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EMPIRICAL RESEARCH

Demographic Marginalization, Social Integration, and Adolescents' Educational Success

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Abstract Links between schools' demographic composition and students' achievement have been a major policy interest for decades. Using a racially/ethnically diverse sample from the National Longitudinal Study of Adolescent Health ($N = 6{,}302$; 54 % females; 53 % White, 21 % African American, 15 % Latino, 8 % Asian American, 2 % other race/ethnicity), we examined the associations between demographic marginalization, students' later social integration (loneliness at school, school attachment), and educational performance and attainment. Adolescents who were socioeconomically marginalized at school [i.e., having <15 % same-socioeconomic status (SES) peers] had lower cumulative grade point averages across high school and lower educational attainment. A similar disadvantage was observed among students who were both socioeconomically and racially/ethnically marginalized at school (i.e., having <15 % same-SES peers and <15 % same-racial/ethnic peers). Indirect effects were also observed, such that demographic marginalization was linked to poorer school attachment, and poorer school attachment, in turn, was related to poorer academic performance. These results highlight the educational barriers associated with demographic marginalization and suggest potential targets for future intervention efforts.

Keywords Race/ethnicity · SES · Marginalization · Achievement · Socioemotional well-being

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Introduction

Since *Brown v Board of Education,* the desegregation of America's public schools and, more generally, the promotion of racial/ethnic and socioeconomic diversity in K-12 schools have been major goals of federal and state policy. In addition to the obvious social justice issues involved, this policy effort centers on a belief that diversifying student bodies supports schools' educational missions, providing opportunities for valuable cognitive growth that translate into achievement and learning gains for youth (Antonio et al. 2004; Tam and Bassett 2004). Diversity, however, is not without its challenges, particularly regarding the socioemotional well-being of children and adolescents whose lack of demographic "fit" with their schools may put them at risk for social marginalization in this primary context of socialization (Benner and Crosnoe 2011).

This line of research on diversity and demographic fit centers predominantly on racial/ethnic representation and suggests that students tend to benefit socioemotionally from having more same-racial/ethnic peers. Specifically, greater racial/ethnic representation seems to promote more positive attitudes about and connections to school (Goldsmith 2004) and engender fewer feelings of alienation and mistreatment (Benner 2011; Seaton and Yip 2009). Such patterns take on added significance given the strong links between school belonging and social integration (e.g., less loneliness, greater peer acceptance) with greater academic achievement and engagement in school (Anderman 2002; McNeely et al. 2002).

This burgeoning line of research suggests attention to the intersection of school racial/ethnic diversity and critical mass is warranted. Prior research indicates that the benefits of racial/ethnic diversity are enhanced when students

attending diverse schools also have a greater representation (or a "critical mass") of same-ethnic peers (Benner and Crosnoe 2011). Debates around the exact threshold for critical mass began post-desegregation (see Schofield and Sagar 1983; St. John 1975), and recent scholarship reviewing research cited in amicus briefs for the *Parents Involved* (2007) Supreme Court case indicates that 15 % representation seems to be the lower bound of that threshold (30 % the upper bound), providing protection against feelings of isolation and out-group hostilities (Linn and Welner 2007).

Although certainly race/ethnicity is a key identifier and stratifier in U.S. society generally and in schools in particular, race/ethnicity is not the only demographic characteristic by which sorting and ranking takes place. Socioeconomic status (SES) is another key demographic characteristic tied to social position (Huston and Bentley 2010), yet marginalization (i.e., a lack of representation) due to SES has received scant attention in the empirical base. Moreover, SES as a demographic marker is taking on added significance in the school policy domain. With *Parents Involved* (2007), the Supreme Court ruled that public schools, when making student school assignments, could not explicitly consider students' race/ethnicity in order to achieve or maintain racial integration. Subsequently, some school districts have turned to student SES as an alternative class-based means to maintain policies supporting integration (Kahlenberg 2012). The implementation of such efforts is tied to recognition of the importance of integration as a mechanism for helping young people learn to navigate an increasingly diverse U.S. society and globalized economy (Wells et al. 2008).

The current study seeks to build from the existing racial/ethnic diversity and marginalization literature to address the void in attention to SES marginalization, a void rendered more critical given recent policy attention. Specifically, we use nationally representative data to examine the links between both students' racial/ethnic and SES marginalization in school and their subsequent educational performance. Much of the existing literature examining the effects of school demographics on young people's well-being has confounded race/ethnicity and SES, yet we know that many young people of color are at a double disadvantage, as they are more likely to attend racially/ethnically segregated schools with more low-income students (Orfield and Lee 2007). A key contribution of our work is to disentangle this overlap by examining how racial/ethnic and SES marginalization both independently and conjointly influence achievement. We place particular attention on the mechanisms by which demographic marginalization exerts its influence, specifically investigating whether demographic marginalization matters for academics in so much as it influences students' feelings of social integration and school attachment.

Race/Ethnicity, Socioeconomic Status, and Students' Developmental Outcomes

Research on the implications of race and SES for children and adolescents' well-being is both expansive and conclusive—African American and Latino youth reared in lower-income households fare worse across developmental domains than their White and more affluent counterparts (Cauce et al. 2011; Yoshikawa et al. 2012). More specifically, race/ethnicity and SES have been found to be key predictors of children and adolescents' academic progress and ultimate educational success (Lareau 2003; Siegler et al. 2012; Kao and Thompson 2003; Lee 2002). Similarly, socioemotional well-being seems to be more compromised for children reared in low-SES homes, with those youth exhibiting greater externalizing problems, depression, and general psychological maladaptation (Bradley and Corwyn 2002; Mistry et al. 2002). Although racial/ethnic differences in psychological wellbeing are less consistently observed (e.g., Blum et al. 2000), studies tend to observe greater internalizing (Brown et al. 2007; Twenge and Nolen-Hoeksema 2002) and externalizing problems (Laird et al. 2005) for racial/ethnic minority versus White youth.

Demographics matter, however, not just at the individual level. Just as schools are increasingly becoming more segregated racially/ethnically (Orfield and Lee 2007), they also are becoming more socioeconomically segregated, placing low-income racial/ethnic minority students at a double disadvantage (Crosnoe 2005). More than forty years ago, the congressionally-commissioned Coleman Report (1966) identified schools' socioeconomic composition as a principal influence on students' learning and achievement. Scholarship across the subsequent four decades has consistently replicated Coleman's findings, observing that students who attend more socioeconomically disadvantaged schools tend to perform worse on a variety of developmental indicators, including optimism, school engagement, achievement growth, and educational attainment (Battin-Pearson et al. 2000; Hoy et al. 2006; Palardy 2013; Rumberger and Palardy 2005; Lee and Smith 1995). Similar findings have emerged for those students attending schools enrolling predominantly racial/ethnic minority students (Caldas and Bankston 1998; Goldsmith 2009; Hanushek et al. 2009).

We extend this literature by taking a more nuanced approach to understanding schools' demographic composition, examining how matches and mismatches in demographics between students and their schoolmates promote or impede development. Such an exploration is

theoretically motivated, as both life course (Elder 1998) and bioecological theories (Bronfenbrenner 1979) highlight the importance of person-context interactions for developmental outcomes. Individuals are embedded in numerous developmental contexts, with schools being a primary socialization context of adolescence. Individuals' interpersonal interactions within these proximal contexts drive development, but these interactions are shaped by matches (or mismatches) between the characteristics of individuals and the affordances of their environments. These person-context interactions can explain variations in the association between school contexts and young people's outcomes (Elder 1985; Shinn and Rapkin 2000).

In our current work, we explored person-context interactions via our attention to how students' individual demographic characteristics intersect with the demographic composition of their schools. This examination is also empirically motivated, as recent scholarship investigating both academic performance and socioemotional well-being observes that the racial/ethnic match (Benner and Crosnoe 2011; Benner and Graham 2009) and SES match (Crosnoe 2009) between students and schools are critical components for promoting adolescents' developmental competencies, pointing to both advantages and disadvantages of major efforts to desegregate schools racially and, more recently, socioeconomically.

Defining Demographic Marginalization and Linkages to Well-being

When investigating how demographic matches and mismatches between students and their schools' larger student bodies affect development, determining how to best capture SES is a particular challenge. In contrast to race/ethnicity, the categories of which are well-established in the U.S. (although sometimes contested; see Harris and Sim 2002), there exists a long and vibrant debate among scholars regarding how to measure poverty and social class (see Diemer et al. 2013; Roosa et al. 2005 for reviews). Such discussions become more complicated when considering how *students* perceive and classify their own and their peers' social class. Conceptualizations of SES markers are somewhat unique developmentally. Whereas adults identify social class primarily by financial resources and, to a lesser extent, housing, occupation, and education (Bullock and Limbert 2003), an exploratory study with a sample of working class and upper-middle class adolescents found that adolescents tend to identify family money and lifestyle as well as parental occupation and education as the most important markers for determining social class (Goodman et al. 2000). Thus, when considering how adolescents perceive their own social class and their SES match (or mismatch) with their schoolmates, the markers identified by Goodman and colleagues are informative.

