

Psychosocial Benefits of Cross-Ethnic Friendships in Urban Middle Schools

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To examine the unique functions of same- and cross-ethnic friendships, Latino ($n = 536$) and African American ($n = 396$) sixth-grade students ($M_{\text{age}} = 11.5$ years) were recruited from 66 classrooms in 10 middle schools that varied in ethnic diversity. Participants reported on the number of same- and cross-ethnic friends, perceived vulnerability, friendship quality, and the private regard dimension of ethnic identity. Whereas same-ethnic friendships were uniquely associated with stronger private regard, more ethnic diversity and cross-ethnic friendships were uniquely associated with less perceived vulnerability. Multilevel structural equation modeling tested whether cross-ethnic friendships mediated the diversity-vulnerability relation. Although cross-ethnic friendships did not significantly mediate this relation at the classroom level, these friendships predicted less vulnerability at the individual student level.

Friendships matter throughout the life course; from early childhood to old age, people generally fare better when they have friends than when they do not (Hartup & Stevens, 1999). By early adolescence, friendships take on added significance because of the growing importance of peers and the peer group for individual well-being (Brechwald & Prinstein, 2011). For example, during the early adolescent years friendships provide close companionship at a time when the need for intimacy is increasing, validation at a time when identity concerns are heightened, and emotional support and security at a time when peer harassment at school is on the rise. A growing empirical literature supports this view of friendships as fostering companionship, validation, and emotional security (see review in Bukowski, Motzoi, & Meyer, 2009). Compared to friendless peers, children and adolescents with at least one reciprocated friendship feel less lonely, have higher self-esteem, and are less vulnerable to social distress.

Most of the developmental friendship literature, like peer relations research in general, has evolved without much attention to race and ethnicity

(Graham, Taylor, & Ho, 2009; Way, Becker, & Greene, 2006). But with a school-age population that is becoming more racially and ethnically diverse, developmental researchers have begun to examine the prevalence, meaning, and function of cross-ethnic friendships. Given the opportunity, are children and adolescents likely to choose friends from different ethnic groups? Are the meaning and function of cross-ethnic friendships similar to that of same-ethnic friendships? In this study, we expand on previous friendship research to shed light on the possible unique correlates of cross-ethnic friendships during early adolescence.

Determinants and Functions of Cross-Ethnic Friendships

Homophily (similarity) and propinquity (availability) are among the most important determinants of friendship choices and together these two processes help explain the likelihood that youth are willing to cross ethnic boundaries when selecting friends. Homophily is the tendency to form friendships with others who have similar characteristics, such as gender, race, or ethnicity. A robust finding in the interracial friendship literature is that

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students show a preference for same-ethnicity peers over different-ethnicity peers in their friendship choices (see Graham et al., 2009; McPherson, Smith-Lovin, & Cook, 2001). This same-ethnicity preference increases during adolescence at a time when race and ethnicity take on added significance (Shrum, Cheek, & Hunter, 1988). In studies with adolescents that calculate frequencies or odds ratios of same- to cross-ethnic choices, same-ethnic friendships are at least twice as likely to be endorsed as cross-ethnic friendships (Moody, 2001).

Propinquity is the tendency to form friendships with others who share the same space such as residing in the same classroom or school. Drawing on this principle, a number of studies have examined preference for cross-ethnic friends as a function of the racial and ethnic composition of classrooms and schools (e.g., Joyner & Kao, 2000; Kubitschek & Hallinan, 1998; Quillian & Campbell, 2003;). These studies document that as classrooms and schools become more ethnically diverse (other-ethnicity peers are more available), students are more likely to befriend a classmate from a different ethnic group, although this pattern may level off beyond moderate levels of school diversity (Moody, 2001; Quillian & Campbell, 2003). To the extent that sharing the same physical space promotes perceived similarity on characteristics other than race or ethnicity, homophily and propinquity processes can work together to encourage cross-ethnic friendships in ethnically diverse schools (e.g., Echols & Graham, *in press*).

Just as cross-ethnic friendships are more likely as diversity increases, recent research has shown that these friendships may have unique psychosocial benefits. For example, a growing literature from social psychology documents that having cross-ethnic friends is related to more positive intergroup attitudes among children as well as adults (see reviews in Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Tropp & Prenovost, 2008). In the peer relations literature, cross-ethnic friendships are associated with less tolerance for excluding others (Crystal, Killen, & Ruck, 2008; Killen, Kelly, Richardson, Crystal, & Ruck, 2010), stronger leadership skills (Kawabata & Crick, 2008), better perceived social competence (Hunter & Elias, 1999; Lease & Blake, 2005;), less victimization by peers (Kawabata & Crick, 2011), and feeling socially and emotionally safer at school (Munniksmma & Juvonen, 2012). Thus, cross-ethnic friendships have been linked to better attitudes about others, more positive regard and treatment by others, and stronger feelings of personal safety. Despite the growing ethnic diversity of

contemporary North America, most of this literature on the correlates of cross-ethnic friendships has not systematically addressed variations in the ethnic diversity of contexts wherein friendships are studied. The literature also still largely focuses on White participants and one or more ethnic minority groups (e.g., African American, Latino), in which the experiences of White youth who cross ethnic boundaries in choosing friends are often the focal comparison group.

