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Higher Education Expansion, Social Background and College Selectivity in the United States

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Higher Education Expansion, Social Background and College Selectivity in the United States

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Abstract

Drawing on two recent cohorts of baccalaureate degree-holders (1993 and 2000), this paper takes a new look at the factors that influence students' choice of undergraduate institution in the United States. The two cohorts span a period that was marked by rapid institutional and enrollment growth in U.S. universities. Yet, it remains uncertain whether or not this greater expansion has reduced the effects of social origins on college choices. The findings reveal that educational decisions were indeed influenced by socio-economic effects. Both parental income and education exhibited strong, positive effects, which remained stable across cohorts. At the same time, students' abilities also had a significant impact on selectivity decisions. Students who attended private, non-religious high schools were also more likely to graduate from more selective institutions, while gender effects largely subsided once controlling for academic ability.

Keywords: college selectivity; postsecondary expansion

Expansión de la Educación Superior, Origen Social y Selectividad Universitaria en Estados Unidos

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Resumen

Recurriendo a las cifras recientes de graduados de Bachillerato (1993 y 2000), este artículo proporciona una nueva mirada sobre los factores que influyen en la selectividad por parte de la institución universitaria en Estados Unidos. Las dos series de datos abarcan un período que estuvo marcado por el rápido crecimiento institucional y de la inscripción en universidades estadounidenses. Sin embargo, sigue siendo incierto si esta mayor expansión ha reducido el efecto del origen social en la selectividad de la universidad. De hecho, los resultados revelan que las decisiones educativas estuvieron influidas por factores socioeconómicos. Tanto los ingresos de los padres como su educación mostraron efectos potentes y positivos, que se mantuvieron estables a través de las series de datos. Al mismo tiempo, las capacidades de los estudiantes también tuvieron un impacto significativo en las decisiones sobre la selectividad. Los estudiantes que asistieron a institutos privados y no religiosos tenían también más probabilidades de graduarse en instituciones más selectivas, mientras que los efectos del género disminuían en gran medida una vez se había tenido en cuenta la habilidad académica.

Palabras clave: selectividad universitaria, expansión postsecundaria



In the last few decades, the barriers to college and university access have been greatly reduced, as individuals from a variety of socio-demographic backgrounds increasingly enter higher education. Governments around the globe have gone to great lengths to expand higher education, in order to improve the equality of opportunity at postsecondary institutions. Yet, structural expansion has often come up short in reducing 'real' inequalities, as some less privileged students get absorbed into an expanding subordinate sector of higher education (e.g., community colleges) where future employment opportunities are less lucrative and prestigious (see Brint and Karabel 1989). Still, the reality is that more and more students are making the transition to higher education, as pressures to expand enrolments continue to spread worldwide (Shavit et al., 2007; Schofer and Meyer 2005).

What implications does this postsecondary expansion have on students' institution choices? As higher education transforms from an elite to a mass- and now a nearly universal-based system, the selectivity of a student's school may play a greater role in the sorting and selection of students. Employers and students are increasingly valuing the selectivity of the school attended. While selective colleges do not necessarily provide enhanced environments or employ 'best practices' for cognitive development (see Pascarella et al. 2006), graduates from highly selective schools typically obtain higher earnings, are more likely to continue their education, and experience more stable employment (Mullen et al. 2003; Dale and Krueger 2002; Marini and Fann 1997). Existing studies have explained these trends in various ways. More selective schools may impart skills and knowledge more efficiently in their students, may 'signal' aptitude or abilities to potential employers, or may provide graduates with greater social capital and network connections (see Gerber and Cheung 2008 for a review). As more and more students enter undergraduate education, the prestige or selectivity of their institution has become an effective way of securing more favourable labour market opportunities (Bobbit-Zeher 2007; Dale and Kreuger 2002; Davies and Guppy 1997; Loury and Garman 1995).

This paper employs the 1993-94 and 2000-01 cohorts of the Baccalaureate & Beyond Surveys (details in Section 3 below) to examine and compare the characteristics of recent baccalaureate degree-holders across institutions of varying selectivity. The two cohorts span

a period that was marked by rapid institutional and enrollment growth in U.S. universities. Despite some mild growth throughout the early 1980's, enrollments at degree-granting postsecondary institutions grew at an accelerated rate (20 percent) from the late 1980's to the early part of the 21st century (NCES, 2009). Much of the enrollment growth and rising completion rates resulted from substantial gains in participation by women (Buchmann et al. 2008). At the same time, we have also witnessed efforts to increase the access of financial aid to low-socioeconomic students in higher education institutions (Geiger and Heller 2011), and growing institutional participation in affirmative action plans for racial minorities (Grodsky 2007). Yet, it remains unclear whether or not these trends have translated into greater meritocracy in the selective pathways students pursue within the larger postsecondary system.

This paper seeks to extend our knowledge of the qualitative or 'horizontal' dimensions of inequality students encounter in their postsecondary choices (Zarifa 2012; Ayalon and Yogev 2005, Karen 2002; Lucas 2001; see Gerber and Cheung 2008 for a review) by taking a new look at the factors that influence students' choice of undergraduate institution in the United States. Researchers have increasingly understood the importance of this point of selection, but few have compared choices across multiple cohorts, nor have they examined this issue during the recent period of postsecondary expansion.¹ Furthermore, by taking a look at degree-holders and the selectivity of the school they attended during their undergraduate careers, the findings uncover the relationships between social origins and the final rather than initial (i.e., application behaviours) choice of institution. At a time when only about 57 percent of students in pursuit of their first bachelor's degree at 4-year institutions are obtaining a bachelor's degree at that institution within 6 years (NCES, 2011:72), it has become increasingly important to trace the effects of social origins not only at the time of enrollment but more importantly at the time of completion.

The analyses were guided by two sets of research questions. First, in a climate of increasing postsecondary access and heightened student competition are individuals from more privileged socio-demographic backgrounds (e.g., according to race, gender, socioeconomic status)

more likely to obtain degrees from more selective institutions? Do these effects hold when controlling for the effects of academic ability and aspirations? Second, have these patterns changed over time? That is, are socio-demographic effects consistent across cohorts?

Literature Review

Socio-economic Status, Academic Achievement and Aspirations

As access to higher education continues to increase, it remains unclear if and how much of an influence socio-economic status (SES) may now have on institution choices. Earlier studies show some degree of consensus that SES has an impact on entering a selective institution, yet it remains less clear whether or not SES continues to have an influence, once measures of motivation or academic achievement enter the mix. Researchers often uncover social background effects operating indirectly through one's academic performance and educational and career expectations (Mullen et al. 2003; Davies and Guppy 1997; Hearn 1991; Ethington and Smart 1986). In this sense, academic ability (as a product of social origins) becomes the major influence on student choices. Such a situation also leaves room for educational and occupational expectations to have a greater impact on student decisions (Goyette and Mullen 2006).

Hearn's (1991) influential work on the academic and non-academic influences on college destinations set the foundation for the debate. His examination of the 1980 cohort (*High School and Beyond*) of high school graduates uncovered the presence of indirect parental background effects operating through academic outcomes in high school and students' educational aspirations. The presence of these indirect effects, he argued, stood in opposition to meritocratic norms, as entry into resource rich, selective or prestigious universities is a function of not only achieved characteristics (e.g., test scores, grades), but ascribed characteristics (e.g., gender, race, SES). Hearn (1991) found academic ability and aspirations to be the strongest predictors of student choices, yet he also found traces of direct non-meritocratic effects. For example, father's education, mother's education and parental income all had positive effects on selectivity.

More recent studies have also shown some degree of empirical support for the presence of strong, direct SES effects in school selectivity choices (Karen 2002; Davies and Guppy 1997). Karen's (2002) examination of the 1992 cohort of the National Education Longitudinal Study revealed that even though much social selection takes place prior to one's choice of postsecondary institution, family income and father's education had strong direct effects, even once controlling for academic factors. For Davies and Guppy (1997), strong direct SES effects on selectivity choices were indeed accompanied with strong ability effects. Moreover, the authors also revealed the presence of a 'combination effect'. When including an interaction term for SES and ability, the authors found high-SES and high-ability students were more likely to enter selective schools. Thus, there appears to be an added advantage to having significant SES resources and the ability to perform well in school (Davies and Guppy 1997:1431).

Given the recent expansion of higher education and increased access to postsecondary programs, it is uncertain whether or not the influence of SES has declined (or become more indirect) relative to academic ability or expectations. A recent study on the college opportunity expectations of high school seniors shows support for increasing indirect effects of socio-economic status. Turley, Santos and Ceja (2007) found a growing influence of parents' education and income across the 1972, 1982 and 1990 cohorts of high school seniors on students' expectations of attending a four-year or selective college. It remains unclear whether this trend has continued in recent years or whether or not it is representative of the relationships between social origins and the actual institution attended.

Race and Gender Effects

In addition to social background effects, race and gender may also play a role in determining one's choice of postsecondary institution. Hearn (1991) showed that African Americans entered lower selectivity institutions, and for Hispanics, no significant trends emerged. Moreover, this finding was reconfirmed in Karen's (2002) replication study using the NELS data. Hurtado et al. (1997) examined the college application behaviours with a particular focus on racial groups.

Compared to other racial groups, Asian Americans exhibited higher degree expectations and applied to a larger number of colleges, while Latinos to have the lowest degree attainment expectations, apply to the least number of colleges, and least likely group to immediately enter higher education (Hurtado et al. 1997:64). Overall, Hurtado et al. (1997) claim socioeconomic characteristics are strongly tied with academic ability among Asian students, leading the authors to suspect SES plays more of an indirect role in the college choice process.

Despite the documented successes of Asian students at various junctures of the education system, recent studies reveal some improvements in access for other racial groups. Grodsky (2007), for example, found that affirmative action programmes for African American students are more widespread than previously assumed, and an increasing number of institutions have expanded these initiatives to include Hispanic students. As a response to prevailing historical arrangements and as a response to the political climate, selective schools sought to include African Americans in their affirmative action plans. Unfortunately, Grodsky claims the same cannot be said for individuals from lower SES origins.

Researchers also suggest that men are more likely than women to enter selective schools (Karen 2002; Dale and Krueger 2002; Jacobs 1999; Persell et al. 1992; Hearn 1991). Even after taking academic factors out of the mix, it would seem that families continue to invest more heavily in their sons' rather than in their daughters' education. In their examination of the pathways to selective colleges, Persell et al. (1992) found women need greater levels of cultural capital than men to enter selective institutions. That is, in order for women to attend selective colleges at the same rates as men, they need to have more economic, cultural, and educational assets. Interestingly, Persell et al. (1992) found that gender inequalities may be greatly reduced if women attended a private boarding school. Specifically, the authors (1992:216) found that 10.3 percent of male and 9.3 percent of female public high school graduates enrolled in selective colleges in 1980. For elite boarding school students, nearly 78 percent of the females and 76 percent of the females attended selective colleges².

Others have demonstrated that institutional attributes may also greatly influence the proportion of women found in highly selective schools (Jacobs 1999). Typically, more selective schools offer fields with high concentrations of men (e.g., engineering), while less selective colleges, on the other hand, are more likely to offer fields that are traditionally highly concentrated with women (e.g., education). At the same time, women may be further selected into less selective colleges by virtue of their greater propensity to enrol part-time. Less selective colleges were also less likely to offer part-time programs, contributing further to women's selection out of highly selective institutions.

Methods

Data

This study draws on the 1993 and 2000 cohorts of the Baccalaureate and Beyond Longitudinal Studies (B&B) from the National Center for Education Statistics (NCES) in the United States. The B&B surveys are nationally representative samples of recent college and university graduates, providing extensive information on the educational and early labour market experiences of bachelor's degree-holders. Respondents in the 1993 cohort were followed up in 1994, 1997, and 2003, while the 2000 cohort was re-interviewed in 2001. The 1993-94 B&B provides information on the educational experiences of a cohort of recent baccalaureate graduates, who received their degrees during the 1992-93 academic year. Students selected into the B&B were first interviewed in the National Postsecondary Student Aid Study (NPSAS, 1993). A subsample of 12,478 baccalaureate degree recipients (the B&B) was selected from the NPSAS respondents. These individuals either indicated in the CATI interview that they graduated in the 1992-93 academic year or were identified as having done so in graduation lists provided by the institutions. Of the 12,478 cases that were selected as potential participants in the B&B sample, just over 1,500 were found to have ineligible graduation dates (i.e., fell outside the July 1, 1992 to June 30, 1993 time frame). A final total of around 11,000 cases were considered eligible to participate and interviews were completed for just

over 10,000 (92% response rate) of these respondents.

The 2000-01 B&B survey was also collected using computer-assisted telephone interviews and draws on a cohort of students who obtained their bachelor's degree during the 1999-2000 academic year (as identified in the NPSAS, 2000). As in the previous cohort, a subsample was drawn from confirmed and potential baccalaureate recipients yielding a total of approximately 11,700 students. Approximately 1,500 ineligible respondents were eliminated yielding an overall response rate of 86 percent and a final B&B sample of just over 10,000 students.³

To ensure that the B&B samples were consistent across cohorts, a number of restrictions were placed on the analyses. Specifically, the analyses were limited to students who completed their degree in a particular cohort, did not previously obtain a bachelor's degree prior to this degree, and were citizens of their country of education.⁴ The sample used in the analyses consisted of only students who completed their degree program in 1993 ($n = 10,062$), did not previously have a bachelor's degree by July 7, 1992 ($n = 9985$), were citizens of the United States ($n = 8884$), did not attend or transfer in their undergraduate degree from an HBCU (Historically Black College or University) ($n = 8690$), and have institutional level data available ($n = 7126$).⁵ For the 2000-01 B&B cohort, the analyses were limited to only those students who completed their degree in 2000 ($n = 9896$), obtained their first bachelor's degree at this time (9336), were U.S. citizens ($n = 8960$), did not spend any time at an HBCU ($n = 8803$), and have data on the bachelor's institution ($n = 7133$).

Analyses

The statistical analyses contain ordinary least squares regressions. A series of models were estimated to predict what factors affect one's choice of institution for each of the two B&B cohorts. Many of the variables of interest are modelled after previous research that explores the link between social origins and selectivity and/or type of postsecondary institution (e.g., Mullen et al. 2003; Karen 2002; Davies and Guppy 1997; Persell et al. 1992; Hearn 1991; Stolzenberg 1994; Ethington and Smart 1986; Mare 1980). Previous studies have

operationalized selectivity using the average scholastic aptitude test (SAT) scores of the freshmen class of postsecondary institutions. This paper employs the seventy-fifth percentile combined SAT score of the first-year class as an indicator of school selectivity. Supplementary SAT data was obtained from the IPEDS data (available from the National Center for Educational Statistics) and linked to the B&B data by using the common institutional identifiers. For each of these models, a number of key explanatory variables were entered in several stages. Base models include a number of controls, and subsequent models include family background variables, measures of ability and aspirations, and interactions of particular theoretical interest. In addition, graphical displays are used to aid in the interpretation of statistically significant interaction effects (Fox 2008; Preacher et al. 2006).

Variables

Socio-demographic variables such as age (in years), marital status, gender, and racial background or ethnicity were entered into the first sets of models. Detailed descriptions and coding for all variables can be found in Tables 1 and 2. All of these variables were quite similar if not identical across cohorts. Successive models included theoretically and empirically relevant measures of family background, ability, and aspirations. Parent's level of education, parental income in dollars (B&B calculation)⁶, and high school type were used to measure the influence of family background. Since parents who hold bachelor's degrees themselves have a familiarity with university experiences and may confer certain advantages to their children, the variables on parental level of education were recoded into two distinct categories: 1) parents with less than a bachelor's degree and 2) parents with a bachelor's degree or higher. To explore differences between private and public high school influences on postsecondary choices, a measure for high school type was included as a set of four of dummy variables (i.e., public; private, non-religious; private, Catholic; and private, other religious). In addition to ascriptive and family background influences, existing studies also suggest that student ability and educational

aspirations are important predictors of field of study and postsecondary institution choices. Respondents' SAT combined score was included to measure ability, and students' reported educational expectations or plans to pursue a Master's degree or higher provided a measure of educational aspirations.

274 Zarifa - *Higher Education Expansion, Social Background and College Selectivity in the United States*

Table 1

Variable Descriptions for the 1993-94 Cohort of the Baccalaureate and Beyond Survey

Variables	Variable Descriptions
Marital Status	Coded 0 = Single/Previously Married, 1 = Married
Age	Student's age on 12/31/1992
Gender	Student's gender: coded 0 = Male, 1 = Female
Race	Student's race/ethnicity: set of dummy variables where 'White' is the reference category and other categories include 'Black', 'Hispanic or Latino', 'Asian', and 'Other'
Parents' Education	The highest level of education of either parent: coded 0 = Less than bachelor's, 1 = Bachelor's or higher
Income	Parent's income of dependent students or income of independent students
Aspirations	Highest post-baccalaureate educational plans or expectations: coded 0 = Below Master's, 1 = Master's or higher
High School Type	Student's high school type: set of dummy variables where 'Public' is the reference category and other categories include 'Private, Catholic', 'Private, not religious', 'Private, other religious'
SAT Score Combined	Merged SAT or ACT score quartile
Institution Selectivity	Institution's 75th percentile combined SAT math and verbal scores of the incoming class in 2005 (Source: IPEDS 2005)
Weights	44 replicate weights used to generate BRR variance estimates for cross-sectional analysis of respondents to the B&B:1993/1994

Source: 1993-94 Baccalaureate and Beyond Survey.

Table 2

Variable Descriptions for the 2000-01 Cohort of the Baccalaureate and Beyond Survey.

Variables	Variable Descriptions
Marital Status	Coded 0 = Single/Previously Married, 1 = Married
Age	Student's age on 12/31/1999
Gender	Student's gender: coded 0 = Male, 1 = Female
Race	Student's race/ethnicity: set of dummy variables where 'White' is the reference category and other categories include 'Black', 'Hispanic or Latino', 'Asian', and 'Other'
Parents' Education	The highest level of education of either parent: coded 0 = Less than bachelor's, 1 = Bachelor's or higher
Income	Parent's income of dependent students or income of independent students
Aspirations	Highest post-baccalaureate educational plans or expectations: coded 0 = Below Master's, 1 = Master's or higher
High School Type	Student's high school type: set of dummy variables where 'Public' is the reference category and other categories include 'Private, Catholic', 'Private, not religious', 'Private, other religious'
SAT Score Combined	SAT combined score, derived as either the sum of SAT verbal and math scores or the ACT composite score converted to an estimated SAT combined score from agency-reported or institution-reported SAT or ACT scores
Institution Selectivity	Institution's 75th percentile combined SAT math and verbal scores of the incoming class in 2005 (Source: IPEDS 2005)
Weights	64 replicate weights used to generate BRR variance estimates for cross-sectional analysis of respondents to the B&B:2000/20

Source: 2000-01 Baccalaureate and Beyond Survey.

Results

Descriptives: Comparing the B&B 1993-94 and 2000-01 Cohorts

Table 3 contains descriptive statistics for each of the two B&B cohorts. No major differences over time are evident across marital status, age, gender, race, parent education, income, and high school type. New bachelor's degree-holders are more likely to be single, around age 25 (on average), female, White, have a parent with at least a bachelor's degree, an annual household income of about \$50,000 USD, and previously attended a public high school. For aspirations, the great majority of students in the 2000-01 cohort are still planning on pursuing a Master's degree or higher, though the relative percentage of students doing so dropped slightly since 1993-94.

Table 3

Descriptive Statistics for Variables from the 1993-94 and 2000-01 Cohorts of the Baccalaureate and Beyond Surveys of University Graduates in the U.S.

	1993-94		2000-01	
	Mean/Proportion	BRR SE	Mean/Proportion	BRR SE
Marital Status				
Single/Previously Married	0.71	0.011	0.72	0.008
Married	0.28	0.011	0.28	0.008
Age	25	0.169	25	0.118
Gender				
Male	0.46	0.008	0.44	0.006
Female	0.54	0.008	0.56	0.006
Race				
White	0.85	0.008	0.80	0.007
Black	0.04	0.004	0.06	0.004
Hispanic or Latino	0.05	0.004	0.07	0.005
Asian	0.04	0.003	0.04	0.003
Other	0.01	0.002	0.02	0.002
Parent Education				
Less than bachelor's	0.48	0.009	0.46	0.008
Bachelor's or higher	0.52	0.010	0.54	0.009
Income	51,292.08	1288.999	58,883.12	681.109
Aspirations				
Below Master's	0.17	0.006	0.30	0.007
Master's or higher	0.83	0.006	0.70	0.007
High School Type				
Public	0.83	0.006	0.85	0.006
Private, Catholic	0.06	0.003	0.09	0.006
Private, not religious	0.04	0.003	0.03	0.002
Private, other religious	0.07	0.006	0.03	0.004
SAT Score Combined	2.52	0.024	1098	2.669
Institution Selectivity				
IPEDS 75th Percentile School SAT Score	1232	4.350	1232	3.100
n	7126		7133	

Source: 1993-94 and 2001-01 Baccalaureate and Beyond Surveys.

Note: Estimates and standard errors are survey weighted using balanced repeated replicates. SAT scores in the 1993-94 B&B survey were reported on a four-point scale.

Regression Results for Selectivity, B&B 1993-94

In Model 1, institutional selectivity is regressed on only students' demographic characteristics (see Table 4). Multiple and single-df tests indicate that all terms in Model 1 contribute significantly to changes in selectivity choices ($p < .001$). Moreover, both married ($p < .001$) and older individuals ($p < .001$) are significantly less likely to enter a more selective institution. Consistent with existing research (e.g., Karen 2002; Dale and Krueger 2002; Jacobs 1999; Davies and Guppy 1997), women are also significantly less likely than men to graduate from selective institutions. Part of these inequalities of course may be explained by the courses offered at selective institutions and the limited number of part-time programmes also offered at selective institutions (see Jacobs 1999). Finally, in terms of racial differences, only one significant finding emerges. Asian students ($p < .001$) are more likely than whites to graduate from selective institutions. This finding is also similar to the racial effects found in previous research (see Xie and Goyette 2003).

In addition to the demographic characteristics in Model 1, Model 2 includes measures of family background. Interestingly, the effects from Model 1 change very little with the addition of these terms. Both parent's education as well as family income have a significant impact on college selectivity ($p < .001$). Students whose parents hold at least a bachelor's degree were significantly more likely to graduate from a more selective school than those with less education ($p < .001$). As well, individuals from more affluent family backgrounds were also more likely to attend more selective schools ($p < .001$). In Model 1, the demographic characteristics explained about 10 percent of the change in selectivity choices ($R^2 = 0.097$). Once family background characteristics are included in the models, the R^2 improves to 0.136.

In Model 3, measures of skill and aspirations are added to the OLS models. Nearly all of the variables in Model 2 maintain their effects, despite the addition of these new terms. One exception is that the gender effects have largely dissipated. Similar to previous studies (Davies and Guppy 1997; Turley et al. 2007), once social background and skill effects are included in the model, the impact of gender on student school

choices no longer holds a statistically significant influence. As in the previous models, parents' education and family income have significant effects on school choices ($p > .001$). At the same time, SAT scores also have a positive effect on one's selectivity choices ($p > .001$). The strong family background effect, even once controlling for academic ability shows some evidence of direct socio-economic effects. Finally, students' high school type is found to have a significant impact on selectivity choices ($p < .001$). Much of this effect is attributable to students who attended a private, non-religious high school, as these individuals were on average entering more selective postsecondary schools than students in any other category ($p < .001$). This finding may reflect trends in student performance across sectors, as students from private high schools typically show higher levels of performance (Coleman, Hoffer and Kilgore 1982; Coleman and Hoffer 1987). Overall, we can see that the addition of skill, aspirations and high school type significantly improved the fit of the models, as the R^2 nearly doubled in Model 3 ($R^2 = 0.232$).

The final model (Model 4) in Table 4 includes interactions between income and academic ability and income and student aspirations/expectations. Significant interactions with either term indicate that it is a combination of income with ability or income and aspirations that influences school choices. Indeed, the results in Model 4 indicate that income does interact with student's SAT scores ($p < .001$). As Davies and Guppy (1997) also found several years earlier, the effect of family income on selectivity choices, continues to vary by one's academic ability (i.e., SAT score). To further grasp these findings, Figure 1 displays the fitted values of the interaction.⁷ The lines show the relationship between ability and school selectivity for individuals from low, moderate and high SES backgrounds. The figure indicates that students who come from more affluent family backgrounds and possess a high level of ability are more likely to attend a selective school than their counterparts from moderate and low-SES families with similar abilities.

280 *Zarifa - Higher Education Expansion, Social Background and College Selectivity in the United States*

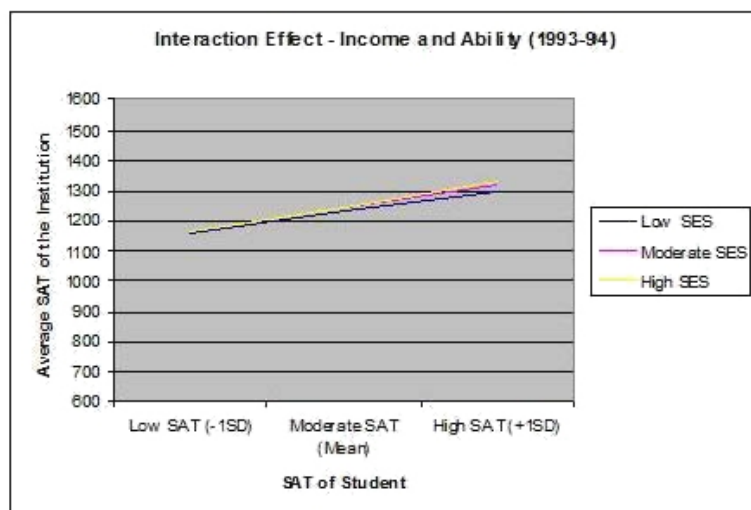
Table 4

OLS Regression Models of Institutional Selectivity Choices for the 1993-94 Cohort of University Graduates in the U.S.

	Model 1		Model 2		Model 3		Model 4	
Constant	1623	134 (36 060)	1407	429 (41 190)	1344	736 (40 101)	1516	587 (52 861)
Marital Status			***		***		***	***
Single/	---	---	---	---	---	---	---	---
Previously Married								
Married	-25	612 (4 410)	-23	382 (4 220)	-19	109 (4 017)	-18	955 (4 062)
Log(Age)	272	139 (26 510)	***	212 942 (25 127)	***	208 678 (24 316)	***	204 476 (24 069) ***
Gender			***		***		***	
Male	---	---	---	---	---	---	---	---
Female	-15	371 (3 550)	-15	399 (3.567)	-5	471 (3 416)	-5	417 (3 440)
Race			***		***		***	***
White	---	---	---	---	---	---	---	---
Black	-11	203 (8 254)	0	929 (8.088)	17	544 (8.320)	15	578 (8 419)
Hispanic or Latino	19	959 (13 355)	-7	523 (12 658)	-0	693 (11 797)	-2	089 (12 208)
Asian	49	440 (9 757)	49	883 (9 790)	46	828 (9 488)	45	127 (9 709)
Other	31	666(18 932)	36	440 (18 013)	25	811 (15 677)	26	315 (15 984)
Parent Education					***		***	***
Less than bachelor's	---	---	-----		---	---	---	---
Bachelor's or higher	---	---	35	188 (3 399)	21	213 (3 427)	20	698 (3 467)
Log(Income)			25	203 (4 219)	***	17 886 (3 643)	***	-21 509 (8 699) *
Aspirations								
Below Master's	---	---	---	---	---	---	---	---
Master's or higher	---	---	---	---	-1	425 (4 102)	6	464 (37 002)
High School Type							***	***
Public	---	---	---	---	---	---	---	---
Private, Catholic	---	---	---	---	5	436 (5 380)	6	316 (5 353)
Private, not religious	---	---	---	---	50	735 (9 067)	49	639 (8 802)
Private, other	---	---	---	---	0	115 (5.426)	0	686 (5 387)
SAT Score Combined	---	---	---	---	35	323 (2 197)	***	-39 614 (11 225) **
Income * SAT Score Combined	---	---	---	---	---	---	16	549 (2 514) ***
Income * Below Master's	---	---	---	---	---	---	---	---
Income * Master's or higher	---	---	---	---	---	---	-1	757 (8 309)
n	7126		7126		7126		7126	
R²	0.097		0.136		0.232		0.237	

Notes: * $p < .05$; ** $p < .01$; *** $p < .001$; Multiple-df tests are reported for sets of dummy regressors. BRR standard errors for complex survey designs are in parentheses. Additional models included interactions between income and gender, race, parent education, and high school type, but none of these additional terms significantly improved the overall model fit.

Figure 1
Interaction Effect - Income and Ability (1993-94)



Regression Results for Selectivity, B&B 2000-01

In Table 5, identical models are estimated for the 2000-01 cohort of the Baccalaureate and Beyond survey. In Model 1, the selectivity of the institution is regressed on the demographic characteristics of bachelor's degree-holders. As in the previous cohort, all variables in the model have a significant impact on students' school choices ($p < .001$). Moreover, married individuals are less likely than single individuals to enter into selective institutions ($p > .001$). As respondents' age increases, they become less likely to pursue a degree at a selective institution ($p > .001$). In terms of gender, women are significantly less likely to enter more selective institutions than men ($p < .001$). For race, Black and Hispanic or Latino respondents are significantly less likely to enter more selective institutions than White respondents ($p < .05$), while Asian students are more likely than Whites to enter selective institutions ($p < .001$).

Model 2 adds family background variables to further explain institutional selectivity choices. As in Model 1, all of the demographic effects maintain their effects. In addition, parents' education and family income are also shown to have significant effects ($p < .001$). As in the previous cohort, students from more educated and more affluent families are more likely to enter selective schools. Similar to the previous cohort, the R^2 values for the models improve with the addition of social background variables (0.100 to 0.142).

When controlling for academic ability and aspirations in Model 3, the gender effects dissipate once again. In addition, the effect of race decreases slightly in strength ($p < .05$), as only the significant effect for Asian Americans relative to whites holds. In terms of family background effects, respondents whose parents obtained a bachelor's degree or higher were much more likely to enter into more selective institutions ($p < .001$). Family income also has a significant positive effect on one's selectivity choices ($p < .05$), but the strength of this effect has weakened slightly across cohorts. In terms of aspirations, no significant effects emerged. SAT scores, however, have a significant positive effect on selectivity choices ($p < .001$). Once again, a strong high school effect on selectivity choices ($p < .001$) is noticeable, even when controlling for all other factors in the model. As in the previous cohort, the addition of skill, aspiration and high school type variables greatly increases the model fit, as the R^2 nearly doubles from 0.142 in Model 2 to 0.265 in Model 3.

Finally, Model 4 includes two interactions with family income, to further explore the relationship between income and ability and selectivity decisions. As in the first cohort, only the interaction between academic ability and family income is statistically significant ($p < .001$). Figure 2 displays the fitted values for the interaction between income and ability. As in the 1993-94 cohort, the relationship between ability and selectivity varies by SES background. Moreover, there is some evidence to suggest that SES is having a stronger influence on the relationship, as individuals from low-SES backgrounds with high levels of ability appear to be losing ground to individuals from higher SES backgrounds.

Table 5

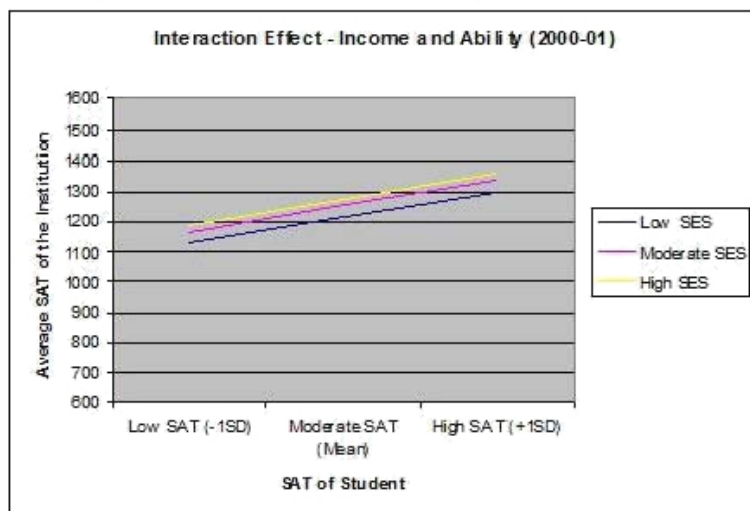
OLS Regression Models of Institutional Selectivity Choices for the 2000-01 Cohort of University Graduates in the U.S.

	Model 1		Model 2		Model 3		Model 4	
Constant	1622.856 (40 338)		1441 102 (40 297)		1156 815 (41 490)		1750.268 (98.928)	
Marital Status			***		***		***	
Single/ Previously Married	---	---	---	---	---	---	---	---
Married	-29 818 (4 331)		-27 317 (4 229)		-22 124 (3 807)		-20 610 (3 815)	
Log(Age)	270 617 (28.088)		*** 198.803 (27.248)		*** 175.464 (26.818)		*** 171 173 (26 318)	
Gender			***		***			
Male	---	---	---	---	---	---	---	---
Female	-12 238 (3 486)		-11 755 (3 353)		-3 341 (2 900)		-3 264 (2.898)	
Race			***		***		*	
White	---	---	---	---	---	---	---	---
Black	-22 676 (9 224)		-13 130 (9 110)		3 145 (10 092)		0 437 (9 942)	
Hispanic or Latino	-18 034 (8.799)		-6.170 (8.918)		1.462 (8.277)		0 636 (8 197)	
Asian	39 048 (9 632)		41 138 (9 470)		30 391 (8 684)		29 769 (8 857)	
Other	-0 212 (11 594)		0 674 (11 944)		2 779 (11 249)		2 633 (11 325)	
Parent Education					***		***	
Less than bachelor's	---	---	-----		---	---	---	---
Bachelor's or higher	---	---	44 105 (3 400)		21 729 (3 253)		21 700 (3 260)	
Log(Income)	---	---	12 632 (2 964)		*** 5 890 (2 723)		* 125 261 (18 912)	
Aspirations								
Below Master's	---	---	---	---	---	---	---	---
Master's or higher	---	---	---	---	5 701 (2 864)		-39 632 (24 658)	
High School Type							***	
Public	---	---	---	---	---	---	---	---
Private, Catholic	---	---	---	---	3 990 (3 934)		4 045 (3 983)	
Private, not religious	---	---	---	---	44 462 (8 349)		43 756 (8 532)	
Private, other religious	---	---	---	---	11 412 (7 789)		12 725 (7 534)	
SAT Score Combined	---	---	---	---	0 256 (0 011)		*** -0 275 (0 084)	
Income * SAT Score Combined	---	---	---	---	---	---	0 116 (0 018)	
Income * Below Master's	---	---	---	---	---	---	---	---
Income * Master's or higher	---	---	---	---	---	---	10 046 (5 255)	
n	7133		7133		7133		7133	
R²	0 100		0 142		0 265		0 276	

Notes: * $p < .05$; ** $p < .01$; *** $p < .001$; Multiple-df tests are reported for sets of dummy regressors. BRR standard errors for complex survey designs are in parentheses. Additional models included interactions between income and gender, race, parent education, and high school type, but none of these additional terms significantly improved the overall model fit.

Figure 2

Interaction Effect - Income and Ability (2000-01)



Comparisons of Selectivity Results

Overall, few real differences occur over time. The rather short period of time (seven years) between the two B&B cohorts may account for this lack of change. Despite this short time frame, there is some weak evidence that the role of aspirations in predicting selectivity choices may be increasing over time. In 2000-01, students from privileged family backgrounds are still entering more selective institutions, but aspirations appear to have an increasing influence, though they are not quite significant at the 0.05 level. Moreover, the interaction effect between income and student aspirations is also nearly statistically significant in the latest cohort. While it may be too early to tell, it may not be enough for students to have the resources and know-how to enter more selective institutions. As shown previously at the graduate level, students may increasingly have to carry with them a high level of motivation or educational expectations (Mullen et al. 2003).

Conclusions

Despite decades of school reforms and a larger movement toward postsecondary accessibility in the United States, this paper demonstrates that selectivity choices remain influenced by social origins. By drawing on two recent cohorts (1993-94 and 2000-01), this paper updates trends previously established in studies that drew on data from the early 1970s to the early 1990s (Turley et al. 2007; Karen 2002; Davies and Guppy 1997; