Journal of Youth and Adolescence (2020) 49:1030–1042
https://doi.org/10.1007/s10964-019-01189-7

EMPIRICAL RESEARCH

Check for updates

Ethnicity, Peers, and Academic Achievement: Who Wants to be Friends with the Smart Kids?

Xiaochen Chen[1] · Amirah Saafir[2] · Sandra Graham[2]

Received: 30 August 2019 / Accepted: 17 December 2019 / Published online: 2 January 2020

Abstract

Ethnic differences in peer reactions to academic achievement during adolescence has been a widely discussed but controversial issue in developmental and education research. Do peers respond positively or negatively to classmates of different ethnic groups who get good grades in school? The current study addressed this question by examining the linkage between academic achievement and friendship nominations received in an ethnically diverse sample of 4501 sixth grade students ($M_{age} = 11.3$ years; 51% female; 41.3% Latino, 25.1% White, 19.3% Asian, and 14.3% Black). The results of mediated moderation analyses showed that for Asians and Whites, higher academic achievement was associated with more same-ethnic friendships, whereas for Blacks and Latinos, higher academic achievement was associated with more cross-ethnic friendships. In addition, ethnic differences in the linkage between academic achievement and friendships were partly explained by classroom ethnic composition. Implications for promoting friendships of high achieving students both within and across ethnic boundaries were discussed.

Keywords Academic achievement · Same-ethnic friendships · Cross-ethnic friendships · Ethnicity · Adolescents

Introduction

Achieving academic excellence and forming new friendship ties are two important tasks for youth during the transition to middle school (Eccles and Roeser 2011). An unanswered question, however, is whether these two important tasks are well aligned with one another. Are the high achieving students the ones with the most friends, especially during the first year of middle school? Relatively little is known about whether high achievement invites or inhibits more friendships or the possible mechanisms underlying this achievement-friendship association in different ethnic groups. Although previous work examining social correlates of academic success revealed ethnic disparities in peer reactions to high achievement, findings on ethnic differences are far from conclusive. The current study attempted to extend past work by exploring the linkage between academic achievement and friendship nominations received from same- and cross-ethnic peers with an ethnically diverse sample of early adolescents who had recently transitioned to middle school. Thus the focus was on friendship preferences as an indicator of peer reactions to academic achievement. Also examined was classroom ethnic composition as a potential mediator of ethnic differences in the achievement-friendship linkage.

Ethnicity and Friendships of High Achieving Students

Whether high achieving students tend to have friends has been a controversial issue in education research. On the one hand, there is evidence indicating that the peer culture grants popularity and acceptance to academically successful students (e.g., DeBruyn and Cillessen 2006). On the other hand, some developmental research indicates that doing well in school compromises peer approval and acceptance, especially in early adolescence (Juvonen and Knifsend 2016). In that sense, higher achieving students may have fewer friends during the middle school years.

In efforts to address these inconsistent findings, some scholars have suggested that peer reactions to academic

✉ Xiaochen Chen
xiaochenchen@ruc.edu.cn

[1] Department of Psychology, Renmin University of China, Beijing, China

[2] Department of Education, University of California, Los Angeles, Los Angeles, CA, USA

achievement might vary by the target's ethnic group. One well publicized but controversial study found high academic achievement for African American students to be associated with reduced social status among same-ethnic peers. Based on their interviews with gifted high school students, Fordham and Ogbu (1986) coined the term "acting white" to describe African American high school students' negative perceptions of their same race peers who were achieving academically in school. However, later empirical studies examining this phenomenon yielded inconsistent findings. In their study based on the large sample from the National Education Longitudinal Study (NELS), Cook and Ludwig (1997) did not find evidence that high achieving Black students incur greater social costs. In another study using the same dataset, researchers found that African American students who were viewed as good students were even more popular than their high achieving white counterparts (Ainsworth-Darnell and Downey 1998). One the other hand, more recent studies using data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) demonstrated social costs for high achieving minority students. A negative correlation was documented between number of same-race friends and academic achievement for high achieving African American and Latino students but not for Whites (Fryer Jr and Torelli 2010). Moreover, high achieving Black and Latino students reported less peer acceptance when there was a small proportion of same-ethic peers at school (Fuller-Rowell and Doan 2010). In sum, extant findings on ethnic disparities in peer reactions to high achievement are inconclusive.

Previous quantitative studies examining the social cost proposition are limited in several ways. First, most studies relied on associations between self-report items. Using self-reported data to study ethnic differences in the linkage between academic achievement and social acceptance is problematic because students with higher self-esteem are more likely to report positive outcomes in both domains (Duong et al. 2014). Second, previous work failed to disentangle whether high achieving students were appraised by same- or cross-ethnic peers. This is particularly important given the unique benefits associated with same-ethnic versus cross-ethnic friendships. For example, same-ethnic friends have been found to boost ethnic identity (e.g., Syed and Juan 2012) and to buffer the psychological impact of racial discrimination among students in the historical ethnic minority (Reynolds 2007), while cross-ethnic friends have been associated with reduced feelings of vulnerability and improved intergroup attitudes (Graham et al. 2014). Additionally, potential mechanisms underlying ethnic differences in peer reactions to academic achievement remain understudied. Although research with Add Health data showed that academically successful African American students experienced greater social costs in more diverse schools (e.g., Fuller-Rowell and Doan 2010), those studies did not consider the ways classroom ethnic context may vary between high and low achieving students.

Influences of Classroom Ethnic Composition on Friendships

Starting in middle school, students frequently move from class to class throughout their day, and the exposure rate to peers from different ethnic backgrounds in students' courses may not mirror the school level ethnic composition (Juvonen et al. 2018). It is common practice in American schools to offer instruction of some academic subjects at different levels in separate classes (e.g., advanced/honor class) (Tyson 2011). This sort of academic tracking often leads to uneven distribution of students by ethnicity in academic classes. White and Asian students are often overrepresented and Black and Latino students are underrepresented in advanced classes relative to their enrollment in the student body (Oakes 2005). Thus, for students from different racial/ethnic backgrounds in diverse schools, academic success may lead to different opportunities for exposure to same- and cross-ethnic peers in their academic classes. Specifically, it was hypothesized that for White and Asian students, higher achievement may be linked to a larger proportion of same-ethnic peers in academic classes, whereas for Black and Latino students, better grades would be linked to a smaller proportion of same-ethnic classmates. Because the classroom is an important context of friendship formation at school (Frank et al. 2013) and because of the ethnic imbalance in academic classes, classroom ethnic composition might be one mediator that could explain ethnic disparities in friendship patterns of high achieving students.

The Current Study

The purpose of the current study was to examine the relation between academic achievement and friendship nominations received of students from four major racial/ethnic groups (White, Black, Latino and Asian) (i.e., moderation analyses). Extending past research, the current study further distinguished friendship nominations from same- and cross-ethnic peers. Based on previous findings, it was expected that for White students, higher achievement would be associated with more friendships and the nominations would mainly come from same-ethnic peers. Given similarities in achievement, a similar pattern in the achievement-friendship linkage was also expected for Asian Americans. For Black and Latino students, however, it was expected that higher achievement would be related to more friendship nominations from cross-ethnic peers.

In addition, mediated moderation analyses were carried out to examined whether the proposed ethnic differences in friendship patterns associated with achievement could be explained by classroom ethnic composition. According to the propinquity principle of friendship formation (i.e., the tendency to form friendships with others who are readily available. Mouw and Entwisle 2006), it was hypothesized that for White and Asian students, better grades would be associated with more same-ethnic peers in academic classes, which in turn would lead to more same-ethnic peer nominations as friends. In contrast, for Black and Latino students, higher achievement would be linked with more cross-ethnic (less same-ethnic) peer classmates, which in turn would lead to more cross-ethnic friendship nominations. These hypotheses were tested with a large ethnically diverse middle school sample. The current study focused on sixth grade students because of increased awareness of academic stereotypes (Cvencek et al. 2015) and heightened significance of friendships during early adolescence (Brechwald and Prinstein 2011). And because the effects of sharing courses are most likely to affect new friendships (Frank et al. 2013) which are particularly important for adjustment during the transition to middle school (Juvonen and Knifsend 2016), it is ideal to study this issue with a 6th grade sample in the year that they transition to middle school.

Method

Participants

The data come from an ongoing longitudinal study of the social and academic outcomes of 5991 students attending one of 26 6th–8th grade public middle schools in California that varied in ethnic composition. Eleven schools had one dominant ethnic group (e.g., White) and several smaller minority groups, with the particular ethnic majority group varying from school to school; nine schools had two majority ethnic groups about the same size (e.g., Asian-White, Black-Latino), and six schools had several equally represented groups with no numerical majority group. This sampling strategy resulted in an ethnically diverse sample (see below) with all of the pan-ethnic groups well represented. To reduce confounds of ethnic diversity with socioeconomic status (SES), schools at the extremes of the SES continuum were avoided; only schools within a 20–80% range of free or reduced price lunch eligibility were recruited. To avoid schools varying greatly in achievement and size, selected schools had average enrollments of 900–1200 students with average reading and math achievement (40th–60th percentile on standardized tests). Recruitment rates ranged from 69 to 94% ($M = 81\%$), and participation rates ranged from 74 to 94% ($M = 83\%$) across the participating schools.

As part of the research protocol, students were asked to select their ethnicity from the following 13 options: American Indian, Black/African-American, Black/other country of origin, Latino/other country of origin, Mexican/Mexican-American, Middle Eastern, Pacific Islander (e.g., Samoan, Filipino), East Asian (e.g., Chinese, Korean, Japanese), Southeast Asian (e.g., Vietnamese, Cambodian, Thai, Laotian), South Asian (e.g., Indian, Pakistani), White/Caucasian, Multiethnic/Biracial, and Other. For this study, some ethnic categories were combined to capture the major U.S. pan-ethnic groups: Black/African-American and Black/other country of origin were combined and labeled as Black; Mexican/Mexican-American and Latino/other country of origin were combined and labeled as Latino; and East Asian, Southeast Asian, and South Asian were combined and represented the Asian sample. The ethnic breakdown of the original sample was 31% Latino, 19% White, 15% Asian, 11% Black, and the remaining 24% of the sample was comprised of students who self-reported as other ethnic groups (e.g., Native American, Middle Eastern, Pacific Islander) or multiethnic/biracial. Biracial/multiracial youth were excluded from the analyses because of the difficulty of determining a same- or cross-ethnic friend for this group. Participants from "other" ethnic groups were also excluded due to small size. The final analytic sample consisted of 4501 participants (51% female; $M_{age} = 11.3$ years) from the major four pan-ethnic groups. The ethnic composition was 41.3% Latino, 25.1% White, 19.3% Asian, and 14.3% Black.

Procedure

Students with both written parental consent and student assent completed confidential surveys in the fall (Wave 1) and spring (Wave 2) of the sixth-grade year within a classroom setting. Students were instructed to answer survey questions on their own as a trained research assistant read the survey items aloud. A second research assistant circulated around the classroom to help individual students as needed. Students were given an honorarium of $5 for completing the questionnaire in both the fall and spring.

Measures

Same- and cross-ethnic friendships

Students were asked to list the names of their good friends in 6th grade at their school. They could list as many names as they wanted. Since this study focused on how academic achievement influenced peers' friendship nominations of the target student, and number of *received* nominations is

commonly used as a measure of peer status (e.g., Mathys et al. 2013), received friendship nominations were the dependent variable in reported analyses. The ethnicity of the nominator was determined by their self-reported ethnic identification. Friendship nominations received from same-ethnic peers were counted as same-ethnic friendships, and friendship nominations received from peers of a different ethnic group were counted as cross-ethnic friendships. Since 91% of the nominations were same-gender friends, our analyses only focused on same-gender friendships. To control for the effect of school size and proportion same-ethnic peers at school, friendship nominations received were standardized within school and within ethnic group for all analyses.

Academic grade-point average (GPA)

GPA was used as the indicator of academic achievement. Students' transcripts at 6th grade were used to calculate GPA using 5-point scales, with A, B, C, D and F worth 4, 3, 2, 1 and 0 points respectively. Students' grades for four major academic courses (i.e., math, science, English, and social studies) were used to calculate their academic GPA. In this sample, Asian and White students had significantly higher GPAs than those of their Latino and Black peers (see Table 1 below).

Percent same-ethnic peers in academic courses

Each participant's unique course schedule was obtained from school records and coded to identify the self-reported ethnicity of classmates within each of the four core academic courses (English, math, science, social studies) (see Echols and Graham 2016). As shown in the formula below, the proportion of classmates from students' same-ethnic group (n_{same}) out of total classmates (t) was estimated (based on participant data) for each of the four major academic courses in which they were enrolled, and then averaged across academic courses (i.e., the sum of proportions across courses divided by the total number of academic courses (n_c)).

$$\text{psame\_class} = \frac{\sum \frac{n_{same}}{t}}{n_c}$$

The final proportion score ranges from 0 (no same-ethnic classmates) to 1 (only same-ethnic classmates), with higher score indicating a larger proportion of same-ethnic classmates. Because class schedules are unique to each student, students at the same school who shared the same ethnic background did not necessarily experience the same level of exposure to their group throughout the school day. This proportion score provided an individualized indicator of availability of same-ethnic peers in one's classrooms.

Table 1 Descriptive statistics for main study variables by ethnicity

	Asian		White		Black		Latino	
	M (*SD*)	Stability	*M* (*SD*)	Stability	*M* (*SD*)	Stability	*M* (*SD*)	Stability
GPA		0.85***		0.87***		0.84***		0.85***
Wave 1	3.40 (0.68)		3.33 (0.73)		2.48 (0.98)		2.62 (0.93)	
Wave 2	3.40 (0.71)		3.30 (0.78)		2.38 (1.03)		2.55 (0.99)	
Psame_class		0.98***		0.96***		0.96***		0.98***
Wave 1	0.35 (0.24)		0.36 (0.15)		0.28 (0.19)		0.49 (0.23)	
Wave 2	0.35 (0.24)		0.35 (0.15)		0.28 (0.19)		0.48 (0.23)	
Sameeth friend	0.69***		0.72***		0.63***		0.65***	
Wave 1	1.62 (1.82)		1.34 (1.42)		0.79 (1.14)		1.45 (1.54)	
Wave 2	1.65 (1.77)		1.44 (1.47)		1.00 (1.29)		1.58 (1.59)	
Crosseth friend	0.66***		0.61***		0.61***		0.59***	
Wave 1	0.75 (1.12)		0.91 (1.15)		0.88 (1.21)		0.57 (0.94)	
Wave 2	0.81 (1.22)		0.91 (1.15)		0.98 (1.30)		0.59 (0.95)	
Total friend		0.61***		0.65***		0.58***		0.60***
Wave 1	2.37 (1.97)		2.25 (1.83)		1.67 (1.64)		2.02 (1.73)	
Wave 2	2.46 (1.89)		2.35 (1.81)		1.98 (1.71)		2.17 (1.77)	

Psame_class = percent same-ethnic peers in academic courses, Sameeth friend = number of friendship nominations received from same-ethnic peers, Crosseth friend = number of friendship nominations received from cross-ethnic peers, Total friend = total number of friendship nominations received

***$p < 0.001$

Control variables

Gender, immigrant status, and parent education level were also included in the main analyses. Gender was dichotomously coded (females = 0 and males = 1). Students' generational status was determined by a question in which students indicated whether they and their parents were born in the United States. First generation students were those born outside the United States. Second generation students were born in the United States and at least one of their parents was foreign born. Third generation represented students and both parents born in the United States. As a proxy for student socioeconomic status, the parent or guardian with whom the student lived was asked to complete a questionnaire about their highest level of education. The response options ranged from 1 to 6 (1 = elementary/junior high school, 2 = some high school, 3 = high school diploma or GED, 4 = some college, 5 = 4-year college degree, 6 = graduate degree). Mean parent educational level of the sample was 3.87 ($SD = 1.59$). To rule out the possibility that popular students tend to receive more friendship nominations despite their achievement levels, the analyses controlled for peer acceptance at school, which was an indicator of the student's sociometric status among peers in general. Students were asked to nominate 6th grademates whom they "would like to hang out with". Total number of nominations received was standardized within school to generate the indicator of peer acceptance.

Results

Analytic Plan

The analyses proceeded in three steps. First, descriptive analyses and correlations among key variables were conducted for each ethnic group to get preliminary evidence for hypotheses concerning distinctive effects of achievement and classroom ethnic group representation on friendships and classroom ethnic group representation. Next, linear regression analyses were performed to examine possible ethnic group differences in the relation between GPA and friendships (i.e., moderation analyses) with separate analyses for same- and cross-ethnic friendships. The final set of analyses examined whether the ethnic differences in the GPA-friendship linkage could be (partially) explained by percent same- (or cross-) ethnic peers in academic courses. Both the regression approach (Muller et al. 2005) and the bootstrapping procedures (Preacher et al. 2007) were used to test the hypothesized mediated moderation model and the associated confidence intervals.

In all analyses, gender (0 = female), generational status (3rd plus generation as reference group), parent education level, and peer acceptance were treated as control variables. For ethnicity, Asians were the reference group in the main analyses to better demonstrate the contrast between the highest achieving minority group in our sample and other ethnic minority groups (i.e., Black and Latino). All continuous predictors were grand mean centered to facilitate the interpretation of results. As indicated above, the outcome variables (i.e., same- and cross-ethnic friendships) were standardized within school and within ethnic group to control for the effect of school size and proportion same-ethnic peers at school. In all the analyses, sixth grade *fall* GPA was used as the predictor and *spring* friendships were reported as the outcomes under the assumption that academic achievement takes time to exert its effect on peer relations. Baseline (fall of sixth grade) measures of the dependent variables were not included as predictors in any of the models because the stability of variables under investigation (see more detailed descriptions below) and inclusion of baseline outcome variables can result in overestimating coefficients of the baseline measures and underestimating coefficients of other predictors in the model (Bhargava and Sargan 1983).

All analyses were conducted using Mpus software (Muthén and Muthén 1998–2014; version 7.3). Although the current data set included some missing data, the full information maximum likelihood (FIML) method in Mplus allowed data for all cases to be estimated in modeling (Enders 2010). Models were estimated with a procedure (CLUSTER) designed to address violations to independence assumptions due to the nested structure of the data (i.e., students were nested within schools), thereby achieving robust standard errors.

Descriptive Analyses

The means, standard deviations, and indicators of temporal stability of main variables are shown in Table 1. At Wave 1, all participants on average received 1.36 ($SD = 1.54$) friendship nominations from same-ethnic peers, and 0.73 ($SD = 1.08$) friendship nominations from cross-ethnic peers. Students received slightly more friendship nominations at Wave 2 ($M_{same} = 1.48$, $SD_{same} = 1.57$; $M_{cross} = 0.77$, $SD_{cross} = 1.12$). Both same-ethnic and cross-ethnic friendships were temporally stable across sixth grade for students of all ethnic groups (*rs* ranged from 0.59 to 0.72, all $ps < 0.001$). Temporal stability of GPA (*rs* ranged from 0.84 to 0.87 for different ethnic groups, all $ps < 0.001$) and percent same-ethnic peers in academic classes (*rs* ranged from 0.96 to 0.98 for different ethnic groups, all $ps < 0.001$) were also high across two waves.

Because of the high stability of key variables, and because it was assumed that academic achievement takes time to affect friendship selection, Wave 1 (sixth grade fall)

GPA and Wave 2 (sixth grade spring) friendships as well as classroom ethnic compositions were used in the main analyses. Correlations among main variables are presented in Table 2. For each ethnic group, there was a positive correlation between GPA and total number of friend nominations received ($rs = 0.20$, 0.21, 0.18, 0.14 for Asian, White, Black and Latino students respectively, $ps < 0.001$). However, when examining same- and cross-ethnic friendships separately, the linkage between GPA and friendships varied across ethnic groups. Specifically, for Asian and White students, there was a positive correlation between GPA and same-ethnic friendships ($rs = 0.21$ and 0.22 for Asian and White students respectively, $ps < 0.001$), whereas the correlations between GPA and cross-ethnic friendships were not significant. In contrast, for Black and Latino students, there was a positive correlation between GPA and cross-ethnic friendships ($rs = 0.17$ and 0.15 for Black and Latino students respectively, $ps < 0.001$), but GPA did not significantly correlate with same-ethnic friendships for either ethnic group. The correlations between GPA and percent same-ethnic peers in academic courses also varied across ethnic groups. For Asian and White students, GPA was positively correlated with classroom percent same-ethnic peers ($rs = 0.10$ and 0.22, $ps < 0.01$), but for Black and Latino students, the correlations were negative ($rs = -0.18$ and -0.16, $ps < 0.001$). These correlations suggest that higher achieving Asian and White students tended to have more same-ethnic peers in their academic courses, whereas higher achieving Black and Latino students tended to have fewer same-ethnic peers in those courses.

Testing Moderation: Ethnic Differences in the Relation between Academic Achievement and Friendships

To explore possible ethnic differences in the linkage between academic achievement and friendships, friendship nominations from same- and cross-ethnic peers were regressed on GPA, ethnicity, and GPA by ethnicity interaction terms. As shown in the left column of Table 3, for Asians (the reference group), GPA was a significant predictor of same-ethnic friendships ($b = 0.22$, $p < 0.001$), such that higher GPA was related to more friendship nominations from same-ethnic peers. The interaction terms for Black students ($b = -0.30$) and Latino students ($b = -0.25$) were also significant ($ps < 0.001$), suggesting that there are differential same-ethnic friendship consequences of achievement for Black and Latino students as compared with Asian students. The interaction term for White students was not significant, indicating that the relation between grades and same-ethnic friendships tend to be the same as for Asian students. To estimate and test the significance of the simple

Table 2 Correlations among variables by ethnic group

		1	2	3	4	5
Asian	1. GPA	–				
	2. Psame_class	0.10**	–			
	3. Sameeth friend	0.21***	0.10**	–		
	4. Crosseth friend	−0.03	−0.06	−0.09**	–	
	5. Total friend	0.20***	0.04	0.70***	0.47***	–
White	1. GPA	–				
	2. Psame_class	0.22***	–			
	3. Sameeth friend	0.22***	0.13***	–		
	4. Crosseth friend	0.05	−0.04	−0.01	–	
	5. Total friend	0.21***	0.07	0.70***	0.54***	–
Black	1. GPA	–				
	2. Psame_class	−0.18***	–			
	3. Sameeth friend	0.03	0.06	–		
	4. Crosseth friend	0.17***	−0.12**	−0.05	–	
	5. Total friend	0.18***	−0.06	0.60***	0.57***	–
Latino	1. GPA	–				
	2. Psame_class	−0.16***	–			
	3. Sameeth friend	0.02	0.11**	–		
	4. Crosseth friend	0.15***	−0.15***	−0.03	–	
	5. Total friend	0.14***	−0.04	0.73***	0.47***	–

GPA was measured at sixth grade fall semester (Wave 1), friendships and classroom ethnic compositions were measured at sixth grade spring semester (Wave 2)

**$p < 0.01$; ***$p < 0.001$

Table 3 Results on models predicting same- and cross-ethnic friendships

	Same-ethnic friendships		Cross-ethnic friendships	
Predictors	*β*	*SE*	*β*	*SE*
Gender	−0.26***	0.05	−0.02	0.04
1st generation	0.04	0.06	−0.17**	0.07
2nd generation	0.01	0.04	−0.06	0.04
Parent education	−0.01	0.01	0.02	0.01
Peer acceptance	0.37***	0.02	0.27***	0.03
GPA	0.22***	0.04	−0.09	0.06
White	0.01	0.05	−0.19***	0.04
Black	0.12**	0.04	−0.08	0.05
Latino	0.15***	0.03	0.01	0.03
GPA × White	−0.04	0.05	0.10	0.09
GPA × Black	−0.30***	0.05	0.21*	0.09
GPA × Latino	−0.25***	0.06	0.24***	0.06

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

slope for each ethnic group, the reference ethnic group was rotated (Hayes 2017) and the analyses were re-run. As shown in Fig. 1a, for Asian and White students, higher GPA was related to more same-ethnic friendships (respectively, $bs = 0.22$ and 0.18, $ps < 0.001$). In contrast, for Black and Latino students, GPA was not a significant predictor of same-ethnic friendships ($bs = -0.08$, and -0.03, for Black and Latino students respectively, *ns*).

The data for cross-ethnic friendships are shown in the right column of Table 3. GPA was not a significant predictor for Asians ($b = -0.09$, *ns*). The interaction term for Whites was not significant, suggesting that the relation between GPA and cross-ethnic friendships tends to be the same for Asian and White students. However, the interaction terms for Black ($b = 0.21$) and Latino ($b = 0.24$) students were significant ($ps < 0.05$), indicating distinctive linkages between GPA and cross-ethnic friendships for Black and Latino students compared to Asian students. As shown in Fig. 1b, simple slope analyses revealed that GPA was a significant predictor of cross-ethnic friendships for Black ($b = 0.11$, $p < 0.05$) and Latino ($b = 0.13$, $p < 0.001$) students, such that higher GPA was related to more friendship nominations from cross-ethnic peers; for Asian and White students, GPA was not a significant predictor of cross-ethnic friendships ($bs = -0.09$ and 0.01, for Asian and White students respectively, *ns*). Thus, ethnicity moderated the relationships between GPA and both same- ethnic and cross-ethnic friends.

Testing Mediated Moderation

Next, analyses were carried out to examine whether classroom availability (i.e., percent same/cross-ethnic peers in academic courses) mediated the association between GPA by ethnicity interactions (the moderator effect) and received friendship nominations. First, the procedures recommended by Muller et al. (2005) were followed to test mediated moderation. Three criteria need be met. First, the interaction between the moderator (ethnicity) and the independent variable (GPA) must be significant in predicting the dependent variable (friendships). Second, the interaction between the moderator and the independent variable must significantly predict the mediator (percent same/cross-ethnic peers in academic courses). Finally, the mediator must significantly predict the dependent variable while controlling for the interactions between the moderator and the independent variable. In addition, Preacher and colleagues' conditional indirect effects approach (Preacher et al. 2007) was used to estimate the indirect effects and the associated 95% confidence intervals. Separate analyses were carried out for same- and cross-ethnic friendships.

Results of analyses addressing same-ethnic friendships are presented in Table 4. The first criterion for documenting mediated moderation was met by the previous moderator analyses and Model 1 in Table 3 showing that GPA by ethnicity interaction terms for Black and Latino students significantly predicted same-ethnic friendships. Significant GPA by ethnicity interactions in Model 2 (middle column in

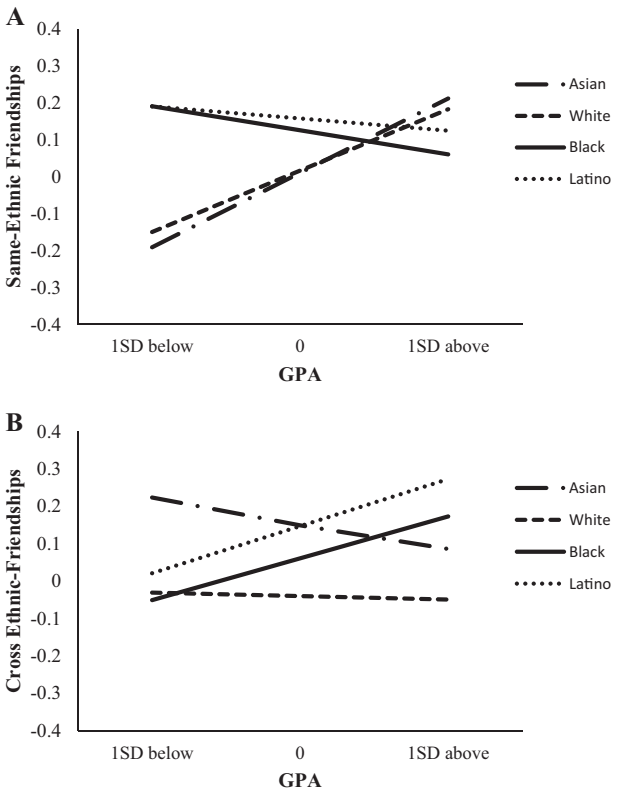

Fig. 1 **a** Regression slopes of GPA on same-ethnic friendships for each racial group. **b** Regression slopes of GPA on cross-ethnic friendships for each racial group

Table 4 Assessment of the mediated moderation effect on same-ethnic friendships

	M1 (Criterion: sameeth friend)		M2 (Criterion: psame_class)		M3 (Criterion: sameeth friend)	
Predictors	*β*	*SE*	*β*	*SE*	*β*	*SE*
Controls						
Gender	−0.26***	0.05	−0.01	0.01	−0.26***	0.04
1st generation	0.04	0.06	0.03	0.02	0.02	0.07
2nd generation	0.01	0.04	0.01	0.02	−0.01	0.04
Parent ed.	−0.01	0.01	−0.03***	0.01	0.01	0.01
Peer acceptance	0.37***	0.02	0.00	0.01	0.37***	0.02
X variable						
GPA	0.22***	0.04	0.04*	0.02	0.20***	0.04
Moderator						
White	0.01	0.05	0.04	0.05	−0.02	0.06
Black	0.12**	0.04	−0.03	0.05	0.13**	0.05
Latino	0.15***	0.03	0.12*	0.06	0.10	0.06
X by moderator						
GPA × White	−0.04	0.05	0.01	0.02	−0.03	0.05
GPA × Black	−0.30***	0.05	−0.08***	0.02	−0.27***	0.05
GPA × Latino	−0.25***	0.06	−0.08***	0.02	−0.22***	0.06
Mediator						
Psame_class					0.45***	0.12

Ed = Education, Psame_class = percent same-ethnic peers in academic courses, Sameeth friend = friendship nominations received from same-ethnic peers

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

Table 4) predicting percent same-ethnic peers in academic courses at spring of 6th grade indicated that the second criterion for mediated moderation was also met. Specifically, for Asians, GPA was a significant predictor of same-ethnic peers in academic courses ($b = 0.04$, $p < 0.05$), such that higher achieving Asians tend to have more same-ethnic classmates. A non-significant interaction term for Whites ($b = 0.01$, *ns*) indicated a similar pattern among White students. However, interaction terms for Black ($b = -0.08$) and Latino ($b = -0.08$) students were significant ($ps < 0.001$). As shown in Fig. 2, simple slope analyses revealed that GPA was a significant predictor of percent same-ethnic peers in academic courses for Black ($b = -0.04$, $p < 0.05$) and Latino ($b = -0.04$, $p < 0.01$) students, such that higher achieving Black and Latino students tend to have *fewer* same-ethnic classmates. In addition, percent same-ethnic peers in academic courses significantly predicted same-ethnic friendships while controlling for GPA, ethnicity and the interaction terms (see Model 3 in Table 4); hence, the third criterion for documenting mediated moderation was met as well. The Sobel test (Sobel 1982) supported significant indirect effects ($zs = -2.40$ and -2.71, for GPA × Black and GPA × Latino interactions, respectively, $ps < 0.05$). Results from the bootstrapping procedures (Preacher et al. 2007) also showed that percent same-ethnic peers in academic courses partly mediated the interactive effect of GPA and ethnicity on same-ethnic friendships (for GPA × Black interaction: total effect = −0.304, estimated mean indirect effect = −0.034, 95% confidence interval: −0.055 to −0.013; for GPA × Latino interaction: total effect = −0.250, estimated mean indirect effect = −0.034, 95% confidence interval: −0.055 to −0.014). In other words, disparities in the achievement to same-ethnic friendship linkage for Asians and other ethnic minorities (i.e., Black, Latino) was partly due to ethnic differences in the effect of achievement on availability of same-ethnic peers in academic courses.

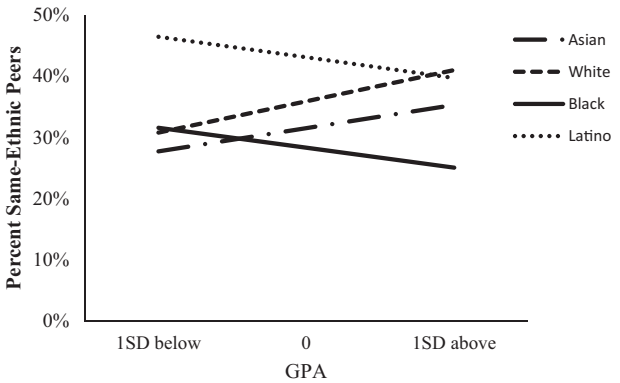

Fig. 2 Regression slopes of GPA on percent same-ethnic peers in academic courses for each racial group

Similar analyses were also carried out for cross-ethnic friendships (see Table 5). Cross-ethnic peers in academic courses was calculated as the inverse of same-ethnic peers in those courses (i.e., pcross_class = 1—psame_class). The regression coefficients in the model predicting percent cross-ethnic peers (Model 2 Table 5) were just the opposite numbers of those in the model predicting percent same-ethnic peers (Model 2 Table 4). Paralleling Table 4, all three criteria for testing moderated mediation were met. Substantively, higher GPA predicted more cross-ethnic friends for Black and Latino students but not white and Asian students (Criterion 1 and Model 1 in Table 5); better grades predicted more cross-ethnic peers in classes for Black and Latino students, bur not white and Asian students (Criterion 2, Model 2); and percent cross-ethnic peers in academic courses significantly predicted cross-ethnic friendships while controlling for GPA, ethnicity and the interaction terms (Criterion 3, Model 3). The Sobel test supported significant indirect effects ($zs = 2.83$ and 3.37, for GPA × Black and GPA × Latino interactions, respectively, $ps < 0.01$). Bootstrapping procedures also showed that percent cross-ethnic peers in academic courses partly mediated the interactive effect of GPA and ethnicity on cross-ethnic friendships (for GPA × Black interaction: total effect = 0.207, estimated mean indirect effect = 0.035, 95% confidence interval: 0.013–0.056; for GPA × Latino interaction: total effect = 0.242, estimated mean indirect effect = 0.035, 95% confidence interval: 0.015–0.054).

Discussion

Ethnic differences in adolescents' reactions to high achieving peers has been a widely discussed but controversial issue in educational research. The current study extended previous work by exploring nuances in the linkage between academic achievement and friendships across four pan-ethnic groups, and by examining exposure to same-ethnic peers in classrooms as a potential mediator of observed ethnic differences in peer reactions to high achievement. The current findings make original contributions to the literature on the social lives of high academic achievers in ethnically diverse schools.

Academic Achievement and Friendships with Same- and Cross-Ethnic Peers

Past quantitative research conducted with a single ethnic group or research that relied on national datasets with subjective (self-reported) peer social status yielded mixed findings about ethnic differences in peer reactions to academic achievement. The present study approached this issue

Table 5 Assessment of the mediated moderation effect on cross-ethnic friendships

	M1 (Criterion: crosseth friend)		M2 (Criterion: pcross_class)		M3 (Criterion: cross eth friend)	
Predictors	*β*	*SE*	*β*	*SE*	*β*	*SE*
Controls						
Gender	−0.02	0.04	0.01	0.01	0.02	0.04
1st generation	−0.17**	0.07	−0.03	0.02	−0.18**	0.07
2nd generation	−0.06	0.04	−0.01	0.02	−0.06	0.04
Parent ed.	0.02	0.01	0.03***	0.01	0.00	0.01
Peer acceptance	0.27***	0.03	0.00	0.01	0.27***	0.03
X variable						
GPA	−0.09	0.06	−0.04*	0.02	−0.09	0.06
Moderator						
White	−0.19***	0.04	−0.04	0.05	−0.17**	0.06
Black	−0.08	0.05	0.03	0.05	−0.09	0.06
Latino	0.01	0.03	−0.12*	0.06	0.05	0.05
X by moderator						
GPA × White	0.10	0.09	−0.01	0.02	0.11	0.08
GPA × Black	0.21*	0.09	0.08***	0.02	0.17*	0.0
GPA × Latino	0.24***	0.06	0.08***	0.02	0.20**	0.06
Mediator						
Pcross_class					0.46***	0.07

Ed = Education, Pcross_class = percent cross-ethnic peers in academic courses, Crosseth friend = friendship nominations received from cross-ethnic peers

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

by making a distinction between same-ethnic and cross-ethnic friendship nominations. Unlike the original *acting white* proposition, current findings suggested that getting good grades is related to social gains for students of *all* ethnic backgrounds but that the ethnic composition of these friend groups might vary by ethnicity. While White and Asian students seem to be preferred more as friends by same-ethnic peers, Black and Latino students seem to be desired more as friends by cross-ethnic peers.

Why might the pattern of received friendship nominations of high achieving students differ across ethnic groups? The current study explored classroom ethnic context as one underlying mechanism (mediator). Classroom ethnic composition is important because availability (Mouw and Entwisle 2006) and similarity (McPherson et al. 2001) are two central principles of friendship formation. Students taking the same academic courses have more opportunities to interact with each other (availability), and share more common learning experiences (similarity), and are therefore more likely to become friends with each other than with other schoolmates (Frank et al. 2013). In addition, previous research (Juvonen et al. 2018) has shown that students at the same diverse school do not necessarily experience the same level of exposure to different ethnic groups throughout the school day due to the unique class schedules of each student (Echols and Graham 2016).

Our mediated moderation models demonstrated that better grades predicted differential exposure to same-and cross-ethnic peers in academic classes across groups, which in turn affected friendship nomination patterns. Specifically, for Whites and Asians, higher academic achievement was associated with a larger proportion same-ethnic peers in academic classes, which led to more same-ethnic friendship nominations, whereas for Black and Latino students, higher academic achievement was associated with a larger proportion of cross-ethnic peers in academic courses, which in turn led to more cross-ethnic friendship nominations.

These findings are consistent with existing evidence of uneven ethnic distribution in classrooms at different achievement levels due to certain kinds of academic tracking commonly used in middle and high schools. For example, White and Asian students are more likely to be grouped together in higher track academic courses, whereas Black and Latino students are more likely to be clustered together in lower track classes (e.g., Mickelson 2015).

The uneven ethnic distribution of students across academic course levels has implications for the availability of same- and cross-ethnic peers in academic classes. This is particularly important given what is known about the unique benefits of same- and cross-ethnic friends. While higher achieving Black and Latino students are exposed to more cross-ethnic peers and form more cross-ethnic friendships, they may risk losing the opportunity to form friendships with same-ethnic peers, which are especially important for identity development of students in the ethnic minority (Douglass et al. 2017). In contrast, higher achieving White and Asian students are exposed to more same-ethnic peers and make more same-ethnic friendships, but they are also at risk of missing out on developing cross-ethnic friends, which are especially important to improve intergroup relations (Chen and Graham 2015).

Motivational Costs of High Academic Achievement

When measured as having friends, the findings suggest that there were few social costs incurred by high achieving students in this sample. Indeed, achievement was positively correlated with friendship nominations for all youth. But for African American and Latino high achievers, there may be unique motivational challenges when there are relatively few same-ethnic peers in their academic courses. In other research with a multiethnic sample, it was documented that students felt less like they belonged in their math class when there were few perceived same-ethnic peers (Graham and Morales-Chicas 2015). Belongingness is part of a larger school climate construct that assesses the extent to which students feel connected to their environment—that they are able to find their niche, feel accepted and respected, and generally "fit in" (Benner and Graham 2009). A growing literature has documented the positive consequences of perceived belonging for school adjustment across a number of variables (e.g., Gillen-O'Neel and Fuligni 2013). It is plausible that when high achieving students look around their classrooms and do not see a critical mass of peers who share their ethnic background (i.e., classmates who look "like me"), this could undermine their confidence and motivation to do well in school. What that critical mass might be is an important but unanswered question.

Limitations and Future Directions

Although the current study makes significant contributions to the literature on the linkage between achievement and peer relations, it is limited in several ways. First, as a preliminary attempt to examine possible ethnic differences in friendships of high achieving students, the current study distinguished same- and cross-ethnic friendship nominations. However, the analyses did not identify who those cross-ethnic friends might be. For example, is a high-achieving Black student in ethnically diverse advanced classes more likely to receive friendship nominations from Whites who are the societal majority, or from peers whose ethnic group is also academically stigmatized (e.g., Latinos)? Previous research has shown that minority students have distinct friendship patterns with different ethnic out groups (Chen and Graham 2015). It will therefore be useful

for future work to make a more sophisticated classification of cross-ethnic peers in studying friendship nominations.

Second, disentangling the mechanisms that could explain the ethnic disparities in peer reactions to high academic achievement is a complex undertaking. The current study examined only one structural factor (i.e. individual-level classroom ethnic representation) that may be relevant. There are a host of other individual (e.g., achievement values, ethnic identity) and contextual level variables (e.g., achievement norms, school ethnic climate) that should be taken into account in future research.

A third limitation involves generalizability of the current findings. It is unclear whether these findings are generalizable to other phases of schooling. The current study focused on 6th grade students because of heightened awareness of academic stereotypes in early adolescence (Cvencek et al. 2015), and because of the increased importance of fitting in and social status in the peer groups during the transition to middle school (LaFontana and Cillessen 2010). It is plausible that the pattern of findings documented in the current study would be more evident in high schools when academic tracking becomes more common. In addition, it would be interesting for future studies to examine whether or to what extent the current findings about academic achievement and friendships extend to non-academic settings (e.g., extracurricular activities or the cafeteria). For example, do high-achieving students tend to be friends with other high achievers outside of classrooms, suggesting spillover of classroom ethnic composition onto non-academic settings? Finally, the current study was conducted in California, which is one of the most ethnically diverse states in the nation. Whether these findings can be replicated in other parts of the U.S. or in other national contexts with different racial/ethnic configurations remains to be seen.

Finally, the analyses tested and found support for a particular directional model from academic achievement → classroom ethnic composition → friendship nominations in a multiethnic context. The rationale for this model was based on perceived limitations in the research on adolescents' reactions to high achieving classmates. Other models are certainly plausible that include bidirectional and recursive effects. For example, being well-liked by peers (i.e., receiving many friendship nominations) could motivate high achievers to continue to do well in the future despite the escalating high stakes demands of middle school and high school. The academic motivational benefits of peer support (as opposed to the risks associated with peer disdain) for long-term achievement is an understudied topic in social development research. Longitudinal data over multiple time points will be needed to test such alternative models.

Implications for Practice

Despite these limitations, the current study has important implications for educational practice. No institution in our society brings together as many diverse young people for as much time over developmental stages as do schools. Racially and ethnically diverse schools provide an ideal setting for youth to interact and form meaningful relations with peers from different ethnic backgrounds, including friendships with in-group and out-group members who promote healthy development in distinctive ways (Graham et al. 2014). However, the benefit of school ethnic diversity could be undermined by classroom re-segregation due to instructional practices that lead to uneven soring of students in academic classes (Juvonen et al. 2018).

Even the most diverse schools will not live up to their intergroup potential if instructional practices constrain the mixing opportunities of students. The study reported here demonstrated that the nuanced ethnic differences in friendship patterns associated with academic achievement were partly due to variations in classroom ethnic composition. The findings suggest that schools should carefully examine whether their instructional polices and classroom assignment criteria contribute to racialized patterns of segregation. Strategies such as de-tracking and a rigorous core curriculum available to everyone could enhance academic and social opportunities for all students. Academic (de)tracking researchers tend to focus on achievement outcomes and systemic inequality between ethnic groups in the American educational system (e.g., Oakes 2005; Mickelson 2015). The social consequences of such practices merit attention as well.

Conclusion

Ethnic disparities in peer reactions to high academic achievement have been identified as a possible source of the racial achievement gap. However, empirical studies on this issue yielded mixed findings. The current study extended the existing literature by examining the linkage between academic achievement and same-ethnic as well as cross-ethnic friendships in an ethnically diverse sixth grade sample. Contrary to the social cost proposition, higher achievement was associated with more friendships for students of all ethnic backgrounds. More importantly, the findings highlight differences in the ethnic composition of high achievers' received friendship nominations. Specifically, for Asians and Whites, achievement was associated with more same-ethnic friendships, whereas for Blacks and Latinos, achievement was associated with more cross-ethnic friendships. These findings are particularly important in understanding the social lives of academically excellent adolescents in multiethnic school

contexts, given the heightened significance of friendships during early adolescence (Brechwald and Prinstein 2011) and differential developmental functions of same- versus cross-ethnic friendships (Chen and Graham 2017). The current study also makes original contributions to the literature on underlying mechanisms of ethnic differences in peer reactions to achievement, showing that proportion same-ethnic peers in classrooms was a mediator of the ethnic differences in the achievement-friendship linkage. These results highlight the importance of instructional practices such as de-tracking, that provide youth the opportunity to interact and form friendships with peers from different ethnic backgrounds.

Acknowledgements The authors would like to thank the members of the UCLA Middle School Diversity team for their contributions to collection of the data, and all school personnel and participants for their cooperation.

Authors' Contributions X.C. conceived of the study, participated in its design, performed the statistical analysis, participated in the interpretation of the data, and helped draft the manuscript; A.S. participated in the study design, interpretation of the data, and helped draft the manuscript; S.G. participated in the study design, interpretation of the data, and helped draft the manuscript, and was the principal investigator on the larger project from which the present analyses were conducted. All authors read and approved the final manuscript.

Funding This research was supported by grants from the National Institute of Child Health and Human Development (5R01HD059882) and the National Science Foundation (No. 0921306) to Sandra Graham. The first author (XC) received additional support from the National Natural Science Foundation of China (No. 31600895).

Data Sharing and Declaration The datasets generated and/or analyzed during the currentstudy are not publicly available but are available from the corresponding author on reasonable request.

Compliance with Ethical Standards

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

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

Informed Consent As participants in this study were minors, a parent or legal guardian provided written informed consent. In addition, participating youth provided written informed assent.

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

Ainsworth-Darnell, J. W., & Downey, D. B. (1998). Assessing the oppositional culture explanation for racial/ethnic differences in school performance. *American Sociological Review*, *63*(4), 536–553. https://doi.org/10.2307/2657266.

Benner, A., & Graham, S. (2009). The transition to high school as a developmental process among multiethnic urban youth. *Child Development*, *80*(2), 356–376. https://doi.org/10.1111/j.1467-8624.2009.01265.x.

Bhargava, A., & Sargan, J. D. (1983). Estimating dynamic random effects models from panel data covering short time periods. *Econometrica*, *51*(6), 1635–1659. https://doi.org/10.2307/1912110.

Brechwald, W. A., & Prinstein, M. J. (2011). Beyond homophily: a decade of advances in understanding peer influence processes. *Journal of Research on Adolescence*, *21*(1), 166–179. https://doi.org/10.1111/j.1532-7795.2010.00721.x.

Chen, X., & Graham, S. (2015). Cross-ethnic friendships and intergroup attitudes among Asian American adolescents. *Child Development*, *86*(3), 749–764. https://doi.org/10.1111/cdev.12339.

Chen, X., & Graham, S. (2017). Same-ethnic, interethnic, and interracial friendships among early adolescents. *Journal of Research on Adolescence*, *27*(3), 705–713. https://doi.org/10.1111/jora.12309.

Cook, P. J., & Ludwig, J. (1997). Weighing the "burden of 'acting white'": are there race differences in attitudes toward education? *Journal of Policy Analysis and Management*, *16*(2), 256–278. https://doi.org/10.1002/(SICI)1520-6688(199721)16:23.0.CO;2-H.

Cvencek, D., Nasir, N. I. S., O'Connor, K., Wischnia, S., & Meltzoff, A. N. (2015). The development of math–race stereotypes: "they say Chinese people are the best at math". *Journal of Research on Adolescence*, *25*(4), 630–637. https://doi.org/10.1111/jora.12151.

De Bruyn, E. H., & Cillessen, A. H. (2006). Popularity in early adolescence: prosocial and antisocial subtypes. *Journal of Adolescent Research*, *21*(6), 607–627. https://doi.org/10.1177/0743558406293966.

Duong, M. T., Schwartz, D., & McCarty, C. A. (2014). Do peers contribute to the achievement gap between Vietnamese-American and Mexican-American adolescents? *Social Development*, *23*(1), 196–214. https://doi.org/10.1111/sode.12033.

Douglass, S., Mirpuri, S., & Yip, T. (2017). Considering friends within the context of peers in school for the development of ethnic/racial identity. *Journal of Youth and Adolescence*, *46*(2), 300–316. https://doi.org/10.1007/s10964-016-0532-0.

Eccles, J. S., & Roeser, R. W. (2011). Schools as developmental contexts during adolescence. *Journal of Research on Adolescence*, *21*(1), 225–241. https://doi.org/10.1111/j.1532-7795.2010.00725.x.

Echols, L., & Graham, S. (2016). For better or worse: Friendship choices and peer victimization among ethnically diverse youth in the first year of middle school. *Journal of Youth and Adolescence*, *45*(9), 1862–1876. https://doi.org/10.1007/s10964-016-0516-0.

Enders, C. K. (2010). *Applied missing data analysis.* New York, NY: Guilford Press.

Fordham, S., & Ogbu, J. U. (1986). Black students' school success: Coping with the "burden of 'acting white'". *The Urban Review*, *18*(3), 176–206. https://doi.org/10.1007/BF01112192.

Frank, K. A., Muller, C., & Mueller, A. S. (2013). The embeddedness of adolescent friendship nominations: the formation of social capital in emergent network structures. *American Journal of Sociology*, *119*(1), 216–253. https://doi.org/10.1086/672081.

Fryer Jr, R. G., & Torelli, P. (2010). An empirical analysis of 'acting white'. *Journal of Public Economics*, *94*(5-6), 380–396. https://doi.org/10.1016/j.jpubeco.2009.10.011.

Fuller-Rowell, T. E., & Doan, S. N. (2010). The social costs of academic success across ethnic groups. *Child Development*, *81*(6), 1696–1713. https://doi.org/10.1111/j.1467-8624.2010.01504.x.

Gillen-O'Neel, C., & Fuligni, A. (2013). A longitudinal study of school belonging and academic motivation across high school. *Child Development*, *84*(2), 678–692. https://doi.org/10.1111/j.1467-8624.2012.01862.x.

Graham, S., & Morales-Chicas, J. (2015). The ethnic context and attitudes toward 9th grade math. *International Journal of Educational Psychology*, *4*(1), 1–32. https://doi.org/10.4471/ijep.2015.01.

Graham, S., Munniksma, A., & Juvonen, J. (2014). Psychosocial benefits of cross-ethnic friendships in urban middle schools. *Child Development*, *85*(2), 469–483. https://doi.org/10.1111/cdev.12159.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: a regression-based approach*. 2nd edn. New York, NY: Guilford Press.

Juvonen, J., & Knifsend, C. (2016). School-based peer relationships and achievement motivation. In K. R. Wentzel & D. B. Miele (Eds), *Handbook of motivation at school* (pp. 231–250). New York, NY: Routledge.

Juvonen, J., Kogachi, K., & Graham, S. (2018). When and how do students benefit from ethnic diversity in middle school? *Child Development*, *89*(4), 1268–1282. https://doi.org/10.1111/cdev.12834.

LaFontana, K. M., & Cillessen, A. H. (2010). Developmental changes in the priority of perceived status in childhood and adolescence. *Social Development*, *19*(1), 130–147. https://doi.org/10.1111/j.1467-9507.2008.00522.x.

Mathys, C., Burk, W. J., & Cillessen, A. H. (2013). Popularity as a moderator of peer selection and socialization of adolescent alcohol, marijuana, and tobacco use. *Journal of Research on Adolescence*, *23*(3), 513–523. https://doi.org/10.1111/jora.12031.

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: homophily in social networks. *Annual Review of Sociology*, *27*, 415–444. https://doi.org/10.1146/annurev.soc.27.1.415.

Mickelson, R. A. (2015). The cumulative disadvantages of first-and second-generation segregation for middle school achievement. *American Educational Research Journal*, *52*(4), 657–692. https://doi.org/10.3102/0002831215587933.

Mouw, T., & Entwisle, B. (2006). Residential segregation and interracial friendship in schools. *American Journal of Sociology*, *112*(2), 394–441. https://doi.org/10.1086/506415.

Muller, D., Judd, C. M., & Yzerbyt, V. Y. (2005). When moderation is mediated and mediation is moderated. *Journal of Personality and Social Psychology*, *89*(6), 852–863. https://doi.org/10.1037/0022-3514.89.6.852.

Muthén, L. K., & Muthén, B. O. (1998–2014). Mplus user's guide. 7th edn. Los Angeles, CA: Authors. .

Oakes, J. (2005). *Keeping track.* New Haven, CT: Yale University Press.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Assessing moderated mediation hypotheses: theory, methods, and prescriptions. *Multivariate Behavioral Research*, *42*(1), 185–227. https://doi.org/10.1080/00273170701341316.

Reynolds, T. (2007). Friendship networks, social capital and ethnic identity: Researching the perspectives of Caribbean young people in Britain. *Journal of Youth Studies*, *10*(4), 383–398. https://doi.org/10.1080/13676260701381192.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, *13*, 290–312. https://doi.org/10.2307/270723.

Syed, M., & Juan, M. (2012). Birds of an ethnic feather? Ethnic identity homophily among college-age friends. *Journal of Adolescence*, *35*(6), 1505–1514. https://doi.org/10.1016/j.adolescence.2011.10.012.

Tyson, K. (2011). *Integration interrupted: tracking, black students, and acting white after brown.* New York, NY: Oxford University Press.

Xiaochen Chen is an Associate Professor at Renmin University of China. Her major research interests include peer relations and academic motivation during adolescence.

Amirah Saafir is a Doctoral Candidate at University of California, Los Angeles. Her major research interests include ethnic/racial identity development and school adjustment of ethnic minority youth.

Sandra Graham is a Distinguished Professor at University of California, Los Angeles. Her major research interests include the study of academic motivation and social development in children of color, particularly in school contexts that vary in racial/ethnic diversity.