Indeed, Crosnoe (2009), using data from the National Longitudinal Study of Adolescent Health (Add Health), used parent-reported family income to identify students as low-income (family incomes below 185 % of the federal poverty threshold) and a combination of parental education and family income to determine school-wide SES levels. Findings from that study suggest that low-income students struggle more academically and psychosocially when in schools with more middle- or high-income peers.

Our study, which also uses the Add Health dataset, extends Crosnoe's (2009) work in four ways. First, we use two alternative means for capturing SES—parental education and parental occupational status—both of which were identified as salient markers of social class by Goodman et al. (2000). By using these markers, we are able to identify exact matches and mismatches between students' SES and the SES of their schoolmates. Second, whereas Crosnoe focused specifically on low-income youth, through the identification of social class matches and mismatches, we are able to identify whether SES marginalization matters for students regardless of their individual SES levels. Third, we examine the intersection of SES marginalization with marginalization tied to race/ethnicity. In this way, we test whether SES marginalization matters above and beyond the impacts of racial/ethnic marginalization, which has received greater attention in the extant literature.

Fourth and finally, we are interested in the pathways by which SES and racial/ethnic marginalization matter for educational success. Prior research suggests that having few same-demographic peers can compromise socioemotional functioning in particular, and given established links between social connections and integration with academic performance (Anderman 2002; Hopson and Lee 2011; Nasir et al. 2011), we propose that social integration will serve as a key mechanism by which demographic marginalization influences educational success. In the current study, we identified two aspects of social integration—school attachment and loneliness—that the prior research has identified as particularly important for young people's educational success (Anderman 2002; Benner 2011). The general goal of this study is to examine whether, why, and when students who do *not* have a critical mass of same-demographic peers (i.e., demographically marginalized youth) are more likely to struggle not only socioemotionally but academically as well.

The Current Study

In the current study, we used data from the National Longitudinal Study of Adolescent Health (Add Health) to

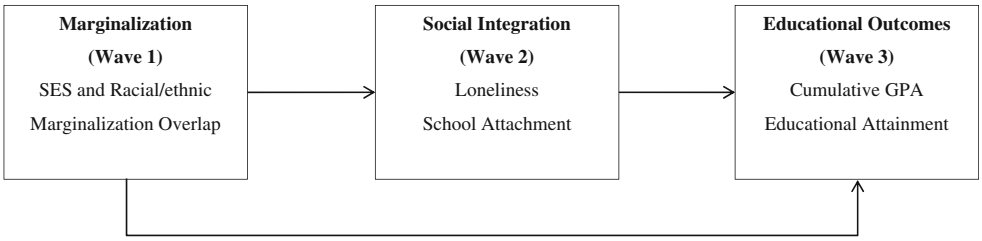

Fig. 1 Conceptual model of marginalization, social integration, and educational outcomes

examine three primary research aims. First, we investigated the extent to which students experienced three types of school demographic marginalization: socioeconomic marginalization based on parental education, socioeconomic marginalization based on parental occupation, and racial/ethnic marginalization. Using recommendations by Linn and Welner (2007), we used 15 % as the threshold for identifying demographic marginalization. In examining the intersection of marginalization indicators, we were particularly interested in identifying students who experienced marginalization tied to both SES and race, those who experienced only one type of marginalization, and students who did not experience any demographic marginalization.

Second, we examined the associations between demographic marginalization and adolescents' academic outcomes, including cumulative high school grade point average (GPA) and educational attainment approximately 2–7 years following high school. Here, we were interested in whether experiencing marginalization would operate in an additive fashion, such that experiencing a single form of demographic marginalization would put students at risk academically, but experiencing both types of marginalization would be even more detrimental to students' educational success. Third, we investigated possible mechanisms underlying these links. As shown in the conceptual model (see Fig. 1), we expected that marginalized adolescents would feel less socially integrated (i.e., more lonely, less attached to school), and this poorer social integration, in turn, would be linked to more negative educational outcomes. We hypothesized that the socioemotional and academic disadvantages of marginalization would be most evident for students experiencing both types of marginalization. Because our study is the first to explore SES marginalization using parental education and occupational status, we posited no hypotheses regarding whether SES marginalization based on education or occupation would have differential effects on the constructs under study. Our final set of analyses examined whether these relationships were similarly observed for students of different races/ethnicities and of different SES levels.

Method

Data

Data for the current study were drawn from Add Health, a longitudinal, nationally representative study. In 1994, an initial In-School survey was conducted with 90,118 7th to 12th grade students from 144 schools. Almost all students at each school participated in the In-School Wave (responses ranged from 25 to 2,559 students per school). Within the same school year, a representative sample of 20,745 students from these schools was selected to participate in the Wave 1 interview. This sample (with the exception of the 12th grade students in Wave 1) was re-interviewed in 1996 when they were in grades 8–12 (Wave 2; $N = 14{,}738$) and in 2001–2002 when they were between ages of 18–26 (Wave 3; $N = 15{,}197$). High school transcripts were obtained from 12,241 participants in Wave 3. School administrator data were collected in Waves 1 and 2.

The current study used data from the In-school Survey and Waves 1–3. Among students who participated in the In-School Survey, we selected 6,302 participants. The current sample includes 54 % females and is racially/ethnically diverse (53 % White, 21 % African American, 15 % Latino, 8 % Asian American, 2 % other race/ethnicity). A majority (78 %) of the current sample are native born with native born parents. The 130 schools (118 public, 12 private) in our sample represented a variety of demographic characteristics. There were 50 middle schools, 50 high schools, and 30 schools serving grades at both the middle and high school levels. Descriptive statistics for sample characteristics are displayed in Table 1.

We excluded 9,053 students who had missing data from Wave 1, 2, or 3, or who transferred schools between Waves 1 and 2. Exclusions due to school mobility or normative school transitions were necessitated because such changing contexts were often accompanied by changes in schools' demographic composition. Compared to the excluded students, students in our sample were more likely to be girls [χ^2 (1) = 25.2, $p < .001$], White [χ^2 (1) = 47.5, $p < .001$], in lower grades ($t = -20.6$, $p < .001$), and live with both biological parents [χ^2 (1) = 231.0, $p < .001$]. Our analytic

Table 1 Demographic and socioeconomic characteristics of students and their schools

Variable	*N*	%	*M*	*SD*
Adolescent characteristics				
Gender	6,302			
Female	3,372	53.5		
Male	2,930	46.5		
Race/ethnicity	6,302			
White	3,362	53.3		
African American	1,324	21.0		
Latino American	945	15.0		
Asian American	516	8.2		
Other race/ethnicity	152	2.4		
Grade level at wave 1	6,256		9.35	1.40
Picture vocabulary test scores	6,024		101.66	14.39
Generational status	6,302			
Both parents born in U.S.	4,887	77.5		
At least one parent foreign-born	1,415	22.5		
Intact family	6,302			
Living with both biological parents	3,709	58.9		
Living with one or none biological parents	2,593	41.1		
Family income (in thousand dollars)	4,925		48.11	52.55
School characteristics				
School sector	6,302			
Public	5,808	92.2		
Private	494	7.8		
School size	6,302		1,191.32	816.35
Location	6,302			
West	1,366	21.7		
Middle west	1,589	25.2		
South	2,382	37.8		
Northeast	965	15.3		
Urbanicity	6,302			
Urban	1,676	26.6		
Suburban	3,314	52.6		
Rural	1,312	20.8		
Grade span	6,302			
Middle school only	1,002	15.9		
High school only	3,482	55.2		
Both middle and high school grades	1,820	28.9		
School racial diversity	6,302		.44	.19
SES diversity (based on parental education)	6,302		.65	.10
SES diversity (based on parental occupation)	6,302		.63	.10

sample was also more likely to be in schools in the Midwest area [χ^2 (1) = 50.2, $p < .001$], schools in rural areas [χ^2 (1) = 124.6, $p < .001$], and schools serving both middle and high school grades [χ^2 (1) = 101.2, $p < .001$] or high school grades only [χ^2 (1) = 7.4, $p < .01$].

Measures

Table 2 provides descriptive statistics and bivariate correlations for all study variables.

Socioeconomic Marginalization

Based on a combination of In-School and Wave 1 data, we created two dichotomous variables capturing SES marginalization, one based on parental education and one based on parental occupation. The construction of SES marginalization variables proceeded in four steps. First, we created two variables to represent individual-level parental education and occupation, drawn from student reports at Wave 1. We selected the highest level of education and occupation across student reports for their mothers and their fathers. Parental education was originally measured by a 10-point scale ranging from (1) *never went to school* to (10) *professional training beyond a 4-year college*. We recoded parental education into four levels: (1) less than high school (11 % of sample), (2) high school degree or GED (28 %), (3) some college (21 %), and (4) 4-year college degree or higher (40 %).

Parental occupation was originally measured by 15 categories, and we grouped occupations into four levels based on each occupation's Social Economic Index (SEI; Hauser and Warren 1997). The SEI was created based on the education and income of all workers in the 1990 Census, and a higher index indicates a higher SES of an occupation. The four occupation levels used in the current study included (1) currently unemployed (8 % of sample), (2) SEI below 30 (i.e., restaurant worker or personal service, construction worker, factory worker or laborer, transportation, farm or fishery worker; 19 %), (3) SEI between 30 and 40 (i.e., office worker, sales worker, craftsperson, mechanic, military or security; 28 %), and (4) SEI at or above 40 (i.e., technical, manager, professional; 46 %). Parental education and occupation were moderately correlated with each other ($r = .52$, $p < .001$).

In the second step, we created school-level proportions of parental education and occupation. To assess the former, we first recoded In-School Survey student reports of parental education using the same coding scheme as in the initial step. We then aggregated individuals' parental education within each school to determine the proportion

Table 2 Correlations, means, and standard deviations for study variables

Variable	1	2	3	4	5	6	7
1. SES marginalization—parental education (W1)	–						
2. SES marginalization—parental occupation (W1)	.16***	–					
3. Racial/ethnic marginalization (W1)	.05***	.05***	–				
4. Loneliness (W2)	.01	.04**	.02	–			
5. School attachment (W2)	−.01	−.05***	−.07***	−.20***	–		
6. Cumulative GPA (W3)	−.06***	−.11***	−.02	−.08***	.17***	–	
7. Educational attainment (W3)	−.14***	−.12***	.01	−.06***	.13***	.57***	–
M	.10	.12	.10	.43	3.75	2.69	4.10
SD	.30	.32	.30	.66	.85	.78	1.96

Sample size ranges from 4,958 to 6,298

W Wave

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

of students in each parental education group: less than high school (10 % of students per school, on average), high school degree/GED (33 %), some college (17 %), and 4-year college degree or higher (39 %). Using an identical approach, we constructed another set of school-level variables to indicate proportions of parental occupation groups within each school: unemployed (6 % of students per school, on average), SEI below 30 (17 %), SEI between 30 and 40 (31 %), and SEI at or above 40 (46 %).

In the third step, we determined the SES marginalization for each student in the analytic sample by matching student-reported parent SES with school-level proportions of others whose parents had *different* SES levels. Each student had two SES marginalization scores—one indicating the percentage of students in their school who had parents with different education levels and one indicating the percentage of students in their school who had parents with different occupational levels. On average, SES marginalization in parental education levels was 65 % ($SD = 18$), indicating that the average student's parents had an education level different than 65 % of his/her peers' parents. A similar mean ($M = 63$ %, $SD = 18$) was observed for SES marginalization using parents' occupational status. SES marginalization based on parental education and occupation were moderately correlated with each other ($r = .52$, $p < .001$).

In the last step, we created dichotomous variables to identify each student as either *being socioeconomically marginalized* (i.e., having more than 85 % of peers at school who had different SES levels) or *not socioeconomically marginalized*. Two dichotomous variables were created for parental educational and occupational marginalization, respectively. Overall, there were 10 % ($N = 610$) marginalized students based on parental education and 12 % ($N = 679$) marginalized students based on parental occupation.

Racial/Ethnic Marginalization

Racial/ethnic marginalization was created in four steps based on In-School data, using a similar approach as capturing SES marginalization. First, we identified students' race/ethnicity as White, African American, Latino, Asian American, or other based on their self-reports. We then aggregated student data within each school to determine the proportion of each racial/ethnic group at the school level: White (55 %), African American (19 %), Latino (15 %), Asian American (4 %), and other (6 %). In the third step, we calculated racial/ethnic marginalization for each student by matching individual race/ethnicity with the proportions of all other racial/ethnic groups at school. On average, each student had 42 % ($SD = 29$) of peers at school who did not share his/her race/ethnicity. Lastly, we created a dichotomous variable to identify each student as either *being racially/ethnically marginalized* (i.e., having more than 85 % of peers at school from different racial/ethnic groups) or *not racially/ethnically marginalized*. Overall, there were 10 % ($N = 641$) students who experienced racial/ethnic marginalization.

Social Integration

Data on the two measures of social integration, feelings of loneliness and school attachment, were collected at Wave 2. Students rated a single item on *loneliness* (i.e., "How often you felt lonely in the past week?") using a 4-point scale (0 = *never or rarely*, 3 = *most of the time or all of the time*). Higher scores of loneliness denote poorer integration. *School attachment* was assessed by three items (i.e., feel close to people at school, feel like part of school, happy to be at school) rated on a 5-point scale (1 = *strongly agree*, 5 = *strongly disagree*). Scores of the three items were averaged and coded so that higher

composite scores denote greater attachment to school. The internal consistency of the three items was high ($\alpha = .79$).

Educational Outcomes

Data on the two measures of educational outcomes, cumulative GPA and educational attainment, were collected at Wave 3. Cumulative GPA was obtained from high school transcripts. It represented the average GPA across all subjects and all high school years, ranging from 0 (*F*) to 4 (*A*). Educational attainment was reported by participants and recoded on a 7-point scale (1 = *high school dropout*, 7 = *4-year college degree or higher*).

Covariates

We included both student and school characteristics as control variables in all analyses. Student characteristics, including gender, race/ethnicity (White, African American, Latino, Asian American, other), grade level, generational status (0 = *at least one parent born outside U.S.*, 1 = *both parents born in U.S.*), and family structure (1 = *both biological parents in the household*, 0 = *other family structure*) were obtained from student reports at Wave 1. Students' cognitive ability was measured by the Picture Vocabulary Test (PVT), administrated during the Wave 1 interview. PVT scores provide an estimation of students' vocabulary ability and aptitude standardized by age. We also controlled for parent reported family income at Wave 1, which assessed total income in the past year.

School characteristics reported by the school administrator included school sector (private, public), size, location (west, midwest, south, northeast), urbanicity (urban, suburban, rural), and grade span (middle school only, high school only, mixed middle and high school). We also constructed three diversity-related school-level variables from the In-School data. School SES diversity (separate measures based on parental education and parental occupation) and racial/ethnic diversity were computed using Simpson's (1949) index of diversity. Using school SES diversity based on parental education as an example, the index of diversity accounts for both the relative proportion of each parental education group in the school (p_i) and the number of education groups represented within the school (g), providing the probability (ranging from 0 to approximately 1) that two students randomly selected from the same school will have parents with different levels of education. Higher scores on the diversity index reflect greater SES or racial/ethnic diversity within the school.

Analysis Plan

Data analysis proceeded in four steps. First, to explore students' marginalization status, we conducted three cross tabulations to examine the overlap between SES marginalization based on parental education versus occupation, between SES marginalization based on parental education and racial/ethnic marginalization, and between SES marginalization based on parental occupation and racial/ethnic marginalization. In each set of cross tabulations, we identified each student's marginalization status as one of the four categories: being marginalized based on both indicators, being marginalized based on only one indicator (two separate categories), and not being marginalized on either indicator.

To test our conceptual model (see Fig. 1), we conducted path analyses in a structural equation modeling (SEM) framework in two steps. First, two models were tested to examine the direct associations between marginalization overlap and educational outcomes (i.e., cumulative GPA, educational attainment). The first model used the intersection of racial/ethnic and parental educational marginalization, and the second used the intersection of racial/ethnic and parental occupational marginalization. In each model, we used three dichotomous variables to capture the intersection between racial/ethnic and SES marginalization (racial/ethnic but not SES marginalization, SES but not racial/ethnic marginalization, and both racial/ethnic and SES marginalization); students who were not marginalized served as the omitted reference group. Next, we tested two mediated models to examine the relationships between marginalization intersection, social integration (i.e., loneliness, lack of school attachment), and educational outcomes. Direct relationships among the study variables and indirect effects of marginalization on educational outcomes were estimated simultaneously. All models included student and school characteristics as covariates.

Our last set of analyses examined whether the relationships of interest varied by students' race/ethnicity (i.e., White, African American, Latino, Asian American) or SES (i.e., some college or higher versus high school degree or less; SEI of 30 or higher versus SEI lower than 30). We specifically examined potential variation within demographic domain, such that racial/ethnic differences were examined for the effects of racial/ethnic marginalization, and SES differences were examined for the effects of SES marginalization. For the multiple group analyses, a baseline model was estimated with all paths freely estimated across groups. This model was then compared to a fully-constrained model in which all paths from marginalization to social integration and educational outcomes were constrained to be equal across groups. If the fully-constrained model fit the data significantly worse than the baseline model, we then examined group differences for individual paths by constraining one path at a time. Model comparisons were done using Satorra–Bentler scaled Chi square tests to adjust for estimations with the MLR estimator

(Satorra and Bentler 2001). However, this test sometimes produces negative correcting factors and thus is untenable when comparing two models that highly deviate from each other (Satorra and Bentler, 2010). In these cases, we conducted Wald Chi square tests of parameter equalities as an alternative approach of model comparison.

All analyses were conducted in M*plus* 7 (Muthén and Muthén 1998–2012). The current study has some missing data due to its longitudinal nature. M*plus* handles missing data with full-information maximum likelihood (FIML). FIML provides estimations using all available data without imputing missing values (Enders 2001), and it is one of the preferred procedures for handling missing data (Schafer and Graham 2002). Our study also contains non-independent data from students nested in schools, and M*plus* is able to address such dependency by producing robust standard errors with the Cluster command.

Results

Overlap Between Various Types of Marginalization

We first examined the overlap between marginalization based on various demographic indicators. Table 3 presents the group size and the percentage of the overall sample experiencing each type of marginalization (i.e., having <15 % same-demographic peers at school). As shown in the upper portion of Table 3, the overlap between parental educational and occupational marginalization occurred for a small proportion of students (3 %). In total, 7 % of students were marginalized based only on their parents' education, and 9 % of students were marginalized based only on their parents' occupation. The majority of students (82 %) were not marginalized based on either SES indicator.

A similar distribution was observed for the overlaps between SES and racial/ethnic marginalization. When SES marginalization was based on parental education (see the middle portion of Table 3), 1 % of students experienced both SES and racial/ethnic marginalization, 9 % experienced only racial/ethnic marginalization, and another 9 % students experienced only SES marginalization; 81 % of students were not marginalized socioeconomically (based on parental education) or racially/ethnically. When SES marginalization was based on parental occupation (see the lower portion of Table 3), we observed an overlap between SES and racial/ethnic marginalization for 2 % of the overall sample. In total, 10 % of students were only socioeconomically marginalized, 9 % of students were only racially/ethnically marginalized, and the majority of students (80 %) did not experience either SES (based on parental occupation) or racial/ethnic marginalization.

Table 3 Overlap between students' SES and racial/ethnic marginalization status

	Parental occupation		
	Represented	Marginalized	Total
Overlap between parental education and occupation marginalization			
Parental education			
Represented	4,642 (82 %)	487 (9 %)	5,129 (91 %)
Marginalized	395 (7 %)	143 (3 %)	538 (9 %)
Total	5,037 (89 %)	630 (11 %)	5,667 (100 %)
Overlap between racial/ethnic and parental education marginalization			
Race/ethnicity			
Represented	4,926 (81 %)	524 (9 %)	5,450 (90 %)
Marginalized	519 (9 %)	86 (1 %)	605 (10 %)
Total	5,445 (90 %)	610 (10 %)	6,055 (100 %)
Overlap between racial/ethnic and parental occupation marginalization			
Race/ethnicity			
Represented	4,671 (80 %)	580 (10 %)	5,251 (90 %)
Marginalized	499 (9 %)	99 (2 %)	598 (10 %)
Total	5,170 (88 %)	679 (12 %)	5,849 (100 %)

Direct Relationships Between Demographic Marginalization and Educational Outcomes

Our second set of analyses examined the direct relationships between demographic marginalization and educational outcomes, controlling for the individual and school covariates. In examining the intersection of racial/ethnic and SES marginalization based on parental education (see the upper portion of Table 4), students who experienced only SES marginalization had lower grades and attainment than their peers who experienced no demographic marginalization. Students who experienced both racial/ethnic and SES marginalization also exhibited lower educational attainment compared to non-demographically marginalized students. In contrast, students experiencing only racial/ethnic marginalization had similar achievement levels as non-marginalized students. We observed similar results when SES was assessed by parental occupation (see the lower portion of Table 4).

Linking Demographic Marginalization, Social Integration, and Educational Outcomes

We next examined whether social integration mediated the relationships between demographic marginalization and educational outcomes using path analyses. Two mediated models were tested to examine the direct and indirect

effects of the intersection of racial/ethnic and parental educational marginalization and the intersection of racial/ethnic and parental occupational marginalization. Model fit indices were not available because the models were just-identified. However, the models did account for a considerable amount of variance in our educational outcomes ($r^2 = .31$ for cumulative GPA and $r^2 = .24$–$.25$ for educational attainment). Estimations of direct effects are displayed in Figs. 2 and 3; indirect effects are displayed in Table 5, and the Appendix presents the covariate effects.

Demographic marginalization was more consistently associated with school attachment than with loneliness. Specifically, in the models examining racial/ethnic and each type of SES marginalization, compared with non-marginalized students, students experiencing only racial/ethnic marginalization or both racial/ethnic and SES marginalization reported significantly poorer school attachment, regardless of whether SES marginalization was assessed by parental education or occupation. Additionally, students reported higher levels of loneliness when they experienced racial/ethnic and SES marginalization tied to parental occupation.

Social integration, in turn, was linked to students' educational outcomes. Specifically, in both models, greater loneliness and poorer school attachment was significantly related to lower cumulative GPA at the end of high school and lower educational attainment. The direct effects of demographic marginalization on educational outcomes persisted even when including the mediators and covariates, such that SES marginalization and the intersection of different types of demographic marginalization were associated with lower cumulative GPA and poorer educational attainment. However, students who were racially/ethnically but not socioeconomically marginalized at school earned higher GPAs than their non-marginalized peers.

Table 4 Standardized coefficient estimates for the direct relationships between marginalization and educational outcomes

Predictors	Cumulative GPA		Educational attainment	
	β	*SE*	*β*	*SE*
Parental education marg. only	−.04	(.02)*	−.09	(.01)***
Racial/ethnic marg. only	.01	(.01)	−.01	(.02)
Parental education and racial/ethnic marg. overlap	.00	(.01)	−.03	(.01)*
Parental occupation marg. only	−.04	(.01)**	−.06	(.02)***
Racial/ethnic marg. only	.02	(.01)	−.01	(.02)
Parental occupation and racial/ethnic marg. overlap	−.03	(.01)**	−.04	(.01)**

Marg Marginalization

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

Differential Effects by Race/Ethnicity and SES

Our final set of analyses examined whether the effects of marginalization on social integration and educational outcomes varied by individual student demographics. We observed significant racial/ethnic differences in the models testing the intersection between racial/ethnic and SES marginalization [χ^2_{diff} (24) = 146.77, $p < .001$ when SES marginalization was based on parental education; $\chi^2_{diff}(24) = 110.28$, $p < .001$ when SES marginalization was based on parental occupation]. As seen in the upper portion of Table 6,

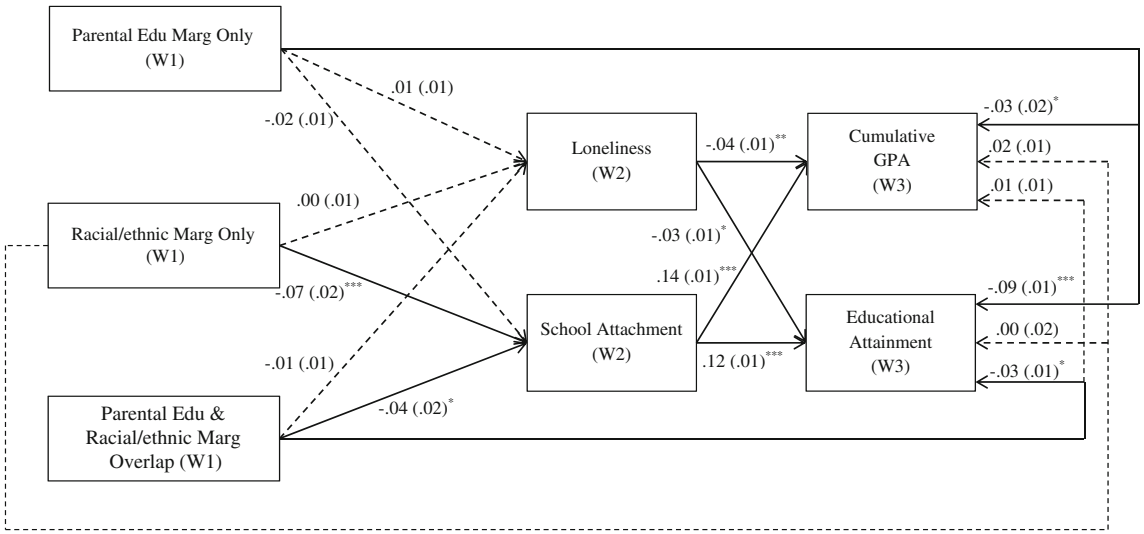

Fig. 2 Standardized coefficients for model of various types of SES and racial/ethnic marginalization, social integration, and educational outcomes. *Edu* Education, *Marg* Marginalization. Reference group are those students experiencing neither SES nor racial/ethnic marginalization. *$p < .05$. **$p < .01$. ***$p < .001$

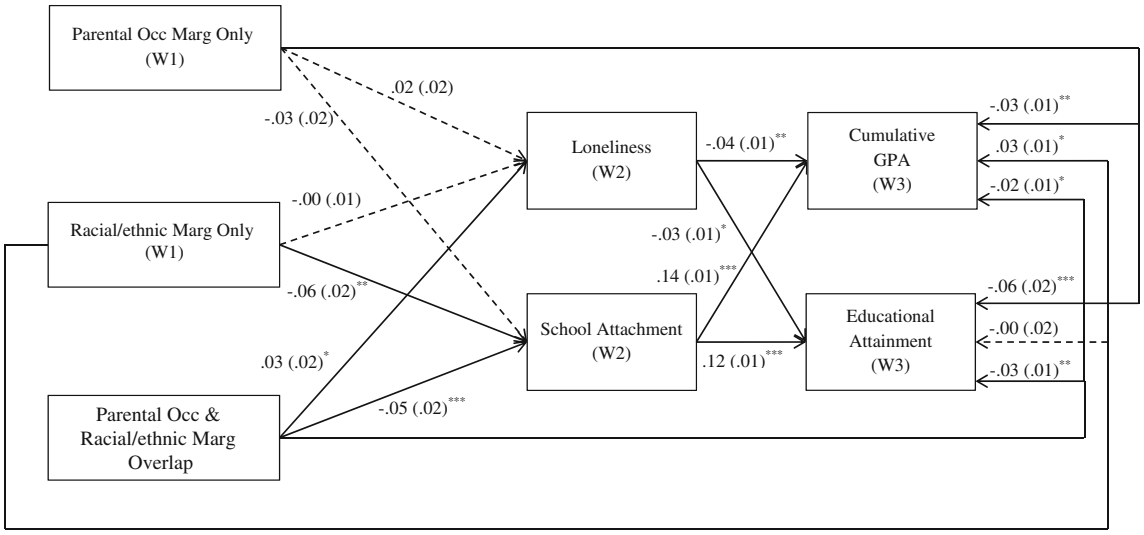

Fig. 3 Standardized coefficients for model of various types of SES and racial/ethnic marginalization, social integration, and educational outcomes. *Occ* Occupation, *Marg* Marginalization. Reference group are those students experiencing neither SES nor racial/ethnic marginalization. $*p < .05$. $**p < .01$. $***p < .001$

the negative association between being racially/ethnically but not socioeconomically marginalized at school and school attachment was only significant for African American students. Similarly, we observed that being both racially/ethnically and socioeconomically marginalized at school was associated with poorer school attachment and educational outcomes for African American students, regardless of how SES marginalization was assessed, and this dual marginalization was also detrimental for the socioemotional and academic outcomes of White students when SES marginalization was based on parental occupation. These relationships were generally not significant for Latino and Asian American students.

There were fewer variations in the relationships under study when considering student SES [χ^2_{diff} (8) = 20.68, $p < .01$ when SES marginalization was based on parental education; χ^2_{diff} (8) = 21.42, $p < .01$ when SES marginalization was based on parental occupation]. Significant SES differences for individual paths are displayed in the middle and lower portion of Table 6. These differences were primarily centered on school attachment, such that being SES marginalized (either alone when based on parental education or in conjunction with racial/ethnic marginalization when based on parental occupation) was more detrimental for the school attachment of low-SES versus higher-SES youth. In contrast, SES marginalization was more detrimental for the educational outcomes of high- versus low-SES youth.

Discussion

For decades, policymakers at the local, state, and federal levels have debated how to best address school assignments and demographic composition. Recently, the focus has moved from race-based to SES-based practices to maintain integrated learning environments at the K-12 level. Although the existing body of research illustrates the academic benefits of racial/ethnic diversity for students (Gurin et al. 2003), less is known about how SES diversity, and the accompanying issue of representation versus marginalization, influences students (see Crosnoe 2009 for exception). The current study addresses this limitation by investigating the consequences of both racial/ethnic and socioeconomic marginalization. Specifically, we sought to establish the extent to which demographic marginalization directly influenced adolescents' subsequent educational outcomes and whether these relationships were in part explained, by feelings of social integration.

Our first goal was to identify overall demographic marginalization levels, and we observed that only 20 % of the sample experienced demographic marginalization (i.e., having fewer than 15 % same-demographic peers). Relatively equal proportions of students were marginalized due to SES versus race/ethnicity, and very few students (2 %) experienced both types of marginalization. Our findings, however, highlighted the challenges of demographic marginalization both for students' academic and socioemotional outcomes.

First, when examining the direct links between demographic marginalization and academics, SES marginalization appeared to be a greater challenge to educational success. When compared to non-marginalized students, students experiencing only SES marginalization earned lower GPAs and advanced less far educationally. In contrast, racially/ethnically marginalized youth looked no different academically than their non-marginalized peers. Racial/ethnic marginalization was, however, detrimental for academics when combined with SES marginalization (i.e., those students at a

Table 5 Tests of mediation for path analysis model

Path	Indirect effects	
	β	*SE*
Parental education marg. only → loneliness → GPA	.000	(.001)
Parental education marg. only → loneliness → attainment	.000	(.000)
Parental education marg. only → school attachment → GPA	−.003	(.002)
Parental education marg. only → school attachment → attainment	−.002	(.002)
Racial/ethnic marg. only → loneliness → GPA	.000	(.001)
Racial/ethnic marg. only → loneliness → attainment	.000	(.000)
Racial/ethnic marg. only → school attachment → GPA	**−.010**	(.003)***
Racial/ethnic marg. only → school attachment →attainment	**−.009**	(.002)***
Parental education and racial/ethnic marg. overlap → loneliness → GPA	.000	(.001)
Parental education and racial/ethnic marg. overlap → loneliness → attainment	.000	(.000)
Parental education and racial/ethnic marg. overlap → school attachment → GPA	**−.006**	(.002)*
Parental education and racial/ethnic marg. overlap → school attachment → attainment	**−.005**	(.002)*
Parental occupation marg. only → loneliness → GPA	−.001	(.001)
Parental occupation marg. only → loneliness → attainment	−.001	(.000)
Parental occupation marg. only → school attachment → GPA	−.004	(.002)
Parental occupation marg. only → school attachment → attainment	−.004	(.002)
Racial/ethnic marg. only → loneliness → GPA	.000	(.001)
Racial/ethnic marg. only → loneliness → attainment	.000	(.000)
Racial/ethnic marg. only → school attachment → GPA	**−.009**	(.003)**
Racial/ethnic marg. only → school attachment → Attainment	**−.007**	(.003)**
Parental occupation and racial/ethnic marg. overlap → loneliness → GPA	−.001	(.001)
Parental occupation and racial/ethnic marg. overlap → loneliness → attainment	−.001	(.001)
Parental occupation and racial/ethnic marg. overlap → school attachment → GPA	**−.007**	(.002)**
Parental occupation and racial/ethnic marg. overlap → school attachment → attainment	**−.006**	(.002)**

Bold paths indicate significant indirect effects

Marg Marginalization

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

double disadvantage). The particular potency of SES marginalization for academics is consistent with recent advancements in the achievement gap literature that highlight stronger SES versus racial/ethnic contributions (Reardon 2011). These differential effects may also be tied to the characteristics of demographically marginalized youth and the larger school contexts in which these youth are embedded. For example, being a numerical minority in a diverse school (where many groups are represented, thus limiting the relative size of any given group; Budescu and Budescu 2012) will likely exert a different effect than being a numerical minority in a more segregated school where one's numerical minority status may be more apparent (and more isolating). This is an exciting topic for future inquiry.

We observed that those students with few demographically similar peers felt lonelier and less attached to their schools, and they also had lower subsequent grades and educational attainment. These findings are consistent with recent work on SES marginalization showing that low-income students struggle both socioemotionally and academically when in schools with more affluent peers (Crosnoe 2009). By examining racial/ethnic and SES marginalization simultaneously, our study demonstrated that SES marginalization posed a risk for youth's educational outcomes over and above the influence of racial/ethnic marginalization. With the increasing attention to SES diversity in school districts (Kahlenberg 2012; Nelson 2008), our findings suggest that such efforts should be mindful of the relative representation of groups, particularly those students who may not have a critical mass of same-demographic peers. This is in line with previous scholarship documenting greater learning gains and socioemotional well-being when students in diverse schools also have higher representation of same-racial/ethnic peers (Benner and Crosnoe 2011).