In the research reported here we address some of these limitations as we further examine the social functions of cross-ethnic friendships and whether these friendships have overlapping or unique benefits compared to same-ethnic friendships. More so than in the previous research, we highlight the ethnic school context in which cross-ethnic friendships emerge and the benefits of such close ties for ethnic minority adolescents—in this case, African American and Latino youth. In particular, we test hypotheses about the relation between cross-ethnic friendships and perceived vulnerability in classrooms that vary in ethnic diversity. In previous research we documented that as classroom diversity increased, African American and Latino sixth graders felt less vulnerable, which we defined as feeling less victimized at school, safer, and less lonely (Juvonen, Nishina, & Graham, 2006). We hypothesized that students feel less vulnerable in more diverse contexts because there is a greater numerical balance of power between different ethnic groups. This hypothesis is consistent with a robust finding in the peer victimization literature that harassment is most likely to occur when there is an imbalance of power between perpetrators and victims (Olweus, 1994). In diverse settings (i.e., there is no numerical majority ethnic group), the balance of power is less likely to be tipped in favor of one ethnic group over others.

We propose that cross-ethnic friendships might partly account for the relation between classroom ethnic diversity and perceived vulnerability. Forming friendships with classmates from different ethnic groups as classroom diversity increases (greater availability) can help ward off potential harassers from those groups as well as buffer the negative effects of peer harassment. This hypothesis is consistent with research cited above (Kawabata & Crick, 2011) that elementary school students in diverse classrooms who form cross-ethnic friendships experience less victimization over time because they garner more social acceptance and support from their peers. Our hypothesis is also compatible with a well-documented finding in the

(nonracial) peer literature that friendships buffer the negative consequences of peer harassment (e.g., Adams, Santo, & Bukowski, 2011; Hodges, Boivin, Vitaro, & Bukowski, 1999). In contexts with greater ethnic diversity, we propose that cross-ethnic friendships, more so than same-ethnic friendships, might be especially protective.

Functions of Same-Ethnic Friendships

If cross-ethnic friendships in part account for less perceived vulnerability as diversity increases, then are there unique or overlapping functions of same-ethnic friendships for ethnic minority youth? Conventional wisdom might suggest that same-ethnic friendships would be of higher quality, but in fact the small empirical literature on this topic is inconclusive. For example, Aboud, Mendelson, and Purdy (2003) reported that same- and cross-ethnic friendships were similar on five of six friendship quality indicators (same-ethnic friends were rated higher only on intimacy). Hallinan and Williams (1987), in turn, found almost no differences in the stability of the two friendship types across a school year. In contrast, other studies report lower quality cross-ethnic friendships as measured by number of shared activities (Kao & Joyner, 2004) and indicators of closeness and stability (Schneider, Dixon, & Udvari, 2007). Examining best friendships, McGill, Way, and Hughes (2012) reported disparate findings about quality even in the same study: Same-ethnic best friendships were associated with better emotional well-being but cross-ethnic best friendships were perceived to be less conflictual. Although some of these discrepant results in previous research can be attributed to differences in the age groups studied and measures of friendship quality, it is evident that more research is needed on whether there are reliable differences between same- and cross-ethnic friendships on general quality indicators such as closeness and security.

If there are unique functions of same-ethnic friendships, we suspect that they center around issues of validation, such as supporting the development of a strong ethnic identity, especially among ethnic minority youth. Indirect evidence exists in support of this view. Hamm, Brown, and Heck (2005) found that a strong ethnic identity was related to choosing more same-ethnic than cross-ethnic friends among African American and Latino adolescents. Same-ethnic friendships have also been linked to more ethnic identity exploration and commitment both concurrently (Syed & Juan, 2012) and longitudinally (Yip, Seaton, & Sellers, 2010) and to

stronger feelings of belonging over time (Kiang & Fuligni, 2009). Perhaps the shared experiences of being an ethnic minority, such as similar encounters with race-based discrimination, that same-ethnic friends disclose to one another can heighten their sense of who they are and their identification with their ethnic group.

The Present Study

We examined the functions of same- and cross-ethnic friendships among ethnic minority youth attending 10 different middle schools that varied in ethnic diversity. We focused on early adolescence because friendships and the peer group take on heightened significance during this developmental period. Using peer nomination procedures, Latino and African American sixth-grade students listed the names of classmates they considered to be friends. On the basis of student self-reported ethnicity (White, Asian, and multiethnic, in addition to African American and Latino), we were able to determine the ethnic diversity of the classrooms in which students resided and the number of same- and cross-ethnic friends. Respondents also reported on perceived vulnerability (peer victimization, feelings of safety, loneliness), overall friendship quality, and ethnic identity measured as how one feels about membership in their ethnic group.

Three hypotheses were tested. First, based on homophily and propinquity processes, we predicted that students would choose more same-ethnic than cross-ethnic friends (homophily) but that cross-ethnic friends would increase as classroom diversity increased (propinquity). Second, in an analysis of direct effects, we hypothesized that classroom ethnic diversity and cross-ethnic friendships would be associated with less perceived vulnerability whereas same-ethnic friendships would be more uniquely related to ethnic identity. Because the research on friendship quality has reported inconsistent findings, we did not have any directional hypothesis about differences in quality between cross-ethnic and same-ethnic friendships.

Third, we tested a mediational model in which cross-ethnic friendships were hypothesized to mediate the relation between classroom diversity and perceived vulnerability. By utilizing new methods for testing mediation within a multilevel framework, we were able to determine whether cross-ethnic friendships are exerting their effects on vulnerability at the classroom level or the individual level, or both. As classroom diversity increases and more cross-ethnic peers become available, does

perceived vulnerability diminish among students in those classrooms because of the presence of cross-ethnic friendships? Or is it the case that classroom diversity provides the opportunity for cross-ethnic friendships, but only the students who take advantage of that opportunity feel less vulnerable? Distinguishing context from individual opportunity effects has implications for ways in which we think about the function of cross-ethnic friendships as reflecting both top-down (context-shaped) and bottom-up (individually determined) processes.

Method

Participants

Participants were selected from a larger sample of 2,003 sixth-grade students (909 boys and 1,094 girls, $M_{\text{age}} = 11.5$ years) who were taking part in a 3-year, six-wave longitudinal study of peer relations during the middle school years (see Bellmore, Witkow, Graham, & Juvonen, 2004, for a fuller description of the sample). The data reported in this article were gathered in the spring of sixth grade (Wave 2). Students were recruited from 99 classrooms in 11 middle schools in greater Los Angeles that were carefully selected to yield an ethnically diverse sample, but within the constraints of a school district that is heavily Latino. Five schools were predominantly (more than 50%) Latino, three were predominantly African American, and three were ethnically diverse, with no single ethnic group constituting more than a 50% majority. Based on student self-report, the ethnic breakdown of the larger sample was 45% Latino ($n = 910$, primarily of Mexican origin), 26% African American ($n = 511$), 11% Asian ($n = 212$, predominantly Korean and Chinese), 9% White ($n = 188$), and 9% multiethnic ($n = 182$). There were approximately equal numbers of boys and girls within each ethnic group. To avoid confounding ethnicity with social class, all of the schools were located in predominantly low socioeconomic status (SES) neighborhoods and all qualified for Title I compensatory education funding. The neighborhoods themselves were experiencing demographic shifts, mirroring immigration trends and a growing Latino presence. Over 90% of Latino students were second generation (U.S.-born children of immigrants) or third generation and all were sufficiently proficient in English to complete written surveys.

Because only Latino and African American students were present in schools and classrooms that spanned the full range of diversity (i.e., neither

White, Asian, nor multiethnic youth were ever the majority group), the analyses focused on a subsample of Latino and African American students. However, all ethnic groups were taken into account in the measure of classroom diversity and in the coding of same- and cross-ethnic friendships. Latino and African American students were included if they participated in Wave 2, if at least 50% of their classmates participated in the study, and if they had at least two same-ethnicity and two different-ethnicity peers in their classroom (i.e., both same- and cross-ethnic peers were available as potential friends). These inclusion criteria yielded an analysis sample of 932 students (428 boys and 504 girls), of which 536 (57.5%) were Latino and 396 (42.5%) were African American sixth graders selected from 66 classrooms in 10 middle schools. One middle school that was over 95% Latino was not included. The average number of participating students per school was 93 (range = 55–150). The proportion of students from each classroom who participated ranged from 51% to 96% ($M = 67\%$, $SD = 10\%$). This is a subsample of youth from Juvonen et al. (2006) who did not examine cross-ethnic friendships and sampled from 80 classrooms in all 11 schools.

Procedure

Sixth-grade students were recruited from their homeroom. Students in these middle schools were assigned to teams or clusters and spent the majority of the day with the same classmates and a small number of teachers. By the time of data collection in the spring semester (May and June), students had been together long enough for friendships to have been established. Both written parent consent and student assent were obtained prior to participation. For the larger longitudinal study, 75% of parents who were initially contacted returned signed consent forms. Of the forms returned, 89% of parents granted permission for their child to participate. Questionnaires containing all the self-report measures were assembled in booklet form and administered to participating students in their homerooms by trained graduate and undergraduate research assistants. Each classroom received \$5 per participating student to be used for purchasing academic enrichment materials.

Measures

Classroom ethnic diversity. Simpson's Diversity Index (D_C) was used to capture both the number of different ethnic groups in the classroom as well as

their relative sizes (Juvonen et al., 2006; Simpson, 1949):

$$D_C = 1 - \sum_{i=1}^g p_i^2$$

In this equation p_i denotes the proportion of each ethnic group i , which is squared p_i^2 and summed across all groups g , and then subtracted from one. Scores on the diversity index can range from 0 to 1, with higher scores indicating more diversity (a greater probability that two randomly selected students in a classroom would be from different ethnic groups). Across the classrooms in the analysis sample, the diversity index ranged from .14 to .70 ($M = .46$, $SD = .14$). We focus on classroom rather than school-level diversity because daily classroom contact provides the propinquity that facilitates friendship formation.

Same- and cross-ethnic friendships. Reciprocal "like to hang out with" nominations were used as a proxy for friendships. Liking nominations have been highly correlated with friendships in previous studies, particularly when liking nominations were reciprocated (see Berndt, 1981; Hundley & Cohen, 1999; Lease & Blake, 2005). By adding the "hang out with" behavioral component, we were more confident that we were measuring friendships rather than just social acceptance. Students could nominate up to four classmates of either gender. Limiting the number of nominations also provided more assurance that ours was a measure of friendship rather than acquaintanceship (see Parker & Asher, 1993). Based on self-reported ethnicity, reciprocated friendships were classified as *same-ethnic* if both members of the dyad were members of the same-ethnic group and *cross-ethnic* if they were not. In most analyses, we used the raw numbers of same- and cross-ethnic friends; for the multilevel structural equation modeling (MSEM; see next) we used a proportion score, calculated as the proportion of reciprocated cross-ethnic friendships out of all reciprocated friendships.

Perceived school safety. A seven-item subscale of the effective school battery (Gottfredson, 1984) was used to measure perceived school safety at Wave 2. A sample item is, "How often are you afraid that someone will hurt or bother you in school?" Students rated each item on a 5-point scale anchored at 1 (*almost always*) to 5 (*almost never*). Items were coded such that higher scores indicated greater sense of safety (Cronbach's $\alpha = .74$).

Loneliness. A 16-item version of the Asher and Wheeler's (1985) Loneliness Scale was used to

measure feelings of loneliness at school (e.g., "I have nobody to talk to"). Students rated the items on a scale from 1 (*always true*) to 5 (*not true at all*). Items were coded such that higher scores indicated more loneliness ($\alpha = .84$).

