College Bound Friends
A Study of Racial and Ethnic Differences[1]

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ABSTRACT

During the formative adolescent years, peers' influence on students' educational outcomes and are among the most powerful social forces affecting youth behavior. Adolescent friendships are arguably even more important than parents, teachers, or counselors in guiding student behavior during this critical period and can have profound impacts on their educational trajectories. However, most studies assume that the influence of peers is uniform across groups, even though youth tend to self-segregate by race and ethnicity and empirical evidence suggests substantial heterogeneity in outcomes between groups. Using data from the Texas Higher Education Opportunity Project, we conduct a multilevel analysis of peer effects on the college applications of high school seniors of different racial and ethnic groups. We find that, compared to Black and White students, Latino students do not reap the same benefits from college bound friends and may face even greater obstacles to college attainment than previously expected. We discuss possible explanations for the weaker influence of peers on Latino students' college application and attainment outcomes as well as implications for school integration policies.

INTRODUCTION

Peer groups are among the most influential social forces affecting adolescent behavior – from mundane decisions concerning clothing, hairstyle, music, and entertainment, to more significant decisions concerning short and long-term education plans. During the formative adolescent years, peers are arguably even more important than parents, teachers, and counselors, and the peer-influenced decisions of youth can have long-lasting consequences (Coleman et al. 1966; Sewell, Haller and Portes 1969; Sewell, Haller and Ohlendorf 1970). Parents recognize the importance of peer groups and – through their choice of neighborhoods, schools, and activities (Haynie, South and Bose 2006; Lareau 2003; Mouw and Entwisle 2006) – attempt to guide and direct their children's friendship selections, which can be increasingly challenging during adolescence. Regardless of socioeconomic status, parents want their children to be surrounded by the best possible social networks, especially during adolescence, when youth are increasingly independent from parents. During these formative years, educational goals take form, and youth make a series of decisions that shape their educational trajectories, even as their friendship networks gain influence upon these decisions.

Unfortunately, the peer effects literature is lacking in two main areas. The first is that peer effects are assumed to be uniform across class, gender, and race and ethnicity. Race and ethnicity is especially likely to be important because adolescents are more likely to choose friends of the same racial and ethnic group (Hamm, Brown and Heck 2005; Haynie, South and Bose 2006; Quillian and Campbell 2003), introducing the possibility that peers have differing effects by race and ethnicity. The second problem is

that few studies focus on academic decisions that are *directly* influenced by friends, such as course or track selection and college choices. Instead, most studies of peer effects focus on educational outcomes that are indirectly influenced by friends, such as early cognitive development, grades, promotion, and, most commonly, test scores (Goux and Maurin 2007; Hanushek et al. 2003; Henry and Rickman 2007; Kang 2007; Zimmerman 2003). Hanushek et al. (2003) and others have pointed out that "[i]f innovations to behaviour form an important avenue through which peers affect outcomes, the inability to capture such behaviour might lead to a serious underestimation of peer influences" (p. 542). Thus, behavior decisions may lie at the intersection between peers and achievement – effectively acting as a mediator through which the influence of peers passes prior to shaping student achievement.

We attempt to address these gaps in the literature by examining the effects of friends on high school students' college application decisions, focusing on variation by race and ethnicity. We use data from the Texas Higher Education Opportunity Project (THEOP), which includes high school seniors' college application decisions as well as the number of friends that plan to go to college. The influence of friends, especially as it varies by race and ethnicity, is an important and timely question to examine, given the continued importance of race and ethnicity in educational stratification in the U.S., as well as the rapidly growing minority population.

PREVIOUS RESEARCH

Across a wide range of grade levels, studies investigating the effects of peers on educational outcomes almost consistently find that higher-achieving peers are associated

with better educational outcomes: higher cognitive, pre-reading, and language skills among pre-school students (Henry and Rickman 2007), increased learning among third graders (Hanushek et al. 2003), less grade repetition and higher math scores among middle schoolers (Goux and Maurin 2007; Kang 2007), improved high school achievement (Ding and Lehrer 2007; Schneeweis and Winter-Ebmer 2007), and higher grade point averages among first-year college students (Sacerdote 2001; Zimmerman 2003). Early studies also found positive and significant effects on a variety of educational outcomes such as math and reading achievement, educational and occupational attainment, and college aspirations (Coleman et al. 1966; Sewell, Haller and Portes 1969; Sewell, Haller and Ohlendorf 1970). Despite an apparently clear pattern of a positive and significant association between higher-achieving peers and higher achievement, and although peer effects studies have advanced important conceptual and methodological developments, the peer effects literature is lacking in two main areas.

