

Institutions are often assumed to be important focal points for organizing people's relationships. Indeed, many friendships, romantic relationships, and marriages were formed when people met at schools, workplaces, voluntary associations, etc. Related to this basic insight into the "focused" nature of social ties (Feld 1986), institutional integration has been a cornerstone of U.S. efforts to improve racial-ethnic relations. Since civil rights reforms (most notably, the 1954 *Brown vs Board of Education* ruling), integration of schools and other institutions has been central to U.S. strategies for reducing social distance and inequality across racial-ethnic groups. Following the "propinquity principle" (Blau 1977a), all else equal, individuals in more diverse institutions will be more likely to meet and form relationships with individuals outside of their own racial-ethnic group.

While institutional integration is clearly a critical and necessary prerequisite for improving racial-ethnic relations and reducing social distance, it is important to keep in mind that people with varying underlying preferences are likely to exhibit multiple behavioral responses to institutional diversity, some of which may complicate and run counter to a simple propinquity principle. The possibilities and limitations of institutional integration as a way to reduce racial-ethnic social distance should depend in part on whether the role of the institution in focusing and structuring social ties varies in association with the racial-ethnic composition of institutional members. Most notably, if racial-ethnic diversity of institutions is positively associated with the likelihood that institutional members develop relationships with people outside of the institution, rather than with other members of the institution, the capacity for institutional integration to reduce social distance will be complicated. For instance, as explored in the following analysis, if racially-ethnically diverse schools are weaker focal points for students' relationships, and students in diverse schools are more likely to form relationships with

individuals outside the school, rather than their fellow students inside the school, the potential for school integration to reshape racial-ethnic relations will, all else equal, be lessened.

Relationships in the U.S. (e.g., friendships, dating relationships, etc) are often characterized by racial-ethnic homophily, even in relatively diverse, integrated settings (McPherson, Smith-Lovin and Cook 2001). Having less opportunity to form relationships with other institutional members from one's own racial-ethnic background (i.e., facing numerical constraints in terms of finding same-race-ethnicity relationship partners inside the institution) may therefore be an important factor that makes diverse institutions less integrative and focal for social relationships. In this vein, it would seem particularly noteworthy if institutional members with less access to same-race-ethnicity relationships inside the given institution are not only more likely to form relationships outside of the institution, but are, more specifically, likely to form same-race-ethnicity relationships outside the institution. Such a pattern might suggest that some individuals, presumably those with stronger underlying preferences for same-race-ethnicity relationships, are actually "working around" racial-ethnic diversity in local institutional populations and may be forming relationships outside of institutional boundaries in order to maintain racial-ethnic homophily and social distance.

In this analysis, I use data about adolescent romantic and sexual relationships from the first two waves of the National Longitudinal Survey of Adolescent Health (Add Health), to explore associations between school racial-ethnic composition and the formation of same- and cross-race-ethnicity relationship with individuals inside and outside of the respondent's school. More specifically, I test two questions: First, is the proportion of opposite-sex students in the school who are from a different racial-ethnic group than the respondent positively associated with the respondent reporting romantic/sexual relationships with individuals outside of the

school? That is, when respondents have less opportunity to form same-race-ethnicity relationships inside the school, does the school become a less important focal point for their relationships? Second, is the proportion of opposite-sex students in the school who are from a different racial-ethnic group than the respondent positively associated with the likelihood of a same-race-ethnicity relationship outside of the school? That is, when respondents have less opportunity to form same-race-ethnicity relationships inside the school, and they form relationships outside of the school, are those relationships more likely to be with individuals from the respondent's own racial-ethnic background?

Several notable studies have used Add Health friendship network data to explore associations between school diversity and cross-race-ethnicity friendships (Moody 2001, Quillian and Campbell 2003, Mouw and Entwisle 2006). However, these existing studies have focused almost exclusively on relationships with other students inside the respondent's school. These studies have, therefore, been unable to test structural sociological propositions (outlined below) about how institutions with varying characteristics may be more or less important foci for relationships and how some individuals may "work around" local institutional diversity to maintain homophily. The following analysis, therefore, builds on existing studies, but also differs considerably by testing an alternative set of hypotheses related to relationship formation within and across both institutional and racial-ethnic boundaries.

Theoretical Framework: Structural Sociological Propositions

When conceptualizing how people form relationships, we generally assume that they act on their underlying preferences for forming certain types of relationships, but must operate within the constraints of given opportunity structures. People's preferences and desires for

particular types of relationships are almost always unobserved. Rather, what we witness are people's behaviors (i.e., the relationships that are actually formed), which reflect their preferences within the constraints of given opportunity structures (i.e., expressed preferences).

Homophily (i.e., in-group pairing) is a general feature of many social relationships that has been documented across varying contexts (e.g., within schools, workplaces, and neighborhoods with varying characteristics) (McPherson, Smith-Lovin and Cook 2001). Noting this generalized tendency, Blau (1977a) suggests that, on average, individuals prefer to form relationship with other people who are similar to them. However, the constraints of opportunity structure—most notably, the size of their group, relative to other groups—may limit their ability to satisfy their in-group preferences.

A key factor determining relationship opportunity structure is the compositions of populations within institutions and organizations. According to Feld's (1986) "focus theory" of networks, individuals tend to organize their social relationships around "extra-network foci" (e.g., schools, workplaces, clubs, etc), and the probability of a relationship being formed between two individuals depends in part on whether they share an extra-network foci (e.g., go to the same school, work together, etc). In-line with this basic insight into the "focused" nature of networks, the *propinquity principle* posits that, all else equal, diversity of institutions or organizations (e.g., racial and ethnic integration of schools) will tend to increase the likelihood of out-group ties (e.g., relationships outside of one's racial-ethnic group) as people in diverse institutions have more opportunity to meet and form relationships with individuals from different groups (Blau 1977a).

On the other hand, the balance between numerical opportunity constraints and in-group preference becomes more complex when we note that individuals in contemporary society

generally have multiple group affiliations, and, all else equal, potential in-group relationships become rarer as more dimensions of group membership are taken into account (e.g., options become more limited when one desires a same-race boyfriend, who also attends the same schools, is in the same grade, also plays in the school band, etc.). When forming relationships, most individuals must make “trade-offs” to satisfy stronger in-group preferences over weaker ones. Blau (1977b) posits that when people have strong in-group preferences along a certain dimension (e.g., race-ethnicity), the intersection of this dimension with other dimensions of differentiation (e.g., school boundaries) will reduce the number of potentially acceptable partners, and may *numerically necessitate* the crossing of alternative boundaries. To quote Blau (1977b: 44), “For individuals to satisfy their most salient in-group preferences, they must set aside other in-group preferences and enter into intergroup relations along other lines.”¹

Given strong tendencies toward racial-ethnic homophily in the U.S., this proposition leads us to expect that, when individuals face numerical constraints in terms of forming relationships with members of their own racial-ethnic group, there will be an increase in the rate of relationships that cross alternative, non-racial-ethnic (in the case of following analysis, school) boundaries. It should be emphasized that evidence supporting this proposition would not contradict or necessarily undermine evidence for other structural proposition, such as the propinquity principle. When it comes to relationship formation, we should expect, and the follow analysis tests for, multiple behavioral responses to institutional racial-ethnic diversity. Some

¹ Blau demonstrates this general issue with the example of academics. Tolerance of diversity has been shown to increase with education and PhDs are more likely than many other people to form relationship across say race or religious background. However, Blau suggests that, rather than education leading people to have more positive feelings toward diversity, perhaps highly-educated individuals just have very strong preferences and in-group biases when it comes to education. PhDs frequently want to socialize among and marry other PhDs, sometimes within the same discipline. If we consider what proportion of the population has PhDs, particularly within a specific area of study, this preference for educational homophily can be seen as generating major numerical constraints in terms of potential relationships partners. Such numerical constraints may effectively *force* highly-educated individuals with strong in-group education preferences to be more willing to cross other types of group boundaries (e.g., religion, race-ethnicity, etc).

individuals (presumably those with weaker in-group racial-ethnic preferences) may respond to local diversity in accordance with the propinquity principle and form more cross-race-ethnicity relationships within the school. However, other students (presumably those with strong in-group racial-ethnic preferences) may respond to numerical constraints by forming more relationships outside of the school.

Integration and U.S. Racial-Ethnic Relations

U.S. strategies for reducing social distance and racial-ethnic stratification have frequently focused on trying to increase the racial-ethnic diversity of extra-network foci (e.g., institutions and neighborhoods). Key feature of 1950s and 1960s civil rights reforms were federal mandates to integrate schools and prohibit discrimination in housing markets (e.g., the 1954 *Brown vs Board of Education* ruling, passage of the 1968 Fair Housing Act) (Logan, Oakley, and Stowell 2008). With regard to ethnic relations, the movement of ethnic and immigrant groups from “enclaves” to neighborhoods, schools, and social clubs with more native-born individuals is often seen as an important part of successful “assimilation” into the U.S. (Alba and Nee 2005).

These ways of thinking about race-ethnicity and social distance draw implicitly on structural sociological ideas, most notably the propinquity principle. Several sociological studies have tested the propinquity principle. On the one hand, a substantial body of evidence supports the propinquity principle by showing a positive association between integration and the likelihood of cross-race ties (e.g., friendships, marriages, dating relationships) (Joyner and Kao 2000, Quillian and Campbell 2003, Mouw and Entwisle 2006, South and Messner 1986). An optimistic interpretation of such evidence is that local populations and structural constraints (rather than individual preferences) play an important role in explaining social distance across

racism in the U.S., and that efforts to promote school or neighborhood integration should reduce social distance between racial-ethnic groups.

On the other hand, important caveats and conditions also apply to this evidence, and suggest that people often maintain racial-ethnic homophily, frequently in spite of greater physical and institutional proximity. For instance, although the relative odds of cross-race-ethnicity ties are often notably higher in more diverse areas, the overall rate or proportion of cross-race-ethnicity ties typically remains relatively low, even in more diverse areas (e.g., if in a low-integration area, 1% of all relationships are cross-race-ethnicity, and in a high-integration area, 2% of all relationships are cross-race-ethnicity, there is a doubling in the likelihood of cross-race-ethnicity relationships with integration, but cross-race-ethnicity relationships still remain a small minority of all relationships, and observed mixing is usually still far below proportionate mixing). In larger communities (e.g., bigger schools), where there is a often greater opportunity for “self segregation” because there will be larger absolute number of potential same-race-ethnicity partners that one may find interpersonally appealing, cross-race-ethnicity ties are less common, even adjusting for population composition (Moody 2001). There is also considerable evidence showing that, in diverse areas, the formation of close relationships (e.g., marriages) across racial boundaries is significantly hindered by socioeconomic inequalities across race groups (South and Messner 1986, McPherson, Smith-Lovin and Cook 2001). Finally, even holding local racial composition constant, some racial-ethnic boundaries tend to be be much more permeable than others. For instance, ties between whites and Hispanics are much more common than ties between whites and blacks (Joyner and Kao 2000; Laumann and Yoom 1999).

When considering such salience of race-ethnicity, despite integration, it is important to keep in mind that “preferences” for in-group ties are bound up with the context of U.S. racial-

ethnic inequality and culture. For instance, Tatum (2003) argues that, because adolescents of color are transitioning to adulthood in the context of a racist society, same-race friendships become particularly important to their development of a positive racial identity. When consider sexual and romantic relationships, racialized notions of beauty, femininity, masculinity are likely to shape people's dating preferences and, consequently, relationship options (Craig 2002).

The Complexity of Defining “Opportunity Structure”

For researchers trying to understand how social context shapes relationship formation, a common overarching methodological and conceptual goal is trying to disentangle “preferences” and “opportunity structure.” However, as mentioned above, people's internal preferences are generally unobserved. Researchers, therefore, often try to accomplish this by defining *a priori* a person's “opportunity structure” or the choice set that primarily defines his/her options in terms of forming relationships. At the simplest level (putting to the side for the moment complicating factors, such as, the interdependence of social networks and selection into areas based on unobservables), once it is possible to accurately measure people's relationship opportunity structure and adjust for it in models, variation in people's social ties should primarily reflect differences in preferences. Much of the existing work on population compositions and cross-race ties uses school or neighborhood boundaries to define relationship opportunity structures (see, e.g., Zeng and Xie 2008; Moody 2001; Mouw and Entwisle 2006).

The best and most prominent examples of this work use the friendship network data drawn from the “in-school sample” in the Add Health, which contain information on friendship ties among students enrolled in the Add Health schools (i.e., within-school ties). Researchers working with these data often use within-school relationship dyads as the unit of analysis,

constructing adjacency matrices where students in a given school comprise the rows/columns and each cell is a potential relationship between students in the school (Moody 2001, Quillian and Campbell 2003, Mouw and Entwisle 2006). Theoretically, if we can know and measure all potential relationships for a set of people, it becomes possible to define a hypothetical “counterfactual” point at which all preferences have zero influence and all variation can be attributed to opportunity structure. This can clearly offer considerable conceptual and methodological benefits. However, predefining an opportunity structure can come at considerable costs, since researchers must exclude from their analysis relationships outside the predefined opportunity structure (i.e., school). As shown below, for the average Add Health respondent, 40% of his/her romantic/sexual relationships are with individuals who do not go to the respondent’s school. This implies that a considerable number of relationships may be missed when looking only at in-school ties. And, as discussed above, the frequency of outside-school relationships is likely to vary with school racial-ethnic composition.

Therefore, the following analysis considerably loosens common assumptions made about the boundaries of opportunity structures, and examines romantic and sexual relationships with individuals both inside and outside the respondents’ school. Relaxing these assumptions will, of course, limit my ability to make any strong causal statements about preferences and opportunity structure, and the following analysis is largely descriptive. However, widening the lens to capture relationships with individuals inside as well as outside the respondent’s school, should provide a more complete picture of multiple behavioral responses to racial-ethnic diversity, and allows us to consider understudied theoretical propositions about how people may maintain racial-ethnic homophily despite local integration (e.g., by forming more same-race-ethnicity relationships outside of the immediate opportunity structure).

It is important to point out that the friendship network data from the Add Health “in-school” sample, which are based on linking students, do not allow researchers to consider whether outside-school relationships cross racial-ethnic boundaries because it is not possible to get information (e.g., race-ethnicity) on students’ friends who do not attend the sampled school. The romantic and sexual relationship-roster data from the Add Health, however, which is based on querying respondents about their past/current relationships, does allow us to know relationship partners’ race-ethnicities and whether they attended the respondent’s school (based on the respondent’s answers).

We might expect that individual’s efforts to maintain racial-ethnic homophily will be stronger for romantic and sexual relationships, relative to friendships. Given that romantic/sexual relationships are more intimate than friendships, are often exclusive, and people typically have fewer romantic/sexual partners than friends, in-group preferences are often stronger for romantic/sexual relationships than friendships (McPherson, Smith-Lovin, and Cook 2001). I am aware of only one study that explores the possibility that students in more diverse schools are less likely to make friends within the school. In their analysis of cross-race friendships in the Add Health, Joyner and Kao (2000) report no association between school racial diversity and the odds of nominating at least one friend who attends the school. This may imply that, because of differences in people’s preferences and behaviors when forming friendship and romantic/sexual relationships, the following results for romantic/sexual relationships do not apply to friendships. Given data limitations, Joyner and Kao cannot consider a key question in this analysis, which is whether inside-school and outside-school relationships differ in their likelihood of being same- or cross-race-ethnicity.

Analytic Strategy and Methods

Data and variables: Data for this analysis come from the first two waves of the National Longitudinal Survey of Adolescent Health (Add Health). The Add Health began in 1994-1995 with a nationally representative clustered sample of 132 schools. A short in-school questionnaire was administered to all students who were present at one of the sample schools on the day of the survey. Students were then sampled from within each school for a more extensive in-home questionnaire. Students who participated in the in-home questionnaire were followed-up with a second-wave survey in 1996, a third-wave survey in 2001-2, and a fourth-wave survey in 2007-8. Because school composition and boundaries are of key interest in this analysis, I only use data from the first two waves when most respondents are enrolled in high school (in later waves, most respondents have completed high school) (Harris 2011).

The dependent variables for this analysis come from “relationship roster” questions included in the wave one and two in-home surveys. In these surveys, respondents are asked to list up to three romantic partners and up to three non-romantic sexual partners (i.e., more casual partnerships which the respondent does not consider romantic). Wave one allows respondents to report relationships beginning at any date, while wave two asks only about relationships that occurred since the wave one survey. Respondents are then asked a series of questions about each partner’s characteristics including his/her race-ethnicity and whether s/he attends the respondent’s school.

The first dependent variable in the analysis measures *the proportion of the respondent’s relationships that are with individuals outside the school* (i.e., individuals who are not students at the respondent’s school). This continuous, individual-level measure is constructed by dividing the total number of outside-school relationships reported by the respondent in the roster data by

the total number of relationships that the respondent reports in the roster. Since this is a proportion, respondents' reporting no relationships do not have valid data on this measure and they are excluded from the regression models predicting this outcome.² This first dependent variable allows us to test whether schools become less important foci for organizing romantic-sexual relationships as same-race-ethnicity potential partners become less numerous in the school.

The second dependent variable captures the *racial-ethnic and school composition of each relationship reported in the rosters*. This variable, measured at the relationship-level, indicates whether a given relationship crosses racial-ethnic boundaries, school boundaries, neither or both. This measure has the following categories: (i) inside-school/same-race-ethnicity relationship (reference category), (ii) inside-school/cross-race-ethnicity relationship, (iii) outside-school/same-race-ethnicity relationship, and (iv) outside-school/cross-race-ethnicity relationship. Since this is a relationship-level measure (data are structured so each relationship is an observation), respondents reporting no relationships are excluded from the multinomial regression models predicting this outcome. The first category captures ties that are homophilous on both school and race-ethnicity; the second category captures ties that cross racial-ethnic boundaries, but stay within the school; the third category captures ties the cross school boundaries, but stay within the respondent's racial-ethnic group; and the final category captures ties that cross both school and racial-ethnic boundaries.

² Approximately 22% of Add Health respondents (1,770 individuals) report no relationships in the roster data. While it is intuitively and mathematically necessary to exclude respondents with no relationships when measuring the proportion of outside-school relationships, it is important to consider whether the likelihood of respondents being excluded from the analysis based on having no relationships depends on key predictors of interest, such as school racial-ethnic composition. In order to test this, I regressed a dichotomous indicator for whether a respondent reported no relationships on school racial-ethnic composition and all of the control variables listed below. Younger respondents, non-Hispanic other race respondents, and respondents attending magnet schools were slightly more likely to report no relationships. However, the key predictor of interest, school racial-ethnic composition, was not significantly associated with the likelihood of reporting no relationships.

The main predictor of interest in the analysis is *the proportion of opposite-sex students in the school from a different racial-ethnic group than the respondent*. To construct this measure, I aggregated within each sampled school, the races/ethnicities and genders reported by the students participating in the in-school survey, then assigned the appropriate values based on the respondent's gender and race-ethnicity (e.g., white females were assigned the number of non-white males in the school divided by the number of males in the school, Hispanic males were assigned the number of non-Hispanic females in the school divided by the number of females in the school, and so on). This variable gives an overall sense of respondents' opportunities for forming same- and cross-race-ethnicity heterosexual relationships with other students in their school. Respondents with high values on this measure are numerical minorities within their school and they have relatively few potential same-race-ethnicity partners within their schools. Respondents with low values on the measure are numerical majorities within their school and they have comparatively more potential same-race-ethnicity partners within their school.

With regard to this predictor, it should be noted that students of color are more likely than white students be numerical minorities in their schools. To help address potential confounding of group size and respondent's race-ethnicity, I present the following models stratified for white, black, and Hispanic students (unfortunately, there are not enough other race students in the data to replicate the models for this group). Students in small schools are also more likely to have a higher value on the proportion different race-ethnicity variable since minor changes in racial-ethnic composition will have a larger impact on a proportional measures if the school is small. To help address this, all of the following models adjust for school size. I additionally replicated the main models for the total sample including an interaction term between school size and racial-ethnic composition (not shown). This interaction term was non-

significant in all models. To test the robustness of the results to alternative measures of school racial-ethnic composition, I also replicated the following models for the total sample using a measure of school racial-ethnic heterogeneity in place of the measure of the proportion of opposite-sex students of a different race-ethnicity. This measure captures the likelihood that two randomly selected students in the school are from different racial-ethnic groups. Although this is a less direct assessment of the availability of same-race potential partners within the school than the proportional measure presented in this analysis, results were consistent with this alternative measure of school composition.

The following models contain control variables for respondent characteristics, school characteristics, and school location. Respondent-level control variables included in the models are:

- *Respondent's race-ethnicity*: This is a categorical measure with four categories [(i) non-Hispanic white [reference category]; (ii) non-Hispanic Black; (iii) Hispanic; and (iv) Non-Hispanic Other].
- *Gender*: This is a dichotomous measure of whether respondent is female.
- *Age*: This is a continuous measure of the respondent's age at wave one
- *Parental SES*: This variable was constructed by summing five ranked categories of parental education (from less than high school to advanced degree) and occupation (from out of the labor force to professional). This coding of variables from the in-school survey follows the strategy employed by Moody (2001) in his analysis of Add Health friendship data.

- *Number of relationships*: This is a continuous measure of the number of relationships that a respondent reported in the roster. This control is included in models predicting the school and racial-ethnic composition of relationships (i.e., second dependent variable).

The school-level control variables included in the models are:

- *Average school SES*: This variable was constructed by averaging the respondent-level parental SES variable within each of the schools to obtain a mean school SES score.
- *School racial-ethnic inequality*: Following Moody's (2001) strategy for measuring school racial-ethnic inequality, this variable is a multiple correlation coefficient of an in-school regression of the parental SES scale on race-ethnicity. That is, within each school in the sample, I regressed the respondent-level race-ethnicity categories (Non-Hispanic black, Hispanic, and Non-Hispanic other, with Non-Hispanic white as the reference category) on the parental SES scale. The R^2 from each of these within-school models was then saved as a school-level predictor. This variable captures the extent to which race-ethnicity and class are correlated within a given school.
- *Proportion of opposite-sex students in the school*: This is a continuous measure of the proportion of students in the school that are male, if the respondent is female, or the proportion students that are female, if the respondent is male.
- *School size*: This is a continuous measure of the number of students in the school measured in hundreds.
- *School type*: This is a categorical measure of school with three categories [(i) general public school [reference category]; (ii) public magnet school; and (iii) private/other-type school).

- *School admissions criteria* : This is a categorical measure of how students are admitted/assigned to the school with five categories [(i) primarily district (geographic area)-based admissions [reference category]; (ii) district (geographic area)-based admissions, but with frequent transfers; (iii) admissions from several geographic areas to achieve desired racial/ethnic composition; (iv) admission based on entrance exam; and (v) other admissions practice].

These school-level measures are included in the following models primarily as controls.

However, how these variables are correlated with the dependent variables is substantively interesting, and any noteworthy results related to these control variables will be discussed in the following interpretation. Since most of the existing literature on school characteristics and relationship formation has focused exclusively on inside-school relationships, there has been little consideration in existing studies of how various socioeconomic and institutional factors may shape the extent to which schools focus and organize social relationships.

When predicting the first dependent variable, coefficients for the average school SES variable should reveal whether more affluent schools tend to be more integrative and focal for students' romantic/sexual relationships. Results related to the school racial-ethnic inequality variable should also be noteworthy. Blau (1977a) posits that, when multiple dimensions of stratification (e.g., race and class) are correlated, out-group ties will be less likely. In accordance with this, existing studies show that cross-race-ethnicity relationships among student at the same school are rarer when there are large socioeconomic differences across racial-ethnic groups within the school (Moody 2001). How racial-ethnic inequality is related to outside-school relationships, though, remains less clear. We might expect, for instance, that schools with greater racial-ethnic inequality may be weaker foci for romantic/sexual relationships, and that students

in such schools may be more likely form same-race-ethnicity relationships outside the school. However, we might also anticipate that these patterns would differ according to the respondent's race-ethnicity. For instance, associations between school racial-ethnic inequality and outside-school relationships may be stronger for black and Hispanic respondents who are, on average, more likely than white respondents to be disadvantaged within socioeconomically-stratified schools.

In the following models, control variables for school's location include:

- *Urbanicity* : This is a categorical measure with three categories [(i) urban [reference category]; (ii) suburban; and (iii) rural].
- *School region* : This is a categorical measure with four categories [(i) West [reference category]; (ii) Midwest; (iii) South; and (iv) Northeast).

This analysis includes respondents who attended one of the Add Health sampled schools, reported no same-sex relationships, and have valid data on all the variables. When analyzing the first dependent variable of the proportion of the respondent's relationships that are with individuals outside the school, I work with individual-level data on 5,688 respondents who reported at least one romantic or sexual relationship in the roster. When analyzing the second dependent variable of the racial-ethnic and school composition of relationships, I work with relationship-level data on 14,254 romantic and/or sexual relationships reported in the relationship rosters. The data employed in this analysis is drawn from a total of 122 sampled schools. Table 1 contains descriptive statistics on the individual- and relationship-level data used in this analysis.

Analytic Strategy: The following analysis begins with two simple descriptive tables displaying each of the dependent variables stratified into quartiles according to the proportion of

opposite-sex students in the respondent's school who are from a different racial-ethnic group than the respondent. These tables give a basic preliminary picture of how outside-school relationships vary in association with the availability of same-race-ethnicity potential relationship partners inside one's school. The third table in the analysis is a simple cross-tabulation of the respondents' and relationship partners' races-ethnicities to demonstrate mixing patterns and the salience of different racial-ethnic boundaries in relationship formation.

The next tables present coefficients from the multivariate regression models predicting the two dependent variables. I present all the primary regression models for the total sample, and then stratify according to the respondent's race-ethnicity. When stratifying by race-ethnicity, I run separate models for Non-Hispanic whites, Non-Hispanic blacks, and Hispanics.

Unfortunately, there were not sufficient observations to run separate models for the Non-Hispanic other race group. The final columns in the following tables containing the regression results indicate whether there are statistically significant differences in coefficients across the race-ethnicity-specific models. It is important emphasize, though, that social relationships are interdependent, and therefore any differences in relationship outcomes across the race-ethnicity-specific models cannot necessarily be interpreted as differences in preferences across groups. The relationships that each respondent forms will depend on, not only his/her own underlying preferences, but also other people's underlying preferences, as well as existing social ties. As an example, the following analysis may reveal that, as white students have fewer potential same-race partners within their schools, they are more likely to form relationships with other white individuals outside the school. Such observed behavior could be driven by whites' underlying preferences for dating within their own racial-ethnic group, the underlying preferences of other racial-ethnic groups to date within their own group (leading members of other groups to not

pursue or reciprocate possible relationships with whites), or likely some combination of both these processes.

As with most existing research on associations between local population compositions and individual behaviors, the following models cannot eliminate bias from individuals with unmeasured characteristics differentially selecting in different environments, and the following results must be interpreted as primarily descriptive. However, concerns about selection bias in this analysis are somewhat different than the concerns that arise in many existing studies. Most of the existing research on relationship formation tests how racial-ethnic diversity within a setting (e.g., a school) fosters cross-race-ethnicity relationships within that setting (i.e., testing the propinquity principle). In this type of within-school analysis, there may be upward bias if people who prefer cross-race-ethnicity relationships differentially select into more diverse settings. In the following analysis, I am examining how the racial-ethnic diversity of a setting may increase the frequency with which people form relationships—particularly, same-race-ethnicity relationships—outside of that setting. It seems unlikely that unmeasured preferences for cross-race-ethnicity relationships among students in more diverse schools would upwardly bias associations between school racial-ethnic diversity and outside-school relationships. Indeed, if the typical selection story applies, and people who prefer cross-race-ethnicity relationships differentially select into more racially diverse settings, the following estimates—particularly, those from models predicting same-race-ethnicity relationships outside the school—are likely to be on the conservative side.

If the following models reveal positive associations between school diversity and the proportion of outside-school relationships (i.e., the first dependent variable), we may be concerned that individuals who select into more diverse school with fewer potential same-race-

ethnicity partners tend to have preferences and attitudes that make them less constrained by institutional boundaries in general. In this case, diverse schools may be weaker foci for relationships primarily because these institutions tend to attract people who are less institutionally focused in their social lives in general. It should be emphasized that this interpretation does not undermine the main potential implications of the following analysis regarding integration and propinquity. The general capacity for institutional integration to reduce social distance, as is assumed in a simple propinquity principle, will be complicated if diverse institutions are less important foci for social relationships, regardless of whether the underlying processes that drive this association are rooted in selection pattern or result from the structural issues of numerical constraints and “trade-offs” discussed above.

To begin to drill down on these questions and test more directly the propositions regarding numerical constraints and “trade offs,” we will turn to the second dependent variable and examine how the proportion of opposite-sex students of a different race-ethnicity than the respondent is associated with reporting same- and cross-race-ethnicity relationships inside and outside of the school. If positive associations between school racial-ethnic diversity and outside-school relationships reflect at least in part the “trade-offs” that some students make to maintain relationship homophily despite numerical constraints in terms of dating within their own racial-ethnic group inside the school, outside-school relationships should be more likely than inside-school relationships to be same-race-ethnicity.

As a final step in the analysis, I replicate the models predicting same- and cross-race-ethnicity relationships inside and outside of the school for sub-groups of respondents according to the racial-ethnic composition of their residential neighborhood, relative to their school. This neighborhood subgroup analysis provides a basic test of the logic of the structural arguments

regarding numerical constraints. To conduct this analysis, I begin by identifying respondents who face significant numerical constraints in terms of dating within their own racial-ethnic group inside their schools. Here, I select respondents who are in the top quartiles of the racial-ethnic-specific distributions of the proportion of opposite-sex students of a different race-ethnicity than the respondent.³ I then subdivide these respondents according to whether they face similar numerical constraints in their residential neighborhoods as in their school. I take a measure of the proportion of opposite-sex adolescents of a different race-ethnicity than the respondent in the census tract, and create two groups based on whether this tract-level measure is greater than/equal to or less than the equivalent school-level measure. I then replicate the models predicting same- and cross-race-ethnicity relationships inside and outside of schools for both these neighborhood-based groups.

If the proportion of opposite-sex adolescents of a different race-ethnicity than the respondent in the census tract is greater than or equal to the proportion of opposite-sex students of a different race-ethnicity in the school, then the respondent faces similar or greater numerical constraints in terms of same-race-ethnicity dating in his/her neighborhood as in his/her school. These respondents, who are racial-ethnic numerical minorities in their neighborhoods as well as their schools, likely do not have greater options for same-race-ethnicity partnering at home than at school, and positive associations between the proportion different race-ethnicity in the school and same-race-ethnicity relationships outside of the school should *not* be documented among these respondents. Alternatively, if the proportion of opposite-sex adolescents of a different race-ethnicity than the respondent in the census tract is less than the equivalent school-level measure, the respondent faces fewer numerical constraints, and should have more options, in terms of

³ For instance, I select white students who are in the top quartile of the white distribution for opposite-sex students of a different race-ethnicity, select black students in the top quartile of the black distribution for opposite sex-students of a different race-ethnicity, and so forth

same-race-ethnicity dating in his/her neighborhood as his/her school. When replicating the models stratified by neighborhood composition in this way, positive associations between the proportion different race-ethnicity in the school and same-race-ethnicity relationships outside of the school should be driven primarily this group with fewer numerical constraints outside the school. Finding different patterns of results in the subgroup analysis (e.g., finding significant positive coefficients for same-race-ethnicity outside-school relationships among respondents facing equal-or-greater constraints in their neighborhoods as schools) will raise red flags that alternative processes, besides the numerical constraints and “trade-offs” discussed above, may be driving the results.

Regression Models: To account for the nested structure of the data, all regression models include school-specific random intercepts. When predicting the continuous outcome of the proportion of outside-school relationships, I use linear regression models. When predicting the categorical outcome of the racial-ethnic and school composition of relationships, I use multinomial logistic regressions. I apply sample weights supplied by the Add Health at both the individual- and school-levels (Chantala and Tabor 2010). In the relationship-level models, I also use robust standard errors to correct for the clustering of relationships within individuals.

Unlike p^* models that are frequently used when analyzing the in-school friendship networks in the Add Health (Moody 2001, Quillian and Campbell 2003, Mouw and Entwisle 2006), the more standard regression models presented below cannot adjust for features of network structure (e.g., k-stars, transitivity, etc) that may shape relationship formation. There is debate in the literature as to whether it is appropriate to adjust for such factors since they can be seen as both mediators and confounders of associations between population composition and relationship formation (see Quillian and Campbell 2003, Mouw and Entwisle 2006). Regardless,

the following estimates of associations between relationships and school population composition will reflect any such effects of network structure that cannot be measured or adjusted for in the analysis. While there are certainly benefits to having the option of adjusting for structural network factors, it should be emphasized that being able to measure network structural features may have costs since it requires researchers to make *a priori* assumptions about the boundaries of opportunity structure (e.g., by limiting analyses to inside-school relationships). As discussed above, one of the objectives of this analysis is loosen these types boundary assumption that may lead researchers to overlook the ways in which people may “work around” diversity in local opportunity structures.

Results

Tables 2 and 3 provide a preliminary picture of the results by displaying the relationship outcomes (i.e., the two dependent variables) stratified into quartiles according to the availability of same-race-ethnicity potential partners within respondents’ school (i.e., the proportion of opposite-sex students in the school of a different race-ethnicity than the respondent). Table 2 shows that, among respondents reporting at least one relationship, dating outside one’s school is quite common. According to the first column in Table 2, about 42% of the average student’s relationships are with an individual from outside his/her school. Comparing the rate of outside-school relationships across the quartiles, we see that, as the availability of same-race-ethnicity potential partners within the school decreases, relationships with individuals outside the school become more common. When respondent are in the bottom quartile, and a larger proportion of their potential inside-school relationship partners are from their own racial-ethnic group, 38 percent of the average respondent’s relationships are with individuals outside the school.

However, when respondents are in the top quartile, and a smaller proportion of their potential inside-school relationship partners are from their own racial-ethnic group, 44 percent of the average respondent's relationships are with individuals outside the school. This six percentage point difference across the top and bottom quartiles is statistically significant at the .05 level.

Data in Table 3 test whether inside-school and outside-school relationships are more or less likely to be within the same racial-ethnic group, depending on the racial-ethnic composition of the school. If students forming outside-school relationships are responding at least in part to racial-ethnic numerical constraints in their school's dating pools, outside-school relationships should be more likely than inside-school relationships to be same-race-ethnicity as the availability of same-race-ethnicity potential partners in the school decreases. Columns A and B in Table 3 present outside-school relationships, broken down by whether the respondent and his/her relationship partner are from the same or from different racial-ethnic groups. Columns C and D present inside-school relationships similarly stratified according to the whether the respondent and partner are from the same or different racial-ethnic groups. The final column presents the difference between the proportion of outside-school relationships that are same-race-ethnicity and the proportion inside-school relationships same-race-ethnicity (i.e., column A – column C). Looking across the quartiles in the last column, we see that, when respondents are in the bottom or second quartile, and a relatively high proportion of the potential partners in the school are from the respondent's own racial-ethnic group, outside-school relationships are slightly (about two to three percentage points) less likely to be same-race-ethnicity than inside school relationships (this difference is statistically significant for the second quartile, but not for the bottom quartile). However, when the respondent is in the top quartile, and only a small proportion of the potential inside-school partners are from the respondent's own racial-ethnic

group, outside-school relationships are about seven percentage points more likely than inside-school relationships to be same-race-ethnicity (this difference is statistically significant at the .05 level). For the third quartile, there is no significant difference in the likelihood that inside- and outside-school relationships will be same-race-ethnicity (i.e., columns A and C are equivalent for the third quartile).

The bivariate descriptive results in Tables 2 and 3 suggest that, as the availability of same-race-ethnicity potential partners in the school decreases, relationships are more likely to be with individuals outside the school, and outside-school relationships are more likely than inside-school relationships to be same-race-ethnicity. The asymmetry across the quartiles in the last column in Table 3, conforms to general tendencies toward racial-ethnic homophily (i.e., it aligns with same-race-ethnicity preferences), and suggests that numerical constraints limiting same-race-ethnicity potential partners have stronger associations with relationship formation than numerical constraints limiting cross-race-ethnicity partners. For instance, when a respondent is in the second quartile, and s/he has relatively fewer opportunities for forming *cross*-race-ethnicity relationships within his/her school, there appears to be only a weak tendency for outside-school ties to be more likely to be cross-race-ethnicity, relative to inside-school ties (2-3 percentage point difference). On the other hand, when a respondent is in the top quartile, and s/he has relatively few opportunities for forming *same*-race-ethnicity relationships within his/her school, the tendency for outside-school relationships to be more likely to be same-race-ethnicity, relative to inside-school relationships, is more notable (seven percentage point difference).

Given positive correlations between school and community racial-ethnic compositions (i.e., more diverse schools are located in more diverse areas), it is not surprising that the proportion of outside-school relationships that are cross-race-ethnicity increases across the

quartiles in column B in Table 3. However, as expected, the association between cross-race-ethnicity relationships and school racial-ethnic composition is weaker for outside-school relationships relative to inside-school relationships. That is, the increases in the proportions of cross-race-ethnicity relationships from one quartile to the next are less pronounced among the outside-school relationships in column B, relative to the inside-school relationships in column D. The subgroup analysis presented below further explores the role of surrounding communities in these results by stratifying the multivariate models according to the composition of respondents' residential neighborhoods.

According to the structural sociological hypotheses laid out previously, tendencies toward racial-ethnic homophily should be key factors driving associations between school racial-ethnic composition and the formation of outside-school relationships. Before moving onto the multivariate models it is, therefore, useful to briefly consider how the frequency of relationships varies by respondents' and partners' races-ethnicities. Table 4 is a cross-tabulation of relationship-level data with the respondents' races-ethnicities in the rows and relationship partners' races-ethnicities in the columns. This mixing matrix shows the proportion of relationship reported by respondents of a given race-ethnicity with partners of a given race-ethnicity. Focusing first on the diagonal, we see that tendencies to pair within one's own racial-ethnic group are very high for whites and blacks, and are substantially lower for Hispanics and members of the other race categories. 89 percent of relationships reported by white respondents and 86 percent of relationships reported by black respondents are with partners from the same racial-ethnic group. Meanwhile, only 54 percent of relationships reported by Hispanic respondents and 43 percent of relationships reported by other group respondents are with members of the same racial-ethnic group. These patterns, which conform to previous studies

(Joyner and Kao 2000; Quillian and Campbell 2003), suggest that race-ethnicity is a much more salient factor in structuring the relationships of white and black respondents, relative to Hispanic and other respondents.⁴ Such differences in salience may play an important role in moderating associations between school composition and outside-school ties. To the extent that forming outside-school relationships in response to school racial-ethnic diversity reflects at least in part some people's efforts to maintain racial-ethnic homophily, it will not be surprising to find that, when stratifying the following models by respondents' race-ethnicity, coefficients for school racial-ethnic composition are strongest for the white and black categories, which appear to have the strongest tendencies toward homophily.⁵

Multivariate Regression Results: Table 5 presents coefficients from linear random intercept models predicting the proportion of the respondent's relationships that are with individuals outside the school. These models exploring the first dependent variable are based on individual-level data for respondents reporting at least one relationship and are stratified by the respondent's race-ethnicity. When analyzing respondents from all racial-ethnic groups together in the first model in column 1, the proportion of opposite-sex students of a different race-ethnicity than the respondent is positively associated with reporting outside-school relationships.

⁴ Rates of in-group and out-group relationships will reflect effects of group sizes as well as preferences. For instance, if groups were to mix randomly (i.e., there were no influence of in-group preferences), whites, as the largest group, would have the highest rate of in-group ties. Larger group size is likely a contributing factor to the higher rates of in-group ties reported by white respondents, relative to other groups. However, group size should not be able to account for differences in patterns for blacks and Hispanics, because, in the mid-1990s and early 2000s, black and Hispanic youth populations in the U.S. were of roughly comparable size (Johnson and Lichter 2010). This means that much higher rates of in-group ties among blacks than Hispanics occur in spite of similar black and Hispanic population sizes during this period.

⁵ Regarding Table 4, it is also worth briefly pointing out that, among respondents who date outside of their own racial-ethnic group, some boundaries are much more permeable than others. For instance, white respondents dating outside their own race-ethnicity group are slightly more than twice as likely to report a relationship with a Hispanic person as with a black person (4.9% versus 2.3%). Hispanic respondents dating outside of their own group are almost six times as likely to report a relationship with a white person as with a black person (33% versus 5.4%). Similar differences in racial-ethnic salience across white, black, and Hispanic categories have been documented in other studies (e.g., Laumann and Yoom 1999; Joyner and Kao 2000).

For each point increase in the proportion of opposite-sex students of a different race-ethnicity than the respondent, the proportion of a respondent's relationships that are outside the school increases by .144.

When stratifying by the respondent's race-ethnicity in models 2 through 4, this positive association is replicated for white and black respondents, but appears to go in the opposite direction for Hispanic respondents. In model 1 for the white sample and model 2 for the black sample, the proportion of opposite-sex students of a different race-ethnicity than the respondent is positively associated with outside-school relationships, and these associations are statistically equivalent across the white and black models. On the other hand, in model 3 for Hispanic respondents, each point increase in the proportion of opposite-sex students who are of a different race-ethnicity reduces the proportion of relationships outside the school by .217 (this coefficient is statistically significantly different from the equivalent coefficients for whites and blacks in models 2 and 3). These results suggest that numerical constraints in terms of same-race-ethnicity dating may make schools weaker foci for white and black students' relationships, but not for Hispanic students' relationships. Finding distinct results for Hispanic respondents is noteworthy, but also not surprising given that racial-ethnic homophily was much weaker for Hispanic respondents than for white and black respondents in the mixing matrix in Table 4.

Considering the respondent control variables in Table 5, there is no evidence that the probability of outside-school relationships differs by the respondents' race-ethnicity (i.e., dummy variables for the respondent's race-ethnicity are all non-significant in model 1). Female respondents and older respondents are generally more likely to report outside-school relationships. However, parental SES is not significantly associated with outside-school relationships in any of the models.

Turning to the school-level socioeconomic and demographic control variables in Table 5, we see that average school SES is negatively associated with outside-school relationships for the total sample in model 1. Comparing across the race-ethnicity-specific models, this negative association is documented for white and Hispanic respondents in models 2 and 4, but is non-significant for black respondents in model 3. As noted in the last column of Table 5, the large negative association between average school SES and outside-school relationships among Hispanic respondents in model 4 is statistically distinct at the .05 level from equivalent estimates for white and black respondents in models 2 and 3.

On the other hand, racial-ethnic inequality within the school is not significantly associated with outside-school relationships for the total sample in model 1. Stratifying by respondents' race-ethnicity, school racial-ethnic inequality is positively associated with outside-school relationships for black respondents in model 3, but is non-significant for white and Hispanic respondents in models 2 and 4. However, as noted in the last column, this coefficient for black respondents cannot be statistically distinguished at the .05 level from the equivalent coefficients for white and Hispanic respondents. In model 1 for the total sample, school size is not a significant predictor of outside-school relationships. Stratifying by respondents' race-ethnicity, the coefficient for school size is negative in all three models, but is largest and reaches statistical significance only for black respondents in model 3. However, again, this coefficient for black respondents cannot be statistically distinguished from the equivalent white and Hispanic coefficients. The sex composition of schools is not significantly associated with outside-school relationships in any of the models.

Turning to the school type variables, being in a public magnet school, relative to the reference category of a comprehensive public school, is associated with more outside-school

relationships for the total sample in model 1. Comparing across the race-ethnicity-specific models, the magnet school coefficient appears different across models 2-4 (e.g., it is non-significant in the white model, positive in the black model, and negative in the Hispanic model). However, as depicted in the last column, these differences cannot be statistically distinguished from random fluctuations at the .05 level. Considering the types of criteria schools use for admitting students, we see in model 1 for the total sample that being in a school with exam-based criteria, relative to the reference category of a school with geographic/district-based criteria, is associated with more outside school relationships. Stratifying by respondent's race-ethnicity, this positive association is largest and reaches statistical significance only for black respondents in model 2; and, as noted in the last column, this coefficient for black respondents can be statistically distinguished from the equivalent white and Hispanic coefficients. Finally, it is interesting to note that, in model 1 for the total sample, being in a school with race-ethnicity-based admissions does not increase the likelihood that students form relationships outside the school. When stratifying by respondents' race-ethnicity, this coefficient is statistically significant and positive for Hispanic respondents, but remains insignificant for white and black respondents. While this raises the possibility that race-ethnicity-based admissions may make schools less central in organizing Hispanic students' sexual/romantic ties, this estimate for Hispanic respondents cannot be statistically distinguished from the equivalent white and black estimates.

Table 6 presents coefficients from multinomial logistic regression models predicting the likelihood that a given relationship crosses race boundaries, school boundaries, neither, or both. These models, based on relationship-level data, explore the second dependent variable, and allow us to consider whether less access to same-race-ethnicity potential partners within one's school is

associated with forming outside-school relationships with individuals from one's own racial-ethnic group.

In Table 6, the reference category for the dependent variable is an inside-school/same-race-ethnicity relationship. The "A" columns present coefficients predicting the second category of inside-school/cross-race-ethnicity relationship. Comparing this category to the reference category captures the likelihood that students form relations across racial-ethnic boundaries within their schools, and roughly parallels much of the existing work on cross-race-ethnicity friendships among students within Add Health schools. The "B" columns present coefficients predicting the third category of outside-school/same-race-ethnicity relationship. Comparing this category to the reference category captures the likelihood that students form relationships across school boundaries, but within their own racial-ethnic group. According to Blau's propositions about numerical constraints and "trade-offs," a higher proportion of different race-ethnicity potential partners inside the school should be positively associated with reporting a same-race-ethnicity, outside-school relationship, relative to the reference category of a same-race-ethnicity, inside-school relationship.

The "C" columns present coefficients predicting the final category of outside-school/cross-race-ethnicity relationships. Comparing this category to the reference category of an inside-school/same-race-ethnicity relationship captures the likelihood that students cross both school and racial-ethnic boundaries. Comparing this estimate to the reference category is not the most helpful comparison in this analysis. Rather, in the following discussion, I primarily compare the column C coefficients to the column A coefficients in order to gauge differences in the likelihood of reporting cross-race-ethnicity relationships outside the school, relative to cross-race-ethnicity relationships inside the school. If outside-school relationships reflect at least some

students' efforts to maintain racial-ethnic homophily despite institutional diversity, students facing same-race-ethnicity partnering constraints within their school should not be more likely to form cross-race-ethnicity relationships outside the school, relative to inside the school (i.e., the coefficient for the proportion different race-ethnicity variable should not be statistically significantly larger in column C than in column A).

Beginning the interpretation with column B in model 1 for the total sample, we see that the proportion of opposite sex students of a different race-ethnicity than the respondents is positively associated with reporting a same-race-ethnicity relationship with someone outside the school, relative to the reference category of a same-race-ethnicity relationship within one's school. That is, when respondents have less access to same-race-ethnicity potential partners within their school, the likelihood of forming relationships that cross school boundaries, but stay within one's own racial-ethnic group, increases. Examining this coefficient in the race-ethnicity-specific models, we find that it is large and significant among the white respondents in model 2. It is statistically significant, but more modest in size, among the black respondents in model 3. And, it is non-significant among the Hispanic respondents in model 4. As noted in the final column, the large positive coefficient for white respondents in model 2 can be statistically distinguished at the .05 level from the equivalent estimates for black and Hispanic respondents in models 3 and 4.

In accordance with the propinquity principle and existing evidence on cross-race-ethnicity friendships, in column A, the proportion of opposite-sex students of a different race-ethnicity than the respondents is positively associated with cross-race-ethnicity relationships inside the school, relative to same-race-ethnicity relationships inside the school. This positive association is consistent across the race-ethnicity-specific models. In column C, the coefficient

for the proportion different race-ethnicity variable is positive when predicting cross-race-ethnicity relationships outside the school, relative to the reference category of same-race-ethnicity relationship inside the school. Drawing the more meaningful comparison of this coefficient in column C to the equivalent coefficient in column A to assess the likelihood of reporting cross-race-ethnicity relationships outside the school, relative to cross-race-ethnicity relationships inside the school, there is some apparent variation in the magnitudes of the coefficients across the race-ethnicity-specific models (e.g., in models 2 and 3 for white and black respondents, the column C coefficients appears slightly larger than the column A coefficient, whereas, in model 4 for Hispanic respondents, it appears slightly smaller). However, significance tests reveal that these column A and C coefficients for the proportion different race-ethnicity variable cannot be statistically distinguished at the .05 level in any of the models in Table 6. That is, respondents facing greater numerical constraints in terms same-race-ethnicity dating within their schools do not appear more likely to form cross-race-ethnicity relationships outside the school, relative to cross-race-ethnicity relationships inside the school.

Examining the individual-level control variables in model 1, the likelihood of forming cross-race-ethnicity relationships both inside the school (column A) and outside the school (column C) varies by the respondent's race-ethnicity. Non-Hispanic black respondents are less likely than the white reference group to form relationships across racial-ethnic boundaries, while Hispanic and other race respondents are more likely than the white reference group to form relationships across racial-ethnic groups. In column B, on the other hand, the likelihood of forming same-race-ethnicity relationships outside the school does not differ by race-ethnicity. Model 1 for the total sample shows that female and older students are more likely to report both same- and cross-race-ethnicity relationships outside the school (columns B and C). However,

there are no gender or age differences in the likelihood of reporting cross-race-ethnicity relationships inside the school (column A).

Considering the school-level control variables, there are a few notable results worth highlighting. In model 1 for the total sample, being in a school with a higher average SES is negatively associated with reporting a same-race-ethnicity relationship outside the school (column B), relative to the reference category of a same-race-ethnicity relationship inside the school. As noted in the last column in Table 6, this coefficient for average school SES cannot be statistically distinguished across the race-ethnicity-specific models. In accordance with Blau's propositions about the correlation of multiple stratification parameters, students in schools characterized by racial-ethnic inequality are less likely to date other students from different racial-ethnic groups. In column A of model 1, racial-ethnic inequality within schools is strongly negatively associated with reporting cross-race-ethnicity relationships inside the school, relative to same-race-ethnicity relationships inside the school. Looking across the race-ethnicity stratified models, it is interesting to see that, while the racial-ethnic inequality coefficients are non-significant in all the columns in models 2 and 3 for white and black respondents, they are large and negative in all the columns in model 4 for Hispanic respondents. It appears that racial-ethnic inequality within schools may suppress the crossing of both school and racial-ethnic boundaries in Hispanic respondents dating and sexual relationships.

In model 1 for the total sample, being in a public magnet school, relative to the reference category of a comprehensive public school, is positively associated with reporting a same-race-ethnicity relationship outside the school (column B), relative to a same-race-ethnicity relationship inside the school. Looking across the race-ethnicity stratified models, this magnet school coefficient in column B is significant and positive for white respondents in model 2, is

non-significant for black respondents in model 3, and is significant and negative for the Hispanic respondents in model 4. As noted in the last column, this magnet school coefficient in column B for white respondents is statistically significantly different from the equivalent estimates for black and Hispanic respondents. Being in a magnet school appears to have a stronger positive association with forming outside-school/same-race-ethnicity relationships for white respondents than for black and Hispanic respondents. Finally, it is interesting to note that, in model 2 for white respondents, being in a school that uses admissions to achieve desired racial-ethnic compositions is positively associated with forming cross-race-ethnicity relationships inside the school (column A), relative to same-race-ethnicity relationships inside the school. Significance tests (not shown) suggest that this positive coefficient in column A for white respondents is statistically significantly different from the equivalent estimate for black respondents which, in model 3, is negative in direction, but non-significant.

Neighborhood Subgroup Analysis: Table 7 replicates the multinomial logistic regression models for students in the top quartile of their race-specific distributions for the proportion opposite-sex students of a different race-ethnicity. I limit this subgroup analysis to white and black respondents and exclude Hispanic respondents because results in Tables 6 suggest that associations between school racial-ethnic composition and same-race-ethnicity outside-school relationships exist primarily among white and black respondents rather than Hispanic respondents. All of the white and black respondents in Table 7 face numerical constraints in terms of same-race-ethnicity partners inside their school. However, I distinguish these respondents based on whether they face similar numerical constraints in their residential neighborhood as in their school. Respondents in model 1 in Table 7 reside in census tracts where the proportion of opposite-sex adolescents from a different racial-ethnic group than the

respondent is greater than or equal to the equivalent school-level measure. Respondents in model 2 reside in census tracts where the proportion of opposite-sex adolescents from a different racial-ethnic group than the respondent is less than the equivalent school-level measure. As expected, the association between the proportion of opposite-sex students of a different race-ethnicity than the respondent and the formation of same-race-ethnicity relationships outside of the school (column B) is non-significant in model 1 for respondents who face equivalent or greater numerical constraints in terms of same-race-ethnicity dating in their neighborhood, but is positive and significant in model 2 for respondents who face fewer such numerical constraints in their neighborhood.

Discussion

Although few would claim that schools are unimportant in terms of structuring adolescents' social lives, results from this study suggest that a high proportion (approximately 40%) of the average students' romantic/sexual relationships are with individuals outside his/her school. Such prevalence of outside schools relationships raises important questions about the validity of assuming that schools can clearly define the boundaries and "opportunity structures" for students' relationships. Perhaps more importantly, though, the previous models suggest that the frequency and racial-ethnic composition of outside-school relationships varies systematically with schools' racial-ethnic diversity.

When predicting the proportion of respondents' relationships that were with individuals outside the school, having fewer potential same-race-ethnicity partners within one's school (i.e., having a higher value for the proportion of opposite-sex students of a different race-ethnicity variable) appeared to make the school a weaker focus for white and black respondents' romantic-

sexual relationships. For Hispanic respondents, on the other hand, such numerical constraints in terms of dating within one's own racial-ethnic group appeared to make the school a somewhat stronger focus for romantic-sexual relationships. It should be clarified, though, that, in preliminary models, the negative association between the proportion of opposite-sex students of a different race-ethnicity and outside-school relationships among Hispanics was sensitive to model specification, and was often null in alternative models using different versions of the SES control variables. Positive associations between school racial-ethnic composition outside-school relationships among white and black respondents, on the other hand, were quite robust across multiple model specifications.

The previous multinomial models revealed that, when white and black respondents have fewer same-race-ethnicity potential partners within their schools, their likelihood of same-race-ethnicity relationships outside the school, relative to same-race-ethnicity relationships inside school, increases. This association was not documented, however, for Hispanic respondents. The association between school racial-ethnic composition and same-race-ethnicity relationships outside of the school was statistically significantly larger for white respondents than for black and Hispanic respondents. Faced with numerical constraints in terms same-race-ethnicity dating inside of schools, white students appear more likely than their black and Hispanic counterparts to form racially-ethnically homophilous relationships outside of institutional boundaries.

I also replicated the multinomial models for subgroups of respondents depending on whether or not the racial-ethnic composition of their residential census tract offered greater opportunity for same-race-ethnicity dating. This was a simple logical test of the arguments regarding numerical constraints since it would not make sense for respondents facing equivalent or greater numerical constraints in terms of same-race-ethnicity dating in their neighborhood to

respond to school racial-ethnic diversity by forming same–race-ethnicity relationships outside of schools. As expected, and in-line with the logic of numerical constraints, in Table 7, associations between school racial-ethnic composition and outside-school-same-race-ethnicity relationships were non-significant for respondents living in census tracts with equivalent or greater numerical constraints in terms of same-race-ethnicity data, but were positive for respondents living in tracts with fewer such numerical constraints.

Considering the previous results stratified by race-ethnicity, the general picture that emerges is that numerical constraints in terms of same-race-ethnicity dating have weaker, more mixed, associations with outside-school relationships for Hispanic, relative to white and black, students, and numerical constraints may be most strongly associated with same-race-ethnicity relationships outside of schools for whites. Finding variation across respondents' race-ethnicity was not necessarily surprising—particularly, the distinct results for Hispanic respondents were expected, given that racial-ethnic homophily was much weaker for Hispanic than white and black respondents in the mixing matrix in Table 4. However, as discussed above, because social relationships are interdependent, the underlying preferences and processes that drive these differences across the race-ethnicity-specific models may be complex and remain ambiguous in this analysis. For instance, the weaker associations between school racial-ethnic composition and outside-school relationship documented among Hispanics could result directly from weaker preferences for same-race-ethnicity relationships among Hispanics, or it could reflect a more complex set of interactions between varying preferences across multiple racial-ethnic groups. As an example, black and Hispanic students might have equivalent, moderate preferences for same-race-ethnicity relationships. But, if white students are more likely to form relationships with Hispanic students in their school than with black students in their school, Hispanic students who

are numerical minorities within their schools will have more options for forming relationships inside the school, relative to black students.

Attempting to empirically sort out these types of dynamics between preferences and relationship formation within and across groups is very complex. Alternative data structures (e.g., longitudinal adjacency matrices) offer some leverage on these points. However, collecting such data generally requires researchers to make strong assumptions about the boundaries of “opportunity structure” (e.g., collecting information only on relationships formed within schools), which, as discussed above, has its own limitations.

When interpreting differences across the race-ethnicity-specific models, we might also be concerned that selection of individuals into more or less diverse schools varies by race-ethnicity. It is reasonable to imagine, for instance, that white respondents who end up in schools with fewer same-race-ethnicity potential relationship partners may be a more unique group with stronger preferences for cross-race-ethnicity relationships than numerical minorities (e.g., blacks and Hispanics) who end up in schools with equivalent numerical constraints in terms of same-race-ethnicity relationships. Such a selection pattern, however, runs counter to the finding that associations between school racial-ethnic diversity and same-race-ethnicity relationships outside of schools are stronger for white than black or Hispanic respondents. That is, these stronger associations for whites in the multinomial models are emerging contrast to the most likely selection patterns.

It is also interesting to briefly summarize how school socioeconomic characteristics were related to outside-school relationships. In the model of the total sample predicting the proportion of respondents’ relationships that were with individuals outside the school, more affluent schools, with higher average SES, appeared to be strong foci for students’ romantic/sexual

relationships. This is a noteworthy, but not necessarily surprising result, since higher-SES schools are likely to have greater parental/community involvement and more clubs/extracurricular activities, making them foci for more types of relationships and activities. With regard to socioeconomic inequalities across racial-ethnic groups within schools, we would expect that more stratified schools would generally be less cohesive and weaker foci for students' relationships. However, in the previous models predicting the proportion of respondents' relationships with individuals outside of the school, support for this hypothesis was only found among black respondents, and school racial-ethnic inequality was non-significant in the other models for white and Hispanic respondents.

Conclusion

Focusing on the empirical case of school populations and adolescent romantic/sexual relationships, this study makes two generalized points about institutions, social relationships, and race-ethnicity in the U.S. First, as noted before, many efforts at reducing social distance and stratification across racial-ethnic groups in the U.S. have drawn implicitly on the "propinquity principle" by trying to make institutions, which are assumed to be important foci for social relationships, more racially-ethnically diverse. Although integration is certainly a crucial and necessary prerequisite for improving racial-ethnic relations in the U.S., the potential for institutional integration on its own to reduce social distance across groups is complicated by the fact that the strength of institutions as foci for social relationships varies systematically according to demographic and institutional characteristics. Most notably, as shown in this study, diverse schools are weaker foci for white and black (although not necessarily Hispanic) adolescents' romantic/sexual relationships.

Second, results from this study highlight that people, with presumably varying underlying preferences for in- and out-group relationships, exhibit multiple behavioral responses to institutional diversity and numerical constraints in same-race-ethnicity relationships. As shown in the previous multinomial models, less availability of same-race-ethnicity potential partners within one's school was positively associated with forming cross-race-ethnicity relationships inside the school, relative to same-race-ethnicity relationships inside the school. This result supports the propinquity principle and suggests that institutional integration helps reduce social distance across groups. On the other hand, the previous multinomial models also showed that, for white and black (although not necessarily Hispanic) adolescents, less availability of same-race-ethnicity potential partners within one's school was positively associated with forming same-race-ethnicity relationship outside the school, relative to same-race-ethnicity relationships inside the school. This result supports the less commonly studied proposition that, with multiple group affiliations, people make "trade-offs" and form relationships across alternative group boundaries in order to maintain homophily along more salient group boundaries. In other words, it also appears that some people take steps to maintain homophily and social distance despite institutional integration and local diversity.

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Table 1: Sample Means and Standard Deviations

	Individual-level data	Relationship-level data
Proportion of Respondent's Relationships Outside School	.419 (.012)	
Racial-ethnic and School Composition of Relationships		
Inside-school/Same-race-ethnicity [reference]		.491
Inside-school/Cross-race-ethnicity		.088
Outside-school/Same-race-ethnicity		.347
Outside-school/Cross-race-ethnicity		.073
Proportion opposite-sex students from a different racial/ethnic group than the respondent	.401 (.022)	.390 (.022)
Respondent-Level Controls		
Race/Ethnicity		
Non-Hispanic White [reference]	.729	.747
Non-Hispanic Black	.131	.129
Hispanic	.097	.089
Non-Hispanic Other	.043	.036
Female	.515	.511
Age	15.135 (.126)	15.654 (.111)
Parental SES	5.854 (.023)	5.866 (.024)
Number of Relationships		3.790 (.078)

(Table 1 continued)

Wave 2		.469
School-Level Controls		
Average school SES	5.889 (.014)	5.890 (.015)
School Racial-Ethnic Inequality	.017 (.003)	.015 (.002)
Proportion opposite-sex students	.498 (.001)	.498 (.001)
School Size	7.337 (.542)	7.593 (.570)
School Type		
Public Comprehensive [reference]	.862	.874
Public Magnet	.076	.068
Private/Specialized Public School	.062	.058
Admissions Criteria		
District (geographic area) -based [reference]	.758	.772
District (geographic area)-based with Frequent Transfers	.115	.107
Admissions to Achieve Desired Racial/Ethnic Composition	.034	.032
Exam-based Admissions	.014	.017
Other Admissions Criteria	.079	.078
Location Controls		
Urbanicity		
Urban [reference]	.225	.212

(Table 1 continued)

Suburban	.564	.573
Rural	.211	.215
Region		
West [reference]	.132	.128
Midwest	.300	.310
South	.413	.407
Northeast	.156	.155
N	5,688 Respondents	14,254 Relationships

Table 2: The Proportion of Respondents' Relationships Reported in Roster that are with Individuals Outside the School, Stratified by the Availability of Same-Race-Ethnicity Potential Partners in the School. ¹

	Total Sample	<u>Prop. of opposite-sex students in the school of a different race/ethnicity than respondent ²</u>				Significant Difference between Top and Bottom Quartiles
		Bottom Quartile	2nd Quartile	3rd Quartile	Top Quartile	
Average proportion of individual's relationships that are outside school	0.419 (.395-.444)	0.383 (.345-.421)	0.373 (.335-.411)	0.469 (.422-.515)	0.438 (.446-.519)	yes
	N=5,688	N=1,414	N=1,447	N=1,460	N=1,367	

¹ Individual-level data for respondents reporting at least one relationship. Confidence intervals in parentheses

² Quartile Split points for individual-level data are .214, .340, and .659

Table 3: The Racial-Ethnic Composition of Inside and Outside School Relationships, Stratified by the Availability of Same-Race-Ethnicity Potential Partners in the School. ¹

	<u>Outside-School Relationships</u>		<u>Inside-School Relationships</u>		Difference in proportion of same-race-ethnicity relationships inside and outside of school (column A- column C)	N
	Same-Race- Ethnicity	Cross-Race- Ethnicity	Same-Race- Ethnicity	Cross-Race- Ethnicity		
	(A)	(B)	(C)	(D)		
Total Sample	0.826	0.175	0.848	0.152	-0.022*	14,254
<u>Proportion of opposite-sex students in the school of a different race/ethnicity than respondent ²</u>						
Bottom Quartile	0.937	0.064	0.956	0.044	-0.019	3,557
2nd Quartile	0.889	0.111	0.916	0.084	-0.027*	3,625
3rd Quartile	0.849	0.151	0.849	0.151	0	3,561
Top Quartile	0.581	0.419	0.509	0.491	0.072*	3,511

¹ Relationship-level data based on relationships reported in rosters

² Quartile split points for relationship-level data are .209, .333, and .653.

* Statistically significantly different at the .05 level

Table 4: Proportions of Relationships Reported by Respondents in Rosters, Stratified by Respondents' and Partners' Races-Ethnicities ¹

Respondent's Race-Ethnicity	Partner's Race-Ethnicity				N (Total=14,254)
	Non-Hispanic White	Non-Hispanic Black	Hispanic	Non-Hispanic Other	
Non-Hispanic White	0.891	0.023	0.049	0.037	8,377
Non-Hispanic Black	0.054	0.860	0.033	0.053	2,828
Hispanic	0.334	0.054	0.536	0.075	2,165
Non-Hispanic Other	0.340	0.110	0.124	0.427	884

¹ Relationship-level data based on relationships reported in rosters.

Table 5: Associations between School Racial-Ethnic Composition and the Proportion of Respondents' Relationships that are with Individuals Outside the School, Linear Random Intercept Regression Models, Individual-Level Data¹

	Total (1)	White (2)	Black (3)	Hispanic (4)	Significant difference across white, black, or Hispanic models
Proportion opposite-sex students from a different racial/ethnic group than the respondent	0.144*** (0.045)	0.398*** (0.074)	0.208** (0.066)	-0.217* (0.095)	Yes: Hispanic sign different from white and black
Respondent Controls					
Race/Ethnicity					
Non-Hispanic Black	-0.007 (0.029)				
Hispanic	0.015 (0.031)				
Non-Hispanic Other	-0.047 (0.031)				
Female	0.095*** (0.019)	0.080** (0.025)	0.155*** (0.028)	0.106 (0.056)	No
Age	0.046*** (0.007)	0.048*** (0.008)	0.042*** (0.009)	0.043** (0.013)	No
Parental SES	0.002 (0.007)	-0.005 (0.009)	0.016 (0.014)	0.005 (0.011)	No
School Controls					
Average school SES	-0.163** (0.057)	-0.188* (0.082)	0.071 (0.080)	-0.269* (0.116)	Yes: Hispanic sign different from white and black

<i>(Table 5 continued)</i>	Total (1)	White (2)	Black (3)	Hispanic (4)	Significant difference across white, black, or Hispanic models
School Racial-Ethnic Inequality	0.292 (0.467)	-1.173 (0.843)	1.704** (0.653)	-0.709 (0.696)	No
Proportion opposite-sex students	-0.234 (0.227)	-0.163 (0.434)	0.032 (0.376)	-0.191 (0.548)	No
School Size	-0.001 (0.003)	-0.001 (0.005)	-0.007** (0.002)	-0.003 (0.003)	No
School Type					
Public Magnet	0.061* (0.031)	0.035 (0.080)	0.108** (0.035)	-0.162** (0.056)	No
Private/Specialized Public	-0.031 (0.053)	0.030 (0.054)	-0.056 (0.061)	-0.099 (0.113)	Yes: Hispanic and white sign different
Admission Criteria					
District-based with Frequent Transfers	0.037 (0.029)	0.007 (0.046)	-0.035 (0.033)	0.094 (0.044)	No
Admissions to Achieve Desired Racial/Ethnic Composition	0.036 (0.035)	-0.033 (0.084)	-0.063 (0.037)	0.348*** (0.086)	No
Exam-based Admissions	0.200*** (0.060)	0.045 (0.078)	0.226*** (0.057)	0.196 (0.119)	Yes: Black sign different from white and Hispanic
Other Admissions Criteria	0.040 (0.054)	0.010 (0.053)	0.012 (0.054)	0.205*** (0.047)	Yes: White and black sign different

(Table 5 continued)

	Total	White	Black	Hispanic	Significant difference across white, black, or Hispanic models
	(1)	(2)	(3)	(4)	
Location Controls					
Suburban	0.016 (0.022)	0.039 (0.030)	0.067* (0.028)	0.115** (0.039)	No
Rural	-0.033 (0.038)	0.006 (0.047)	-0.003 (0.041)	-0.091 (0.083)	No
Region					
Midwest	0.027 (0.042)	0.050 (0.053)	0.043 (0.032)	0.011 (0.058)	Yes: Black and Hispanic sign different
South	0.022 (0.026)	0.015 (0.033)	-0.078** (0.029)	0.104* (0.045)	Yes: Hispanic sign different from white and black
Northeast	0.020 (0.033)	0.028 (0.048)	-0.014 (0.044)	-0.002 (0.047)	No
Constant	0.644 (0.384)	0.676 (0.553)	-0.873 (0.613)	1.509 (0.803)	
Observations	5,688	3,269	1,139	901	

¹ Robust standard errors in parentheses

p-values <.001*** <.01** <.05*

Table 6: Associations between School Racial-Ethnic Composition and Whether Relationships Cross School and/or Racial-Ethnic Boundaries, Multinomial Logistic Random Intercept Models, Relationship-Level Data (Reference category: inside-school, same-race-ethnicity relationships) ¹

	Total (1)			White (2)		
	Inside-school Cross-Race- Ethnicity (A)	Outside-school Same-Race- Ethnicity (B)	Outside-school Cross-Race- Ethnicity (C)	Inside-school Cross-Race- Ethnicity (A)	Outside-school Same-Race- Ethnicity (B)	Outside-school Cross-Race- Ethnicity (C)
Proportion opposite-sex students from a different racial/ethnic group than the respondent ²	4.389*** (0.378)	1.539*** (0.246)	4.367*** (0.388)	3.084*** (0.657)	1.803*** (0.377)	4.042*** (0.613)
Respondent Controls						
Race						
Non-Hispanic Black	-0.958*** (0.222)	-0.124 (0.112)	-1.050*** (0.222)			
Hispanic	0.865*** (0.254)	0.233 (0.209)	0.744** (0.247)			
Non-Hispanic Other	0.971*** (0.289)	-0.168 (0.168)	0.773* (0.343)			
Female	0.129 (0.150)	0.426*** (0.090)	0.436*** (0.120)	0.623*** (0.186)	0.416*** (0.105)	0.699*** (0.208)
Age	-0.038 (0.047)	0.219*** (0.038)	0.111* (0.056)	-0.056 (0.057)	0.237*** (0.045)	0.123 (0.068)
Parental SES	0.024 (0.055)	0.050 (0.033)	0.032 (0.054)	0.110 (0.071)	0.030 (0.038)	-0.052 (0.071)

(Table 6 continued)

	Total			White		
	Inside-school Cross-Race- Ethnicity (A)	Outside-school Same-Race- Ethnicity (B)	Outside-school Cross-Race- Ethnicity (C)	Inside-school Cross-Race- Ethnicity (A)	Outside-school Same-Race- Ethnicity (B)	Outside-school Cross-Race- Ethnicity (C)
Number of Relationships	0.078** (0.028)	0.065** (0.021)	0.220*** (0.042)	0.038 (0.040)	0.055* (0.023)	0.236*** (0.061)
Wave Two	0.054 (0.099)	-0.148** (0.052)	-0.067 (0.112)	0.085 (0.137)	-0.124 (0.067)	0.033 (0.157)
School Controls						
Average school SES	-0.273 (0.472)	-0.659* (0.302)	0.482 (0.494)	-1.589** (0.618)	-1.101** (0.348)	0.140 (0.862)
School Racial-Ethnic Inequality	-12.334*** (3.862)	1.628 (3.030)	-5.466 (3.293)	-3.117 (5.620)	-1.411 (3.966)	-0.277 (5.393)
Proportion opposite-sex students	0.654 (2.039)	-0.040 (1.168)	-1.326 (1.657)	-0.308 (2.845)	-0.095 (2.083)	-1.681 (3.317)
School Size	-0.009 (0.015)	-0.008 (0.012)	-0.018 (0.015)	-0.001 (0.022)	-0.010 (0.020)	0.008 (0.022)
School Type						
Public Magnet	-0.097 (0.246)	0.402** (0.154)	0.061 (0.230)	0.421 (0.438)	1.266*** (0.382)	0.453 (0.502)
Private School/ Specialized Public	0.565** (0.228)	0.005 (0.293)	-0.468 (0.491)	0.056 (0.448)	0.104 (0.367)	-1.125 (1.190)
Admissions Criteria						
District-based with Frequent Transfers	0.039 (0.164)	0.141 (0.138)	0.125 (0.152)	0.466* (0.222)	0.151 (0.205)	0.127 (0.318)

(Table 6 continued)

	Total			White		
	Inside-school Cross-Race- Ethnicity (A)	Outside-school Same-Race- Ethnicity (B)	Outside-school Cross-Race- Ethnicity (C)	Inside-school Cross-Race- Ethnicity (A)	Outside-school Same-Race- Ethnicity (B)	Outside-school Cross-Race- Ethnicity (C)
Admissions to Achieve Desired Racial/Ethnic Composition	0.268 (0.326)	-0.124 (0.234)	0.569* (0.285)	1.191*** (0.353)	-0.676 (0.390)	0.982 (0.544)
Exam-based Admissions	-0.493 (0.259)	0.395 (0.351)	1.653*** (0.486)	0.790 (0.508)	0.364 (0.475)	2.617* (1.124)
Other Admissions Criteria	-0.016 (0.232)	0.141 (0.247)	0.016 (0.424)	1.007* (0.505)	0.164 (0.383)	0.745 (0.637)
Location Controls						
Urbanicity						
Suburban	0.154 (0.141)	0.218 (0.114)	-0.001 (0.119)	0.279 (0.182)	0.102 (0.140)	0.013 (0.176)
Rural	0.263 (0.302)	0.066 (0.229)	-0.172 (0.294)	0.130 (0.321)	-0.128 (0.256)	-0.189 (0.370)
Region						
Midwest	-0.216 (0.199)	0.010 (0.174)	0.088 (0.247)	-0.949*** (0.242)	0.004 (0.226)	-0.120 (0.295)
South	-0.479** (0.175)	0.037 (0.133)	-0.351* (0.169)	-1.236*** (0.260)	-0.050 (0.181)	-0.993*** (0.216)
Northeast	-0.259 (0.184)	0.043 (0.179)	0.269 (0.191)	-0.791** (0.268)	0.036 (0.217)	-0.162 (0.254)
Constant	-1.931 (3.022)	-1.284 (2.089)	-8.743** (3.298)	6.614 (4.093)	-1.296 (2.571)	-6.442 (5.630)
Observations		14,254			8,377	

(Table 6 continued)

	Black			Hispanic			
		(3)			(4)		
	Inside-school Cross-Race- Ethnicity (A)	Outside-school Same-Race- Ethnicity (B)	Outside-school Cross-Race- Ethnicity (C)	Inside-school Cross-Race- Ethnicity (A)	Outside-school Same-Race- Ethnicity (B)	Outside-school Cross-Race- Ethnicity (C)	Sign diff in column B estimates across white, black or Hispanic models
Proportion opposite-sex students from a different racial/ethnic group than the respondent	3.931*** (0.782)	1.217** (0.413)	4.712*** (0.837)	2.762** (0.885)	-0.134 (0.621)	1.887** (0.754)	Yes: white sign different of from black and Hispanic
Respondent Controls							
Race							
Non-Hispanic Black							
Hispanic							
Non-Hispanic Other							
Female	-1.295*** (0.312)	0.516*** (0.151)	-0.409 (0.294)	-0.417 (0.345)	0.408 (0.308)	0.376 (0.282)	No
Age	0.037 (0.119)	0.189** (0.075)	0.245* (0.114)	0.038 (0.111)	0.251* (0.113)	0.087 (0.145)	No
Parental SES	0.020 (0.070)	0.118 (0.073)	0.305** (0.123)	-0.168 (0.108)	0.009 (0.055)	0.021 (0.103)	No
Number Relationships	0.064 (0.084)	0.035 (0.051)	0.110* (0.053)	0.161* (0.076)	0.126* (0.054)	0.243*** (0.070)	No
Wave Two	-0.121 (0.176)	-0.146 (0.143)	-0.005 (0.251)	-0.041 (0.248)	-0.387 (0.209)	-0.323 (0.205)	No

(Table 6 continued)

	Black			Hispanic			Sign diff in column B estimates across white, black or Hispanic models
	Inside-school Cross-Race-Ethnicity (A)	Outside-school Same-Race-Ethnicity (B)	Outside-school Cross-Race-Ethnicity (C)	Inside-school Cross-Race-Ethnicity (A)	Outside-school Same-Race-Ethnicity (B)	Outside-school Cross-Race-Ethnicity (C)	
School Controls							
Average school SES	0.494 (0.881)	0.432 (0.550)	3.011*** (0.906)	2.020 (1.163)	-1.472 (1.000)	2.091 (1.276)	No
School Racial-Ethnic Inequality	-4.210 (7.839)	5.259 (4.807)	10.795 (7.617)	-21.054*** (6.042)	-19.942*** (5.688)	-12.741* (6.312)	No
Proportion opposite-sex students	-0.567 (2.080)	-0.520 (0.940)	-1.331 (2.552)	-1.433 (3.756)	0.622 (1.558)	-3.579 (3.093)	No
School Size	-0.048 (0.025)	-0.024 (0.018)	-0.131*** (0.032)	-0.011 (0.023)	-0.005 (0.021)	-0.008 (0.029)	No
School Type							
Public Magnet	-0.301 (0.466)	0.391 (0.270)	0.323 (0.382)	-1.649** (0.634)	-1.282* (0.521)	-1.759** (0.576)	Yes: White sign different black and Hispanic
Private School/ Specialized Public	-0.918 (0.683)	-0.243 (0.593)	-1.007 (0.591)	2.743*** (0.670)	1.354 (0.736)	1.480** (0.539)	No
Admissions Criteria							
District-based with Frequent Transfers	0.306 (0.339)	0.203 (0.257)	0.373 (0.357)	-0.349 (0.303)	-0.026 (0.312)	-0.157 (0.377)	Yes: Hispanic sign different from white and black
Admissions to Achieve Desired Racial/Ethnic Composition	-0.317 (0.581)	0.048 (0.398)	-0.167 (0.438)	0.789 (1.092)	-0.356 (1.243)	1.928 (1.185)	No
Exam-based Admissions	1.801* (0.787)	1.765** (0.607)	2.576*** (0.696)	-2.546** (0.907)	-1.556 (0.854)	-0.536 (0.789)	Yes: Black sign different from white and Hispanic

(Table 6 continued)

	Black			Hispanic			Sign diff in column B estimates across white, black or Hispanic models
	Inside-school Cross-Race-Ethnicity (A)	Outside-school Same-Race-Ethnicity (B)	Outside-school Cross-Race-Ethnicity (C)	Inside-school Cross-Race-Ethnicity (A)	Outside-school Same-Race-Ethnicity (B)	Outside-school Cross-Race-Ethnicity (C)	
Other Admissions Criteria	0.501 (0.534)	0.181 (0.411)	-0.711 (0.621)	-0.123 (0.744)	1.243* (0.537)	0.558 (0.615)	Yes: Hispanic sign different from white and black
Location Controls							
Urbanicity							
Suburban	-0.197 (0.306)	0.427 (0.232)	0.079 (0.325)	0.621 (0.378)	0.797* (0.329)	0.556 (0.374)	No
Rural	-0.195 (0.380)	0.537* (0.256)	-0.770 (0.454)	1.541* (0.640)	-0.024 (0.334)	0.977 (0.608)	No
Region							
Midwest	0.061 (0.430)	0.017 (0.318)	0.003 (0.463)	0.672 (0.650)	0.228 (0.677)	0.813 (0.686)	No
South	-0.614 (0.384)	-0.381 (0.258)	-0.921* (0.430)	0.865** (0.311)	0.720* (0.348)	1.049** (0.403)	No
Northeast	0.709 (0.442)	0.480 (0.319)	0.692 (0.451)	-0.238 (0.508)	-0.978** (0.390)	0.636 (0.469)	No
Constant	-6.440 (6.127)	-7.129 (3.816)	-26.653*** (6.355)	-12.870 (7.679)	4.394 (6.943)	-14.734 (8.747)	
Observations		2,828			2,169		

¹ Robust standard errors in parentheses

² In models 1 through 4, there is no statistically significant difference between the column A and column C coefficients for the proportion opposite-sex students of different race/ethnicity.

p-values <.001*** <.01** <.05*

Table 7: Associations between School Racial-Ethnic Composition and Whether Relationships Cross School and/or Racial-Ethnic Boundaries for White and Black Respondents, Stratified by Census Tract Racial-Ethnic Composition
Multinomial Logistic Random Intercept Models, Relationship-Level Data (Reference category: inside-school, same-race-ethnicity relationships)¹

	Group 1: Proportion opposite-sex adolescents from different racial-ethnic group in tract \geq equivalent school measure			Group 2: Proportion opposite-sex adolescents from different racial-ethnic group in tract $<$ equivalent school measure		
	Inside-school Cross-Race-Ethnicity (A)	Outside-school Same-Race-Ethnicity (B)	Outside-school Cross-Race-Ethnicity (C)	Inside-school Cross-Race-Ethnicity (A)	Outside-school Same-Race-Ethnicity (B)	Outside-school Cross-Race-Ethnicity (C)
Proportion opposite-sex students from a different racial/ethnic group than the respondent	3.925*** (1.169)	-0.544 (0.937)	8.889*** (1.223)	6.847*** (1.970)	3.163** (1.184)	5.657** (1.897)
Respondent Controls						
Race						
Non-Hispanic Black	-0.537 (0.409)	0.658* (0.287)	-1.150** (0.435)	-2.389** (0.920)	-0.895* (0.459)	-1.266 (0.816)
Female	-0.867** (0.337)	-0.030 (0.257)	-0.448 (0.398)	0.773* (0.390)	0.635** (0.235)	0.895* (0.399)
Age	-0.030 (0.134)	-0.034 (0.103)	0.345** (0.135)	0.087 (0.096)	0.337*** (0.082)	0.235** (0.088)
Parental SES	0.099 (0.118)	-0.115 (0.119)	0.080 (0.112)	0.063 (0.146)	0.093 (0.080)	0.061 (0.146)
Number of Relationships	-0.006 (0.104)	0.143 (0.097)	0.138 (0.116)	-0.005 (0.070)	0.040 (0.046)	0.251 (0.142)
Wave Two	0.302 (0.313)	0.253 (0.247)	-0.020 (0.360)	0.103 (0.238)	-0.057 (0.144)	0.286 (0.232)

School Controls						
Average school SES	-2.030 (1.152)	-0.870 (0.961)	1.627 (1.381)	-1.034 (1.408)	-0.578 (0.989)	0.047 (1.201)
School Racial-Ethnic Inequality	-17.281 (9.490)	-1.481 (6.560)	8.569 (9.464)	-10.584 (8.900)	-2.766 (7.918)	-21.506* (10.526)
Proportion opposite-sex students	-2.083 (5.232)	-1.251 (4.019)	-2.290 (6.122)	0.845 (5.029)	2.308 (3.622)	-0.221 (5.455)
School Size	0.024 (0.038)	0.008 (0.021)	-0.079 (0.046)	-0.073 (0.038)	-0.029 (0.022)	-0.048 (0.036)
School Type						
Public Magnet	0.820 (0.465)	0.540 (0.386)	0.718 (0.472)	-0.523 (0.635)	0.173 (0.436)	0.400 (0.546)
Private School/Specialized Public	0.396 (0.482)	0.917** (0.326)	0.298 (0.515)	0.600 (0.820)	-0.539 (0.631)	-0.455 (1.217)
Location Controls						
Urbanicity						
Suburban	-0.942** (0.328)	-0.565* (0.268)	-0.755* (0.371)	0.346 (0.426)	0.224 (0.223)	0.409 (0.303)
Rural	-1.173* (0.572)	-0.602 (0.445)	-2.847*** (0.820)	1.515** (0.535)	1.114* (0.558)	1.642* (0.747)
Region						
Midwest	-0.411 (0.541)	0.397 (0.378)	0.292 (0.591)	-1.116** (0.406)	0.694 (0.363)	0.350 (0.448)
South	-0.958* (0.405)	-0.159 (0.389)	0.131 (0.514)	-2.154*** (0.401)	-0.170 (0.265)	-1.534*** (0.437)
Northeast	-0.043 (0.547)	-0.398 (0.585)	0.375 (0.629)	-1.428** (0.567)	0.341 (0.444)	-0.456 (0.681)

Constant	10.814 (8.464)	7.197 (6.013)	-20.882* (9.031)	0.181 (8.717)	-5.647 (5.842)	-9.546 (7.345)
Observations		1,139			1,677	

¹ Robust standard errors in parentheses. Because this subgroup analysis contains fewer observations, data sparseness made it impossible to include the school admissions variables as controls in these models.

p-values <.001*** <.01** <.05*