Peer victimization. A modified six-item version of the peer victimization survey (Neary & Joseph, 1994) measured perceived peer victimization. For each item, respondents were presented with two statements separated by the word *But*, with each statement reflecting more or less victimization. An example item was: "Some kids are often picked on by other kids BUT Other kids are not picked on by other kids." Students chose one of the two alternatives and then indicated whether the selected alternative is *really true for me* or *sort of true for me*. That created a 4-point scale for each item such that higher scores indicate more perceived peer victimization ($\alpha = .83$).

Friendship quality. A three-item scale was used to measure perceived friendship quality. Adapted from widely used measures in childhood and adolescence (see Furman, 1996), the items assessed security, closeness, and support (e.g., "I can count on my friends when things go wrong"). Students indicated their agreement with each item on a 5-point scale (1 = *not at all* and 5 = *all the time*). Items were coded such that higher scores indicated stronger friendship quality ($\alpha = .75$).

Ethnic identity. Although ethnic identity is a multidimensional construct, we focused on the meaning dimension, or how individuals feel about being a member of their ethnic group. We adapted four items from the private regard scale of the Multidimensional Inventory of Black Identity (MIBI; Sellers, Rowley, Chavous, Shelton, & Smith, 1997). The MIBI is now widely used with ethnic minority adolescents. Adaptations were made to ensure items were applicable to students from all ethnic backgrounds (e.g., "I feel good about people in my ethnic group") rather than to only Black students. The four items were rated from 1 (*definitely yes*) to 5 (*definitely no*), with higher mean scores indicating a stronger ethnic identity ($\alpha = .68$).

Results

Analysis Strategy

The analyses proceeded in three steps. First, descriptive analyses were conducted to examine differences between the two ethnic groups on friendship patterns, psychosocial outcomes (sense of safety, peer victimization, loneliness, friendship

support, and the private regard dimension of ethnic identity) as well as the correlations between all variables. Next, direct effects of classroom ethnic diversity and same- and cross-ethnic friendships on the psychosocial outcomes were examined using multilevel analyses. Third, MSEM was conducted to examine whether cross-ethnic friendships mediated the relation between ethnic diversity and perceived vulnerability measured as a latent construct composed of safety, peer victimization, and loneliness at school. In all multilevel models, we controlled for gender and ethnicity at the individual level: for gender (boys = 0, girls = 1); for ethnicity (Latinos = 0, African Americans = 1).

Descriptive Analyses

The mean number of unidirectional friendship nominations was 3.37 ($SD = .99$), of which 29% were cross-ethnic and 65% were reciprocated. Consistent with previous research, paired-samples t tests showed that both Latino, $t(535) = 11.01$, $p < .01$, and African American students, $t(395) = 10.24$, $p < .01$, had significantly more reciprocated same-ethnic than cross-ethnic friendships. A 2×2 (Gender \times Ethnicity) analysis of variance (ANOVA) was carried out on each friendship type. The only significant difference was that girls had more same-ethnic friends than boys, $F(1, 928) = 30.59$, $p < .001$.

Table 1 shows means and standard deviations of the psychosocial outcome variables for Latino and African American boys and girls. A series of 2×2 ANOVAs on each variable revealed few gender or ethnicity main effects and only two significant Gender \times Ethnicity interactions. Latinas reported less peer victimization and higher friendship quality,

respectively, $F(1, 920) = 4.90$ and $F(1, 920) = 3.95$ (both $ps < .05$).

Table 2 shows the bivariate correlations between the main study variables. We tested whether relevant correlation coefficients differed between the ethnic groups by Fisher's r to Z transformation. None of the correlations between classroom ethnic diversity and the outcome variables or between same- and cross-ethnicity friendships and the outcome variables differed significantly by ethnic group.

Direct Effects

In the next step of the analysis, direct effects of ethnic diversity and same- and cross-ethnic friendships on psychosocial outcomes were examined with multilevel analyses performed in MLwiN (Rasbash, Browne, Healy, Cameron, & Charlton, 2011). With gender and ethnicity as Level 1 control variables, ethnic diversity measured at the classroom level was treated as a Level 2 predictor. Because the Level 1 predictors (same- and cross-ethnic friendships) were each skewed, we logarithmically transformed these variables to better approximate a normal distribution. Although classrooms were nested in 10 schools, preliminary analyses showed that the intraclass correlations (ρ) at the school level were low for all of the outcome variables examined (all $ps < .05$) indicating little between-school variance to explain. Furthermore, a Level 3 variable with only 10 units (schools) can yield unreliable standard errors (e.g., Maas & Hox, 2005; Snijders, 2005). For these reasons we did not extend our analyses beyond two levels (students nested within 66 classrooms).

The results of the multilevel analyses are displayed in Table 3. In Model 1, the effect of

Table 1
Means and Standard Deviations on the Outcome Variables by Gender and Ethnicity

	Full sample		Latino				African American			
			Boys		Girls		Boys		Girls	
	(N = 932)		(n = 255)		(n = 281)		(n = 173)		(n = 223)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Perceived safety	4.17	0.77	4.14	0.76	4.26	0.72	4.13	0.82	4.12	0.74
Peer victimization	2.53	0.98	2.64	0.99	2.36 ^a	0.90	2.62	0.98	2.73	0.95
Loneliness	1.67	0.59	1.71	0.59	1.62	0.53	1.66	0.60	1.72	0.64
Friendship quality	3.77	1.07	3.61	1.06	4.08 ^a	0.93	3.55	1.14	3.74	1.11
Ethnic identity	4.29	0.64	4.26	0.65	4.29	0.62	4.35	0.65	4.28	0.65

^aValues differ significantly from the other values in this row (excluding the full sample).

Table 2
Correlations Between Main Study Variables

	1	2	3	4	5	6	7
1. Classroom diversity							
2. Cross-ethnic friends (log)	.28**						
3. Same-ethnic friends (log)	-.11**	-.21**					
4. Sense of safety	.17**	.12*	.003				
5. Peer victimization	-.09*	-.11**	.02	-.38**			
6. Loneliness	-.07*	-.13**	-.14**	-.39**	.40**		
7. Friendship quality	.07*	.07*	.12**	.12**	-.19**	-.29**	
8. Ethnic identity	-.01	-.04	.11**	.11**	-.14**	-.20**	.18**

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

classroom ethnic diversity on each psychosocial outcome was examined. In part replicating Juvonen et al. (2006), the findings show that as classroom ethnic diversity increased, students felt safer ($B = .88$, $SE = .19$, $p < .01$), less victimized ($B = -.55$, $SE = .24$, $p < .01$), and less lonely ($B = -.28$, $SE = .14$, $p < .05$). Classroom ethnic diversity was not significantly related to students' friendship quality or the private regard dimension of ethnic identity.

Model 2 examined whether students' same- and cross-ethnic friendships were related to the different psychosocial outcomes at the individual level when controlling for the effect of classroom ethnic diversity. Adding same- and cross-ethnic friendships significantly improved all models (deviance difference: $p < .05$ in all models). Moreover, the two friendship types were differentially related to the psychosocial outcomes. Cross-ethnic friendships were related to a greater sense of safety ($B = .41$, $SE = .17$, $p < .01$) and less perceived peer victimization ($B = -.63$, $SE = .21$, $p < .01$). Same-ethnic friendships were uniquely related to a stronger ethnic identity ($B = .33$, $SE = .10$, $p < .01$). Both same- and cross-ethnic friendships were related to decreased loneliness (respectively, $B = -.48$, $SE = .09$, $p < .01$; $B = -.54$, $SE = .13$, $p < .01$), and better friendship quality (respectively, $B = .59$, $SE = .17$, $p < .01$; $B = .50$, $SE = .23$, $p < .01$). We also included interaction terms of ethnicity with the two friendship variables for all of the models. None of these interactions were significant and are therefore not shown in Table 3.

Testing Mediation: Between- and Within-Classroom Effects

The above analyses showed that classroom diversity and cross-ethnic friendships predicted perceived safety, peer victimization, and loneliness

at school—the outcomes most closely capturing our conception of perceived vulnerability. We hypothesized that cross-ethnic friendships might partly mediate the relation between classroom diversity and vulnerability. The third step of the analyses tested this mediation hypothesis. The predictor variable X was classroom diversity as measured in the previous analyses at Level 2. The mediator variable M was the proportion of participants' friendships that were cross-ethnic, grand mean centered for this analysis. The dependent variable Y was modeled as a latent variable, labeled *vulnerability*, which included perceived safety (reverse coded), peer victimization, and loneliness at school, all grand mean centered. A latent variable was created to better account for the individual contribution of each observed measure and to allow for more precise modeling of measurement error (Bollen, 1989). The measurement model for the latent vulnerability construct exhibited reasonable model fit, $\chi^2(3) = 38.02$, $p < .01$; comparative fit index (CFI) = 0.92, root mean square error of approximation (RMSEA) = .11. Indicator loadings were all significant at $p < .01$. The standardized coefficients were as follows: feeling unsafe ($\beta = .60$), peer victimization ($\beta = .63$), and loneliness ($\beta = .65$).

Because the predictor is measured at the classroom level, we used MSEM to more accurately account for both between-classroom and within-classroom effects (Preacher, Zhang, & Zyphur, 2010; Preacher, Zyphur, & Zhang, 2010). Does variation in classroom ethnic diversity (X), influence classroom differences in selecting cross-ethnic friendships (M), and do friendships, in turn, affect classroom-level differences in perceived vulnerability (Y)? Because M and Y are Level 1 variables, the effect of M on Y has both between-classroom and within-classroom components. Multilevel SEM can simultaneously estimate these between- and within-classroom effects. Specifically, MSEM allowed us to

Table 3
Multilevel Model Estimates Explaining Psychosocial Outcomes

	Safety		Peer victimization		Loneliness		Friendship quality		Ethnic identity	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	<i>B</i> (<i>SE</i>)	<i>B</i> (<i>SE</i>)	<i>B</i> (<i>SE</i>)	<i>B</i> (<i>SE</i>)	<i>B</i> (<i>SE</i>)	<i>B</i> (<i>SE</i>)	<i>B</i> (<i>SE</i>)	<i>B</i> (<i>SE</i>)	<i>B</i> (<i>SE</i>)	<i>B</i> (<i>SE</i>)
Intercept	4.16 (.04)	4.10 (.05)	2.58 (.06)	2.68 (.07)	1.68 (.03)	1.83 (.04)	3.66 (.06)	3.50 (.07)	4.30 (.04)	4.24 (.05)
Level 1 controls										
Female gender	.07 (.05)	.07 (.05)	-.16 (.07)**	-.15 (.07)**	.03 (.04)	.01 (.04)	.36 (.07)**	.32 (.07)**	.01 (.04)	-.04 (.04)
African American	-.05 (.05)	-.05 (.05)	.09 (.07)	.08 (.07)	.02 (.04)	.01 (.04)	-.19 (.07)**	-.18 (.07)**	.02 (.05)	.02 (.05)
Level 2 predictor										
Classroom diversity	.88 (.19)**	.77 (.20)**	-.55 (.24)**	-.39 (.25)	-.28 (.14)*	-.20 (.14)	.46 (.25)	.41 (.27)	.05 (.19)	.04 (.20)
Friendships										
Same-eth. friends (log)		.11 (.12)		-.18 (.16)		-.48 (.09)**		.59 (.17)**		.33 (.10)**
Cross-eth friends (log)		.41 (.17)**		-.63 (.21)**		-.54 (.13)**		.50 (.23)**		-.08 (.14)
Explained variance										
Between students	3%	4%	2%	3%	4%	8%	12%	11%	0%	1%
Between classrooms	26%	24%	9%	7%	1%	5%	4%	6%	0%	1%
<i>df</i>		2		2		2		2		2
χ^2 deviance difference		6.17*		8.99*		11.21**		14.82**		11.56**