First, few studies have given serious consideration to the ways in which peers may function differently for diverse groups of students, especially for racial/ethnic groups, known to form self-segregating peer groups (Goldsmith 2003; Goldsmith 2004a; Goldsmith 2004b; Haynie, South and Bose 2006; Mouw and Entwisle 2006; Quillian and Campbell 2003). One study tested whether peer effects on medical students' specialty choice varied by race and gender but found no such differences (Arcidiacono and Nicholson 2004). Despite the dearth of peer effects studies examining differences by race and ethnicity, patterns of friendship formation are likely to vary by race and ethnicity, due to both a high level of racial and ethnic segregation among schools (Joyner and Kao 2000), as well as a tendency among minorities to become friends with other

minorities – a pattern that intensifies in settings where minorities make up a small percentage of the student body (Quillian and Campbell 2003). Even multiracial students are likely to choose minority friends (Doyle and Kao 2007). Furthermore, because Whites and most minorities differ greatly in various measures of socioeconomic status (SES), and since high SES is commonly associated with both education and occupational status, we expect to observe racial and ethnic differences, particularly in the ability of peers to influence college application decisions.

The second gap in the peer effects literature is that while many studies have focused on achievement outcomes, few have focused on academic decision-making, and the few that focus on decision-making report mixed results. For example, one study found that peers are associated with the decision to join a campus fraternity but not the choice of academic major (Sacerdote 2001). Similarly, another study focusing on medical students found that peers are not associated with the choice of medical specialty (Arcidiacono and Nicholson 2004). However, another study found that peers are associated with the choice of major (Lyle 2007). For decision-making outcomes, there are no clear patterns, yet academic decision-making may be indicative of the process by which peers influence academic outcomes. Without clearer evidence of the mechanisms by which peers impress their attitudes, beliefs, values, and behaviors upon others, the theoretical link between peers and educational achievement must be questioned.

One particularly important academic decision for high school youth is whether to apply to college during their last year of high school, which is an important indicator of a student's likelihood of obtaining a four-year college degree (Kinzie et al. 2004). Regardless of achievement, students who apply to college during high school are much

more likely to complete college than those who do not. For example, using data from the National Education Longitudinal Study (NELS), the percentage of high achieving students (with an A or B average in high school) who had not completed a four-year degree eight years after high school was 27% among those who applied to college during their senior year but 68% among those who did not apply during high school (based on our tabulations). This suggests that the last year of high school represents an important window of opportunity for college application, after which the chances of attending and completing college decrease significantly. Furthermore, in no other time in history has a college degree meant more for social mobility. Over the past fifty years, institutional shifts in access to higher education, financial aid, student demographics, admissions criteria, recruitment and marketing, and equity have increased the need for adolescents and parents to focus on college application (Kinzie et al. 2004). The GI Bill and *Brown vs. Board of Education* revolutionized traditional assumptions and practice concerning who should go to college and arguably did more to expand access and equity in education than any other policies in the 20th century. Other measures that contributed to the transformation of higher education from one reserved primarily for middle and upper class White males included the Higher Education Act of 1965, which paved the way for federal and state financial aid incentives, and the Civil Rights Act of 1964, which ushered in the era when colleges included significant populations of women, students of color, and low income students. The publication of admissions statistics by the College Board starting in the 1950s signaled in the proliferation of admissions marketing aimed not at the parents but at the students themselves and an elaborate industry dedicated to making sure students applied to and were accepted at the most selective institution possible

immediately following high school completion. College selectivity itself was a byproduct of the College Board's doing and became synonymous with quality. And at the same time as all of these changes were happening, states like California began to expand their system of higher education to include community colleges, state schools, and research-based institutions to absorb the surging student population. As a result of these momentous shifts, the decision to apply to college during high school has become increasingly imperative for teens preparing to transition into post secondary education.