In exploring the mechanism by which demographic marginalization may impede educational success,

Table 6 Significant group differences in relationships among marginalization, school integration, and educational outcomes across student race/ethnicity and SES

Model path	Group differences	Standardized coefficient estimates by group			
	Wald (df)	Latino	African American	Asian American	White
Race/ethnicity					
1. Racial/ethnic marg only → School attachment	11.97 (3)**	.03	−.16**	−.12	.00
Racial/ethnic marg only → GPA	13.38 (3)**	.02	.05	.27*	−.04*
Parent edu and racial/ethnic marg → School attachment	23.40 (3)***	.04	−.13***	.09	−.01
Parent edu and racial/ethnic marg → Educational attainment	10.60 (3)*	−.04	−.11**	.04	−.01
2. Racial/ethnic marg only → School attachment	13.27 (3)**	.03	−.15**	−.04	.02
Parent occ and racial/ethnic marg → Loneliness	19.35 (3)***	.03	.02	−.01	.04**
Parent occ and racial/ethnic marg → School attachment	11.77 (3)**	.03	−.12**	−.01	−.03**
Parent occ and racial/ethnic marg → GPA	16.09 (3)**	−.04	−.04	.11	−.03*
Parent occ and racial/ethnic marg → Educational attainment	18.51 (3)***	−.07	−.10**	.10	−.04*
	Wald (df)	Low Parental Education[a]		High Parental Education[a]	
Parental education					
1. Parent edu marg only → School attachment	10.79 (1)**	−.07**		.02	
	Wald (df)	Low parental occupation[b]		High parental occupation[b]	
Parental occupation					
2. Parent occ and racial/ethnic marg → School attachment	10.85 (1)***	−.08**		−.03*	
Parent occ and racial/ethnic marg → GPA	16.45 (1)***	−.03		−.02*	
Parent occ and racial/ethnic marg → Educational attainment	6.30 (1)*	−.02		−.01*	

All model paths tested, but only paths with significant group differences are included

[a] The high parental education level was set to be some college or higher, and the low parental education level was set to be high school degree or lower

[b] The high parental occupation level was set to be having an SEI higher than 30, and the low parental occupation level was set to be having an SEI lower than 30

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

compromised school integration emerged as one such mechanism. Students who had fewer same-demographic schoolmates felt less socially integrated in their schools, and school attachment in particular served as a critical link between marginalization and later educational success. This is consistent with the literature highlighting the importance of school belonging in students' educational success (Anderman 2002; Blum et al. 2002). More importantly, it points to intervening tools to strengthen school integration for students who are at the numeric margins of their schools; finding ways to increase demographically-marginalized students' involvement in school activities and promote connections between students and both their peers and educators may serve as a mechanism to engage students in the educational process (Fredricks et al. 2004).

We did, however, observe persistent direct links between SES marginalization and students' educational success, suggesting that other potential mediators may be at work. For example, SES marginalized youth may face overt or covert forms of victimization. The research base on victimization and discrimination tied to race/ethnicity is expansive, with evidence suggesting that such mistreatment is more common when students have fewer same-race peers at school (Benner and Graham 2013). Yet we know very little about mistreatment tied to students' SES or the contexts in which this is more or less common, and this is an important area for future study.

Our findings also highlighted some nuances in demographic marginalization based on race/ethnicity versus SES. First, students who experienced multiple forms of marginalization (e.g., SES marginalization based on both parental education and occupation, both racial/ethnic and SES marginalization) displayed academic and socioemotional disadvantages more consistently than those who experienced one type of marginalization or non-marginalized students. This is consistent with the literature highlighting the cumulative impact of multiple contextual risks for young people's adjustment (Gutman et al. 2002; Morales and Guerra 2006).

Additionally, we observed a slightly stronger impact for SES marginalization based on parental occupation versus parental education. It is likely that students would be more aware of the occupations of their peers' parents rather than those parents' highest educational levels, thus making social comparisons (and recognition of marginalization) more apparent when grounded in parents' occupations. How adolescents view their own SES standing and assess the relative SES of their peers has received scant attention in the extent literature (see Goodman et al. 2000 for an exception), and future research in this area is critical to more comprehensively assessing SES marginalization and its effects on young people's well-being.

Finally, we observed some racial/ethnic and SES variations in the effects of demographic marginalization on students' socioemotional and educational outcomes. Specifically, the disadvantages associated with demographic marginalization were more pronounced for African American and White students than for Asian American and Latino students. In relation to SES differences, demographic marginalization was more closely associated with poorer school integration for low SES students, but more closely related to poorer educational outcomes for high SES youth. These findings added to prior work highlighting the disadvantage of marginalization for racial/ethnic minority and low SES students (Crosnoe 2009), and our study suggests that demographic marginalization is tied to socioemotional and educational challenges for students from diverse racial/ethnic and SES backgrounds.

Although the study makes several contributions to the extant literature on school diversity and marginalization, some limitations should be noted. First, we used two primary markers to capture SES marginalization—parental education and parental occupation—as these have been shown to be key markers of social class for adolescents. However, there are other important indicators of SES, such as family income and lifestyle (Goodman et al. 2000) or money available for needs and wants (Mistry et al. 2009), not available in the Add Health data to the extent needed for our study, that might better capture how students determine their socioeconomic fit with their peers. In fact, the field knows very little about exactly how adolescents determine and classify their own SES and the SES of their peers and how adolescents figure out whether they match (or not) the sociodemographics of their larger schools. Future work should incorporate more diverse methodologies and measures of SES and explore whether marginalization based on more salient SES indicators impact students' educational outcomes to a similar extent.

Second, our sample was restricted to students who remained in the same school between Waves 1 and 2, as students who transferred schools likely experienced changes in the demographic composition of their schools. While this decision ensured the reliability of our marginalization measures, it may have affected the representativeness of the analytic sample, which tended to be more advantaged (e.g., more likely to be White and live with both biological parents) than the excluded students. The benefit of using a large population-based sample, however, is that the relative size of students across the economic spectrum remained large in our analytic sample (e.g., we had almost 700 students in the most disadvantaged SES group).

A third limitation relates to the restricted age range of the current sample. Although our selection of adolescents was purposeful, driven by the cognitive capabilities of adolescents to understand SES and race/ethnicity and their fit with the larger school context (Goodman et al. 2000; Ryan and Patrick 2001), other studies have examined the effects of racial/ethnic representation in children as young as kindergarten (Benner and Crosnoe 2011). Given that children are able to understand issues of race as well as poverty and affluence in elementary school (Brown et al. 2007; Baron and Banaji 2006), examining whether the mechanisms under study hold for a younger sample is an important next step.

Conclusion

The current study clearly illustrates the educational risks posed by demographic marginalization for adolescents. A key contribution of our work is to disentangle the challenges youth face when at the margins of their schools racially/ethnically versus socioeconomically. Here, we find links between both racial/ethnic and SES marginalization and students' loneliness, school attachment, and subsequent academic achievement and attainment, particularly for those students at a double disadvantage (i.e., those reporting marginalization across multiple demographic markers). Our study also points to school integration as a potential point of intervention. Given the massive shift in the demographic composition of American public schools (Orfield and Lee 2007) and school districts' increasing reliance on school assignment methods relying on SES (rather than race), understanding issues around demographic representation and marginalization are more critical than ever.

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Author Contributions AB conceived of the study, participated in its design and interpretation of the data, and drafted the manuscript. YW conducted data analyses and drafted part of the manuscript. All authors read and approved the final manuscript.

Appendix

See Table 7.