Note. Friendships were reciprocal; the number of same- and cross-ethnic friendships was log-transformed.

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

examine whether more cross-ethnic friendships in more diverse classrooms decrease feelings of vulnerability at the classroom level (between effect) and whether individual students who have more cross-ethnic friends feel less vulnerable regardless of classroom context (within effect).

MSEM was conducted using Mplus (Muthén & Muthén, 1998-2010). Gender and ethnicity were included as controls. The results of this analysis are displayed in Figure 1. The overall model that included both between and within effects showed good fit, $\chi^2(12) = 8.74$, $p = .72$, 24 free parameters; CFI = 1.00, Tucker-Lewis index = 1.02, RMSEA = .00, within-classroom standardized root mean square residual (SRMR_W) = .01, between-classroom SRMR (SRMR_B) = .46.

The classroom-level effects in the top half show that greater ethnic diversity was significantly related to higher proportions of cross-ethnic friendships ($B_B = .70$, $SE = .19$, $p < .001$) and students feeling less vulnerable ($B_B = -.58$, $SE = .26$, $p < .05$). However, the nonsignificant classroom-level effect of cross-ethnic friendships on vulnerability ($B_B = .05$, $SE = .19$, $p > .10$) indicates that students who resided in classrooms with higher proportions of cross-ethnic friendships did not feel significantly less vulnerable when vulnerability was measured at the classroom level. Hence, there is no support for mediation, or an indirect effect of classroom diver-

sity on vulnerability via cross-ethnic friendships. However, the within-classroom effects in the bottom portion of Figure 1 show that individual students who had more cross-ethnic friends felt less vulnerable, $B_W = -.23$, $SE = .08$, $p < .01$. Taken together, the between- and within-classroom effects indicate that greater classroom ethnic diversity provides the opportunity for cross-ethnic friendships in those classrooms; to the extent that individual students embrace those friendships, they feel less vulnerable.

Ethnic identity measured as private regard was correlated with the indicators of perceived vulnerability (see Table 2), suggesting that feeling good about membership in one's ethnic group might protect against feelings of vulnerability. We therefore tested a model in which ethnic identity was added to the model as an independent predictor of perceived vulnerability. That model also fit the data well, $\chi^2(15) = 12.92$, $p = .61$, 25 free parameters; CFI = 1.00, Tucker-Lewis index = 1.01, RMSEA = .00, SRMR_W = .01, SRMR_B = .31. Students with a stronger ethnic identity felt less vulnerable ($B_W = -.23$, $SE = .04$, $p < .001$). However, adding ethnic identity to the model did not change any of the original MSEM findings at either the classroom or individual level. We therefore preferred the more parsimonious model depicted in Figure 1 as a test of our mediational hypothesis.

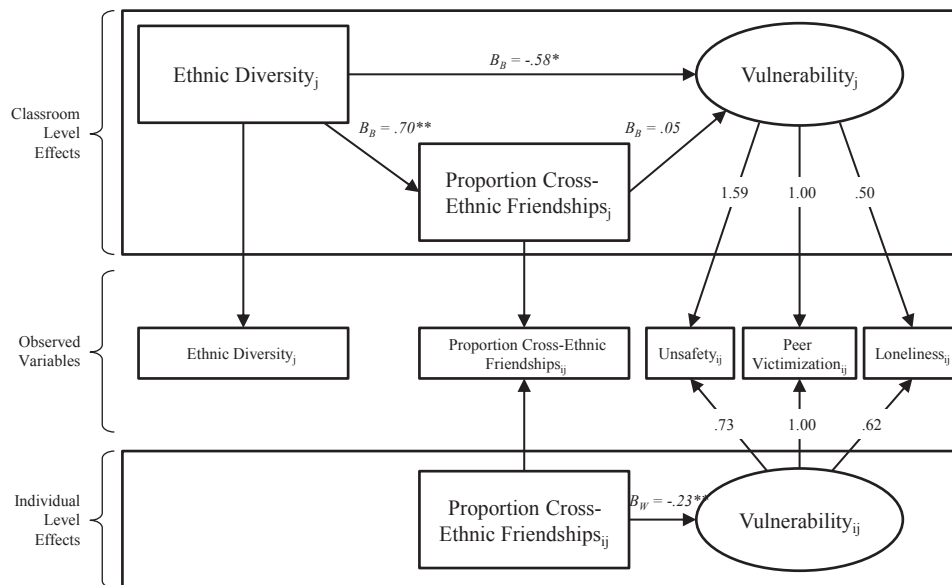


Figure 1. Multilevel structural equation model testing mediation. B_B are coefficients at the classroom level. B_W is the coefficient at the individual level. The values on the arrows between the latent vulnerability factors and the observed variables indicate the factor loadings relative to the factor loading on peer victimization (set to 1).

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

Discussion

The findings reported here support and extend previous research on same- and cross-ethnic friendships, while offering new insights into the function of these two friendship types during early adolescence. As in previous research, we found support for both homophily (similarity) and propinquity (availability) effects on friendship choices. Supporting homophily, Latino and African American sixth-grade students in our sample had more same-ethnic than cross-ethnic friends. Supporting propinquity, participants chose more cross-ethnic friends as classroom diversity increased. When classmates from other ethnic groups, including White and Asian peers, were present in the classroom, Latino and African American students were more likely to befriend them. In other research on predictors of cross-ethnic friendships, Echols and Graham (in press) found that reciprocated cross-ethnic friendships were most likely to occur when the two friends were similar on academic achievement and social status in the classroom (e.g., having a reputation as “cool”). Thus, similarities other than ethnic origin can bond youth together.

Once formed, same- and cross-ethnic friendships may have overlapping as well as unique functions. The two friendship types were equally related to general friendship quality. We did not make a specific prediction about same- versus cross-ethnic friendships and quality indicators because, as reviewed in the Introduction, studies on this topic have reported inconsistent findings. Because cross-ethnic friendships are less common and probably require more effort from both dyad members to initiate and sustain, it is not surprising that they are just as likely as same-ethnic friendships to provide companionship and support. Previous research with elementary school students has documented that students with cross-ethnic friends are perceived as more popular and as having better leadership skills (e.g., Kawabata & Crick, 2008; Lease & Blake, 2005). If it is the more socially skilled children who cross ethnic boundaries to form friendships, then there is no reason to expect that such friendships would be of lower quality.

As hypothesized, same- and cross-ethnic friendships predicted different psychosocial outcomes, suggesting that the two friendship types may serve different functions. Same-ethnic friendships were uniquely related to the private regard dimension of ethnic identity. The more friends Latino and African American students had from their own ethnic group, the stronger their positive feelings about being a member of that group. What is

it about having same-ethnic friends that might promote ethnic identity development? One possibility is that these friendships provide a context in which one's ethnicity is experienced and expressed. For example, in their study of adolescents of immigrant parents, Phinney, Romero, Nava, and Huang (2001) found that ethnic language proficiency and interactions with same-ethnicity peers were among the strongest predictors of ethnic identity, suggesting that interactions were mainly taking place in the students' native language. In a more recent study, Syed and Juan (2012) reported that conversations about ethnicity-related issues among same-ethnic friendship dyads were related to stronger identity. Although the authors did not address the specific content of these conversations, we suspect that African American and Latino youth in our sample, as members of socially marginalized groups in American society, may often engage in conversations with same-ethnic friends about similar experiences of discrimination. Tatum (1997) has written poignantly about how African American adolescents turn to one another when they encounter unfair race-based treatment at school. These shared experiences provide both validation and support—two important dimensions of friendship—as well as a context for thinking about what it means to be a member of one's ethnic group. The ability to see oneself as part of a larger group from which one can draw comfort is an important coping strategy and, as suggested by alternative model testing in this study, a likely contributor to reduced feelings of vulnerability. Future research should seek to uncover other unique functions of same-ethnic friendships as well as the processes by which such friendships contribute to healthy identity development.

Unique Functions of Cross-Ethnic Friendships

Our most novel findings involve the unique correlates of cross-ethnic friendships. Classroom ethnic diversity and cross-ethnic friendships (but not same-ethnic friendships) were related to feelings of safety and fewer experiences with victimization. Classroom diversity along with the two friendship types predicted feeling less lonely at school. The classroom diversity effects on safety, victimization, and loneliness (perceived vulnerability) replicated previous findings with a larger sample from which the current subsample was drawn (Juvonen et al., 2006). In this study, our goal was to extend those earlier findings by examining whether cross-ethnic

friendships mediated the diversity-perceived vulnerability linkage by the end of the 1st year of middle school.

Tests of mediation within a multilevel framework partially supported our hypothesis but in more complex ways than anticipated. When viewed at the classroom level, classroom diversity was related to more cross-ethnic friendships in those classrooms and to less perceived vulnerability, but the relation between cross-ethnic friendships and vulnerability at the classroom level was not significant. On the other hand, at the level of individuals within classrooms, having more cross-ethnic friendships was significantly related to less perceived vulnerability.

These unexpected within-classroom effects compared to between-classroom effects shed new light on the protective function of cross-ethnic friendships. It is probably too simplistic to think that classroom ethnic diversity influences perceived vulnerability because there are more cross-ethnic friendship ties in those classrooms. Other classroom-level variables related to diversity not examined here, such as attitudes toward multiculturalism (van Geel & Vedder, 2011), perceived orderliness (Bellmore et al., 2004), or social-emotional climate (Leadbeater, Hogg, & Woods, 2003) are also likely to affect sense of vulnerability. For example, when the local classroom norms favored an orderly environment wherein aggression was low or prosocial behavior was high, students felt less lonely (Bellmore et al., 2004) and less victimized (Leadbeater et al., 2003). Vulnerability was heightened only among students who deviated from classroom norms (e.g., the aggressive student in an orderly classroom).

Even though we documented more cross-ethnic friendships in more diverse classrooms, we do not know the degree to which the peer norms in these classrooms favored cross-ethnic friendships, whether students without cross-ethnic friendships in classrooms with favorable norms felt particularly vulnerable (e.g., they may have deviated from the local norm), or whether those students with cross-ethnic friendships were conforming to norms of their own ethnic group in these classrooms (e.g., they may have deviated from the local *in-group* norm). Recent research on developmental subjective group dynamics documents that perceived nonconformance with in-group norms can signal disloyalty and thus rejection by in-group members (see Abrams & Rutland, 2008). Thus, vulnerability at the classroom level may have less to do with how many cross-ethnic friendships there are than with the degree to which one's own ethnic group encourages or discourages the formation of those friendships. Understanding class-

room-level effects of cross-ethnic friendships on vulnerability will require more explicit attention to the peer norms and group processes that influence classroom experiences.

