh graders were similar to what has been found in high school samples (e.g., Darling et al., 2005). Extending prior research by focusing on activity-based social identities, the current study suggested that ethnic minority youth were also less likely to identify with their extracurricular activity than their peers. These ethnic differences are of particular concern given that participation was correlated

with academic engagement, and that activity-based social identities were associated with social connectedness.

Discussion

The current study investigated the correlates of extracurricular involvement, and specifically of extracurricular activity-based social identities, in an urban, multiethnic middle school sample. Extending prior research that has focused mainly on participation, I examined how different types of activities (e.g., team- or individual-oriented) might vary in whether youth identify with the activity or not. Additionally, I investigated the extent to which identifying with an activity (in addition to merely participating) is linked with academic and social adjustment. Given that ethnic minority youth are at greater risk of disengaging from school during middle school, it is important to examine the ways in which activity participation and identification are associated with school connectedness.

A primary goal of this study was to investigate how extracurricular activity-based social identities can help us better understand how activity involvement is linked with positive school-related adjustment. That is, is participation itself linked with positive adjustment, or are youth best adjusted when they also identify with their activity? For both student- and teacher-rated academic engagement, participating itself (regardless of social identity) was associated with higher levels of academic engagement. Potentially, all youth who participate can learn from opportunities for skill development that are linked with academic engagement, such as goal setting or teamwork (Dworkin et al., 2003). Thus, for academic adjustment, encouraging youth to participate in general may be beneficial.

Identification with the extracurricular activity (over and above participation), in turn, was associated with positive social adjustment. Social anxiety was lowest for youth who identified

with their activity, compared to those who did not identify. Identifying with a school-based activity may help youth to feel accepted by their peers, which is associated with lower levels of social anxiety (LaGreca & Lopez, 1998). While the overall effect for school belonging was similar to academic engagement, activity-based social identities were important when youth were in team-oriented activities. Feelings of belonging were greatest when youth identified with a team-oriented extracurricular activity, compared to other team members who did not identify with their team. Identifying with a team-oriented activity may heighten interpersonal relationships and attachment with one's activity context (Hogg, 1996) in ways that are linked with feelings about school in general. Team members who do not identify with their activity, however, may come to feel alienated from the school context. Additional research investigating the factors differentiating team members who identify from those who do not identify (e.g., ability or reasons for participating) would help illuminate the effects of peer interaction in extracurricular activities. Together, differences in findings between academic and social correlates may be explained by our measure of identity, which reflected *social* identities. While identifying with an activity group helps youth relate to their peers and convey their alliances in the broader school context (e.g., Eckert, 1989), these social identities may be less relevant to academic engagement.

Given the associations of activity-based social identities with social connectedness, and that not all youth in our sample identified with their extracurricular activities, it is important to investigate the factors related to activity-based social identities. In the current study, identities were more common for those in team-oriented activities (e.g., soccer or drama), compared to individual-oriented activities (e.g., track or art club). In these settings, group members share goals, are interdependent, and have opportunities for interpersonal interaction, all of which are

linked with social identity formation (e.g., Hogg, 1996). Schools striving to promote school-based activity identities and greater connectedness may prioritize extracurricular offerings that are more team-oriented. Because many youth are interested in individual-oriented activities, however, existing activities may be structured to be more team-oriented (e.g., by assigning peer buddies, or holding regular group meetings).

Considering extracurricular participation and identification with such activities in multiethnic schools was of particular interest. Consistent with research in high school samples, African-American and Latino/Mexican-American seventh graders were less likely to be involved in activities than their Asian-American, White/Caucasian, or Other/Multiethnic peers. Extending prior work, ethnic minority youth were also less likely to consider their activity to be an important social identity. These findings are especially troubling given that ethnic minority youth are at greater risk of disconnecting from school and of dropping out prematurely (Daly et al., 2010). Qualitative research (e.g., interviews) with ethnic minority youth may illuminate the factors that can promote (or hinder) extracurricular involvement. Further, it is essential to investigate how ethnic minority youth can come to view their activities as meaningful social identities. For instance, considering that rates of participation are lower for ethnic minority youth, differences in identification might be due to having fewer same-ethnic peers in one's activities. Additional research is needed to examine these explanations.

Limitations and Conclusions

Future research relying on longitudinal data and on different measures of extracurricular participation is especially important. While participation and identification were linked with adjustment in our cross-sectional, seventh grade sample, the directionality of effects is unclear. For instance, identifying with an activity could lessen social anxiety, or youth who are less

socially anxious may be more likely to seek out and connect with peers in their activities. Moreover, examining extracurricular participation over time (e.g., duration of involvement) might be relevant if activity-based social identities are stronger when youth are involved over multiple time points (e.g., from the sixth to seventh grade). Lastly, additional research is needed to better understand how activities can be structured to promote activity-based social identities. While the current study suggested that team-oriented activities were associated with identification with activities, the mechanisms through which team-oriented activities are linked with these social identities remain unclear. Further research that measures explicitly interpersonal relationships or shared goals in activities would provide important insights into how activities can be structured to promote identity development.

In sum, these results suggest that distinguishing extracurricular participation by the level of identification may supplement our understanding of the benefits of extracurricular involvement. While activities are often the first to go when school budgets are reduced, these results highlight the importance of these activities to adolescents' identity development, academic engagement, and sense of connectedness with peers at school.

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Study 2: Diverse Extracurricular Activities, Friendships, and Social Identities in Multiethnic Middle Schools

Students from different ethnic backgrounds in the same school often have few opportunities to interact with each other, even in schools that are numerically diverse. Practices such as academic tracking, which disproportionately groups societal ethnic minority youth into low tracks (e.g., Oakes, 1995; Rees, Argys, & Brewer, 1996), can work to keep students apart at school. Moreover, most adolescents prefer to spend time with and befriend same-ethnic peers, even when there are opportunities for cross-ethnic interaction (e.g., Hamm, Brown, & Heck, 2005). Given that cross-ethnic interaction is linked with a number of positive outcomes, including better attitudes about other ethnic groups (e.g., Moody, 2001), a key question is: how can school contexts be structured to connect peers from different ethnic backgrounds? In the current study, I examine the role of extracurricular activities (i.e., school-based activities occurring outside of the regular school curriculum) in building cross-ethnic peer connections in multiethnic middle schools. I extend past research on high school extracurricular involvement by investigating these questions in a middle school sample. In particular, the ways in which cross-ethnic contact in extracurricular activities is related to ethnic intergroup attitudes through friendships and social identities are investigated during this critical period of early adolescence.

Extracurricular Activities and Positive Intergroup Attitudes

In multiethnic schools, ethnically diverse extracurricular activities might be an ideal context in which to promote positive attitudes about other ethnic groups. According to intergroup contact theory, cross-group contact under certain conditions, such as equal status, having shared goals, and cooperation, minimizes prejudice (Allport, 1954; Pettigrew, 1998; Pettigrew & Tropp, 2006). Compared to classroom settings, extracurricular activities may be

more likely to fulfill these conditions. For instance, members of the yearbook club or the basketball team need to cooperate with other members to achieve a common goal (e.g., producing the school yearbook, or advancing the ball down the court). In line with these predictions, research investigating intergroup contact between White and Black collegiate athletes found that White athletes expressed more positive ethnic intergroup attitudes when they had a greater proportion of Black teammates (Brown, Brown, Jackson, Sellers, & Manuel, 2003). Extracurricular activities that promote cooperation and interdependence among students from different ethnic backgrounds, in particular, should promote more positive attitudes about ethnic outgroups.

While a small body of research suggests that cross-ethnic contact in extracurricular activities is linked with positive intergroup attitudes, few studies have explicitly tested the mechanisms underlying this association. In the current study, I investigate two developmentally relevant mechanisms that can explain how extracurricular activity participation is linked with intergroup attitudes. Focusing on personal relationships, I first examine how sharing an activity with peers from different ethnic backgrounds is linked with cross-ethnic friendships. Presumably, cross-ethnic friendships generalize to more positive attitudes about the group that the friend represents, thus helping reduce the social distance between one's ethnic ingroup and ethnic outgroups (Pettigrew, 1998). In addition to friendships, I explore if cross-ethnic contact in activities can help expand one's social identity to be more inclusive of peers from other ethnic groups. For the latter hypothesis, I rely on a concept of social identity complexity that captures intersections of the multiple groups with which youth identify (Roccas & Brewer, 2002).

Cross-ethnic friendships as a mediator. Close friendships become increasingly important during early adolescence, as youth turn to friends as sources of intimacy and support

(Berndt, 1982; Brown & Larson, 2009; Buhrmester & Furman, 1987). Extracurricular activities have been shown to facilitate the formation and maintenance of friendships in general (Fredricks, Hackett, & Bregman, 2010), and when they include members from different ethnic backgrounds, cross-ethnic friendships in particular (Dworkin, Larson, & Hansen, 2003; Patchen, 1982).

According to Pettigrew's (1998) reconceptualization of contact theory, opportunities for friendships with outgroup members are important for fostering positive intergroup attitudes. Indeed, close relationships with cross-ethnic peers are associated with more positive intergroup attitudes in late childhood (e.g., Aboud, Mendelson, & Purdy, 2003; Feddes, Noack, & Rutland, 2009). For instance, in their study of German and Turkish children, Feddes et al. (2009) found that cross-ethnic friendship nominations were linked with more positive perceptions of outgroup members (i.e., outgroups rated as more friendly, smart, or polite). Specifically, multiethnic extracurricular activities might help foster these cross-ethnic friendships because adolescents are in close proximity to peers who share similar interests (Clark & Ayers, 1992; Dworkin et al., 2003; Kandel, 1978; Lazarsfeld & Merton, 1954; Nahemow & Lawton, 1975). Thus, taking advantage of opportunities to make cross-ethnic friends in extracurricular activities should help foster more positive attitudes about other ethnic groups.

Social identity complexity as a mediator. Youth do not have just one social identity, but they might describe themselves in terms of their gender or ethnicity, in addition to their interest or hobby-based activities (e.g., I am a Latina basketball player and debate team member; Aboud, 1988; Bernal, Knight, Garza, Ocampo, & Cota, 1990; French, Seidman, Allen, & Aber, 2006; Maccoby, 1998; Phinney, 1990; Tanti, Stukas, Halloran, & Foddy, 2011). These self-descriptors, and their ability to see themselves fulfilling multiple roles simultaneously (e.g., self with family, friends, or teachers; Harter, 1999; 2012), may partly reflect their ability for multiple

classification that develops by early adolescence (Aboud, 1988; Bigler & Liben, 1992). Self-definition, therefore, can become increasingly complex as youth identify with multiple groups and activities. In the context of multi-ethnic schools, it is then reasonable to expect that multiple social identities might help account for how extracurricular activity involvement is associated with positive intergroup attitudes.

To capture the intersections of multiple social identities, I rely on a construct called *social identity complexity*, which captures the perceived overlap of multiple social identities. This construct is measured by assessing the membership overlap between the groups with which a person aligns him- or herself (Roccas & Brewer, 2002). For example, the question for a Latina who identifies herself as a basketball player and as part of the school debate team, is to what degree the members of these groups with which she identifies overlap. When she perceives the members of her salient social groups to overlap (e.g., most debate team members are basketball players and Latinos), her social identity complexity is low because the groups converge. In contrast, when only a few debate team members are basketball players and Latinos, her social identity complexity is high because ingroup members in one group belong to outgroups across the other two groups. Thus, when social identities are largely non-overlapping, boundaries between ingroups and outgroups are diffused. Greater social identity complexity, in turn, has been linked with positive attitudes about ethnic outgroups in young adolescent samples from multiethnic schools (Knifsend & Juvonen, 2013; Knifsend & Juvonen, 2014), as well as in adult samples (e.g., Brewer & Pierce, 2005). Because cross-ethnic contact has been shown to be correlated with this complexity (e.g., Knifsend & Juvonen, 2014; Miller, Brewer, & Arbuckle, 2009), social identity complexity as a mediator of the link between cross-ethnic contact in activities and intergroup attitudes is also of interest in the current study.

Current Study

Two main goals guide the current study, which relied on data from the sixth grade (i.e., cross-ethnic contact in school and extracurricular activities, as well as cross-ethnic friendships) and seventh grade (i.e., social identity complexity and ethnic intergroup attitudes) in an ethnically diverse, middle school sample. To provide a better understanding of the role of extracurricular activities, I first describe the groups with which adolescents identify and ethnic differences in activity participation during the seventh grade. The main goal is to examine the role of extracurricular activities in facilitating cross-ethnic friendships, social identities that are complex and inclusive of others, and positive ethnic outgroup attitudes, in the context of multi-ethnic middle schools. Specifically, because friendship formation and identity exploration are two critical objectives of early adolescence (Berndt, 1982; Csikszentmihayli & Larson, 1984; Kroger, 2000; Newman & Newman, 1976), and each can be facilitated by activity participation (e.g., Dworkin et al., 2003), I hypothesize that both cross-ethnic friendships in activities and complex social identities mediate the link between extracurricular involvement in multi-ethnic schools and positive intergroup attitudes. Because both interacting *and* being friends with cross-ethnic peers in activities might relate especially strongly with positive intergroup attitudes, I examine cross-ethnic friendships both in and out of one's activities. In each set of analyses, cross-ethnic availability in school (i.e., school diversity and the proportion of cross-ethnic peers at school) is taken into account to understand the unique contribution of cross-ethnic contact in extracurricular activities, over and above school-level factors.

Method

The current study relied on data from the UCLA Middle School Diversity Project, a large, longitudinal study investigating the associations between school ethnic diversity and

psychosocial adjustment in middle schools that vary in their ethnic diversity. The specific ethnic breakdown of these 11 schools is provided in Table 2.

Analyses for the current study rely on data from the spring of the sixth and seventh grades from 11 schools. School diversity, cross-ethnic availability at school, cross-ethnic availability in activities, and cross-ethnic friendships were based on sixth grade data, whereas social identity complexity and intergroup attitudes were assessed in the seventh grade. There were both methodological and theoretical reasons for using different waves of data. As shown in Study 1, seventh grade activities only averaged approximately four participants, so cross-ethnic availability and friendships data were limited in the seventh grade. Therefore, it was necessary to use the more detailed measure of extracurricular involvement administered in the sixth grade. Second, I presume that social identities develop over time in a new school context. Thus, social identity complexity was not assessed until the seventh grade. Therefore, to address my research questions, it was necessary to rely on data from the two time points.

Participants

The sample from these 11 schools was comprised of 2,826 students. Of this sample, 75% ($n = 2,131$) were involved in at least one extracurricular activity during their sixth grade year. Given the hypothesis regarding intergroup attitudes (where attitudes were assessed about the four major pan-ethnic groups), I relied on a subsample of extracurricular participants who identified as belonging to one of these four groups: Black/African-American, East or Southeast Asian, White/Caucasian, and Latino/Mexican-American¹. Based on self-reports of ethnicity, the final analytic sample ($N = 1,497$) is 44% Latino/Mexican-American ($n = 657$), 27% White/Caucasian ($n = 410$), 17% Black/African-American ($n = 257$), and 12% East or Southeast Asian ($n = 173$).

Procedure

In sixth grade, students brought home parent 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%. 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 retention rate = 83%).

Sixth grade data (i.e., school diversity, cross-ethnic availability at school, cross-ethnic availability in activities, cross-ethnic friendships, and demographic data) were collected using questionnaires during one class period, and seventh grade data (i.e., social identity complexity and intergroup attitudes) were collected during two class periods to administer the social identity complexity measure. Researchers, who were the principal investigators, graduate students, or trained undergraduate students, read most items aloud to the students. Students received \$5 for their participation in the study in spring of sixth grade and \$10 in the seventh grade.

Measures

School ethnic diversity. School ethnic diversity in the sixth grade was calculated using data from the California Department of Education to use as a covariate. Using these data, the ethnic composition of each school (D_s) was calculated using the following formula for Simpson's Index of Diversity (Simpson, 1949),

$$D_s = 1 - \sum p_i^2$$

where p is the proportion of students in the school who are in ethnic group i . Simpson's Index of Diversity gives the probability that two students randomly selected from a group (e.g., school) will belong to different ethnic groups. Thus, Simpson's Index of Diversity takes into account

both the number of groups and the representation of each group in the diversity index. Values range from 0 to 1, with lower values indicating lower diversity of the school and higher values indicating greater diversity. Calculations of school diversity relied on Black/African-American, Asian/Asian-American, Latino/Mexican-American, White/Caucasian, and Other/Multiethnic students. Schools ranged in their diversity from less diverse ($D_s = .51$) to more diverse ($D_s = .72$), with an average diversity score of .63 ($SD = .07$).

Availability of cross-ethnic peers at school. Simpson's Index captures ethnic diversity, but not the specific proportion of one's ethnic group at school. Because the degree to which one is a numerical minority or majority group member may also affect my variables of interest, the availability of cross-ethnic peers at school was also calculated to consider as an individual level covariate. Availability of cross-ethnic peers in one's grade at school was calculated using California Department of Education statistics on the number of sixth grade students from each ethnic group (see Table 2; California Department of Education, 2011). For each ethnic group within each of the 11 schools, I computed a score reflecting the proportion of sixth grade peers who belong to ethnic outgroups (i.e., number of sixth grade students of all other ethnic backgrounds divided by the total number of sixth grade students, minus oneself). Overall, adolescents in our sample had a mean availability score of .57 ($SD = .18$; range = .28–.98), suggesting an average of 57% of one's grade mates belonging to a different ethnic group than their own.

Availability of cross-ethnic peers in extracurricular activities. The ethnic composition of extracurricular activities was calculated based on sixth grade activities offered during the year at each school. To be able to rely on school-specific checklists, I requested lists of all organized clubs and activities that occur throughout the day (e.g., before school, during

lunch, during elective periods, or after-school) at each school, which was consistent with prior research (Fredricks & Eccles, 2006; Mahoney & Cairns, 1997). Across the 11 schools, there were 267 activities offered during the sixth grade year (*range* = 5 to 53 activities).

Extracurricular activities used in the current study consisted of sports (e.g., interscholastic or intramural sports), performing arts (e.g., school band/orchestra, chorus, dance, or drama), visual arts (e.g., art club or photography club), academic groups (e.g., honor societies, speech and debate, or yearbook), leadership activities (e.g., student government), special interest groups (e.g., chess club or gardening club), and after-school activities (e.g. Boys and Girls Club). Students marked each activity that they were involved in during their sixth grade year. On average, activities consisted of approximately 57 members ($M = 56.90$, $SD = 45.90$, *median* = 39).

The ethnic composition of extracurricular activities was calculated by using the self-reported ethnicity of each participant in the study. Because I relied only on data reported by study participants (i.e., possibly not all the students involved in the activity), this measure of ethnic composition was an estimation of the ethnic composition of the activity. Given the high level of study participation (over 80%), I presumed that this estimate is fairly representative of these ethnic compositions. While this measure only accounts for sixth grade peers in the activity, it was presumed that many middle school activities include students who are in the same grade, and that exposure to cross-ethnic peers in the same grade may be especially relevant to these analyses given that friendships are typically formed among same-grade peers (McPherson, Smith-Lovin, & Cook, 2001). To create the main variable of interest, the number of cross-ethnic peers in one's activity was summed and divided by the total number of peers in one's activity to obtain the cross-ethnic *proportion score*. For adolescents in multiple activities, the denominator

consisted of the total number of peers summed across all activities, with those who were in multiple activities with the student counted only once. Similarly, the numerator was the sum of all cross-ethnic peers in one's activities, with those in multiple activities counted once. A high proportion score implies a high availability of cross-ethnic peers in activities. On average, over half of the members of one's activities were from a different ethnic group from one's own ($M = .66$, $SD = .20$). This estimate is consistent with the relatively high ethnic diversity of the sampled schools.

Cross-ethnic friendships in activities. Students provided an unlimited number of nominations of their "good friends" who were in the sixth grade and attended the same school (see Appendix B). To be able to assess how many of these friends were of a different ethnic background than the participant, I relied on the participants' subjective perceptions of whether each named friend was of the same or a different ethnic group as their own. I relied on this subjective measure of friends' ethnicity, rather than self-reported ethnic identification by the friends, because I expected that the degree to which one perceives their friends to belong to different ethnic groups is more psychologically meaningful. Friendships consisted of all self-reported nominations (i.e., rather than differentiating unilateral and reciprocated nominations) to capitalize on as much data as possible.

Two variables reflecting cross-ethnic friendships were calculated. Because I was interested in extracurricular activities as a setting for cross-ethnic friendships, self-reported extracurricular participation was used to calculate the proportion of one's friends in their activities who belong to a different ethnic group. To be able to calculate this, for each fellow activity member I computed whether that person (1) was a friend and (2) whether or not they belonged to the same or a different ethnic group as their own. For youth in only one activity, the

denominator was the number of friends in their activity, and the numerator was the number of activity-related, cross-ethnic friends. For youth in multiple activities, the denominator (the total number of activity-based friends) was defined as the number of friends who were in *at least* one activity with the student, with those in multiple activities counted only once, and the numerator was the number of those friends who were cross-ethnic. A high score suggests that many of one's activity-based friends are cross-ethnic. On average, approximately half of one's activity-based friends were cross-ethnic ($M = .46$, $SD = .42$), reflecting the diversity of our schools.

To be able to examine whether other, out-of-activity friends were also linked with cross-ethnic contact in activities or with intergroup attitudes, this proportion was also calculated. Cross-ethnic friendships outside of activities consisted of the number of non-activity-related friends perceived to be cross-ethnic, divided by the total number of non-activity-related friends. Similarly, a high score means that many of one's out-of-activity friends are cross-ethnic ($M = .40$, $SD = .39$).

Social identity complexity. Data collection was administered on two days to be able to implement the social identity complexity measure in seventh grade. On the first day participants were asked to list three social groups that described them as a person. Before identifying themselves with their groups, participants were provided with types of groups that could describe them (e.g., extracurricular activities, sports, religious groups, or social groups) and with four to five examples of each (see Appendix A) to ensure that young adolescents understood the types of groups to which they may belong (cf. Brewer & Pierce, 2005). Students were then asked to imagine that they were filling out a new Facebook page describing themselves to people who do not know them, and to list three groups that best describe them as a person.

After identification of social groups on the first day of data collection, research assistants individualized each participant's questionnaire with their four group memberships (i.e., the three social identity groups listed on the first day, in addition to self-reported ethnic group). Ethnicity was used as the fourth group membership because I expected the overlap between one's ethnic group with their other social groups to be particularly relevant to ethnic intergroup attitudes. To ensure that ethnicity was indeed as salient as the other three social groups listed, I also obtained importance ratings for each of the four groups (see below). During this second day of data collection, participants then rated the group membership overlap of each bidirectional pairing of their four groups (see Appendix C). To orient them to the task, an example was provided where they estimated "How many soccer players are seventh graders?" and "How many seventh graders are in soccer?" on a five point scale (1 = *almost all*; 5 = *hardly any*). Relying on the same five point scale, participants then rated the 12 pairings of their own social groups (e.g., "How many people in [Group A] are in [Group B]? How many people in [Group B] are in [Group A]?"). Social identity complexity scores were calculated as the mean of the 12 ratings reflecting the overlap of the four groups listed. A high score indicates little perceived membership overlap among groups (i.e., high social identity complexity). On average, adolescents perceived between about half and a few members of one ingroup to belong to another ingroup ($M = 3.24$, $SD = .64$), suggesting a moderate degree of social identity complexity.

Reliability was calculated using a Spearman-Brown split-half coefficient. The 12 ratings were divided into two subsets, such that bidirectional pairings were in different subsets (i.e., "How many people in [Group A] are in [Group B]?" in one subset, "How many people in [Group

B] are in [Group A]?” in the other subset). The Spearman-Brown reliability coefficient was .94, suggesting that the social identity complexity measure has good internal consistency.

Importance of social identities. Because social identity complexity is based on social ingroups that are personally meaningful (Roccas & Brewer, 2002), participants were asked to rate the importance of their four groups on the second day of data collection in seventh grade. Specifically, they rated the importance of their three social groups and their ethnic group (e.g., “How important is it to you that you are a [Group A] member?”). Responses were on a five point scale (1 = *definitely not important*; 5 = *definitely important*). The average importance of ethnicity (i.e., the only group identity not self-nominated; $M = 4.07$, $SD = 1.08$) was similar to the overall importance ratings ($M = 3.97$, $SD = 1.05$), suggesting that it was as important as the three other social groups.

Ethnic intergroup attitudes. Items assessing the degree to which seventh grade students wanted to associate with ethnic ingroup and outgroup members were used to calculate social distance (Bogardus, 1933; Brewer, 1968; Jones, 2004; Marsden, 1988). I chose to focus on developmentally relevant behavioral items assessing social distance (included as part of a larger battery of intergroup attitudes measures), to expand on prior research on social identity complexity that has relied mainly on affective measures of ingroup bias (e.g., Schmid, Hewstone, Tausch, Cairns, & Hughes, 2009).

Participants were first provided with an example where they were asked to rate if they would like to eat lunch, get together at their house, dance together at a party, or sit together on a school bus with kids who were in the eighth grade (i.e., outgroup based on grade), on a five point scale (1 = *no way!*; 5 = *for sure yes!*). After completing the example, participants responded to the same four items for Asian, Black, Latino, and White youth (e.g., “Now think about doing

these things with kids who are [Ethnic Group]. Would you want to eat lunch with...”), for a total of 16 items. Blocks of the four items within each ethnic group were presented in four different orders that were randomly assigned to the participants. Consistent with prior studies of social identity complexity (e.g., Brewer & Pierce, 2005; Knifsend & Juvonen, 2014), I relied on an aggregated measure of social distance from all three ethnic outgroups, rather than examining distance from specific ethnic groups. Social distance was calculated by subtracting the average of 12 items for three ethnic outgroups from the average of four items for members of one’s own ethnic group. Thus, higher scores indicated greater social distance, whereas lower social distance scores indicate that ethnic outgroups are rated more similarly to one’s ingroup. On average, adolescents rated their ingroup higher than outgroups ($M = .43, SD = .75$). Cronbach’s alphas calculated among four ingroup items ($\alpha = .85$) and twelve outgroup items ($\alpha = .94$) indicated good internal reliability.

Demographic covariates. Students self-reported their gender (i.e., male or female), ethnic group, generational status, and language spoken at home, and parents reported their highest level of education, in the fall of sixth grade.

Results

The results section consists of three parts. To preface my main analyses focusing on cross-ethnic friendships and complex social identities in extracurricular activities, I first describe the social identity groups listed by young adolescents. Second, ethnic group differences in extracurricular participation are described. In the third part, I test my main hypotheses regarding the associations between cross-ethnic availability in activities, cross-ethnic friendships, social identity complexity, and ethnic outgroup distance. Specifically, I examine whether cross-ethnic

friendships and social identity complexity mediate the association between cross-ethnic availability in extracurricular activities and ethnic outgroup distance.

Social Identities

Trained research assistants categorized social groups into nine categories with high inter-rater reliability, $\kappa = .97$. As reflected in Table 3, out-of-school sports (e.g., club basketball or swimming) were the most common groups listed, followed by groups based on religious affiliation (e.g., Christian or Jewish), peer crowds (e.g., popular kids or nerds), and school-based clubs (e.g., Cooking Club or National Junior Honor Society) that are a focus of this study. Out-of-school performing arts (e.g., dance or theater group), special interests (e.g., robotics or environmental groups), gaming (e.g., video gamer), out-of-school visual arts (e.g., animation or photography), and academic orientation (e.g., good students or overachievers) were also listed as social identities. Although school-based extracurricular activities were not the most frequently mentioned social identity, it is then particularly important to test whether such involvement is linked with positive intergroup attitudes.

Ethnic Differences in Participation

Ethnic group differences in activity participation in the sixth grade were tested. Controlling for other demographic groupings (i.e., gender, language spoken at home, generational status, and parental education), these differences were significant, $F(3,1433) = 6.75$, $p < .001$. Post-hoc t -tests with a Bonferroni correction suggested that African-American youth ($M = 2.42$ activities, $SD = 1.55$) were less involved than Asian-American ($M = 2.93$, $SD = 1.85$; $t(416) = 3.02$, $p = .003$) and White/Caucasian ($M = 2.82$, $SD = 1.44$; $t(645) = 3.34$, $p = .001$) youth. Similarly, Latino/Mexican-American sixth graders ($M = 2.46$, $SD = 1.56$; $t(645) = 3.34$, p

= .001) were less involved than their Asian-American ($t(797) = 3.33, p = .001$) and White/Caucasian ($t(1026) = 3.76, p < .001$) peers.

Multiple Mediation Model

To test the links between availability of cross-ethnic peers in activities, cross-ethnic friendships in and out of activities, social identity complexity, and ethnic outgroup distance, hierarchical linear modeling (HLM; Bryk & Raudenbush, 1992) was used. HLM not only allows for the nested nature of the data to be accounted for (i.e., students within schools), but enabled me to analyze a multiple mediator model testing whether both cross-ethnic friendships and social identity complexity mediate the association of cross-ethnic availability in activities and ethnic outgroup distance.

Multiple imputation. Multiple imputation procedures in SAS version 9.2 using PROC MI were used to estimate social identity complexity and ethnic outgroup distance data for youth in our analytic sample who were missing data (20% for social identity complexity; 14% for ethnic outgroup distance). In the current sample, boys (23% versus 18% for girls) and African-American youth (29%, versus 20% for Latino/Mexican-Americans, 18% for White/Caucasians, and 16% for East or Southeast Asians) were more likely to have missing data for social identity complexity. Demographic groups did not differ in missing data for ethnic outgroup distance. Auxiliary variables that were consistent with my hypotheses were included in the multiple imputation, including gender, ethnicity, language spoken at home, generational status, parental education, school-level ethnic diversity, cross-ethnic availability at school and in activities, and cross-ethnic friendships. Given the percentage of missing data, five datasets were imputed to achieve at least 95% efficiency of the imputation estimators, based on prior recommendations (e.g., Yuan, 2000). Main analyses averaged results across the five imputed datasets².

Unconditional models. Unconditional models were first tested in SAS version 9.2 using PROC MIXED to examine the degree to which schools vary in cross-ethnic friendships, social identity complexity, and ethnic outgroup distance. Variance at the activity level was not tested because cross-ethnic availability and cross-ethnic friendships were aggregated across multiple activities for youth who participated in more than one activity, meaning that there were not true activity-level groupings. Intraclass correlation coefficients (ICC), reflecting the amount of between-group variance, were computed. A fully unconditional, two-level model showed variability of students within schools for cross-ethnic friendships within activities (ICC = 7% of total variance, $\chi^2 = 312.02, p < .001$), cross-ethnic friendships outside of activities (ICC = 7% of total variance, $\chi^2 = 158.08, p < .001$), social identity complexity (ICC = 3% of total variance, $\chi^2 = 38.06, p < .001$), and ethnic outgroup distance (ICC = 2% of total variance, $\chi^2 = 47.38, p < .001$). Thus, subsequent models considered students nested within schools using HLM.

Multiple mediator models. Correlations of main model variables are presented in Table 4. To examine multiple mediator models in HLM, I followed procedures employed in prior studies (e.g., Krull & MacKinnon, 2001; Rucker, Preacher, Tormala, & Petty, 2011; Tormala, Petty, & Brinol, 2002). The conceptual model is shown in Figure 4. First, the role of one mediator is examined using two separate models: in the first model, the association between the predictor (X) and the mediator (M_1) is investigated, while in the second, the link between the mediator (M_1) and the outcome variable (Y) is examined with the predictor (X) in the model. In the current study, I first tested how activity-related, cross-ethnic friendships in sixth grade (M_1) mediate the association of sixth grade availability of cross-ethnic peers in activities (X) and seventh grade ethnic outgroup distance (Y). In order to examine multiple mediators, the second mediator (M_2) is then added to each model to investigate its contribution, over and above the first

mediator (M_1). In this study, the second mediator is seventh grade social identity complexity (M_2), and its mediational role is examined over and above the effect of cross-ethnic friendships in the sixth grade (M_1). Significance of indirect effects was examined using Sobel tests (Zhang, Zyphur, & Preacher, 2009). Although the direct association between the predictor and outcome does not need to be significant in mediational models (Rucker et al., 2011; Zhao, Lynch, & Chen, 2010), I also tested the direct link of sixth grade cross-ethnic availability in extracurricular activities (X) and seventh grade ethnic outgroup distance (Y) to better understand how extracurricular activities are linked with intergroup attitudes.

Each mediational model was a $1 \rightarrow 1 \rightarrow 1$ model, where all variables of interest were measured at the individual level. Based on recommendations by Zhang et al. (2009), both within-school and between-school mediation effects were included in each model by group-mean centering Level 1 predictors, and by entering the mean of each predictor variable as a Level 2 predictor. Covariates in each equation included ethnicity, gender, language spoken at home, generational status, parental education, and cross-ethnic availability of peers at school at Level 1, and school-level ethnic diversity at Level 2. Mean differences in demographic variables are presented in Table 5.

Cross-ethnic friendships as a mediator. First, greater availability of cross-ethnic peers in one's activities in the sixth grade (X) was associated with more activity-related, cross-ethnic friendships in sixth grade (M_1), $b = .80$, $SE = .13$, $p < .001$. Second, a greater proportion of cross-ethnic friendships in one's activity (M_1) was associated with less perceived distance from ethnic outgroups in seventh grade (Y), $b = -.22$, $SE = .05$, $p < .001$. Cross-ethnic availability (X) was not directly linked with ethnic outgroup distance (Y). Coefficients reflecting means of cross-ethnic availability and cross-ethnic friendships at Level 2 were not significant in any of the

models, suggesting that school-level means of these variables did not play a significant role in these associations. Tests of the indirect effect using a Sobel test suggested that activity-related, cross-ethnic friendships were a significant mediator, $Z = -3.38$, $SE = .05$, $p < .001^3$. Analyses testing cross-ethnic friendships outside of activities as a mediator were not significant, suggesting that activity-related, cross-ethnic friendships played a particularly important role.

Social identity complexity as a mediator. Subsequently, as shown in Table 6, social identity complexity in seventh grade as a mediator was entered into each model, to test its role over and above sixth grade activity-related, cross-ethnic friendships. With activity-related, cross-ethnic friends in the model (M_1), greater cross-ethnic availability in activities in sixth grade (X) was associated with higher social identity complexity in seventh grade (M_2). Moreover, greater social identity complexity (M_2) was associated with ethnic outgroup distance at the same time point (Y), even when activity-related, cross-ethnic friendships (M_1) were included in the model. School-level means were not significant predictors. The indirect effect of social identity complexity was also significant, $Z = -2.32$, $SE = .03$, $p = .02$, suggesting a significant mediational role of both social identity complexity and activity-related, cross-ethnic friends (see Figure 5).

In sum, these results suggest that in multiethnic schools, extracurricular activities were associated with more positive intergroup attitudes through a couple of different mechanisms. Diverse extracurricular activities not only provide a setting for friendships with peers from other backgrounds, but were linked with social identities that are complex and inclusive of others.

Discussion

Complementing research on extracurricular involvement that has focused mainly on high school samples, I examine involvement in a younger, sixth grade sample. While most prior work on activity participation examines positive development related to one's own well-being (e.g.,

academic achievement or mental health), the current study examines how extracurricular activities can be linked with attitudes about peers from different ethnic backgrounds in multiethnic schools. Extending prior research, I investigated the mechanisms that help explain how cross-ethnic contact in extracurricular activities is associated with more positive attitudes about ethnic outgroups. Specifically, I focus on how friendships and social identities can help explain this link.

In my main analyses, cross-ethnic friendships were first tested as a mediator. Consistent with my hypothesis, participating in activities with a greater number of cross-ethnic peers in the sixth grade was associated with more activity-related, cross-ethnic friends in sixth grade, which in turn were linked with more positive attitudes about other ethnic groups in seventh grade. Thus, in multiethnic middle schools, extracurricular activities play an important role in connecting peers from different ethnic backgrounds, over and above the effects of school-level cross-ethnic contact. Extracurricular activities can provide an ideal context for youth from different ethnic backgrounds to connect and befriend each other based on a shared interest in the activity (e.g., Clark & Ayers, 1992; Dworkin et al., 2003; Kandel, 1978; Lazarsfeld & Merton, 1954; Nahemow & Lawton, 1975), in ways that promote more positive attitudes about ethnic outgroups in general (e.g., Aboud, et al., 2003; Feddes et al., 2009). It is important to note that while activity-related, cross-ethnic friendships were linked with more positive intergroup attitudes, cross-ethnic friendships *outside* of activities were unrelated to intergroup attitudes in these analyses. This finding suggests that the combination of belonging to the same activity *and* being friends with cross-ethnic peers might be especially relevant to intergroup attitudes, compared to cross-ethnic friends with whom one doesn't spend time in an activity. Thus, these

findings suggest that in multi-ethnic schools, it is particularly crucial that activities are diverse *and* provide opportunities for members from diverse ethnic backgrounds to become friends.

Current analyses on social identity complexity, in turn, extend prior research (e.g., Knifsend & Juvonen, 2014) by focusing not only on availability of cross-ethnic peers at school, but specifically on cross-ethnic contact in extracurricular activities. Youth with a greater availability of cross-ethnic peers in their activities in sixth grade had more complex social identities in seventh grade, over and above the role of cross-ethnic friendships. Higher social identity complexity, in turn, was associated with more positive ethnic intergroup attitudes at the same time point. Sharing a common activity with peers from other ethnic groups can help blur the boundaries between ethnic ingroups and outgroups (Brewer & Pierce, 2005). Given that activities have been shown to foster identity exploration (e.g., Dworkin et al., 2003), they may relate especially strongly to positive intergroup attitudes. Together, analyses of the multiple mediator model suggest that two mechanisms help explain how extracurricular activities are associated with positive ethnic intergroup attitudes. That is, both friendships and social identities in diverse extracurricular contexts were associated with positive ethnic intergroup attitudes.

Limitations and Future Directions

Additional research is needed to systematically test how diverse extracurricular activities can be structured, given findings that opportunities for cross-ethnic contact in activities must be taken advantage of by having cross-ethnic friends and complex social identities. The role of specific types of activities (e.g., based on activity interdependence, such as team- or individual-oriented activities) was not investigated in the current analyses because most youth were in multiple activities. Prior qualitative research, however, has suggested that cross-ethnic friendships are more common in cooperative activities, like soccer (Patchen, 1982).

Additionally, extracurricular activities can be structured to fulfill the tenets of contact theory, such as equal status in the activity or working towards a common goal, that are proposed to promote more positive intergroup attitudes (Allport, 1954; Pettigrew, 1998). Despite these findings and predictions, little research has tested how extracurricular activities can be structured to optimize the effects of cross-ethnic contact. Future research focusing on the design and structure of specific activity contexts would help inform programs on how best to promote positive ethnic intergroup attitudes.

To better understand the directionality of effects of how activities can promote cross-ethnic friendships, complex social identities, and intergroup attitudes, investigating the causal links between these variables also would be important. Although the current study relied on data collected in sixth and seventh grade, analyses did not examine change over time or directionality of effects, for a few reasons. First, measures of extracurricular involvement differed from sixth grade (i.e., unique checklist of activities) to seventh grade (i.e., wrote down the activities they were in) due to space constraints on the larger survey. Thus, it is unknown how cross-ethnic availability and cross-ethnic friendships in activities change over sixth to seventh grade. Second, social identity complexity was not measured until the seventh grade because our pilot study (Knifsend & Juvonen, 2013) suggested that many sixth graders struggled to list important social identities, possibly because identities emerge over time in a new school context. In future longitudinal research, investigating stability and change in cross-ethnic availability in activities, cross-ethnic friendships, or social identity complexity would help us understand how intergroup attitudes can be promoted over time. Moreover, while diverse activities were examined as a predictor variable in my mediational models, it is possible that those with many cross-ethnic friends, high social identity complexity, or positive intergroup attitudes are more likely to seek

out activities with cross-ethnic peers. Examining the directionality of these effects would better illuminate how to promote more positive intergroup attitudes in multiethnic schools.

Conclusions

The current study underscores the importance of extracurricular activities that are accessible and attractive to all youth, especially those from minority backgrounds who are less likely to participate (Brown & Evans, 2002; Darling et al., 2005; Davalos, Chavez, & Guardiola, 1999; McNeal, 1998). Given results suggesting that not all extracurricular participants identify with their activities, it may be particularly important for schools to provide a number of activity options that appeal to a range of interests and skills. Schools also may be in the position to encourage all students to participate by offering activities during school hours and by defraying the costs of participation (Brown & Evans, 2002). When activities are ethnically diverse, those in charge of running them (i.e., coaches or teachers) may also be able to encourage positive cross-ethnic interaction in activities in ways that facilitate cross-ethnic friendships, and to foster a strong sense of belonging to a common activity (e.g., Houlette, Gaertner, Johnson, Banker, Riek, & Dovidio, 2004). In sum, this study suggests that participating in activities with peers from multiple ethnic groups can potentially play an important role in promoting cross-ethnic friendships, complex social identities, and positive attitudes about other ethnic groups in multiethnic middle schools.

Footnotes

¹ Of the 1,594 participants from four major pan-ethnic groups, 97 were further excluded because they were the only student participating in a particular extracurricular activity ($n = 62$) or not reporting any friends ($n = 35$). These individuals were excluded because we could not compute cross-ethnic availability or the cross-ethnic friendships in their extracurricular activities for them.

² Main analyses using listwise deletion and maximum likelihood procedures had similar results, but fewer participants were included in the models. Thus, results reported rely on multiple imputation to include a greater number of participants.

³ Preliminary, cross-sectional analyses using ethnic intergroup attitudes data in the sixth grade found a similar pattern of results. Thus, the analyses reported rely on ethnic intergroup attitudes data in seventh grade because social identity complexity was measured in the seventh grade.

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GENERAL DISCUSSION

Together, my program of research was designed to better understand how young adolescents relate to and identify with their peers through their school-based extracurricular activities. During the middle school years, youth navigate expanding school contexts that are larger, less structured, and more diverse than neighborhood elementary schools, at the very time when the need to fit in and connect with others at school is heightened. School-based extracurricular activities can provide a setting for youth to connect with others and explore their identities in the larger, more diverse school context. In my dissertation research, I investigated types of activities (i.e., individual- vs. team-oriented), friendships in activities, and activity-based social identities. I examined how and when youth are likely to identify with their extracurricular activities, as well as whether identification with multiple groups and friendships in the context of ethnically diverse activities are linked with positive ethnic intergroup attitudes.

Study 1 of my dissertation underscored the importance of considering extracurricular activity-based social identities when measuring activity participation, especially when it comes to understanding social adjustment. Results suggested that while participation itself was linked with greater academic engagement, youth who participated *and* identified reported the lowest social anxiety. Moreover, activity-based social identities were associated with a greater sense of belonging at school when youth were in team-oriented activities (e.g., soccer) compared to individual-oriented activities (e.g., track). In terms of factors that are correlated with activity-based social identities, team-oriented activities were linked with a greater likelihood of these social identities. Considering the ways in which to promote participation and identification in multiethnic schools is crucial, given that ethnic minority youth (who are

at greatest risk of disengaging from school) were also less likely to participate and to identify with their activities.

Building on Study 1, Study 2 explicitly considered the meaning of activity-based social identities in multiethnic middle school contexts. In multiethnic school contexts, the question is not only how extracurricular participation is linked with peer interactions and social identities, but how *ethnically diverse* activities can foster cross-ethnic friendships, complex, inclusive social identities, and positive attitudes about other ethnic groups. Results of Study 2 suggested that cross-ethnic contact in activities is associated with positive intergroup attitudes through two mechanisms. First, greater cross-ethnic availability in extracurricular activities was linked with more cross-ethnic friends in one's activities, which in turn was correlated with more positive ethnic intergroup attitudes. Second, greater cross-ethnic availability in activities was associated with complex social identities, which in turn were also correlated with intergroup attitudes. Therefore, cross-ethnic contact in activities was linked not only with interpersonal relationships with ethnic outgroup peers, but also may expand one's sense of self to be more inclusive of others, both of which are associated with positive intergroup attitudes.

Extracurricular Activities and Social Identity Development

Existing research on extracurricular involvement has focused mainly on measures of the "quantity" of involvement, such as the number of activities in which one is involved. While these studies suggest that extracurricular participation is linked with positive adjustment, less is known about whether activity-based social identities can affect this relationship. That is, are those who are just physically there in the activity the same as youth who consider their activity to be a central part of their self-definition?

Results of Study 1 were similar to prior studies conducted in high school samples, which have suggested that activity participation itself is linked with feelings of belonging and academic engagement. A number of factors might help explain this association. First, activities can be a setting for developing skills (e.g., taking initiative or being persistent; Dworkin et al., 2003) that can also benefit academic adjustment. Youth may also meet and befriend more academically-oriented peers in their activities, who can reinforce one's interest in academics and provide an academic support system (e.g., engaging in study groups together). Close mentoring relationships with adult activity leaders can also provide greater access to resources and support, in ways that can strengthen feelings of connectedness and engagement with school (Eccles, Barber, Stone, & Hunt, 2003).

On the other hand, the distinction between merely participating and identifying with one's activity was especially relevant when it comes to social connectedness at school (i.e., social anxiety, or feelings of belonging in team-oriented activities). Because my measure of identity captured *social* identity (Tajfel & Turner, 1979), rather than personal identity, this contrast might be particularly relevant to these social adjustment indicators. Identifying with an activity can help youth figure out where they fit in and convey alliances with others in the broader school context (Eckert, 1989), possibly more so than if one is just involved in the activity. Thus, when it comes to indicators of social adjustment, differentiating extracurricular participants based on activity-based social identities may be informative.

Diverse Extracurricular Activities and Complex Social Identities

During early adolescence, however, youth try out and explore a number of different activities and groups in an effort to find where they fit in and relate to their peers. Building on findings from Study 1 suggesting that achieved, activity-based social identities are relevant

during early adolescence, Study 2 examined how multiple social identities are subjectively combined as part of one's self-definition. Considering these intersections of multiple social identities was of interest because of the ways in which intergroup attitudes are associated with complex social identities.

Specifically, Study 2 supplements and extends research on Social Identity Theory (Tajfel & Turner, 1979), which predicts that a strong sense of social identity can increase ingroup bias. In Study 2, *complex* social identities (i.e., when one's multiple social identities are relatively differentiated) were linked with more positive attitudes about ethnic outgroups. Thus, a strong sense of social identity can actually promote more positive intergroup attitudes when it is inclusive of peers from different backgrounds. Rather than minimizing the importance of any one identity to foster more positive outgroup attitudes, as Social Identity Theory would suggest, findings of Study 2 implied that individuals can identify strongly with a group if it is inclusive of others (e.g., debate team members can belong to any ethnic group).

Findings of the current study also supplement research on Intergroup Contact Theory (Allport, 1954; Pettigrew, 1998) by exploring the mechanisms underlying how cross-group contact is linked with intergroup attitudes. Consistent with more recent extensions of the theory (i.e., Pettigrew, 1998), cross-ethnic contact in extracurricular activities itself was not associated directly with ethnic intergroup attitudes. Rather, two mechanisms helped explain how cross-ethnic availability in activities was linked with intergroup attitudes. First, similar to Pettigrew's (1998) work, cross-ethnic friendships in one's activities were associated with more positive intergroup attitudes. However, Study 2 provided a novel extension to this research by suggesting that activity-related friends (and not out-of-activity friends) played the mediating role. This distinction is important because it suggests that when one participates in

diverse activities, it is especially important to take advantage of this opportunity to make cross-ethnic friends. Second, this study is one of the first to find that complex social identities can explain how cross-ethnic contact in extracurricular activities is associated with more positive intergroup attitudes. Together, these results suggest that cross-ethnic contact in activities might expand both friendships and social identities to be more inclusive of other ethnic groups, in ways that are associated with positive intergroup attitudes.

Contributions to Research on Extracurricular Activities

This dissertation work built on existing research on extracurricular involvement in several important ways. Although fitting in and relating to one's peers becomes a central objective of the middle school years (Eccles & Midgley, 1989; Juvonen, Le, Kaganoff, Augustine, & Constant, 2004), and extracurricular activities can help youth achieve this objective (e.g., Barnett, 2006; Fredricks et al., 2010), less is known about activity participation during this period. To address this gap, I focused on a middle school sample. Second, while activity participation might be especially beneficial for ethnic minority youth, who are at greater risk of disengagement from school and of dropping out prematurely (e.g., Daly, Buchanan, Dasch, Eichen, & Lenhart, 2010), most studies rely on samples consisting of one or two predominant ethnic groups (e.g., Fredricks & Eccles, 2010). My dissertation focused on an ethnically diverse sample where the four major pan-ethnic groups are represented. To my knowledge, this study is one of few to suggest that ethnic group differences in extracurricular participation emerge as early as middle school.

In both Study 1 and Study 2, I relied on novel measures of extracurricular involvement. In particular, Study 1 investigated two measures that have received less attention, activity-based social identities and the degree of activity interdependence. Although

activities can serve as a context for identity exploration (Dworkin et al., 2003), few studies operationalize involvement as the degree to which youth identify with their activity. Moreover, while past studies suggest that the type of activity matters in terms of adjustment (e.g., Eccles & Barber, 1999), little is known about different types of activities beyond whether it is a sports, arts, or academic activity. Study 1 strived to better understand the nature of peer interaction within specific activity contexts by separating activities based on whether they are team- or individual-oriented. Moreover, Study 2 extended prior research relying on two predominant ethnic groups (e.g., African-American and White/Caucasian) by investigating the ethnic composition of extracurricular activities across the four major pan-ethnic groups. Because I relied on a unique, individualized checklist of activities as my measure of extracurricular participation, I was able to compute cross-ethnic availability scores based on self-reported ethnicity. Together, these measures contribute to a better understanding of the social context of extracurricular activities.

This research holds implications for policy and practice regarding extracurricular programming. While middle school activities are often the first to go when school budgets are reduced, this research argues for the benefits of these activities to school-based adjustment and attitudes about other ethnic groups. Further, it may be important for schools to offer a range of different extracurricular options, so all youth can find an activity in which they are interested and can potentially identify. In light of results of Study 1 and Study 2 suggesting that many extracurricular participants did not identify with their extracurricular activities as a meaningful social identity, it would be especially crucial to offer activities that appeal to a wide range of interests. In order to encourage youth from all backgrounds to participate, and specifically youth from at-risk, minority groups, schools may also consider offering activities

during the school day (e.g., at lunch, instead of after-school) or defraying the costs of participation (e.g., travel fees or costs of equipment), if at all possible.

Together, findings from Study 1 and Study 2 also highlight ways in which activities might be structured to promote positive peer relations. Encouraging interaction in activities could be crucial, as suggested in both Study 1 (where team-oriented activities are associated with social identities) and Study 2 (where friendships in activities explain how cross-ethnic availability is linked with intergroup attitudes). Offering activities that require a greater degree of interdependence, or which provide more opportunities for interaction (e.g., through additional group parties or events), might help connect youth who are from different ethnic backgrounds. Drawing from Intergroup Contact Theory (Allport, 1954), activity leaders may also designate roles where all group members are of equal status or are contributing meaningfully to the activity. Based on findings from Study 1 and Study 2 that not all activities are linked with social identities, and that contact alone is not enough to promote intergroup attitudes, extra measures need to be taken to ensure that all students benefit from activity involvement.

Limitations and Future Directions

Although my dissertation defined activity participation in ways that have received less attention (e.g., activity-based social identities), studying involvement in other ways would also be informative. For instance, the duration of extracurricular involvement (i.e., how long one has been involved; Fredricks & Eccles, 2006) might be relevant to activity-based social identities, as those who have been involved for a longer period of time have had more time to explore and commit to their identity. In addition, while team-and individual oriented activities were contrasted in the current study, other distinctions might be linked with activity-

based social identities. For example, activity-based social identities might be more common in high status activities (e.g., football or cheerleading; Barnett, 2006). While the current study provides a novel contribution by defining participation in different ways, continuing to explore new ways to measure extracurricular involvement would be particularly useful.

Longitudinal research examining the directionality of associations (i.e., if “effects” are due to selection into or influence of activities) or change over time is also necessary. For instance, cross-ethnic contact in activities could promote cross-ethnic friendships, or cross-ethnic friends might encourage one to participate in diverse activities. Moreover, I relied on data spanning multiple time points in Study 2, but analyses controlling for earlier intergroup attitudes were not significant due to the high stability of intergroup attitudes over a short span of time (i.e., from sixth to seventh grade, which was less than a year at some schools). Analyses conducted over a longer period of time (e.g., sixth to eighth grade) accounting for earlier intergroup attitudes might illuminate whether earlier cross-ethnic friendships or social identity complexity are associated with change in intergroup attitudes over time.

While I was interested in middle school extracurricular activities because less is known about participation during this period, these analyses might also be extended by relying on an older, high school sample. During high school, youth typically dedicate more time to their activities, compete against other schools (i.e., in contrast to intramural sports, which are common in middle school), and in many cases participate in tryouts to make the team (e.g., Barnett, 2006). These features of high school activities may help to strengthen one’s sense of a common social identity as part of the activity. Questions about how to foster connectedness and academic engagement are also crucial to examine during the high school years, when school dropout rates increase among at-risk youth. Thus, supplementing this

research in middle school samples, examining activity-based social identities during high school may be especially important.

Understanding the ethnic context of extracurricular activities also may be critical during the high school years. In some high schools, separation of ethnic groups into different activities is prevalent, even when schools are multiethnic. For instance, in a study relying on high school yearbooks from across the United States to assess the ethnic composition of activities, Clotfelter (2002) found a substantial proportion of activities consisting of either all White/Caucasian students or of all one minority group. When extracurricular activities are not ethnically diverse, identifying strongly with the activity might be associated with more negative intergroup attitudes. Thus, if activity-based social identities are more common during high school, it would also be important to consider the ethnic composition of activities and whether intergroup attitudes might be affected.

In addition to focusing on different age groups, the scope of this research could be further broadened by examining how activities can connect minority and majority group peers across other classifications. While social identity complexity has been investigated mainly in terms of ethnic outgroup attitudes, sharing a common social identity theoretically should help promote positive attitudes about any outgroup. Thus, activities (and related social identities) might be structured to connect groups delineated by social status (e.g., popular or not), generational status, religion, or sexual orientation.

Conclusions

By examining extracurricular involvement in different ways, it is possible to better understand how activities are linked with both one's own well-being at school (as shown in Study 1), but also to relations and attitudes about other groups (as shown in Study 2), which

have received less attention. This research holds important implications for policies regarding extracurricular program offerings and for the structure of activities. In order to foster social identities related to activities, offering a range of extracurricular options that appeal to diverse interests is crucial. Because minority groups may be less likely to get involved, extracurricular programming should also be planned so that activities are accessible and attractive to all youth. Once activities are diverse, extra attention is needed to ensure that they are a setting for positive cross-group interaction. These implications are especially vital given that fitting in and relating with one's peers is a formative task during adolescence, and becomes increasingly challenging in the expanding middle school context.

Table 1

Hierarchical Linear Models Testing How Activity-based Social Identities are Associated with Academic and Social Adjustment

	Student-rated <u>Engagement</u> <i>b</i>	Teacher-rated <u>Engagement</u> <i>B</i>	School <u>Belonging</u> <i>b</i>	Social <u>Anxiety</u> <i>b</i>
Intercept	4.58***	3.12***	3.48***	2.16*
Diverse school	0.00	-0.05	0.10*	0.06
One majority group	-0.30***	-0.16	-0.21***	0.06
Total number of activities	-0.05*	0.02	0.02	0.01
Number of activities - mean	-0.20**	-0.50***	0.03	0.07
African-American	-0.06	-0.27***	0.04	-0.28*
Asian-American	0.05	0.09	-0.05	0.14*
Latino/Mexican-American	-0.21***	-0.26***	0.09	-0.12*
Other/Multiethnic	-0.09	-0.17***	-0.05	-0.06
Male	-0.08***	-0.26*	-0.05	-0.11*
1 st generation	0.06	0.10	0.06	0.09
2 nd generation	0.05	0.10*	0.05	0.03
Did not finish high school	-0.10*	-0.10	-0.04	0.02
High school diploma/GED	-0.08	-0.09	0.02	-0.05
Some college	-0.04	-0.08	-0.04	-0.06
Four-year degree	-0.03	-0.03	-0.03	-0.09*
Did not report	-0.08	-0.10	-0.01	-0.13*
Non-participants	-0.11*	-0.12*	-0.14*	0.08
Did not identify	-0.01	0.04	-0.04	0.09*

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

Note. Comparison groups were: two balanced groups (type of school), White/Caucasian, female, 3rd generation, and graduate degree.

Table 2

Ethnic Composition (%), Simpson's Index of Diversity, and N by School

	African- American	Asian- American	Latino/ Mexican- American	White/ Caucasian	Other/ Multiple	Simpson's <i>D</i>	<i>N</i>
School 1	12	12	33	38	6	.72	850
School 2	21	6	53	17	4	.65	983
School 3	20	12	42	24	3	.71	1,567
School 4	16	9	26	46	3	.69	2,065
School 5	60	.4	37	1	1	.50	801
School 6	28	2	63	7	1	.53	706
School 7	26	4	65	1	5	.51	1,897
School 8	1	54	40	3	2	.54	930
School 9	4	4	44	40	8	.64	1,152
School 10	59	4	22	13	2	.59	904
School 11	10	10	28	48	4	.67	1,945

Note. Data presented are percentages based on California Department of Education statistics. Simpson's Index of Diversity is calculated based on data from Black/African-American, Asian/Asian-American, Latino/Mexican-American, White/Caucasian, and Other/Multiethnic groups across the entire school (i.e., sixth, seventh, and eighth grade). Cohort 1 schools are Schools 1-4. Cohort 2 schools are schools 5-11.

Table 3

Number and Percentage of Common Social Identities

Social identity	<i>n</i> (% of groups listed)
Out-of-school sports	892 (20%)
Religious affiliation	729 (17%)
Peer groups and crowds	711 (16%)
School-based activities	558 (13%)
Out-of-school performing arts	531 (12%)
Special interests	378 (9%)
Gamer	324 (7%)
Out-of-school visual arts	109 (2%)
Academic orientation	105 (2%)
Other	46 (1%)

Table 4

Pearson's Correlations of School Diversity, Cross-ethnic Peers in Activities, Cross-ethnic Friendships, Social Identity Complexity, and Ethnic Outgroup Distance

	1	2	3	4	5	6	7
1. School diversity	-	.44***	.55***	.23***	.15***	.15***	-.16***
2. Cross-ethnic peers at school		-	.82***	.25***	.14***	.19***	-.14***
3. Cross-ethnic peers in activities			-	.33***	.14***	.21***	-.13***
4. Cross-ethnic friends - in activities				-	.16***	.17***	-.17***
5. Cross-ethnic friends - other					-	.01	-.06*
6. Social identity complexity						-	-.13***
7. Ethnic outgroup distance							-

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

Table 5

Means and Standard Deviations of Main Variables

Demographic group	Cross-ethnic availability in activities	Cross-ethnic friendships in activities	Cross-ethnic friendships out of activities	Social identity complexity	Ethnic outgroup distance
Gender					
Male	0.64 (0.20)	0.46 (0.43)	0.40 (0.40)	3.19 (0.65)	0.43 (0.74)
Female	0.66 (0.19)	0.46 (0.42)	0.40 (0.38)	3.28 (0.63)	0.43 (0.76)
Ethnicity					
Latino/Mexican-American	0.59 (0.20)	0.44 (0.43)	0.39 (0.38)	3.20 (0.66)	0.53 (0.83)
African-American	0.76 (0.17)	0.49 (0.44)	0.41 (0.38)	3.12 (0.70)	0.33 (0.68)
Asian-American	0.70 (0.27)	0.47 (0.42)	0.42 (0.40)	3.39 (0.10)	0.52 (0.74)
European-American	0.68 (0.12)	0.48 (0.40)	0.40 (0.39)	3.30 (0.54)	0.30 (0.63)
Language spoken at home					
Low fluent	0.55 (0.23)	0.38 (0.43)	0.36 (0.39)	3.17 (0.69)	0.61 (0.83)
High fluent	0.68 (0.18)	0.48 (0.42)	0.41 (0.39)	3.26 (0.62)	0.38 (0.72)
Generational status					
1 st generation	0.58 (0.24)	0.41 (0.43)	0.42 (0.43)	3.24 (0.68)	0.55 (0.89)
2 nd generation	0.63 (0.21)	0.45 (0.43)	0.40 (0.39)	3.22 (0.66)	0.51 (0.76)
3 rd generation	0.70 (0.15)	0.48 (0.41)	0.39 (0.37)	3.27 (0.64)	0.32 (0.69)
Parental education					
Did not finish high school	0.56 (0.21)	0.38 (0.43)	0.33 (0.36)	3.21 (0.66)	0.52 (0.87)
High school diploma/GED	0.63 (0.22)	0.44 (0.42)	0.40 (0.38)	3.08 (0.69)	0.51 (0.62)
Some college	0.68 (0.19)	0.44 (0.42)	0.41 (0.39)	3.24 (0.63)	0.42 (0.70)
Four-year college	0.69 (0.19)	0.50 (0.42)	0.43 (0.39)	3.30 (0.60)	0.34 (0.82)
Graduate degree	0.70 (0.17)	0.55 (0.41)	0.39 (0.38)	3.31 (0.61)	0.38 (0.63)

Table 6

Regression Models Predicting Mediator and Dependent Variable in Multiple Mediation Model

<u>Mediator variable model (DV = Social identity complexity)</u>		
Predictors	<i>b</i>	<i>SE</i>
Intercept	3.25***	0.09
Level 1		
African-American	-0.15*	0.07
Asian-American	-0.04	0.08
Latino or Mexican-American	-0.07	0.06
Male	-0.08	0.04
Less English	-0.04	0.06
1 st generation	0.02	0.08
2 nd generation	0.01	0.05
Did not finish high school	-0.02	0.07
High school diploma/GED	-0.18*	0.07
Some college	0.01	0.06
Four year college	0.03	0.06
Total number of activities	0.03	
Did not respond	0.12	0.08
Cross-ethnic availability at school	0.30	0.21
Cross-ethnic availability in activities	0.42	0.20
Cross-ethnic friends in activities	0.17**	0.05
Level 2		
Total number of activities	0.05	
School diversity	-0.26	1.01
Cross-ethnic availability in activities	-0.41	0.59
Cross-ethnic friends in activities	0.36	0.29

Outcome variable model (DV = Ethnic outgroup distance)

Predictors	<i>b</i>	<i>SE</i>
Intercept	0.33*	0.10
Level 1		
African-American	0.06	0.08
Asian-American	0.19*	0.09
Latino or Mexican-American	0.15*	0.06
Male	0.06	0.04
Less English	-0.04	0.06
1 st generation	0.12	0.09
2 nd generation	0.08	0.05
Did not finish high school	-0.06	0.08
High school diploma/GED	-0.06	0.08
Some college	-0.04	0.07
Four year college	-0.07	0.07
Did not respond	-0.01	0.09
Cross-ethnic availability at school	-0.30	0.24
Cross-ethnic availability in activities	0.02	0.23
Cross-ethnic friends in activities	-0.20***	0.06
Social identity complexity	-0.13***	0.04
Level 2		
School diversity	-1.60	1.25
Cross-ethnic availability in activities	0.58	0.66
Cross-ethnic friends in activities	0.06	0.31
Social identity complexity	0.20	0.36

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

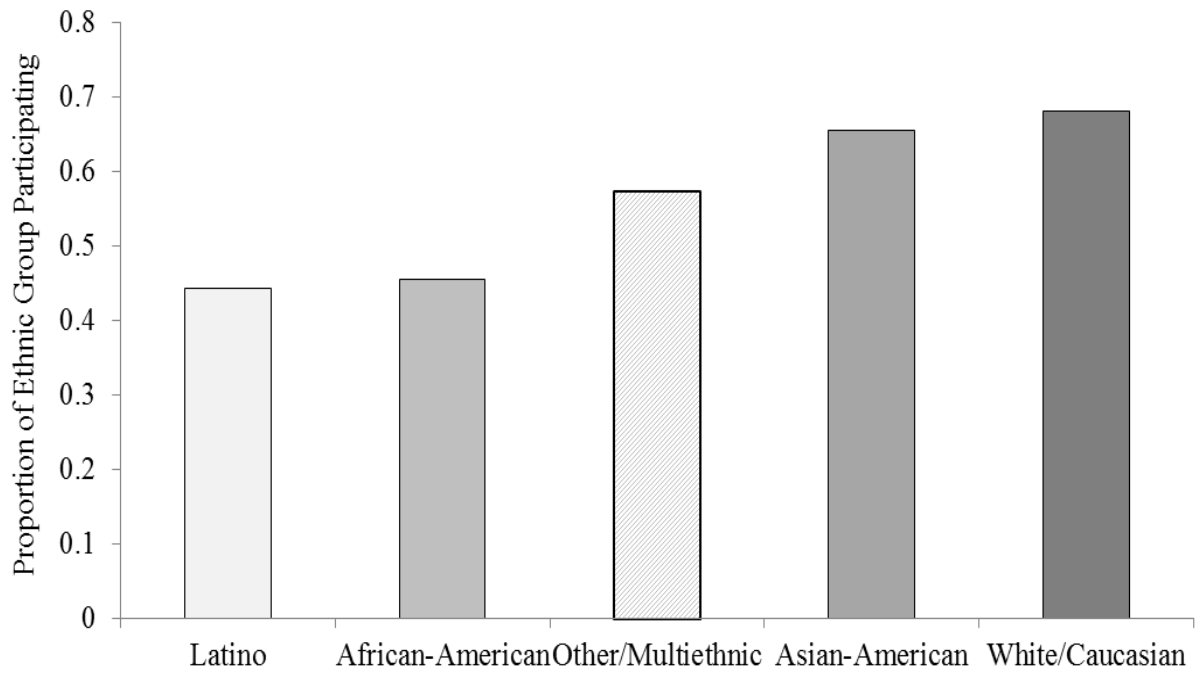


Figure 1. Ethnic group differences in proportion of ethnic group participating in at least one activity in the seventh grade.

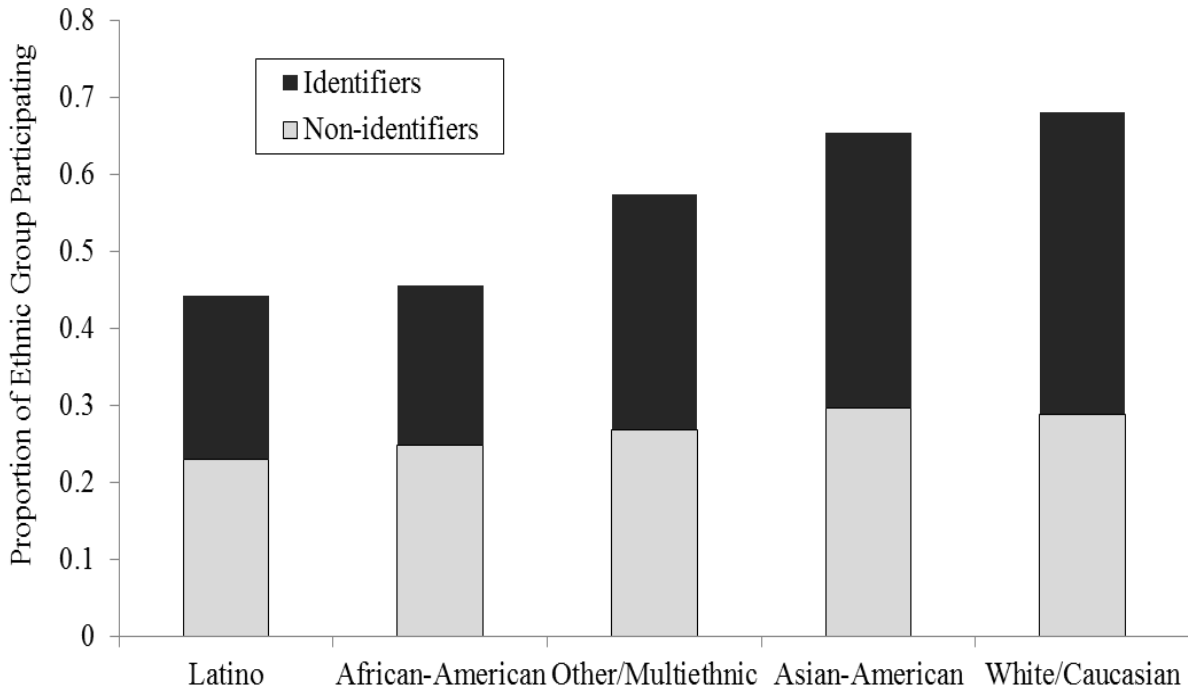
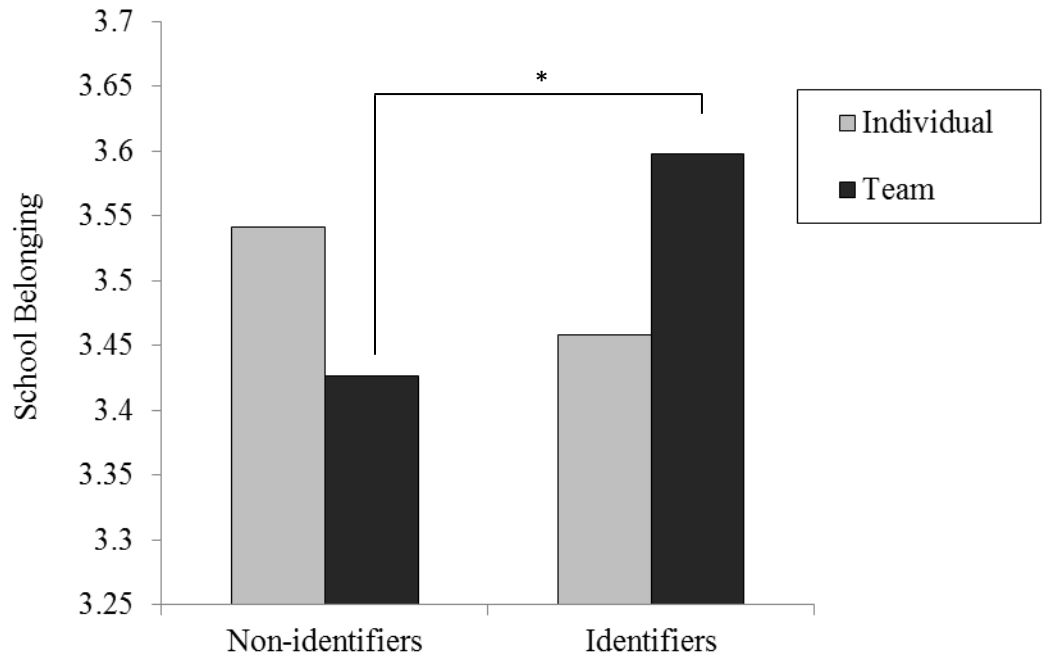


Figure 2. Ethnic group differences in proportion of ethnic group participating in at least one activity in the seventh grade, divided by non-identifiers and identifiers.



* $p < .05$.

Figure 3. Interaction testing how the type of activity moderates the link between activity-based social identities and school belonging.

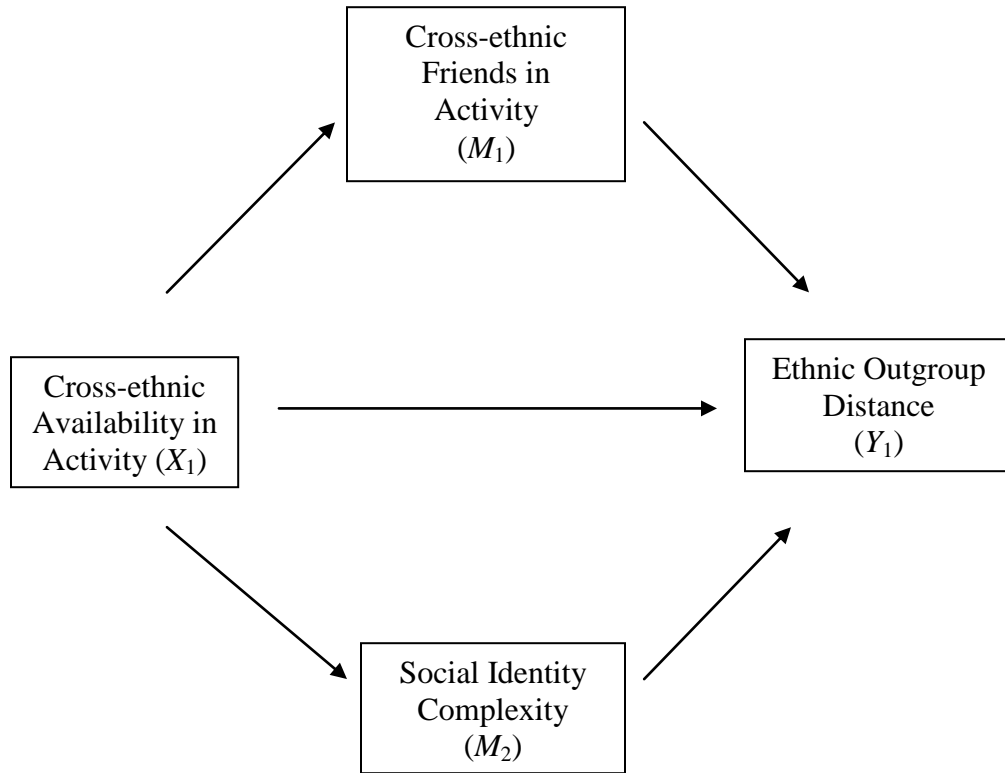
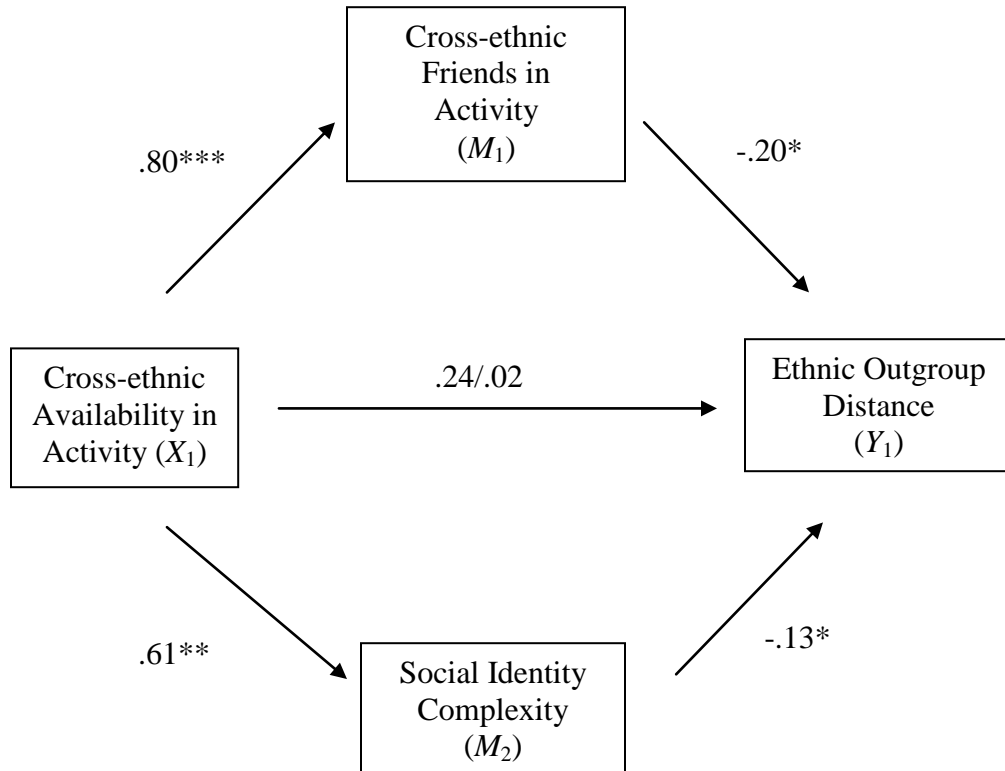


Figure 4. Multiple mediator model.



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

Figure 5. Final multiple mediator model.

Appendix A

Social Identity Measure

Groups that Describe Me

We would like to know which groups you belong to, and which of those groups are most important to you. Below are some examples of groups that could describe you, your interests, and/or your activities.

Sports: basketball player, soccer player, volleyball player, swimmer, gymnastics...

Religious groups: Christian, Jewish, Muslim, Catholic...

Social groups: popular, nerds, tough kids, jocks, average kids...

Out-of-school groups: gamer, skater, Boy/Girl Scout, dancer, church youth group...

School clubs: honor society, student government, computers/robotics, debate team...

Other activities/interests: drama, band/orchestra, community service, artist...

Here are some examples of what other kids said when we asked them to list the groups they belonged to that are most important to them:

One kid wrote...

- A. Catholic
- B. jock
- C. surfer

Another wrote...

- A. football player
- B. chess club
- C. student government

Another wrote...

- A. drama
- B. Protestant
- C. Singer

Now, imagine that you are filling out a new *Facebook* page, and you wanted to describe yourself to people who don't know you. Which groups best describe YOU? List three groups here that you belong to and that best describe YOU as a person. The groups above are just examples of groups, so you can list any group that describes YOU.

A. _____

B. _____

C. _____

Appendix B

Friendships Measure

About My Friends at School

List the names of your GOOD FRIENDS in the **6th grade at this school**. For each friend you list, answer the set of questions about that friend by filling in the bubbles. You can list as many names as you want. Let the researcher know if you need another sheet.

Please use the following scale to answer items 1 – 6 about your friend:

Ⓐ = No/Hardly ever Ⓑ = Sometimes Ⓒ = Yes/Almost all the time








Write First and Last Name of Friend ("John Doe")	1. We go to each other's houses after school or on weekends	2. We talk on the phone, text, email, video chat or IM each other	3. This friend can be trusted	4. This friend helps me feel better when I'm upset	5. This friend sticks up for me/ has my back	6. I can talk to my friend if I have a problem at home or in school	7. Do you have the same math teacher		8. This friend is the same ethnic group as me	
							Yes	No	Yes	No
	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	○	○	○	○
	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	○	○	○	○
	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	○	○	○	○
	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	○	○	○	○
	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	○	○	○	○
	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	○	○	○	○
	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	Ⓐ Ⓑ Ⓒ	○	○	○	○

Appendix C

Social Identity Complexity Measure

Groups that Describe Me

Sometimes members of one group can also belong to other groups. We would like you to indicate how many kids you know who are members of one group are also in another group.

					
	Almost All	Most	About Half	A Few	Hardly Any
How many 1. _____ are.. 2. _____?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. _____?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. _____?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How many 2. _____ are.. 1. _____?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. _____?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. _____?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How many 3. _____ are.. 1. _____?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. _____?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. _____?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How many 4. _____ are.. 1. _____?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. _____?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. _____?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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