Table 7 Standardized coefficients for covariates in models of various types of ses and racial/ethnic marginalization, social integration, and educational outcomes

	Parental education model								Parental occupation model							
	Loneliness		School attachment		Cumulative GPA		Educational attainment		Loneliness		School attachment		Cumulative GPA		Educational attainment	
	β	*SE*	*β*	*SE*	*β*	*SE*	*β*	*SE*	*β*	*SE*	*β*	*SE*	*β*	*SE*	*β*	*SE*
Female	.07	(.01)***	−.05	(.01)***	.21	(.01)***	.12	(.01)***	.07	(.01)***	−.05	(.01)***	.21	(.01)***	.12	(.01)***
Grade level	.09	(.02)***	−.04	(.03)	.07	(.02)**	.13	(.02)***	.09	(.02)***	−.04	(.02)	.06	(.02)**	.12	(.02)***
PVT test scores	−.04	(.02)*	.01	(.02)	.35	(.01)***	.28	(.01)***	−.04	(.02)*	.01	(.02)	.35	(.02)***	.27	(.01)***
African American	.02	(.02)	−.01	(.02)	−.12	(.02)***	.09	(.03)**	.02	(.02)	.00	(.02)	−.12	(.02)***	.10	(.03)***
Hispanic	.05	(.02)**	.02	(.02)	−.13	(.03)***	−.06	(.02)**	.05	(.02)*	.02	(.02)	−.12	(.03)***	−.05	(.02)**
Asian American	.06	(.03)*	.04	(.02)**	.06	(.02)**	.05	(.02)**	.06	(.03)*	.04	(.02)**	.06	(.02)**	.05	(.02)*
Other race/ethnicity	.03	(.02)*	.01	(.02)	−.06	(.02)**	−.02	(.02)	.03	(.01)	.00	(.02)	−.06	(.02)**	−.01	(.02)
Both parents born in US	.01	(.02)	−.02	(.02)	−.05	(.02)*	−.09	(.02)***	.01	(.02)	−.02	(.02)	−.05	(.02)*	−.09	(.02)***
Intact family	−.06	(.01)***	.05	(.01)***	.12	(.02)***	.14	(.01)***	−.06	(.01)***	.05	(.01)***	.12	(.02)***	.14	(.01)***
Family income	−.02	(.01)	.01	(.01)	.06	(.02)***	.10	(.02)***	−.01	(.01)	.02	(.01)	.05	(.02)**	.09	(.02)***
School size	−.01	(.02)	−.08	(.02)**	−.07	(.03)*	.08	(.03)**	−.01	(.02)	−.08	(.02)**	−.07	(.03)*	.07	(.03)*
School location—West	.02	(.02)	.05	(.03)	.18	(.04)***	−.06	(.03)	.02	(.02)	.05	(.03)	.18	(.04)***	−.05	(.03)
School location—Midwest	−.02	(.02)	.03	(.03)	.10	(.04)**	−.06	(.03)*	−.02	(.02)	.03	(.03)	.10	(.04)**	−.06	(.03)*
School location—South	−.01	(.02)	.10	(.03)**	.18	(.04)***	−.03	(.03)	.00	(.02)	.09	(.03)**	.18	(.04)***	−.03	(.03)
Urbanicity—Urban	−.03	(.02)	.07	(.03)*	.03	(.03)	.06	(.03)*	−.03	(.02)	.08	(.04)*	.04	(.04)	.06	(.03)*
Urbanicity—Suburban	−.02	(.02)	.04	(.03)	.04	(.03)	.06	(.03)*	−.02	(.02)	.04	(.03)	.03	(.03)	.05	(.03)*
Grade span—Mixed school	.01	(.03)	.01	(.04)	.02	(.04)	−.05	(.03)	.00	(.02)	.02	(.04)	.03	(.04)	−.04	(.03)
Grade span—High school only	.01	(.03)	−.03	(.03)	−.05	(.03)	−.11	(.04)**	.01	(.03)	−.03	(.03)	−.04	(.03)	−.09	(.03)**
School racial diversity	.01	(.02)	−.06	(.02)*	.01	(.03)	−.01	(.03)	.01	(.02)	−.06	(.02)**	.01	(.03)	−.01	(.03)
School SES diversity	−.01	(.03)	−.01	(.03)	.00	(.03)	−.08	(.03)*	.01	(.02)	.01	(.03)	−.03	(.03)	−.14	(.03)***
Private school	.01	(.02)	.02	(.03)	.00	(.03)	.04	(.03)	.03	(.02)	.03	(.03)	−.02	(.03)	.01	(.02)

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

References

Anderman, E. M. (2002). School effects on psychological outcomes during adolescence. *Journal of Educational Psychology, 94*, 795–809. doi:10.1037/0022-0663.94.4.795.

Antonio, A., Chang, M. J., Hakuta, K., Kenny, D. A., Levin, S., & Milem, J. F. (2004). Effects of racial diversity on complex thinking in college students. *Psychological Science, 15*, 507–510. doi:10.1111/j.0956-7976.2004.00710.x.

Baron, A. S., & Banaji, M. R. (2006). The development of implicit attitudes: Evidence of race evaluations from ages 6 and 10 and adulthood. *Psychological Science, 17*, 53–58. doi:10.1037/t03782-000.

Battin-Pearson, S., Newcomb, M. D., Abbott, R. D., Hill, K. G., Catalano, R. F., & Hawkins, J. D. (2000). Predictors of early high school dropout: A test of five theories. *Journal of Educational Psychology, 92*, 568–582. doi:10.1037/0022-0663.92.3.568.

Benner, A. D. (2011). Latino adolescents' loneliness, academic performance, and the buffering nature of friendships. *Journal of Youth and Adolescence, 40*, 556–567. doi:10.1007/s10964-010-9561-2.

Benner, A. D., & Crosnoe, R. (2011). The racial/ethnic composition of elementary schools and students' academic and socioemotional functioning. *American Educational Research Journal, 48*, 621–646. doi:10.3102/0002831210384838.

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

Benner, A. D., & Graham, S. (2013). The antecedents and consequences of racial/ethnic discrimination during adolescence: Does the source of discrimination matter? *Developmental Psychology, 49*, 1602–1613. doi:10.1037/a0030557.

Blum, R. W., Beuhring, T., Shew, M. L., Bearinger, L. H., Sieving, R. E., & Resnick, M. D. (2000). The effects of race/ethnicity, income, and family structure on adolescent risk behaviors. *American Journal of Public Health, 90*, 1879–1884. doi:10.2105/AJPH.90.12.1879.

Blum, R. W., McNeely, C., & Nonnemaker, J. (2002). Vulnerability, risk, and protection. *Journal of Adolescent Health, 31*, 28–39. doi:10.1016/S1054-139X(02)00411-1.

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology, 53*, 371–399. doi:10.1146/annurev.psych.53.100901.135233.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge: Harvard University Press.

Brown, J., Meadows, S. O., & Elder, G. H. (2007a). Race-ethnic inequality and psychological distress: Depressive symptoms from adolescence to young adulthood. *Developmental Psychology, 43*, 1295–1311. doi:10.1037/0012-1649.43.6.1295.

Brown, C. S., Mistry, R. S., & Bigler, R. S. (2007b). Hurricane Katrina: African American children's perceptions of race, class, and government involvement amid a national crisis. *Analyses of Social Issues and Public Policy, 7*, 191–208. doi:10.1111/j.1530-2415.2007.00139.x.

Bullock, H. E., & Limbert, W. M. (2003). Scaling the socioeconomic ladder: Low-income women's perceptions of class status and opportunity. *Journal of Social Issues, 59*, 693–709. doi:10.1046/j.0022-4537.2003.00085.x.

Caldas, S. J., & Bankston, C. (1998). The inequality of separation: Racial composition of schools and academic achievement. *Educational Administration Quarterly, 34*, 533–557. doi:10.1177/0013161X98034004005.

Cauce, A., Cruz, R., Corona, M., & Conger, R. (2011). The face of the future: Risk and resilience in minority youth. In G. Carlo, L. J. Crockett, & M. A. Carranza (Eds.), *Health disparities in youth and families: Research and applications* (pp. 13–32). New York, NY: Springer Science + Business Media.

Coleman, J. S., Campbell, E. G., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., et al. (1966). *Equality of educational opportunity*. Washington, DC: U. S. Government Printing Office.

Crosnoe, R. (2005). Double disadvantage or signs of resilience? The elementary school contexts of children from Mexican immigrant families. *American Educational Research Journal, 42*, 269–303. doi:10.3102/00028312042002269.

Crosnoe, R. (2009). Low-income students and the socioeconomic composition of public high schools. *American Sociological Review, 74*, 709–730. doi:10.1177/000312240907400502.

Diemer, M. A., Mistry, R. S., Wadsworth, M. E., Lopez, I., & Reimers, F. (2013). Best practices in conceptualizing and measuring social class in psychological research. *Analyses of Social Issues and Public Policy, 13*, 77–113. doi:10.1111/asap.12001.

Elder, G. H. (1985). *Life course dynamics: Trajectories and transitions, 1968-1980*. Ithaca, NY: Cornell University Press.

Elder, G. H. (1998). The life course as developmental theory. *Child Development, 69*, 1–12. doi:10.2307/1132065.

Enders, C. K. (2001). The performance of the full information maximum likelihood estimator in multiple regression models with missing data. *Educational and Psychological Measurement, 61*, 713–740. doi:10.1177/00131640121971482.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*, 59–109. doi:10.3102/00346543074001059.

Goldsmith, P. A. (2004). Schools' role in shaping race relations: Evidence on friendliness and conflict. *Social Problems, 51*, 587–612. doi:10.1525/sp.2004.51.4.587.

Goldsmith, P. R. (2009). Schools or neighborhoods or both? Race and ethnic segregation and educational attainment. *Social Forces, 87*, 1913–1941. doi:10.1353/sof.0.0193.

Goodman, E., Amick, B. C., Rezendes, M. O., Levine, S., Kagan, J., Rogers, W. H., et al. (2000). Adolescents' understanding of social class: A comparison of white upper middle class and working class youth. *Journal of Adolescent Health, 27*, 80–83. doi:10.1016/S1054-139X(99)00116-0.

Gurin, P. Y., Dey, E. L., Gurin, G., & Hurtado, S. (2003). How does racial/ethnic diversity promote education? *The Western Journal of Black Studies, 27*, 20–29.

Gutman, L. M., Sameroff, A. J., & Eccles, J. S. (2002). The academic achievement of African American students during early adolescence: An examination of multiple risk, promotive, and protective factors. *American Journal of Community Psychology, 30*, 367–399. doi:10.1023/A:1015389103911.

Hanushek, E. A., Kain, J. F., & Rivkin, S. G. (2009). New evidence about Brown v. board of education: The complex effects of school racial composition on achievement. *Journal of Labor Economics, 27*, 349–383. doi:10.3386/w8741.

Harris, D. R., & Sim, J. J. (2002). Who is multiracial? Assessing the complexity of lived race. *American Sociological Review, 67*, 614–627. doi:10.2307/3088948.

Hauser, R. M., & Warren, J. R. (1997). Socioeconomic indexes for occupations: A review, update, and critique. *Sociological Methodology, 27*, 177–298. doi:10.1111/1467-9531.271028.

Hopson, L. M., & Lee, E. (2011). Mitigating the effect of family poverty on academic and behavioral outcomes: The role of school climate in middle and high school. *Children and Youth Services Review, 33*, 2221–2229. doi:10.1016/j.childyouth.2011.07.006.

Hoy, W. K., Tarter, C. J., & Hoy, A. W. (2006). Academic optimism of schools: A force for student achievement. *American Educational Research Journal, 43*, 425–446. doi:10.3102/00028312043003425.

Huston, A. C., & Bentley, A. C. (2010). Human development in societal context. *Annual Review of Psychology, 61*, 411–437. doi:10.1146/annurev.psych.093008.100442.

Kahlenberg, R. D. (2012). *The future of school integration: Socioeconomic diversity as an education reform strategy*. Washington, DC: The Century Foundation.

Kao, G., & Thompson, J. S. (2003). Racial and ethnic stratification in educational achievement and attainment. *Annual Review of Sociology, 29*, 417–442. doi:10.1146/annurev.soc.29.010202.100019.

Laird, R. D., Pettit, G. S., Dodge, K. A., & Bates, J. E. (2005). Peer relationship antecedents of delinquent behavior in late adolescence: Is there evidence of demographic group differences in developmental processes? *Development and Psychopathology, 17*, 127–144. doi:10.1017/S0954579405050078.

Lareau, A. (2003). *Unequal childhoods: Class, race, and family life*. Berkeley, CA: University of California Press.

Lee, J. (2002). Racial and ethnic achievement gap trends: Reversing the progress toward equity? *Educational Researcher, 31*, 3–12. doi:10.3102/0013189X031001003.

Lee, V. E., & Smith, J. B. (1995). Effects of high school restructuring and size on early gains in achievement and engagement. *Sociology of Education, 68*, 241–270. doi:10.2307/2112741.

Linn, R. L., & Welner, K. G. (2007). *Race-conscious policies for assigning students to schools: Social science research and the Supreme Court cases. Committee on social science research evidence on racial diversity in schools*. Washington, DC: National Academy of Education.

McNeely, C. A., Nonnemaker, J. M., & Blum, R. W. (2002). Promoting school connectedness: Evidence from the National longitudinal study of adolescent health. *Journal of School Health, 72*, 138–146. doi:10.1111/j.1746-1561.2002.tb06533.x.

Mistry, R. S., Benner, A. D., Tan, C. S., & Kim, S. Y. (2009). Family economic stress and academic well-being among Chinese–American youth: The influence of adolescents' perceptions of economic strain. *Journal of Family Psychology, 23*, 279–290. doi:10.1037/a0015403.

Mistry, R. S., Vandewater, E. A., Huston, A. C., & McLoyd, V. C. (2002). Economic well-being and children's social adjustment: The role of family process in an ethnically diverse low-income sample. *Child Development, 73*, 935–951. doi:10.1111/1467-8624.00448.

Morales, J. R., & Guerra, N. G. (2006). Effects of multiple context and cumulative stress on urban children's adjustment in elementary school. *Child Development, 77*, 907–923. doi:10.1111/j.1467-8624.2006.00910.x.

Muthén, L. K., & Muthén, B. O. (1998-2012). *Mplus User's Guide. Seventh Edition.* Los Angeles, CA: Muthen & Muthen.

Nasir, N., Jones, A., & McLaughlin, M. (2011). School connectedness for students in low-income urban high schools. *Teachers College Record, 113*, 1755–1793.

Orfield, G., & Lee, C. (2007). *Historic reversals, accelerating resegregation, and the need for new integration strategies*. Los Angeles, CA: The Civil Rights Project, UCLA.

Palardy, G. J. (2013). High school socioeconomic segregation and student attainment. *American Educational Research Journal, 50*, 714–754. doi:10.3102/0002831213481240.

Parents Involved in Community Schools v. Seattle School District No. 1, 551 U.S. 701 (2007).

Reardon, S. F. (2011). The widening academic achievement gap between the rich and the poor: New evidence and possible explanations. In R. M. Murnane & G. Duncan (Eds.), *Social inequalities and educational disadvantage*. Washington, DC: Brookings Institution.

Roosa, M., Deng, S., Nair, R., & Burrell, G. (2005). Measures for studying poverty in family and child research. *Journal of Marriage and Family, 67*, 971–988. doi:10.1111/j.1741-3737.2005.00188.x.

Rumberger, R. W., & Palardy, G. J. (2005). Does segregation still matter? The impact of student composition on academic achievement in high school. *Teachers College Record, 107*, 1999–2045. doi:10.1111/j.1467-9620.2005.00583.x.

Ryan, A. M., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal, 38*, 437–460.

Satorra, A., & Bentler, P. M. (2001). A scaled difference Chi square test statistic for moment structure analysis. *Psychometrika, 66*, 507–514. doi:10.1007/BF02296192.

Satorra, A., & Bentler, P. M. (2010). Ensuring positiveness of the scaled difference Chi square test statistic. *Psychometrika, 75*, 243–248. doi:10.1007/s11336-009-9135-y.

Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods, 7*, 147–177. doi:10.1037/1082-989X.7.2.147.

Schofield, J., & Sagar, H. (1983). Desegregation, school practices, and student race relations. In C. Rossell & W. Hawley (Eds.), *The consequences of school desegregation* (pp. 58–102). Philadelphia: Temple University Press.

Seaton, E. K., & Yip, T. (2009). School and neighborhood contexts, perceptions of racial discrimination, and psychological well-being among African American adolescents. *Journal of Youth and Adolescence, 38*, 153–163. doi:10.1007/s10964-008-9356-x.

Shinn, M., & Rapkin, B. D. (2000). Cross-level research without cross-ups in community psychology. In J. Rappaport & E. Seidman (Eds.), *Handbook of community psychology* (pp. 669–695). Dordrecht, Netherlands: Kluwer Academic Publishers.

Siegler, R. S., Duncan, G. J., Davis-Kean, P. E., Duckworth, K., Claessens, A., Engel, M., et al. (2012). Early predictors of high school mathematics achievement. *Psychological Science, 23*, 691–697. doi:10.1177/0956797612440101.

Simpson, E. H. (1949). Measurement of diversity. *Nature, 163*, 688. doi:10.1038/163688a0.

St. John, N. (1975). *School desegregation: Outcomes for children*. New York: Wiley.

Tam, M. Y. S., & Bassett, G. W. (2004). Does diversity matter? Measuring the impact of high school diversity on freshman GPA. *Policy Studies Journal, 32*, 129–143. doi:10.1111/j.0190-292X.2004.00056.x.

Twenge, J. M., & Nolen-Hoeksema, S. (2002). Age, gender, race, socioeconomic status, and birth cohort difference on the children's depression inventory: A meta-analysis. *Journal of Abnormal Psychology, 111*, 578–588. doi:10.1037/0021-843X.111.4.578.

Wells, A. S., Duran, J., & White, T. (2008). Refusing to leave desegregation behind: From graduates of racially diverse schools to the Supreme Court. *Teachers College Record, 110*, 2532–2570.

Yoshikawa, H., Aber, J. L., & Beardslee, W. R. (2012). The effects of poverty on the mental, emotional, and behavioral health of children and youth: Implications for prevention. *American Psychologist, 67*, 272–284. doi:10.1037/a0028015.

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