At the level of the individual, when cross-ethnic peers were available in more diverse classrooms, the students who formed friendships with those peers felt less vulnerable. Thus, the classroom ethnic context provided the opportunity for new friendship ties that cross ethnic boundaries, and the students who took advantage of those opportunities experienced better adjustment. Models of adolescent development that highlight context sometimes pay insufficient attention to the ways in which adolescents exercise agency and shape their own outcomes (e.g., Lerner, 2002).

These between- and within-classroom effects are at the heart of one of the critical issues confronting research on cross-ethnic friendships. A growing literature, including the research reported here, documents the psychosocial benefits of cross-ethnic friendships. Yet children and adolescents alike still prefer same- to cross-ethnic friends, and even classrooms and schools that enjoy a great deal of ethnic diversity may not always be organized in ways that promote cross-ethnic friendships. For example, diverse schools in which academic tracking is widely used can limit the mixing opportunities of students if some groups (Asians and Whites) are more likely to be placed in higher tracks, whereas other groups (Latinos and African Americans) are more likely to be placed in lower academic tracks (Ansalone, 2006). Indeed, a number of studies have documented that cross-ethnic friendships are less likely in schools and classrooms with extensive academic tracking (e.g., Hamm et al., 2005; Moody, 2001; Stearns, 2004). Any school or classroom organization practice that clusters students along status and racial lines—including some extracurricular activities—can restrict opportunities for cross-ethnic friendships (Moody, 2001). Of course, there are individual differences among students that affect their likelihood of forming friendships across ethnic lines such as prior experiences with ethnic diversity, parental racial socialization practices (Hughes et al., 2006), or their popularity among peers. Nonetheless, it is evident that understanding the functions of cross-ethnic friendships in school requires a multilevel approach that takes into account students' agentic behavior nested within the larger social-cultural milieu: Individual students choose friends of different ethnic backgrounds, but they do so within the opportunity structure that is either supported or constrained by the school context.

Limitations of the Research

Although we believe that this study makes a significant contribution to the cross-ethnic friendship literature, we also acknowledge its limitations. First, the data reported are cross-sectional, which limit our ability to make causal inferences. We propose that cross-ethnic friendships influence feelings of vulnerability but longitudinal research is needed to document this directional hypothesis. Second, we studied only Latino and African American youth as respondents. On the one hand, this specificity could be seen as a strong point of the study because the focus shifted away from comparing a societal high-status (White) group to low-status groups. On the other hand, restricting the analysis to an ethnic minority sample limits the generalizability of our findings. Although White, Asian, and multiethnic peers resided in the more diverse classrooms and were members of cross-ethnic friend dyads, those groups were not adequately represented across all levels of classroom diversity to be included as participants. Thus, it is not clear whether having cross-ethnic friends will similarly buffer social vulnerability among White adolescents whose racial group already enjoys a privileged position. Future research should include larger ethnically diverse samples so that the hypothesized function of cross-ethnic friendships can be examined across multiple ethnic groups. Third, and related to sample size and the spread of diversity, we were not able to systematically examine the particular ethnic makeup of cross-ethnic friend dyads. An important question for future research is whether the functions of cross-ethnic friendships are similar when the pairings involve two ethnic minority groups (e.g., African American, Latino) compared to societal majority-minority dyads (e.g., African American, White). In diverse settings, for example, do African American and Latino youth experience vulnerability differently when their cross-ethnic friend dyads mainly comprise other ethnic minority youth with similar (low) societal status versus dyads with White peers?

Answers to such questions are needed to shed new light on the underlying mechanisms that explain friendship-perceived vulnerability relations. As peer relations researchers who study cross-ethnic friendships, we believe our field's efforts to uncover mechanisms would benefit from more cross-fertilization with a developmental intergroup perspective (see Killen, Mulvey, & Hitti, 2013, for an analysis). Important to that perspective are concerns that we only touched upon in our analysis:

concerns such as status differences between groups, social identities, group dynamics, and the historical, societal, and cultural forces that shape the attitudes that youth have about their own in-group and the various outgroups with whom they come into contact. Embracing an intergroup approach can help peer relations researchers frame questions about the meaning and consequences of cross-ethnic friendships in multiple racial and ethnic groups.

A Final Note

Friendships are important to healthy development of children and adolescents. Because the under-18 population in North America and much of Western Europe is becoming racially and ethnically diverse at a more rapid pace than any other age group, the study of same- and cross-ethnic friendships will become increasingly important. The research reported here, like most of the empirical literature with children and adolescents, documents the psychosocial benefits of cross-ethnic friendships. A much smaller and less well-known literature suggests that there may be academic benefits as well. There is evidence, for example, that some African American and Latino adolescents do better in school when they have cross-ethnic friends (Hallinan & Williams, 1990; Newgent, Lee, & Daniel, 2007; Stanton-Salazar, 1995). Such friends can function like social capital (cf. Crosnoe, Cavanagh, & Elder, 2003), facilitating the flow of important information across ethnic boundaries about what it takes to be successful in school. The social and the academic lives of adolescents are so closely intertwined that one cannot fully understand achievement without knowing about the social milieu. We believe that the study of cross-ethnic friendships—including their shared and unique functions—can be a useful linchpin for new thinking about the social-academic interface among ethnically diverse adolescents.

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