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# Socioeconomic Status and College: How SES Affects College Experiences and Outcomes

*MaryBeth Walpole*

Students from low socioeconomic (SES) families have been part of American higher education since its earliest days, although always in small numbers, and are still underrepresented in higher education, particularly in four-year institutions and more selective colleges (Hearn, 1984, 1990; McDonough, 1997). Although this group of students is widely acknowledged as educationally disadvantaged, they have received scant attention from researchers, in spite of calls for such research (Berger, 2000; Berger, Milem, & Paulsen, 1998; Tinto, 1987, 1993). This lack of attention is due, in part, to a traditional higher education research focus on mainstream students (Paulsen & St. John, 2002). In recent years, however, although low SES students have received little attention, scholarship focusing on the ex-

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MARYBETH WALPOLE is an Assistant Professor in the Educational Leadership Department at Rowan University, Glassboro, New Jersey. Her research interests include equity issues in college admission and college experiences. She presented this paper at American Educational Research Association in March 1997 at Chicago. She expresses appreciation to Patricia McDonough, Linda Sax, Bill Korn, and Anthony Antonio for their assistance, and to the Spencer Foundation for funding through a research training grant. Address queries to her at the Educational Leadership Department, Rowan University, Glassboro, NJ 08028; telephone: (856) 256-4706; fax: (856) 256-4918; e-mail: [walpole@rowan.edu](mailto:walpole@rowan.edu).

periences of students from different racial and ethnic groups as well as those of different genders and sexual orientations has contributed substantially to the higher education research literature. These groups have concerned scholars because such students have been historically underrepresented and because of persisting concerns regarding equitable access to and outcomes of postsecondary education.

Low SES students are similarly underrepresented, and comparable equity issues exist for this group of students. Researchers have found that this group of students is less likely to attend college, is more likely to attend less selective institutions when they do enroll, and has unique college choice processes (Astin, 1975, 1993; Hearn, 1984, 1990; Hossler, Schmit, & Vesper, 1999; Karabel, 1972; McDonough, 1997; Paulsen & St. John, 2002; Tinto, 1987, 1993). Furthermore, they are less likely to persist or to attend graduate school. However, despite these findings and calls for research on social class differences, higher education scholars often control for social class differences rather than focusing on how those differences may shape students' experiences and outcomes. Understanding such differences will not only inform higher education research, as has other recent research on nontraditional students, but it will also inform higher education policy.

Students from low SES backgrounds became a focal point of public policy following World War II. Beginning with the G.I. Bill, an entitlement for former soldiers, substantial public funding was directed toward low SES students in an effort to ensure access to and choice among educational institutions. Currently, however, many scholars believe that threats to financial aid availability may be closing off access for and reducing the retention of low SES students. They are urging policymakers to refocus their attention on this population (Breneman, 1995; Heller, 2001; Karen, 1991; McPherson & Shapiro, 1991, 1998; Mortenson, 1990; Orfield, 1992; Paulsen & St. John, 2002).

Low SES students have not received sufficient attention from policymakers because of a lack of group identity and political mobilization (Karen, 1991). This particular group has not become politically motivated, in part, because educational attainment provided opportunity for social mobility. A college education has been seen as a means of escape and a pathway of social mobility since colonial times for low SES students, a sentiment that became ingrained in the American dream (Allmendinger, 1975; DiMaggio & Mohr, 1985; Karabel, 1972; Karabel & Astin, 1975; Trow, 1992). Promoting an opportunity structure through educational attainment is a critical piece of our social policy, yet several scholars believe that opportunity structure is more fictive than real (Bowles & Gintis, 1976; Brint & Karabel, 1989). Investigating low SES college students' experiences and outcomes also provides insight into how and the extent to which the opportunity structure promotes social mobility.

Typically, the unit of comparison in studies of social mobility is the class location the individual would have occupied without a college education. College students from low SES backgrounds, then, gain in relation to where they would have been if they had joined the workforce directly after high school. Another unit of comparison is investigating the social locations of upwardly mobile students in relation to those of high SES students. This type of comparison views social class in relative terms. Though low SES college graduates may be better situated than their families of origin, this study explores low SES college graduates' social standing relative to their peers from high SES backgrounds. Low SES students and high SES students should have similar experiences and outcomes, controlling for ability and institutional quality, if the system is meritocratic or if social class disadvantage weakens as students advance through the educational system. If the low SES students have different experiences or lower postsecondary outcomes than the high SES students, then perhaps their social class background continues to negatively impact their achievement, despite equivalent attainment.

In a society that believes in education as a means of social mobility, an investigation into the college experiences and postsecondary outcomes of low SES students compared to high SES peers could be more informative than an intergenerational investigation. Scholars have pointed out the potential of focusing on relative social class gains instead of the more common absolute gains investigated in intergenerational studies (Jackman & Jackman, 1983). In response, this longitudinal study investigates the experiences of low and high SES students in college. Specifically, the study focuses on their cocurricular and academic activities as well as examining outcomes of college including the income, educational aspirations, and educational attainment for students from low SES backgrounds compared to those from high SES backgrounds.

## BACKGROUND

Investigating the effects of social class origins on educational achievement and attainment has a long history, particularly on the K-12 level. Scholars have found that students from low SES backgrounds have lower educational aspirations, persistence rates, and educational attainment than their peers from high SES backgrounds prior to and during college (Astin, 1993; DiMaggio & Mohr, 1985; Lareau, 1993; McDonough, 1997; MacLeod, 1987; Pascarella & Terenzini, 1991; Tinto, 1987, 1993). The differences begin at a young age, are cumulative, result from many forces—including individual agency—and are shaped by SES differences such as parental interaction styles and expectations, school structure, school experiences and expectations, as well as college costs and financial aid availability (Astin,

1984, 1985, 1993; Bernstein 1977, 1982; Cookson & Persell, 1985; Gaskell, 1985; Halle, 1984; Kozol, 1991; Lareau, 1987, 1993; MacLeod, 1987; McDonough, 1997; Paulsen & St. John, 2002; Rubin, 1976; Willis, 1977).

Parental expectations and definitions of success vary with social status and mediate student aspirations. Low SES parents are more likely to view a high-school diploma as the norm for their children than high SES parents, to whom a bachelor's or advanced degree is considered the norm (Halle, 1984; Lareau, 1987, 1993; MacLeod, 1987; Rubin, 1976; Sennett & Cobb, 1973; Willis, 1977). Also, low SES parents are more likely to define success as a secure full-time job after graduating from high school. College attendance is not an expectation and often means enrolling in a community college or technical school when it does occur. For high SES parents, the definition of success for their children is tightly tied to four years of college attendance, particularly attendance at a "good" college (Hearn, 1984, 1990; McDonough, 1997, McDonough, Korn, & Yamasaki, 1997).

There are, of course, low SES students who attend college after graduating from high school, and their enrollment in postsecondary education represents success in overcoming many obstacles. However, in the four-year period following high school they are less likely to persist to a bachelor's degree or to have graduate degree aspirations. Furthermore, students from low SES backgrounds often enroll in institutions positioned lower in the stratified higher education system instead of enrolling in institutions which have been found to positively influence aspirations and persistence (Astin, 1975, 1985, 1993; Bowen & Bok, 1998; Bowles and Gintis, 1976; Brint & Karabel, 1989; Hearn, 1984, 1990; Karabel, 1972; Karabel & Astin, 1975; Karen, 1991).

Experiences and involvement in college also influence students' aspirations and persistence (Astin, 1984, 1993; Pascarella & Terenzini, 1991; Tinto, 1987, 1993). However, little research has been done on low SES students' college experiences. Research has found that these students engage in a very different set of behaviors than high SES students while in high school and while choosing colleges (Berger, Milem, & Paulsen, 1998; Hossler, Schmit, & Vesper, 1999; Paulsen & St. John, 2002; McDonough, 1994, 1997), indicating that these students may have a unique set of behaviors in college and perhaps different outcomes following graduation.

Research into the differential effect of college on low SES students has revealed mixed and inconsistent data on income and occupational status (Bowles & Gintis, 1976; Jencks et al., 1979, Katchadourian & Boli, 1994; Wachtel, 1975), or have not adequately isolated the effects of SES and college impact (Hoffnung & Sack, 1981; Zweigenhaft, 1993). Wachtel (1975), as well as Bowles and Gintis (1976), found that college graduates from higher SES backgrounds have higher incomes and overall socioeconomic statuses than those from low SES backgrounds. In contrast, Jencks et al. (1979) found

no such differences in their work on several different samples. Ethington and Smart (1986) found that low SES students were less likely to attend graduate school but found that influence to be indirect. They also found that socioeconomic status affected the extent of involvement in college, which in turn affected graduate school attendance. However, unlike this study, none of them had longitudinal data available that examined income, socioeconomic status, and graduate school attendance. Research on how social class affects low SES college students is needed to provide new understandings of equity issues and to contribute to research on the cumulative effects social class has on educational experiences and attainment. This study, in seeking to address these gaps, uses the theories of Pierre Bourdieu to understand students' experiences and outcomes.

### CULTURAL CAPITAL MODELS

Bourdieu (1977, 1990, 1994) uses the concepts of cultural capital and habitus to explain how individual agency combines with socially structured opportunities and aspirations to reproduce the existing social structure. A Bourdieuan framework is significant because it incorporates sociocultural factors and individual agency to explain the reproduction of existing social structures. In addition to economic capital, each social class possesses social and cultural capital, which parents pass on to their children as attitudes, preferences, and behaviors that are invested for social profits (Lamont and Lareau, 1988). Cultural capital refers to specialized or insider knowledge which is not taught in schools, such as knowledge of high culture, and to educational credentials. Social capital<sup>1</sup> is comprised of contacts and memberships in networks which can be used for personal or professional gain (Horvat, 2000). People from the same social class often have common perceptions of goals and strategies for attaining the social profits they desire, identified as a person's habitus (Berger, Milem, Paulsen, 1998; Bourdieu, 1977; Horvat, 2000; McDonough, Antonio, Horvat, 1996). Habitus is a web of perceptions about opportunities and the possible and appropriate responses in any situation.

Because educators differentially value high-status cultural capital, they reward students from higher SES backgrounds who possess this capital, leaving students with low-status cultural capital at risk for lower success rates

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<sup>1</sup>Coleman (1988) also uses the term "social capital" but with a very different meaning (Horvat, 2001). To Coleman, social capital is a set of networks that connect families, neighborhoods, schools and communities. Social capital in a Bourdieuan framework is an individual possession that can be converted to social or economic profits depending on the person's habitus, or strategies for utilizing his or her capital. This study uses "social capital" in a Bourdieuan sense, in keeping with the conceptual framework.

in schools. The habitus of a student from a low SES background would lead that student to have lower aspirations and predispose him or her to use educational strategies that may be less successful in attaining the desired social profits. Thus, the student could make choices that will result in his or her continued lower social position. At the same time, however, habitus has a dynamic component and an individual can adopt new elements as a result of novel experiences, historical changes in the material environment, exposure to another individual's habitus, or associating with people who originate from a different habitus, all of which are possible in the college environment (Barker, 1984; Lamont & Lareau, 1988). This means that a low SES student can learn to make different choices—choices that could facilitate social mobility on a college campus (Horvat, 2000).

Moreover, Bourdieu (1977) claims that low economic capital will increase the importance of cultural capital in group membership. Other scholars have also suggested that the importance of cultural capital may be greater for the upwardly mobile (DiMaggio, 1982; DiMaggio & Mohr, 1985; Zweigenhaft, 1993). These scholars believe that acquiring high-status cultural capital may be a prerequisite for joining the upper class and that upwardly mobile individuals who exhibit such an acquisition may be highly rewarded in the educational system. Yet another researcher posited that socially mobile working-class students may exchange their working-class cultural capital, rather than simply adding the new high-status capital (Harker, 1984).

Colleges and universities in this framework are institutions in which students obtain academic credentials, or academic capital, and may obtain other cultural, social, or economic capital, which is important for its conversion potential. Scholars have shown that educational decisions and choices are made within the context of one's habitus in an attempt to accumulate capital that can be converted at a future date in pursuit of educational and occupational gains (Horvat, 2000; Lareau, 1987, 1993; MacLeod, 1987; McDonough, 1994, 1997; McDonough & Antonio, 1996; McDonough, Antonio, & Horvat, 1996). Research has shown the effects of cultural and social capital as well as habitus on aspirations, persistence, and attainment at multiple locations in the educational system (Berger, Milem, & Paulsen, 1998; DiMaggio, 1982; DiMaggio & Mohr, 1985; Gaskell, 1985; Horvat, 2000; MacLeod, 1987; Lareau, 1987, 1993; McDonough, 1994, 1997; McDonough & Antonio, 1996; McDonough, Antonio, & Horvat, 1996; McDonough, Korn, & Yamasaki, 1997; Valadez, 1996; Weis, 1990; Zweigenhaft, 1993). These studies provide evidence that family background, social and cultural capital, and habitus have a significant impact on educational aspirations, persistence, and attainment from the earliest schooling experiences, through high school, to college, and extending beyond college. In studying the process of social mobility, a Bourdieuan framework is important to consider. It is possible, and indeed probable, that in a college environment there are many

methods of obtaining cultural, social, and economic capital which impact future outcomes. McDonough, Antonio, and Horvat (1996) modeled the college choice decision based on a student's expectation that college is both a time to reinvest previously obtained capital and a time to accumulate additional capital, useful for conversion in future educational and occupational attainment. Extending this model, students would be expected to continually accumulate capital while in college, converting it to economic capital upon leaving college or reinvesting it by attending graduate school. Students from low SES backgrounds would be expected to show different patterns of investment and conversion than students from high SES backgrounds. This longitudinal study of students who first entered college in 1985 empirically tests those patterns of investment and conversion. It investigates these students' activities in college including contact with faculty; time spent studying, cocurricular activities, and working; and their income, educational attainment, and educational aspirations nine years after college entry.

### DESIGN

This study used longitudinal data from the national study of college students which is part of the Cooperative Institutional Research Program (CIRP) sponsored by the Higher Education Research Institute (HERI) at UCLA and the American Council on Education. These data are uniquely suited to follow a process such as social mobility because they provide information on students' activities, aspirations, and attainment from their first year in college through early adulthood. Specifically, the study used the 1985 Student Information Form (SIF), the 1989 Four-Year Follow-Up Survey, and the 1994 Nine-Year Follow-Up Survey. The SIF provides a host of information regarding student backgrounds, plans, and aspirations. The Four-Year and Nine-Year Follow-Up Surveys provide extensive information on students' activities in college, their plans and aspirations following college, and early insight into their educational and occupational attainment following college. Respondents to all three surveys yielded a sample of approximately 12,376 subjects from 209 four-year institutions across the United States.

I restricted the sample to four-year institutions because two-year colleges are not as well represented in the data set as four-year institutions and also because of possible confounding between social class and attending a two-year institution. The overrepresentation of low SES students at two-year colleges is well documented (Astin, 1975, 1985, 1993; Bowles & Gintis, 1976; Brint & Karabel, 1989; Karabel, 1972; Karabel & Astin, 1975; Karen, 1991; McDonough, 1997). Furthermore, I wanted to investigate low SES students who achieve in ways similar to their high SES peers, and limiting

the data to four-year institutions helped ensure such a similarity. The data set is also representative of a more traditionally aged college population, which further ensures similarities between the low and high SES students.

I determined the students' SES in 1985 using parental income, educational attainment, and occupational prestige obtained from the SIF (Nakao & Treas, 1994), carefully recoding these data into a SES variable that had a normal distribution and frequency. I used the lowest and highest SES quintiles as subsamples defining students from low and high SES backgrounds. Each subsample consisted of approximately 2,400 students (2,417 low SES and 2,475 high SES).

The study methodology used two sections. The first was descriptive information to investigate differences in the college activities of low and high SES students and to determine the extent to which students from low SES backgrounds' investment in attending college paid off. The questions were: What are the similarities and differences between the activities of low SES and high SES college students and what are low SES students' 1994 income levels, educational attainments, and educational aspirations compared to those of their high SES peers?

Cross-tabulations of student activities as reported on the 1989 Four-Year Follow-Up Survey and outcomes reported on the 1994 Nine-Year Follow-Up Survey comparing low SES and high SES students provide this information and highlight investment and conversion differences. In keeping with the Bourdieuan framework, I chose to investigate those activities indicative of cultural, social, economic, or academic capital accumulation during college. Scholars have found significant differences in these types of activities among entering freshman (Berger, Milem, & Paulsen, 1998). The activity measures included: contact with faculty; time spent working, studying, volunteering, or in student groups and intercollegiate athletics; and college GPA. The outcome measures, indicative of different conversion strategies, included 1994 income, educational attainment, educational aspirations, and graduate school attendance.

The second segment of the design focused on multivariate analysis. To gain insight into the effects of the college environment after controlling for input variables, I used the "Input-Environment-Outcome" (IEO) model as seen in previous longitudinal research with college students (Astin, 1991, 1993; Ethington & Smart, 1986; Sax, 2001). My analysis used stepwise logistic regression to determine variables associated with graduate school attendance. I ran three equations: one for all students, one for low SES students, and one for high SES students. Although the focus of the study is on the effects of students' social class backgrounds, the strategy of including the equation for all students without regard for social class provides insight into how traditional higher education research may mask important differences based on students' social class backgrounds by simply controlling for

social class. Graduate school attendance was an appropriate dependent variable choice because, in a Bourdieuan framework, capital accumulated in educational settings is converted to maximize social and economic profits, and attending graduate school would be both a conversion of previously accumulated capital and a reinvestment to continue capital accumulation.

Logistic regression was an appropriate choice given that the dependent variable, graduate school attendance, was dichotomous (1 = did not attend graduate school, 2 = attended graduate school) (Hosmer & Lemeshow, 1989; Menard, 1995). I use the odds ratios for each of the independent variables in these regression equations for the analysis Menard (1995) discusses. Furthermore, several model quality statistics (model chi square, minus 2 log likelihood, the predictive efficiency of the model, and the  $R_L^2$ ) also recommended by Menard are presented following the odds ratios for each equation. In general, the quality of the models was good, with a significant model chi square at each step and a predictive efficiency that reached over 70% at each final step.

In the regressions, I fitted 31 independent variables to the regression in four temporally ordered blocks in keeping with the IEO model. I also ran bivariate correlation analyses for each of the equations to ensure that multicollinearity was not a concern among the independent variables. The first block was a background block that included race, gender, SAT scores, and SES. The second block included institutional characteristics, consisting of institution type and selectivity. It was important to control for these characteristics in a Bourdieuan framework because of previous research highlighting the roles of cultural capital and habitus in college choice (McDonough, 1997; McDonough, Antonio, & Horvat, 1996). The following block was college investment, containing activities in the college environment such as contact with faculty; and time spent working, studying, volunteering, or in student groups or intercollegiate athletics. These variables are sites of capital accumulation in the college environment and have been found to influence graduate school attendance (Ethington & Smart, 1986). Finally, the college conversion block included educational attainment and aspirations as well as future plans, including the plan to attend college or graduate school full-time the following year, plans to travel and reasons for choosing a particular career. (See Appendix for all variables, blocks, and coding). Prior to the blocks of variables, the students' 1985 degree aspirations were forced into the regression equations as a pre-test variable.

## DESCRIPTIVE RESULTS

During college, students from low and high SES backgrounds exhibit some similarities and some differences in their patterns of activities, which in a Bourdieuan framework are opportunities for capital accumulation, as shown in Table 1.

**TABLE 1**  
**CROSS-TABULATION RESULTS OF STUDENT ACTIVITIES**  
 (Weighted Percentages)

<i>Students who:</i>	% Low SES (unweighted n=2417)	% High SES (unweighted n=2475)
Visited in prof.'s home occasionally/frequently	21	35
Worked on prof.'s research	27	21
Assisted prof. in teaching class	17	17
Talked to faculty outside class <1 hr/week	48	46
Spent no time in student clubs or groups	48	34
Spent 3-10 hrs./wk in student clubs or groups	14	25
Spent <1 hr/wk volunteering	75	76
Participated in intercollegiate sports	30	31
Did not work while in college	31	37
Spent 16+ hrs./week working in college	34	24
Worked full time while in college	18	13
Spent 3-10 hrs./week studying	51	44
Spent 16+ hrs./week studying	25	35
College GPA = B	47	34
College GPA = B+ or higher	21	40

The first section of Table 1 highlights interaction with faculty members, which can furnish students with both cultural and social capital. Faculty members may be able to provide knowledge regarding graduate school and the admission process, both of which are cultural capital. The social capital accumulated while spending time with a faculty member may be valuable for a letter of recommendation. Almost half of low and high SES students report they talk to faculty outside of class less than an hour per week. Both groups of students are also similar in assisting faculty with teaching classes. The low SES students are slightly more likely to work on a professor's research project (27% compared to 21%) than their high SES peers. High SES students are more likely to visit a faculty member at home (35%) occasionally or frequently than low SES students (21%).

Similarly, interactions with other students in clubs or groups, volunteer associations or athletic teams can provide opportunities for accumulating social and cultural capital. The findings of this study echo those of Berger, Milem, and Paulsen (1998) who found that low SES first-year students engage in different activities than their high SES peers while in college. Low SES students spend less time in student clubs and groups than their high

SES peers. Almost half of the low SES students report spending less than one hour per week on such an activity. Given the importance of student involvement in persistence and student growth and change (Astin, 1984, 1993; Pascarella & Terenzini, 1991; Tinto, 1987, 1993) these findings are cause for concern because the low SES students seem less involved in student activities than their peers. However, low and high SES students report participating in intercollegiate athletics and volunteering at similar rates. It is surprising that, given the recent attention volunteering and service activities have received from higher education scholars (Astin, Sax, & Avalos, 1999), three quarters of both low and high SES students report spending less than one hour per week on such an activity.

Although low SES students may be accumulating less cultural and social capital due to their lower level of involvement in student clubs and groups, they are accumulating more economic capital by working while in school. This is not a surprising finding since these students probably need to work and earn more money to support themselves. Fewer low SES students report not working at all while in college than their high SES peers, and more low SES students report working over 16 hours per week or working full time. In fact, over half of the low SES students (52%) either report working 16+ hours per week or working full time, compared to 37% of the high SES students. Of course, work experience may provide valuable knowledge, or cultural capital, regarding the world of work and social capital that can be converted to letters of recommendation from supervisors for jobs after graduation.

Finally, college is also a time to invest in academic capital. Low SES students report less time spent studying, with over half spending 10 or less hours per week, compared to 44% of the high SES students who report similar levels of engagement. Low SES students also report lower GPA's than their high SES peers. Almost half of low SES students report a GPA of "B" compared to just over a third of the high SES students. Furthermore, 21% of low SES students report a GPA of "B+" or higher while 40% of high SES students report such a GPA. Clearly, the low SES students in this sample are less successful at investing in academic capital while in college than their high SES peers.

Overall, these results highlight different investment strategies that low and high SES students make in college and may indicate different habits possessed by these two groups of students. Low SES students invest more heavily in economic capital, probably out of necessity, than their high SES peers, but this difference may have important consequences both within the college environment and after graduation. Working more hours leaves less time for other activities such as studying or being involved in student clubs or groups, both of which have potential negative implications. However, a successful record of working and balancing schoolwork may make a job candidate more attractive after graduation. Additionally, a student who

**TABLE 2**  
**CROSS-TABULATION RESULTS OF 1994 STUDENT INCOME**  
 (Weighted Percentages)

<i>Students who reported:</i>	<i>% Low SES (unweighted n=2417)</i>	<i>% High SES (unweighted n=2475)</i>
1994 income < \$30K	65	56
1994 income \$30-75K	62	46
Work ft.-income \$30-75K	37	50
Attended grad. school, income < \$30K	72	56
Attended grad. school, income \$30-75K	28	40

works for a professor on a research project or as a teaching assistant may be in a position to accumulate economic, social, and cultural capital through contact with a faculty member that may be converted in several ways after graduation. In fact, all the differences in investment strategies within the college campus may lead to differences in conversion strategies after graduation, which would be a further indication of different habitus. Low SES students' investment in economic capital may indicate a habitus that values work and work experience. This habitus may, in turn, affect students' conversion strategies after college.

Such differences are apparent following graduation. Nine years after entering college, students from low SES backgrounds have lower levels of income, graduate school attendance, and educational attainment than their peers from high SES backgrounds, as seen in Tables 2 and 3.

Overall, income for students from low SES backgrounds in 1994 is lower than the income of students from high SES backgrounds. Students from low SES backgrounds have incomes under \$30 thousand per year at higher rates and incomes over \$30 thousand per year at lower rates than their high SES peers. Additionally, three-way cross-tabulations revealed that, for those working full-time, students from low SES backgrounds are more likely to report income under \$30 thousand and less likely to report income between \$30 to \$75 thousand than their peers from high SES backgrounds. Similarly, low SES students who report attending graduate school have lower incomes than their high SES peers who attended graduate school. Almost three quarters of the low SES students who attended graduate school report incomes under \$30 thousand, compared to 56% of high SES students.

Overall however, students from high SES backgrounds report attending graduate school at higher rates than students from humbler origins. (See Table 3.) Over half of the high SES students attended graduate school by 1994, compared with just over a third of the low SES students.

**TABLE 3**  
**CROSS-TABULATION RESULTS OF 1994**  
**STUDENT EDUCATIONAL OUTCOMES**  
 (Weighted Percentages)

Students who reported:	% Low SES (unweighted n=2417)	% High SES (unweighted n=2475)
Attended graduate school	36	52
Highest degree earned '94-MA	14	21
Highest degree earned '94-MD	<1	3
Highest degree earned '94-JD	<1	5
Highest degree planned '94-MA	39	41
Highest degree planned '94-Ph.D.	22	22
Highest degree planned '94-MD	2	4
Highest degree planned '94-JD	2	7
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Degree working on '94-MA	24	24
Degree working on '94-Ph.D.	1	6
Degree working on '94-MD	1	2
Degree working on '94-JD	<1	2

Educational attainment also shows an effect of socioeconomic origins. Students from low SES backgrounds have lower attainment beyond the bachelor's degree than students from high SES backgrounds. Students from high SES backgrounds were more likely to have earned an M.A., M.D., or J.D. by 1994 than those from low SES backgrounds. The overall rate of Ph.D. completion was so low (< 1% of the entire sample) that I did not include it. Degree aspirations, however, indicate that students from low SES backgrounds in many cases desire a similar attainment, at least for masters and doctorates, as their peers from high SES backgrounds, but their aspirations for M.D. and J.D. degrees are lower than those from high SES backgrounds. Finally, for students currently enrolled in graduate school, those from low SES backgrounds report working on their masters' degrees at similar levels and working on their Ph.D.s, M.D.s, or J.D.s at lower levels than students from higher SES backgrounds.

These findings about income and educational outcomes again indicate different habits for low and high SES students. Following college, the high SES students' conversion strategies secure higher rates of graduate school attendance, aspirations for and attainment of more prestigious degrees, and

higher paying jobs when they do enter the workforce than their low SES peers' strategies. The low SES students convert their college educations into jobs at higher rates. Furthermore, the low SES students who attended graduate school still report lower incomes than their high SES peers, a difference that may be a reflection of the different types of graduate degrees sought and obtained. Moreover, given the differences in graduate school attendance, degree aspirations and attainment, particularly the attainment of prestigious law and medical degrees, low SES students may fall further behind their high SES peers in the future.

The implications are that despite graduating from high school and enrolling in a four-year college or university, low SES students engage in a different pattern of activities in college and have lower early outcomes nine years after entering college than their high SES peers. From a Bourdieuan perspective, the low SES students are accumulating different capitals while in college and displaying a different habitus both in college and afterwards than their high SES peers. Following college, students from high SES backgrounds are converting the capital accumulated in college into graduate school attendance, degree attainment, and attainment of the most prestigious degrees at higher rates than students from low SES backgrounds. The low SES students are converting their capital into membership in the workforce at higher rates but are securing lower paying positions than their high SES peers.

### MULTIVARIATE RESULTS

To gain insight into variables in the college environment associated with graduate school attendance, I ran logistic regression equations for all students, low SES students, and high SES students. Table 4 shows the odds ratio at the final step for each of the independent variables that entered the regression equations. The equation for all students indicates that, overall, socioeconomic status is a powerful predictor of graduate school attendance. Furthermore, it is clear that each group has a unique set of variables that predict graduate school attendance.

For all students and students from high SES backgrounds, 1985 degree aspirations significantly increased the likelihood of attending graduate school, unlike students from low SES backgrounds. Although 1985 degree aspirations were significant when the variable entered for low SES students, its predictive power disappeared once the college investment variables and the college conversion variables entered the equation. These 1985 degree aspirations were most significant in increasing the likelihood of graduate school attendance for all students ( $p < .0001$ ), and less so, but nonetheless significant, for students from high SES backgrounds ( $p < .05$ ).

**TABLE 4**  
**ODDS RATIOS<sup>1</sup> FOR BLOCKED LOGISTIC REGRESSION**  
**DV = ATTENDED GRADUATE SCHOOL AT THE FINAL STEP**

<i>Variable Name</i>	<i>All Students (n=6470)</i>	<i>Low SES Students (n=1177)</i>	<i>High SES Students (n=1402)</i>
1985 Degree Aspirations	1.11***	1.09	1.14*
<b>Inputs</b>			
African American	1.28		
Sex-Female	1.10	1.37*	
SAT math	1.00	1.00*	1.00
SAT verbal	1.00	1.00	
SES	1.02***		
<b>Institutional Characteristics</b>			
Public university	.87	.95	
Selectivity	1.00***		1.00*
Peer SES	1.01		
<b>College Investments</b>			
Guest in prof's homes	1.06		
Worked on prof's research	1.32**	1.61*	1.11
'89 hpw studying	1.07*		
'89 hpw volunteer	1.01		
'89 hpw student clubs	1.04	1.04	
'89 hpw talk to fac. out. class		1.19*	
Participated in intercoll. sports		1.66*	
Assisted fac. in teaching		1.26	
College GPA	1.34***	1.37***	1.18*
<b>College Conversions</b>			
'89 plan to attend grad. school	14.35***	10.88***	21.15***
'89 plan to attend college FT	1.41**		
'89 plan to travel			.57*
'89 degree earned	1.08*		
'89 degree aspirations	1.28***	1.21**	1.24***
Reason for career-extrinsic	.95**	.93*	
Reason for career-intrinsic	1.07***	1.09*	1.10*
<b>Model Statistics</b>			
Model X <sup>2</sup>	1143.11***	198.38***	267.09***
D <sub>M</sub>	6703.49	1236.27	1326.26
Predictive Efficiency	72%	73%	73%
R <sub>L</sub> <sup>2</sup>	.145	.138	.167

<sup>1</sup>Ratio of the odds of attending graduate school due to a one-unit increase in the independent variable to the odds of not attending graduate school without that change.

\*\*\*p < .0001

\*\*p < .001

\*p < .05

After forcing in 1985 degree aspirations, the block of input characteristics entered the equation. In the input block, a higher SES status significantly increased the probability of attending graduate school for all students. In the first step of the equation, being African American or female and having high SAT verbal and math scores also significantly increased the probability of attending graduate school for all students. The SAT verbal and math scores and being female lost their significance when college GPA entered the equation during the college investment block, indicating that the effects of high test scores and being female may be a higher GPA. The African American variable retained its significance until the 1989 degree aspirations entered the equation in the final step. This finding may be indicative of higher African American degree aspirations, which is similar to earlier research that found African Americans were more likely than Whites to achieve a bachelor's degree once SES and ability were controlled (Jencks & Phillips, 1998).

For students from low SES backgrounds, being female and scoring high on the SAT math test were significant for increasing the likelihood of attending graduate school at the final step. The significance of being female is interesting because earlier research found that women were less likely to attend graduate school than men (Malaney & Isaac, 1988). However, Paulsen and St. John (2002) found that a higher percentage of low-income women attend college than low-income men. Since low SES students generally have lower SAT scores (Hacker, 1995), perhaps those students who do score well are somehow recognized by faculty or peers and encouraged to attend graduate school.

For students from high SES backgrounds, none of the input characteristics were significant at the final step although SAT verbal and math scores entered the equation. The SAT verbal score lost its significance when the institutional selectivity entered the equation, and the SAT math score lost its significance when the variable of college GPA entered. Therefore, for the high SES students, the significance of high verbal SAT scores may be admission to a more selective institution, and the effect of higher math scores may be a higher college GPA.

In the institutional characteristics block, the selectivity of the college or university, measured by average entering SAT score, significantly increased the probability of graduate school attendance for all students and for students from high SES backgrounds at the final step, confirming earlier research linking selectivity and graduate school attendance (Domhoff, 1983; Ethington & Smart, 1986; Kingston & Smart, 1990; McDonough, Antonio, & Horvat, 1996). Institutional selectivity, however, did not enter the equation for students from low SES backgrounds. Instead, attending a college or university with a high peer SES entered for the low SES students, indicating that this group of students may be affected by associating with higher SES

peers. Peer SES lost its significance, however, once the college investment variables entered, indicating that perhaps attending college with peers from higher SES backgrounds somehow increases low SES students' involvement in the college environment, therefore increasing opportunities for capital investment.

Attending a public university entered for decreasing the likelihood of attending graduate school for all students and for low SES students but in the end was not a significant predictor for either group. The significance in both cases was muted once the college investment variables entered. Therefore the main effect of attending a public university may be that it decreases opportunities for capital investment through involvement with faculty and student activities.

In the college investment block more variables measuring activity and involvement within the campus environment entered the regression equation for students from low SES backgrounds versus all students and students from high SES backgrounds. The variables which significantly increased the likelihood of low SES students attending graduate school included working on a professor's research project, time spent talking to faculty outside class, participating in intercollegiate sports, and college GPA. Assisting faculty with teaching and time spent in student clubs and groups both entered for low SES students, but were not significant predictors at the final step.

Low SES students reported working on professor's research projects at higher rates than their peers, and this work and faculty contact may provide them with knowledge and experience regarding graduate school. Working on research may provide a perception of graduate school as possible and may provide a contact for a letter of recommendation. This knowledge and developing a perception of graduate school constitute cultural capital and elements of habitus that may be transmitted to the student through this work while the contact is social capital that the student may be able to convert into a letter of recommendation.

Students from both low and high SES backgrounds reported participating in intercollegiate athletics at similar rates, yet this participation significantly raised the odds of attending graduate school only for low SES students. Athletics are popularly viewed as a route of social mobility, a belief borne out in research (Sack & Thiel, 1979). Furthermore, recent research has shown that, except for revenue-producing sports, the cognitive gains of athletes are remarkably similar to those of nonathletes (Pascarella, Truckenmiller, Nora, Terenzini, Edison, & Hagedorn, 1999). The fact that this participation raises the odds of low SES students—but not those of either all students or of high SES students—attending graduate school may be indicative of cultural or social capital or an element of habitus that is transmitted to or learned by students from low SES backgrounds in the context of athletic

participation or through the friendship and associational networks such participation foster.

In contrast, for all students the variables of working on a professor's research project, time spent studying, and college GPA all significantly increased the probability of graduate school attendance; but talking to faculty outside of class, participating in intercollegiate sports, and assisting faculty with teaching did not enter the equation. For students from high SES backgrounds, working on a professor's research project and the college GPA entered the equation, but only the GPA significantly increased the chances of a student attending graduate school. It is interesting that, while college GPA was significant for all three groups, it was less so for students from high SES backgrounds.

These results regarding college GPA for the three groups confirm previous research regarding the importance of undergraduate grades on graduate school attendance (Ethington & Smart, 1986; Malaney & Isaac, 1988). The findings are also interesting because graduate school admissions officers generally want to know an applicant's undergraduate GPA. Overall, low SES students report lower GPAs than their high SES peers. However, the higher a low SES student's GPA, the more likely he or she is to attend graduate school. Perhaps college faculty view low SES students with high GPAs as having great potential and encourage these students to attend graduate school, providing necessary knowledge or cultural capital for these students. High SES students, on the other hand, may possess cultural capital which makes graduate school attendance less dependent on GPA.

In the college conversion block, the 1989 plan to attend graduate school and having high degree aspirations in 1989 significantly increased the chances of attending graduate school by 1994 for all three groups of students. For all students, the 1989 plan to attend college full-time in the next year and the degree earned in 1989 significantly increased the likelihood of attending graduate school. Career reasons that were intrinsic, such as choosing a career because it was interesting, challenging, made a contribution to society, or allowed opportunities for freedom also increased the probability of attending graduate school for all students. Career reasons that were extrinsic, such as choosing a career because it pays well, because opportunities exist, or because there are opportunities for advancement decreased the likelihood of attending graduate school significantly for all students.

For students from low SES backgrounds, the career reasons also had a similar significant impact on the chances of attending graduate school. Of the two, only intrinsic reasons had a significant impact on students from high SES backgrounds' chances of attending graduate school. This may confirm prior research linking graduate school attendance and intrinsic motivators (Malaney, 1987) as well as work which found that high SES students were more likely to choose a career that provided status and autonomy

(Hoffnung & Sack, 1981). For high SES students, the 1989 plan to travel also had an impact. It significantly decreased the chances of attending graduate school by 1994. These students may have economic resources which allow them to travel, and they may particularly choose that option if they are less focused on specific future goals.

## DISCUSSION AND CONCLUSIONS

From the data, it is apparent that the social status origins of a college student continue to affect his or her college experiences and outcomes. From a Bourdieuan perspective, these findings support the notion that students from low SES backgrounds possess different cultural capitals and habits than do all students or high SES students, and that attending college does not necessarily indicate that a student has risen economically or socially to a level similar to that of his or her peers. Consequently, although many low SES students are upwardly mobile compared to their parents, students from higher SES backgrounds continue to have advantages.

Students from low SES backgrounds who attend four-year colleges and universities work more, study less, are less involved, and report lower GPAs than their high SES peers. Additionally, low SES students have lower incomes, lower levels of educational attainment, and lower levels of educational aspirations than their peers from higher social strata nine years after college entry. Low SES students' ability to convert their college education and experience into social and economic profits may be greater than that of their low SES peers who did not attend college, but it is lower than their high SES college peers. This outcome may be due to different habits which lead them to use different conversion strategies, such as working full-time after college instead of attending graduate school. Such strategies are not as successful in converting academic and cultural capital into economic and social profits. This study's findings indicate that converting the capital accumulated in college into graduate school attendance and high degree aspirations displays a habitus that views graduate education as a reinvestment toward further capital accumulation. Such a reinvestment has been found in a high-status habitus (McDonough, Antonio, & Horvat, 1996).

Findings from the cross-tabulations indicated that this reinvestment is favored by those from high SES backgrounds, although low SES students who attended graduate school also have learned to make a similar conversion and may have acquired this element of habitus in the college environment. Students from low SES backgrounds who attended graduate school by 1994 had an investment strategy within the college environment that was different from that of either all students or that of high SES students who similarly attended graduate school. Working on a professor's research project, talking to faculty outside of class, and participating in athletics in-

creased the odds for low SES students of attending graduate school. The differences between low SES students and the other two groups in the college investment block may indicate that low SES students somehow learn elements of a high SES habitus through contact with faculty or student groups. Moreover, these results may indicate a capital investment pattern that is distinct for students from low SES backgrounds who attend graduate school, may indicate a distinct habitus for socially mobile people, or, finally, may indicate that elements of a high SES habitus are somehow communicated to or learned by low SES students through contact with faculty or athletic participation.

The findings regarding career orientation indicate that having an orientation toward work that is less instrumental and more autonomous and intrinsic may be another element in this habitus, a finding supported by previous research (Hoffnung & Sack, 1981; Malaney, 1987; McDonough, Antonio, Horvat, 1996; Berger, Milem, Paulsen, 1998). The relationship between planning to travel and the decreased likelihood of graduate school attendance by 1994 for high SES students only may illuminate another element of cultural capital for high SES students. Traveling and experiencing different countries and cultures may result from the anticipation or expectation that this knowledge will be used in the future to signal high SES group membership or that it may convert to high-paying positions in the workforce that delay or eliminate the need for graduate school training.

Fewer variables in the college environment significantly increase the odds of graduate school attendance for high SES students. Either variables in this equation do not adequately capture the high SES students' investment in the college environment; or for high SES students, investments made in the college environment have a less direct association with graduate school attendance. Perhaps graduate school attendance is less dependent on the college environment for high SES students because it is already part of their habitus or because they possess cultural capital regarding graduate school matriculation which renders their undergraduate experience less crucial. Perhaps they have learned from their families and in their home environments that graduate school is a possibility. College may be simply one more step on the road to graduate school for these students.

### LIMITATIONS

This study provides interesting insights into social mobility and the roles of cultural capital and habitus during college. However, these nine-year data have several limitations that are important when interpreting the study's results. The sample was restricted to four-year colleges and universities and was representative of a more traditional-aged student body. I selected this sample to ensure that the low and high SES students were as similar as pos-

sible. Of course, a sample of traditional-aged students in four-year colleges means that many low SES students were not represented, including those who attend community college, older students, and poor women who attend sporadically (Paulsen & St. John, 2002). These students' experiences may lend further insight into the experiences of low SES students as a whole.

Another limitation is not knowing what types of masters degrees students received, desired, or were pursuing. There is, of course, a great deal of difference in income and status between a master of arts in teaching and a master of business administration. These differences affect both short- and long-term outcomes. Additionally, athletic participation was not disaggregated by sport, which may have provided further insight into the impact of such participation on low SES students' odds of attending graduate school by 1994. Finally, the data are limited by their quantitative nature. Students' experiences and decisions are complex and highly individual. It is difficult to capture the complexity and meanings students attach to decisions with survey data.

### IMPLICATIONS AND FURTHER RESEARCH

This longitudinal quantitative study illustrated the continued capital accumulation and conversion processes that occur within and following college. Students from low SES backgrounds do not follow the same patterns of college and postcollege cultural capital accumulation and conversion as students in general or their high SES peers, reporting different activities within the college environment, as well as lower incomes, educational attainment, and educational aspirations after college. These differences combine to dampen the low SES students' social mobility.

These results are significant because, although students from low SES backgrounds have been and will be the focus of policymakers, little is known about the impact and outcomes of college for these students, despite calls for such knowledge (Berger, 2000; Berger, Milem, & Paulsen, 1998; Paulsen & St. John, 2002; Tinto, 1987, 1993). The insights provided by this study contribute needed information for policy considerations. Given the findings regarding time spent working, time spent studying, and reported GPAs, policymakers may want to rethink financial aid policies. Several scholars believe that financial aid has been directed away from low SES students to middle-class students (Breneman, 1995; Heller, 2001; Karen, 1991; McPherson & Shapiro, 1991, 1998; Mortenson, 1990; Orfield, 1992; Paulsen & St. John, 2002). These results illustrate that financial considerations may have an impact on students' activities within the campus and after graduation.

This study additionally contributes to research on the cumulative effects of social class in educational settings and attainment and provides new understanding of how individuals from economically disadvantaged homes

negotiate the opportunity structure and the process of social mobility. The findings indicate that specific elements in the college environment can be used by students from low SES backgrounds to continue their process of mobility. Low SES students may want to think about work that brings them into contact with faculty members and their level of involvement in extracurricular activities. Administrators and student affairs officers can use these findings to recognize the unique challenges that low SES students face in attending college, particularly in balancing work, study, and activities. Administrators can encourage low SES students and help them get involved and stay involved with faculty and student groups on campus.

This study also has several implications for researchers. First, it is not clear how this acquisition of cultural capital and new elements of a student's habitus occurs in the interaction between students and faculty or between students and their participation in campus activities, although the findings of this study point to such an interaction. Future research may be able to address this issue, also studying whether the acquisition of cultural capital has an effect beyond graduate school attendance.

Moreover, research is needed on the effects of student involvement in campus activities. This is one area in which simply viewing students as a whole and not examining SES may mask important differences. Simply exploring the predictors of graduate school for all students could mask the importance of faculty contact for low SES students and overstate the importance of college involvement for high SES students. Previous research has found a significant positive impact on students' cognitive development and persistence from such involvement (Astin, 1984, 1993; Ethington & Smart, 1986; Pascarella & Terenzini, 1991; Tinto, 1987, 1993); however, this study suggests that the impact may be differentially distributed among students from dissimilar social-class backgrounds. Certainly, specific differences, such as low SES students' need to work, affects the amount of time available for extracurricular activities.

Although past research has shown a positive effect for working part-time on campus (Astin, 1993), some of the students in this study were working a significant number of hours—more than 16 hours per week. Research on how much and where students are working and the effect of that work on their involvement in other campus activities also could be important for student affairs professionals and policymakers alike. Additionally, research could provide more detailed information on educational and career aspirations. Other scholars have noted the differences between the career choices of low and high SES students (Domhoff, 1983; Berger, Milem, Paulsen, 1998; Hoffnung & Sack, 1981; McDonough, Antonio, & Horvat, 1996). A master's degree may be used in a career as an elementary school teacher or in a career as a high-powered business executive. Such differentiation is an important element to consider, given the results obtained in the degree

aspiration cross-tabulations. Future research may be able to address it. Furthermore, given the findings regarding degree aspirations, students from low SES backgrounds may have a different timeline for postgraduate educational attainment than their high SES peers. Future researchers may find it fruitful to investigate even longer-term outcomes for low SES students to see when and if they are able to attain the degrees to which they aspire, particularly given earlier work which suggested that students have been postponing graduate school attendance (Malaney & Isaac, 1988).

Finally, continued research on low SES college students, the cumulative effects of social class on these students' experiences and attainments, as well as their processes of social mobility, is necessary for several reasons. Although a body of knowledge has formed on the effects of social class at other locations in the educational pipeline, researchers have not focused sufficient attention on the effects of social class on college and university students. Whether this lack of attention is due to a lack of group identification and political mobilization (Karen, 1991) or due to the success that college enrollment represents for these students, this study has shown that these students differ in significant ways from their peers. Even though they take advantage of their educational opportunity, these students' social mobility does not raise them to the socioeconomic level of their peers. Moreover, the students in this study were traditional-age low SES students who attended four-year institutions, a relatively privileged group of low SES students. The inequities which continue after they took advantage of educational opportunities raises questions regarding the outcomes of the low SES students who are older, attend two-year colleges, or attend sporadically. Researchers, scholars, and policymakers have long understood the importance of socioeconomic status in K-12 education. These low SES college students and their experiences and struggles deserve continued attention, investigation and understanding.

## REFERENCES

- Allmendinger, D. (1975). *Paupers and scholars: The transformation of student life in 19th century New England*. New York: St. Martin's Press.
- Astin, A. W. (1975). *Preventing students from dropping out*. San Francisco: Jossey-Bass.
- Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel*, 25, 297-308.
- Astin, A. W. (1985). Expanding the quantity and quality of educational opportunities. In A. W. Astin (Ed.), *Achieving educational excellence*. San Francisco: Jossey-Bass.
- Astin, A. W. (1991). *Assessment for excellence*. New York: Macmillan.
- Astin, A. W. (1993). What matters in college? Four critical years revisited. San Francisco: Jossey-Bass.

- Astin, A. W., Sax, L. J., & Avalos, J. (1999). Long-term effects of volunteerism during the undergraduate years. *Review of Higher Education*, 22(2), 187–202.
- Berger, J. B. (2000). Optimizing capital, social reproduction, and undergraduate persistence: A sociological perspective. In J. M. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 95–124). Nashville, TN: Vanderbilt University Press.
- Berger, J. B., Milem, J. F., Paulsen, M. B. (1998, November). *The exploration of "habitus" as a multi-dimensional construct*. Paper presented at the annual meeting of the Association for the Study of Higher Education, Miami, FL.
- Bernstein, B. (1977). Social class, language and socialisation. In J. Karabel & A. H. Halsey (Eds.), *Power and ideology in education* (pp. 473–486). New York: Oxford University Press.
- Bernstein, B. (1982). Codes, modalities, and the process of cultural reproduction. In M. Apple (Ed.), *Cultural and economic reproduction in education* (pp. 304–355). New York: Routledge.
- Bourdieu, P. (1977). Cultural reproduction and social reproduction. In J. Karabel & A. H. Halsey (Eds.), *Power and ideology in education* (pp. 487–511). New York: Oxford University Press.
- Bourdieu, P. (1990). Artistic taste and cultural capital. In J. Alexander & S. Seidman (Eds.), *Culture and society: Contemporary debates* (pp. 205–215). Cambridge: Cambridge University Press.
- Bourdieu, P. (1994). Distinction: A social critique of the judgement of taste. In D. B. Grusky (Ed.), *Social stratification: Class, race, and gender in sociological perspective* (pp. 404–429). New York: Westview Press.
- Bowen, W. G., & Bok, D. (1998). *The shape of the river: Long-term consequences of considering race in college and university admissions*. Princeton, NJ: Princeton University Press.
- Bowles, S., & Gintis, H. (1976). *Schooling in capitalist America*. New York: Basic Books.
- Breneman, D. (1995). *A state of emergency? Higher education in California*. Report prepared for the California Higher Education Policy Center. San Jose: California Higher Education Policy Center.
- Brint, S., & Karabel, J. (1989). *The diverted dream: Community colleges and the promise of educational opportunity in America, 1900–1985*. New York: Oxford University Press.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95–S120.
- Cookson, P. W., Jr., & Persell, C. (1985). *Preparing for power: America's elite boarding schools*. New York: Basic Books.
- DiMaggio, P. (1982). Cultural capital and school success: The impact of status culture participation on the grades of U.S. high school students. *American Sociological Review*, 47, 189–201.
- DiMaggio, P., & Mohr, J. (1985). Cultural capital, educational attainment, and marital selection. *American Journal of Sociology*, 90, 1231–1261.
- Domhoff, G. W. (1983). *Who rules America now?* New York: Simon & Schuster.
- Ethington, C. A., & Smart, J. C. (1986). Persistence to graduate education. *Research in Higher Education*, 24(3), 287–303.

- Gaskell, J. (1985). Course enrollment in the high school: The perspective of working-class females. *Sociology of Education*, 58, 48–59.
- Halle, D. (1984). *America's working man*. Chicago: University of Chicago Press.
- Hacker, A. (1995). *Two nations: Black and White, separate, hostile, unequal*. New York: Ballantine Books.
- Harker, R. K. (1984). On reproduction, habitus, and education. *British Journal of Sociology of Education*, 5, 117–127.
- Hearn, J. C. (1984). The relative roles of academic, ascribed, and socioeconomic characteristics in college destinations. *Sociology of Education*, 57, 22–30.
- Hearn, J. C. (1990). Pathways to attendance at the elite colleges. In P. W. Kingston & L. S. Lewis (Eds.), *The high-status track: Studies of elite schools and stratification* (pp. 121–145). New York: SUNY Press.
- Heller, D. E. (2001). Trends in the affordability of public colleges and universities: The contradiction of increasing prices and increasing enrollment. In D. E. Heller (Ed.), *The states and public higher education policy: Affordability, access, and accountability* (pp. 11–38). Baltimore: Johns Hopkins University Press.
- Hoffnung, R. J., & Sack, A. L. (1981, April). *Does higher education reduce or reproduce social class differences? Schooling at Yale University, University of Connecticut, and University of New Haven, and student attitudes and expectations regarding future work*. Paper presented at the Annual Meeting of the Eastern Psychological Association. New York City.
- Horvat, E. M. (2000). Understanding equity and access in higher education: The potential contribution of Pierre Bourdieu. In J. C. Smart & W. Tierney (Eds.), *The higher education handbook of theory and research* (Vol. 16, pp. 195–238). Hingham, MA: Kluwer Academic Publishers.
- Horvat, E. M. (2001). *Social capital: Untangling the differences between Coleman and Bourdieu*. Paper presented at the American Educational Research Association, Seattle, Washington.
- Hosmer, D. W., & Lemeshow, S. (1989). *Applied logistic regression*. New York: John Wiley and Sons.
- Hossler, D., Schmit, J., & Vesper, N. (1999). *Going to college: How social, economic, and educational factors influence the decisions students make*. Baltimore: Johns Hopkins Press.
- Jackman, M. R., & Jackman, R. W. (1983). *Class awareness in the United States*. Berkeley: University of California Press.
- Jencks, C., Bartlett, S., Corcoran, M., Crouse, J., Eaglesfield, D., Jackson, G., McClelland, K., Mueser, P., Olneck, M., Schwartz, J., Ward, S., Williams, J. (1979). *Who gets ahead? The determinants of economic success in America*. New York: Basic Books.
- Jencks, C., & Phillips, M. (1998). The Black-White test score gap: An introduction. In C. Jencks & M. Phillips (Eds.), *The Black-White test score gap* (pp. 1–51). Washington, DC: Brookings Institution Press.
- Karabel, J. (1972). Community colleges and social stratification. *Harvard Educational Review*, 42, 521–562.
- Karabel, J., & Astin, A. W. (1975). Social class, academic ability, and college quality. *Social Forces*, 53, 381–398.

- Karen, D. (1991) The politics of class, race, and gender: Access to higher education in the United States, 1960–1986. *American Journal of Education*, 99, 208–237.
- Katchadourian, H., & Boli, J. (1994). *Cream of the crop: The impact of elite education in the decade after college*. New York: Basic Books.
- Kingston, P. W., & Smart, J. C. (1990). The economic pay-off of prestigious colleges. In P. W. Kingston & L. S. Lewis (Eds.), *The high status track: Studies of elite schools and stratification*. New York: State University of New York Press.
- Kozol, J. (1991). *Savage inequalities*. New York: Crown Publishers.
- Lamont, M., & Lareau, A. (1988). Cultural capital: Allusions, gaps, and glissandos in recent theoretical developments. *Sociological Theory*, 6, 153–168.
- Lareau, A. (1987). Social class differences in family-school relationships: The importance of cultural capital. *Sociology of Education*, 60, 73–85.
- Lareau, A. (1993). *Home advantage: Social class and parental intervention in elementary education*. Philadelphia: Palmer Press.
- MacLeod, J. (1987). *Ain't no makin' it: The leveled aspirations of a low-income neighborhood*. Boulder, CO: Westview Press.
- Malaney, G. D. (1987). Why students pursue graduate education, how they find out about a program, and why they apply to a specific school. *College and University*, 62, 247–258.
- Malaney, G. D., & Isaac, P. D. (1988). The immediate post-baccalaureate educational plans of outstanding undergraduates. *College and University*, 63, 148–161.
- McDonough, P. M. (1994). Buying and selling higher education. *Journal of Higher Education*, 65, 427–446.
- McDonough, P. M. (1997). *Choosing colleges: How social class and schools structure opportunity*. New York: SUNY Press.
- McDonough, P., & Antonio, A. (1996, April). *Racial and ethnic differences in selectivity of college choice*. Paper presented at the Annual Meeting of American Educational Research Association, New York City.
- McDonough, P., Antonio, A., & Horvat, E. (1996, August). *College choice as capital conversion and investment*. Paper presented at the Annual Meeting of the American Sociological Association, New York City.
- McDonough, P., Korn, J., & Yamasaki, E. (1997). Access, equity and the privatization of college counseling. *Review of Higher Education*, 20(3), 297–317.
- McPherson, M. S., & Schapiro, M. O. (1991). *Keeping college affordable: Government and educational opportunity*. Washington D.C.: Brookings Institution.
- McPherson, M. S., & Schapiro, M. O. (1998). *The student aid game: Meeting need and rewarding talent in American higher education*. Princeton, NJ: Princeton University Press.
- Menard, S. (1995). *Applied logistic regression analysis*. Sage University Paper Series. Thousand Oaks: Sage Press.
- Mortenson, T. G. (1990). *The impact of increased loan utilization among low-income students*. Iowa City: American College Testing Program.
- Nakao, K., & Treas, J. (1994). Updating occupational prestige and socio-economic scores: How the new measures measure up. *Sociological Methodology*, 24, 1–72.

- Orfield, G. (1992). Money, equity, and college access. *Harvard Educational Review*, 62, 337–372.
- Pascarella, E., & Terenzini, P. (1991). *How college affects students*. San Francisco: Jossey-Bass.
- Pascarella, E., Truckenmiller, R., Nora, A., Terenzini, P., Edison, M., & Hagedorn, L. (1999). Cognitive impacts of intercollegiate athletic participation: Some further evidence. *Journal of Higher Education*, 70(1), 1–26.
- Paulsen, M. B., & St. John, E. P. (2002). Social class and college costs: Examining the financial nexus between college choice and persistence. *Journal of Higher Education*, 73(2), 189–236.
- Rubin, L. (1976). *Worlds of pain: Life in the working class family*. New York: Basic Books.
- Sack, A., & Thiel, R. (1979). College football and social mobility: A case study of Notre Dame football players. *Sociology of Education*, 52, 60–66.
- Sax, L. (2001). Undergraduate science majors: Gender differences in who goes to graduate school. *Review of Higher Education*, 24(2), 153–172.
- Sennett, R., & Cobb, J. (1973). *Hidden injuries of class*. New York: Vintage Books.
- Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago: University of Chicago Press.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition*. (2d ed.) Chicago: University of Chicago Press.
- Trow, M. (1992). Class, race, and higher education in America. *American Behavior Scientist*, 35, 585–605.
- Valadez, J. (1996). Educational access and social mobility in a rural community college. *Review of Higher Education*, 19, 391–409.
- Wachtel, P. (1975). The effect of school quality on achievement, attainment levels, and lifetime earnings. *National Bureau of Economic Research*, 2, 502–536.
- Weis, L. (1990). *Working class without work: High school students in a de-industrializing economy*. New York: Routledge Press.
- Willis, P. (1977). *Learning to labor: How working class kids get working class*. New York: Columbia University Press.
- Zweigenhaft, R. (1993). Prep school and public school graduates of Harvard: A longitudinal study of the accumulation of social and cultural capital. *Journal of Higher Education*, 64, 211–225.

## APPENDIX

## Variable Blocks and Coding

1. Dependent variable: attended graduate school	Dichotomous: 1 = no, 2 = yes
2. Pretest: 1985 degree aspirations	1 = none, 2 = vocational certificate, 3 = associate's degree, 4 = bachelor's master's, 6 = Ph.D. / Ed.D., 7 = M.D./D.O./D.D.S. D.V.M., 8 = J.D./L.L.B., 9 = B.D. / M. Div., 10 = other
3. Input block	
<i>Race</i>	
White/Caucasian	1 = no, 2 = yes
American Indian	1 = no, 2 = yes
Asian American/Asian	1 = no, 2 = yes
Mexican American/Chicano	1 = no, 2 = yes
Puerto Rican	1 = no, 2 = yes
Other Latino	1 = no, 2 = yes
Other	1 = no, 2 = yes
Sex	1 = male, 2 = female
SAT math	SAT math subscore
SAT verbal	SAT verbal subscore
SES	Continuous scale calculated from mother's education (10 point scale as above), father's education (10 point scale as above), family income (14 point scale 1 = <\$6,000 to 14 = \$150,000), mother's occupation (58 point scale [28 = laborer to 86 = physician]/7), father's occupation (58 point scale [28 = laborer to 86 = physician]/7).
4. Institutional characteristics block	
Public university	1 = no, 2 = yes
Private university	1 = no, 2 = yes
Private college	1 = no, 2 = yes
Public college	1 = no, 2 = yes
Selectivity	Continuous scale, average composite SAT score of entering freshmen reported by the institution
Peer SES	Continuous scale: HERI calculated average composite of three factors family income, father's education, mother's education

## 5. College investment block

Guest in professor's home	1 = not at all, 2 = occasionally, 3 = frequently
Attended recital	1 = not at all, 2 = occasionally, 3 = frequently
Worked on professor's research	1 = no, 2 = yes
Helped teach class	1 = no, 2 = yes
Took part in intercoll. athletics	1 = no, 2 = yes
Hours/week studying, homework	1 = none, to 8 = over 20
Hours/week reading for pleasure	1 = none, to 8 = over 20
Hours/week talking with faculty outside class	1 = none, to 8 = over 20
Hours/week volunteering	1 = none, to 8 = over 20
Hours/week student clubs/groups	1 = none, to 8 = over 20
College GPA	1 = C- or less to 6 = A+

## 6. College conversion block

89 plan to attend college	1 = no, 2 = yes
89 plan attend grad school	1 = no, 2 = yes
89 plan travel	1 = no, 2 = yes
89 plan volunteer week	1 = no, 2 = yes
Highest degree earned in 1989	1 = none, 2 = vocational certificate, 3 = associate's degree, 4 = bachelor's, 5 = master's, 6 = Ph.D./Ed.D., 7 = M.D./D.O./D.D.S./D.V.M., 8 = J.D./L.L.B., 9 = B.D./M.Div., 10 = other
Degree aspired, 1989	1 = none, 2 = vocational certificate, 3 = associate's degree, 4 = bachelor's, 5 = master's, 6 = Ph.D. Ed.D., 7 = M.D./D.O./D.D.S./D.V.M., 8 = J.D./L.L.B., 9 = B.D./M.Div., 10 = other
Reason for career: intrinsic	1 = not important to 4 = essential. Interesting work, challenging work, contributes to society, opportunity for freedom of action
Reason for career: extrinsic	1 = not important to 4 = essential. Job opportunities, pays well, opportunity for advancement