

Cascading in Higher Education:
Investigating the Impact of Institutional Stratification on Educational Opportunity in America

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Abstract:

Anecdotal evidence suggests that social stratification in higher education has increased over time, but these claims have not yet been supported by rigorous research. Our analyses will employ three nationally representative datasets spanning three decades of postsecondary education access to investigate whether the relationship between socioeconomic background and institutional prestige has increased over time. Subsequent models will investigate the extent to which changes in social stratification can be explained by changes in academic preparation. Finally, we will use fixed effects modeling to isolate the effects of changes in tuition and state policy on social stratification.

This grant would support research on the effect of enrollment management practices and state policy on the institutional stratification of U.S. higher education. For scholars of social stratification, the most important question about postsecondary educational expansion is whether it reduces inequality by providing more opportunities to the disadvantaged or whether it increases inequality by concentrating educational opportunity among the already privileged (Shavit, 2007). The positive effects of attending a prestigious university on employment, even after controlling for socioeconomic background and academic preparation, are well documented both in the U.S. and internationally (Hearn, 1991; Shavit, Mèuller, & Tame, 1998; Trow, 1984).

Therefore, our research interest is whether the relationship between institutional prestige and socioeconomic background has become stronger over time, with the concept of “cascading” providing a conceptual anchor for our analyses. “Cascading” refers to “the pattern of choices made by students who are refused entry to very highly selective institutions who are then admitted to somewhat less selective institutions” (Trow, 1999, p. 66). Social stratification theories argue that as access increases so does competition for places in elite universities, with lower SES students relegated to less prestigious institutions (Raftery & Hout, 1993; Swirski & Swirski, 1997). This topic is relevant in the current policy context, where reports of decreasing SES diversity in flagship colleges is a salient concern (Bowen, Kurzweil, Tobin, & Pichler, 2005; Carnevale & Rose, 2004; Gerald & Haycock, 2006; Kahlenberg, 2003)

Literature Review. State policy goals to maximize the efficiency of public funding and increase the prestige of public higher education increase social stratification (Bastedo & Gumport, 2003; Gumport & Bastedo, 2001). Recent “tax revolts” have compelled states to decrease public funding for postsecondary education and to isolate enrollment growth in community college and comprehensive institutions, which have lower public funding per student than flagship state universities (Winston, 2004).¹ Furthermore, whereas non-elite institutions have generally raised tuition only to the extent necessary to offset declines in public funding, flagship institutions have used tuition increases to increase

¹ Between 1986-87 and 1995-96 at flagship state universities grew 3.6% compared to 26% increase in community college enrollment. During this period public funding per student fell by 5.0% for flagship state universities and 4.1% for community colleges (Winston, 2004).

spending per student.² Gerald and Haycock (2006) show that in 2005 only 22% of students at flagship state universities received Pell grants in comparison to 35% of all colleges and universities and that only 12% of students at flagship state universities are of Black, Latino, or Native American origin compared to 24% at all colleges and universities. Perna (2005), using data from Maryland, argues that the increased gap in participation rates between White and Black students in public four-year non-HBCUs is due to lower growth of state appropriations coupled with higher tuition increases relative to other types of institutions. Furthermore, state policies designed to create a hierarchically organized statewide system, as opposed to a set of autonomous institutions, also increase social stratification as students are “matched” to institutions consonant with their academic preparation; Bastedo (2003), using data from Massachusetts, shows that the creation of statewide admissions standards diverts poor and minority students away from research universities and into community colleges.

Trow (1984) argues that a “Matthew effect” exists in higher education whereby already advantaged institutions are likely to receive a disproportionate amount of resources in the future. Building on this proposition, Hearn (1991) hypothesizes that the Matthew effect exists not only for institutions, but for students who attend postsecondary education institutions. Using nationally representative longitudinal data from a cohort of 1980 high school graduates, Hearn (1991) finds that minority students and students from disadvantaged socioeconomic backgrounds attend less selective postsecondary education institutions after controlling for academic preparation variables. Karen (2002), finds similar results for the 1992 high school senior class.

The literature on social stratification in higher education reveals several research gaps. First, while Hearn (1991) analyzes social stratification for the 1980 high school senior cohort and Karen (2002) analyzes social stratification for the 1992 high school senior cohort, newly available longitudinal data from the 2004 senior class has yet to be utilized. Second, while the literature suggests a stronger relationship between socioeconomic background and institutional selectivity over time, research has not

² Between 1986-87 and 1995-96 the sticker price at flagship state universities rose by 58.4% and sticker price net of financial aid rose by 57%, compared to community colleges where sticker price rose by 45.7% but sticker price net of financial aid rose by 28.0% (Winston, 2004).

yet shown whether this relationship can be wholly explained by stronger academic preparation of the advantaged strata. Third, the relationship between social stratification and changes in in-state tuition and changes in state policy remains understudied.

Research Question and Hypotheses. We propose to develop a research program devoted to understanding social stratification in institutional destination. Our research will be motivated by two research questions: 1) How has social stratification in institutional destination changed over time? 2) What independent variables have a causal effect on changes in social stratification over time? We make the following hypotheses: **H1:** the strength of the relationship between socioeconomic background and institutional selectivity has increased over time; **H2:** the strength of the relationship between socioeconomic background and academic preparation of college applicants has increased over time; **H3:** declines in public funding for postsecondary education, increases in tuition, and state policy efforts to create a hierarchically organized public postsecondary education system (i.e. statewide admissions standards) increase social stratification in institutional destination.

Data and Methodology. Our research program will proceed in two phases. In the first phase we will use nationally representative student-level longitudinal data to analyze social stratification in postsecondary education entry for recent high school graduates. In the second phase we will analyze the impact of changes in tuition and changes in state policy on social stratification. Following Hearn (1991), our dependent variable will be institutional selectivity, defined as the average composite SAT score of the institution.

The first phase of our research program will employ multivariate regression analysis using data from three nationally representative datasets spanning three decades of postsecondary education access. The High School and Beyond (HS&B) dataset follows 1980 high school seniors into postsecondary education. The National Educational Longitudinal Study (NELS:88) follows 1992 high school seniors into postsecondary education. The Educational Longitudinal Study (ELS:2002) follows 2004 high school seniors into postsecondary education. From these three surveys we will create three analysis datasets. Regressions will be run separately for each dataset and our discussion of results will focus on the change

over time in regression coefficients. First, we will add socioeconomic variables such as ethnicity, gender, parental education, and parental income. Second, we will add academic preparation variables – including SAT score, high school GPA, math and science course taking patterns, and extracurricular activities – to analyze the extent to which changes in social stratification can be explained by changes in academic preparation.

The second phase of our research program will employ fixed effects modeling to isolate the effects of changes in tuition and changes in state policy on social stratification. Starting with the first model, we will add variables representing the average in-state community college tuition, average in-state comprehensive 4-year college tuition, and average in-state flagship university tuition, measured during the student's senior year of high school. Our hypothesis is that social stratification increases as flagship university tuition increases relative to tuition at less prestigious institutions. Second, we will add variables representing state policies such as the creation of statewide admissions processes. Our hypothesis is that policies promoting a hierarchical state postsecondary education system will increase social stratification because students will be “matched” more efficiently to institutions consonant with their academic preparation (which is in turn highly correlated with socioeconomic background). Third, we will add fixed effects variables for each state to capture unobserved differences between states that would otherwise bias the coefficients found in the state tuition and state policy variables.

The plan for this project is to yield at least two major academic publications in journals such as *Journal of Higher Education* and *Educational Evaluation and Policy Analysis*. The first article would focus on the effects of institutional stratification on educational opportunity for low-income and minority students. The second article would analyze the impact of state policy toward increasing admissions standards on institutional stratification. After conference presentations, these would be submitted for publication. The papers will also be provided free of charge on the internet for download. The budget will support two Ph.D. students during summer 2008 (Jaquette & Harris), as well as conference travel to disseminate the research for the PI and graduate students.

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