The potential for racial and ethnic minorities to apply to colleges and universities is extremely high, given that the current minority population is over a third of the total U.S. population, or over 100 million – a number that is larger than the current total populations of all but 11 countries in the world (U.S. Department of Commerce 2006). By 2020, minorities will make up a full 40 percent of the total U.S. population (U.S. Department of Commerce 2006). Among minorities, Latinos are the largest and fastest growing group, and they are also the youngest, with a median age nine years younger than the general population, and almost a third of the estimated 42 million Latinos are school aged (U.S. Department of Commerce 2005a). However, Latinos drop out of high school at alarming rates, and they apply to college at much lower rates than Whites, Blacks, and Asians (U.S. Department of Commerce 2005b). As a result of these demographic trends, analyzing the effect of peers on educational outcomes by race and ethnicity is of great importance.

In summary, although previous research has found that higher-achieving peers are associated with improved educational outcomes, there are two important gaps in this line of research: (1) a lack of studies examining academic decision-making and (2) a need for

studies examining variation by race and ethnicity. By studying the way peers influence college application decisions, and examining racial and ethnic variation in particular, this study aims to address these two gaps. The increasing influence of friends for adolescent decision-making, the important role of college application during high school in determining educational outcomes, and the documented homogeneity in friendship formation are all strong incentives to study racial and ethnic variation in peer effects on college application decisions.

DATA & METHODS

We use restricted data from the Texas Higher Education Opportunity Project (THEOP, Senior Cohort, Wave 1), which consists of a sample of 13,803 high school seniors attending 96 Texas public high schools in the spring of 2002. Students were selected through stratified random sampling and surveyed during their last semester in high school. Data were collected through self-administered surveys, most of which were completed during class time, and a few of which were mailed to students. This dataset is rich in both student and school variables and draws from a population with a large proportion of minorities, which enables us to make stronger claims about the association between peers and educational outcomes for minorities. This sample of Texas high school seniors is comprised of about 42% White students, 36% Latino students, 13% Black students, and 9% students of other ethnicities (see Table 1).

We focus on the influence of college bound friends on whether high school students apply to any college, a four-year college, or a selective college. Students were asked to list up to five colleges/universities by their order of preference and to indicate

whether they had applied to each.[2]   About 60% of students listed at least one preference, 34% listed at least two, 34% listed at least three, 15% listed at least four, and only 3% listed five.   We measured applying to any college as having applied to any of their selections, regardless of their order of preference and regardless of the type of school. About 63% of students had applied to at least one college of any type, 51% had applied to at least one four-year college, and 24% had applied to at least one selective college. Selective colleges are defined as those categorized either as "more selective" or "most selective" according to U.S. News and World Report rankings (approximately the top third of colleges in this sample).

Students were asked to indicate the number of friends, with whom they spend time, who plan to go to college.[3]   Although they chose from four categories (none, only one, two or three, or more than three), we collapsed our measure of college bound friends to only two categories (less than four versus four or more) since very few students indicated that they had one or no college bound friends.   The percentage of students with four or more college bound friends was about 83% among Whites, 77% among Blacks, and 69% among Latinos, suggesting that minorities tend to have fewer friends who plan to go to college.

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[2] Students who did not plan to continue their education beyond high school were not asked these questions, since they are not applicable to them. Only 6% of the sample stated that they did not intend to continue beyond high school. This low percentage is not surprising given that this is a select sample of second semester seniors (that is, data were collected after most of those who did not intend to continue their education had dropped out).

[3] Unfortunately, we do not have data on the types of colleges their friends planned to attend.

In order to try to isolate the effect of college bound friends on the likelihood of applying to college, we controlled for other factors likely to be associated with college application, including gender, foreign-born status, race/ethnicity, and high school achievement, which is based on three factors: (1) the grade point average from the most recent grading period, (2) class rank, which is reverse coded such that higher values represent a better rank, and (3) academic curriculum (general, college prep, or distinguished achievement). We also controlled for whether they aspired and expected to finish college, whether their counselors, teachers, or parents encouraged them to go to college, and whether it is important for them to live at home during college. Students were not asked to report their parents' incomes, which are notoriously imprecise. Instead, we used parents' education and home ownership to gauge socioeconomic status, as well as the percentage of economically disadvantaged students in their school (based on free or reduced priced lunch). We also take account of other high school features expected to influence students' likelihood of applying to college, such as the percentage of high school peers with college plans and the number of colleges in proximity to the high school (within a 12 mile radius for urban areas or 24 mile radius for rural/suburban areas). We also considered the interactions between the number of college bound friends and race/ethnicity, since we have reason to believe that the influence of college bound friends will differ by race/ethnicity. All the variables in our models are summarized in Table 1.

[Table 1 about here.]

Table 1 lists the percentage of missing values for each variable, which ranges from zero for some high school level predictors (because they were obtained from administrative records) to 43% for applying to a selective college. Application to a four-

year or selective college had the most missing values since many students did not list the names of their preferred colleges – without which we could not determine school types. About 35 to 43% of students either did not list school names or did not indicate whether they had applied to them. As a result, missing values for all variables were estimated using multiple imputation, a technique that aims to preserve the characteristics of the dataset as a whole (instead of specific variables) and that is appropriate for addressing missing data, both those missing at random and those not missing at random (Schafer and Graham 2002). Five equally plausible complete datasets were constructed through information obtained from the observed data (from a total of 1,000 iterations) since accurate results typically can be obtained from five to ten imputations (Schafer 1999). All statistical analyses were repeated on each of these datasets, producing five sets of results, which were combined to produce one set of estimates and standard errors that incorporate missing data uncertainty, using Rubin's rule of combination (Rubin 1987; Rubin 1996).

We use multilevel models to investigate the effect of peers at both the individual level (four or more college bound friends) as well as the high school level (percentage of students with college plans). The models are summarized below.

Level 1:

$$Y_{ij} = \beta_{0j} + \sum_{q=1}^{Q} \beta_{qj}X_{qij} - \overline{X_{q \bullet j}} + r_{ij}$$

Level 2:

$$\beta_{qj} = \gamma_{q0} + \sum_{s=1}^{S_q} \gamma_{qs}W_{sj} - \overline{W_{s \bullet}} + u_{qj}$$

Where:

Y_{ij} represents the log odds of applying to college for student i in school j; X_{qij} represents the student-level predictors that are independent of r_{ij}; r_{ij} is the independent and normally distributed student-level error term with mean of 0 and variance σ^2 for every student i within each school j; W_{sj} represents the school-level predictors; and u_{qj} is the independent and normally distributed school-level error term. For added precision and easier interpretation, the level 1 variables are centered around the group (high school) mean, except for college bound friends and race/ethnicity, since we want to predict the odds of applying to college while allowing these two factors to vary. In addition, level 2 variables are centered around the grand mean, such that the reported intercept represents the likelihood of applying to college in the average high school, for the average White student with less than four college bound friends (i.e., when college bound friends and race/ethnicity equal zero).

RESULTS

Descriptive statistics suggest that, compared to White students, Latinos and Blacks are not only significantly less likely to have college bound friends but also less likely to benefit from them. While 83% of White students stated that they had many (four or more) college bound friends, only 77% of Black students and 69% of Latino students stated likewise. Furthermore, although having many college bound friends is associated with an increased likelihood of applying to college, the increase is smaller for Black and Latino students, relative to White students. Table 2 shows that for students with many college bound friends, the likelihood of applying to any college increases by 54% for White students, but only 41% for Latino students and 22% for Black students.

Similarly, the likelihood of applying to a four-year college increases by 87% for White students, but only 54% for Latino students and 47% for Black students, and the likelihood of applying to a selective college increases by 127% for White students, but only 89% for Latino students and 62% for Black students. This pattern suggests that minority students are disadvantaged not only because they have fewer college bound friends but also because the college bound friends they have are less beneficial.

[Table 2 about here.]

To see if the racial/ethnic variation in the association between college bound friends and college application holds after controlling for other factors known to be associated with college application, Table 3 shows the results of several hierarchical nonlinear models predicting the odds of applying to any college, a four-year college, and a selective college. The results from five imputed datasets were combined to produce one set of estimates and robust standard errors for each outcome (both coefficients and odds ratios are reported). Although the percentage of students planning to go to college was insignificant at the high school level, at the student level, having many college bound friends is associated with a statistically significant increase (35 to 47%) in the odds of applying to college, net of other factors. As expected, GPA, academic curriculum, class rank, and desire to stay home for college had a significant effect on all three college application outcomes. Interestingly, for applying to a selective college, some factors were less important (such as college aspirations and expectations, encouragement to go to college from teachers, counselors, or parents, and parents' education and home ownership), while other factors were more important (such as the percentage of economically disadvantaged students in the high school and the number of four-year

colleges in proximity). Also, while females were significantly more likely to apply to any college or a four-year college, they were significantly less likely to apply to a selective college. Similarly, Blacks were significantly more likely to apply to any college or a four-year college but not a selective college.

[Table 3 about here.]

Given our hypothesis that peer effects vary by race and ethnicity, the interaction terms in Table 3 are of special interest, as they suggest that college bound friends have a significantly weaker effect on Latinos, at least for applying to any college or a four-year college. To illustrate how the effects of college bound friends vary by race/ethnicity, Figure 1 shows the predicted odds of applying to any college and Figure 2 shows the predicted odds of applying to a four-year college, based on the multilevel models in Table 3 (the predicted odds of applying to a selective college are not shown because they do not differ significantly by race/ethnicity). Both figures suggest that, net of other factors, Latinos benefit from college bound friends significantly less than Whites or Blacks. Having many college bound friends is associated with a 22% increase in the odds of applying to any college for Black students and a 40% increase for White students, but only a 6% increase for Latino students. Likewise, having many college bound friends is associated with a 37% increase in the odds of applying to a four-year college for Black students and a 47% increase for White students, but only a 6% increase for Latino students. These results suggest that, compared to White or Black high school students, Latinos are not only less likely to have college bound friends, but they are also significantly less likely to benefit from them.

[Figures 1 & 2 about here.]

DISCUSSION & CONCLUSION

Although previous studies assume that the impact of peers on educational outcomes does not vary by race and ethnicity (Arcidiacono and Nicholson 2004; Ding and Lehrer 2007; Goux and Maurin 2007; Hanushek et al. 2003; Henry and Rickman 2007; Lyle 2007; Mouw 2006; Sacerdote 2001; Zimmerman 2003), we find that, compared to Black and White high school students, Latinos do not reap the same benefits from college bound friends. What explains this differential impact? Are Latinos' college bound friends less prepared academically than the college bound friends of Whites or Blacks? Are Latinos' college bound friends more likely to go to two-year colleges than the college bound friends of Whites or Blacks? Or are Latinos' college decisions more likely to be influenced by people other than peers? In what follows, we discuss each of these possible explanations – all of which hinge on the assumption that the college bound friends of each group are likely to be members of the same group (Hamm, Brown and Heck 2005; Haynie, South and Bose 2006; Quillian and Campbell 2003).

First, it is possible that Latinos' college application decisions are largely determined by people other than their friends, such as guidance counselors, teachers, and parents – all of whom have been identified as important influences on educational outcomes, at least among Mexican American adolescents (Stanton-Salazar and Dornbusch 1995; Stanton-Salazar 1997; Stanton-Salazar 2001). In order to test this hypothesis, we ran supplementary models that included interaction terms comparing the effect of encouragement to go to college (from counselors, teachers, and parents) for Latino and non-Latino students. Encouragement from counselors, teachers, and parents

did not have a significantly different effect on Latinos. Because we did not find evidence that Latinos' college application decisions are more likely to be determined by these actors, we turn to features of college bound friends that might differ for Latinos.

For example, the college bound friends of Latino students may be less prepared academically to the college bound friends of Whites or Blacks. To illustrate, only 45% of Latinos in our sample stated that four or more of their friends think it is important to work hard on school work, compared with 55% of Blacks and 52% of Whites. Similarly, only 68% of Latinos in our sample stated that four or more of their friends do well in school, compared with 70% of Blacks and 75% of Whites. These differences are small but statistically significant, according to chi-squared tests. Although these measures of friends' academic achievement are crude, and they focus on friends in general rather than college bound friends in particular, they suggest that Latinos' college bound friends may be less prepared academically to the college bound friends of Whites or Blacks.

Another possibility is that Latinos' college bound friends may be more likely to influence them to attend two year colleges instead of four year colleges. Our data, as well as national datasets, suggest that Latinos are less likely to apply to a four-year college and more likely to apply to a two-year college than Blacks or Whites (National Center for Education Statistics 2007). Since minorities tend to self-segregate (Hamm, Brown and Heck 2005; Haynie, South and Bose 2006; Quillian and Campbell 2003), the college bound friends of Latinos are more likely to be *two-year* college bound than the college bound friends of other groups. As a result, Latinos are likely to receive a qualitatively different type of peer support that pushes them in the direction of two-year colleges. Unfortunately, our data do not permit us to test this directly since the students

in our sample were not asked to specify how many of their college bound friends were planning to attend a two-year college.

Our study has several important limitations. First, as noted above, we do not have descriptive data on the college bound friends of our respondents. For example, we do not know the racial/ethnic composition of college bound friends and we do not know the types of colleges they plan to attend. As a result, we cannot ascertain the qualitative differences among the college bound friends of different groups of students, and we can only speculate about the reasons why the effect of college bound friends varies by race and ethnicity. Another limitation is that we cannot rule out the possibility that our observed relationship between college bound friends and college application is due to unobserved heterogeneity. Causal concerns over unobserved variables and reflection bias due to peer selection based on shared characteristics have prompted researchers to investigate peer effects using quasi-experimental designs and random assignment (Lyle 2007; Mouw 2006; Sacerdote 2001). While the THEOP data present new information with a significantly larger sample of Latinos, it is not amenable to following the principles of causal inference more thoroughly (Morgan and Winship 2007). Finally, our data are not necessarily generalizable beyond Texas. If high school students' friendship networks are different in Texas, or if Latinos are systematically different from Latinos in other parts of the country, our findings are not applicable elsewhere. With these limitations in mind, the findings presented here hold important implications for the study of peer effects as well as for efforts to equalize educational attainment in the U.S.

Programs that attempt to improve the educational context of minority students assume that contextual features, such as increased college bound friends, will lead to

improved educational outcomes. But our findings suggest that while such a policy exhibits a modest positive impact, increasing college friends is not nearly as beneficial for Latinos as it is for Whites or even Blacks. Is it possible to make the influence of college bound peers more equitable across racial and ethnic groups? If Latinos are at a disadvantage because their college bound friends are qualitatively different from the college bound friends of Whites or Blacks, we must question the prospects of school integration policies where the peer networks of students in racially mixed schools are just as divided as students in segregated schools. If Latinos are to be exposed to the types of college bound peers that other students experience, and benefit from them, we must first tackle the persistent problem of racial segregation within schools.

BIOGRAPHY

Steven Elías Alvarado is a Sociology PhD student at the University of Wisconsin – Madison. Steven's research centers on social stratification, demography, and experimental design. He holds a graduate research fellowship from the National Science Foundation and a predoctoral training fellowship from the U.S. Department of Education , Institute of Education Sciences. He is currently a Visting Research Collaborator at Princeton University, Office of Population Research.

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Table 1. Summary Statistics (N=13,803)[a]

	% Missing	Mean	Std Err
outcomes			
applied to any college	9.91	0.63	0.00
applied to 4yr college	34.90	0.51	0.00
applied to selective college	42.90	0.24	0.00
student-level predictors			
college bound friends	3.84	0.77	0.00
HS GPA	2.47	3.11	0.01
general curriculum track	13.37	0.30	0.00
college prep track	13.37	0.57	0.00
distinguished achievement track	13.37	0.13	0.00
HS rank	3.99	67.04	0.21
aspires to finish college	15.08	0.78	0.00
expects to finish college	17.68	0.72	0.00
counselors encouraged college	4.67	0.74	0.00
teachers enouraged college	4.91	0.86	0.00
parents encouraged college	5.12	0.94	0.00
important to stay home for college	15.19	0.59	0.00
female	12.70	0.53	0.00
native born	13.66	0.88	0.00
first generation immigrant	13.66	0.03	0.00
1.5 generation immigrant	13.66	0.09	0.00
White	12.45	0.42	0.00
Black	12.45	0.13	0.00
latino	12.45	0.36	0.00
other	12.45	0.09	0.00
parents finished college	19.60	0.22	0.00
parents own home	17.18	0.81	0.00
Black x college bound friends	13.37	0.10	0.00
latino x college bound friends	13.37	0.25	0.00
other x college bound friends	13.37	0.07	0.00
school-level predictors			
% economically disadvantaged	0.00	34.29	n/a
% with college plans	0.00	75.31	n/a
total colleges in proximity	0.42	9.51	0.03
4yr colleges in proximity	0.42	2.91	0.01

Source: THEOP Senior Cohort Wave 1
[a]Missing values were imputed using multiple imputation; five datasets were combined using Rubin's rule of combination.

Table 2. Proportion of Students Applying to College, by Race/Ethnicity and College Bound Friends

Race/Ethnicity	Applied to Any College			Applied to 4yr College			Applied to Sel College		
	0-3 friends	4+ friends	% increase	0-3 friends	4+ friends	% increase	0-3 friends	4+ friends	% increase
White	0.46	0.71	54.15	0.32	0.60	86.52	0.15	0.34	126.67
Latino	0.42	0.59	40.63	0.30	0.46	54.18	0.09	0.17	88.89
Black	0.60	0.73	22.00	0.41	0.60	47.07	0.13	0.21	61.54

Source: THEOP Senior Cohort Wave 1

Table 3. Multilevel Models

	Applied to Any College				Applied to 4yr College				Applied to Selective Col			
	OR	Coef	Rob SE		OR	Coef	Rob SE		OR	Coef	Rob SE	
Level 1: student variables (N=13,803)												
college bound friends[a]	1.40	0.33	0.12	*	1.47	0.38	0.09	***	1.35	0.30	0.12	*
HS GPA	1.43	0.36	0.04	***	1.30	0.26	0.05	***	1.35	0.30	0.06	***
general curriculum track	ref				ref				ref			
college prep track	1.50	0.41	0.06	***	1.48	0.39	0.05	***	1.17	0.16	0.06	*
distinguished achievement track	2.18	0.78	0.11	***	2.12	0.75	0.10	***	1.71	0.54	0.09	***
HS class rank	1.02	0.02	0.00	***	1.02	0.02	0.00	***	1.03	0.03	0.00	***
aspires to finish college	1.36	0.31	0.09	**	2.13	0.75	0.10	***	0.99	-0.01	0.14	
expects to finish college	1.86	0.62	0.08	***	1.79	0.58	0.09	***	1.32	0.28	0.15	†
counselors encouraged college	1.31	0.27	0.06	***	1.11	0.11	0.09		1.07	0.06	0.08	
teachers enouraged college	1.20	0.18	0.07	*	1.13	0.12	0.08		0.90	-0.11	0.11	
parents encouraged college	1.20	0.18	0.09	*	1.30	0.26	0.11	*	1.23	0.21	0.20	
important to stay home for college	0.57	-0.56	0.08	***	0.45	-0.79	0.06	***	0.34	-1.07	0.08	***
female	1.16	0.15	0.04	***	1.09	0.09	0.04	*	0.80	-0.22	0.07	**
native born	ref				ref				ref			
first generation immigrant	0.86	-0.15	0.10		0.86	-0.15	0.10		0.94	-0.06	0.17	
1.5 generation immigrant	0.88	-0.13	0.08		0.86	-0.15	0.09		1.06	0.06	0.12	
White	ref				ref				ref			
Black[a]	2.44	0.89	0.19	***	2.14	0.76	0.15	***	1.37	0.31	0.23	
latino[a]	1.14	0.13	0.11		1.27	0.24	0.12	†	1.12	0.11	0.16	
other	1.19	0.17	0.18		1.26	0.23	0.19		1.19	0.18	0.25	
parents finished college	1.14	0.13	0.05	*	1.19	0.17	0.05	**	0.97	-0.03	0.07	
parents own home	1.20	0.18	0.07	**	1.14	0.13	0.06	*	1.09	0.09	0.07	
Black x college bound friends[a]	0.88	-0.13	0.23		0.93	-0.07	0.16		0.72	-0.32	0.24	
latino x college bound friends[a]	0.76	-0.28	0.14	†	0.72	-0.32	0.12	**	0.84	-0.17	0.15	
other x college bound friends	1.04	0.04	0.20		0.99	-0.01	0.21		1.22	0.20	0.27	
Level 2: school variables (N=96)												
% economically disadvantaged	1.00	0.00	0.00		1.00	0.00	0.00		0.98	-0.02	0.00	***
% with college plans	1.00	0.00	0.00		1.01	0.01	0.00	*	1.00	0.00	0.00	
total colleges in proximity	0.99	-0.01	0.01		n/a				n/a			
4yr colleges in proximity	n/a				1.00	0.00	0.03		1.06	0.05	0.02	*

Level 1 - Level 2 Interactions

Black x % with college plans	1.00	0.00	0.01		1.00	0.00	0.00		1.00	0.00	0.01
latino x % with college plans	1.00	0.00	0.00		1.00	0.00	0.00		1.00	0.00	0.00
Intercept	1.34	0.29	0.12	*	0.55	-0.59	0.11	***	0.14	-1.97	0.16 ***

Source: THEOP Senior Cohort Wave 1

[a]These variables are uncentered; remaining level 1 variables are group centered and level 2 variables are grand centered.

[†] $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$
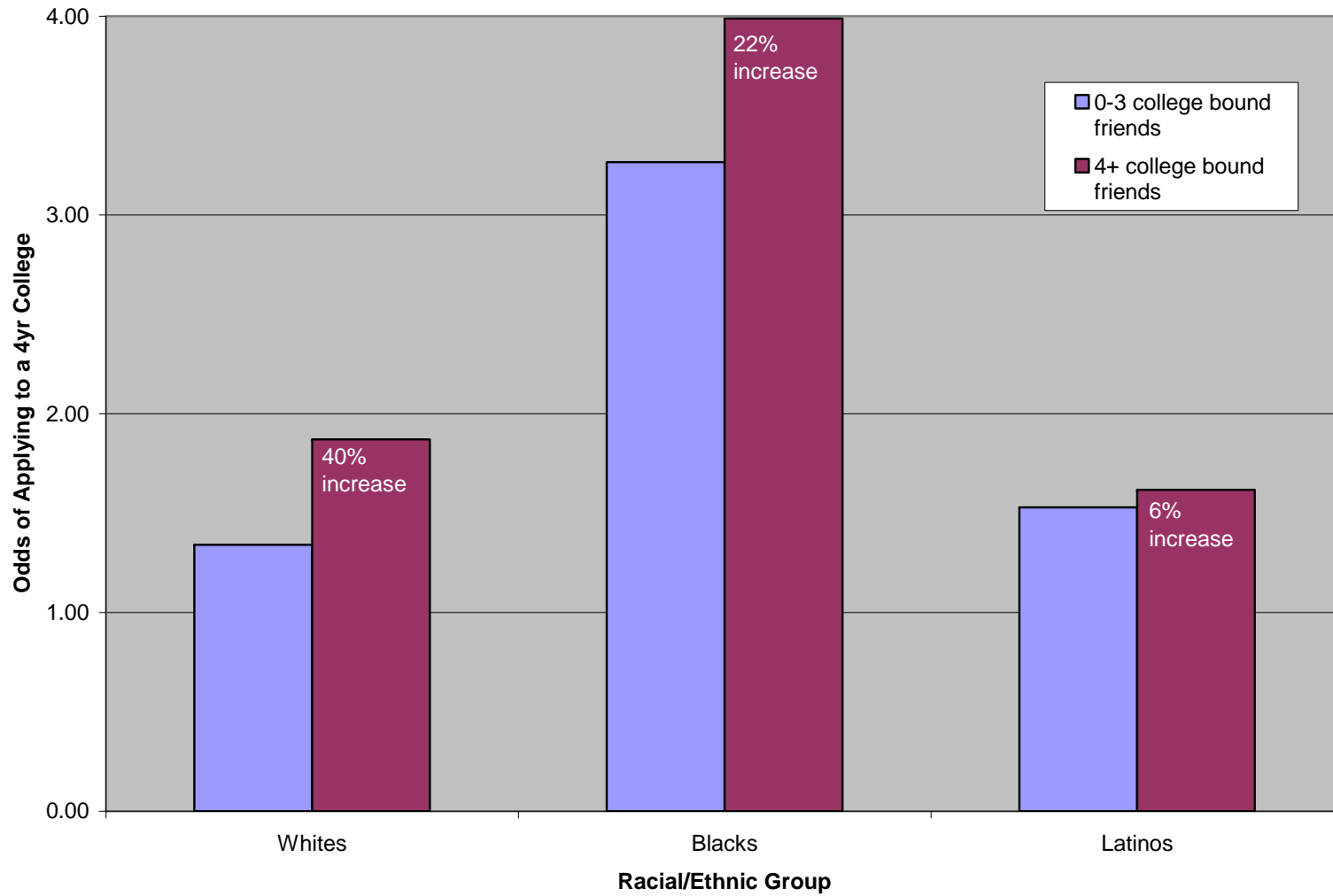
Figure 1. Predicted Odds of Applying to Any College

Figure 2. Predicted Odds of Applying to a 4yr College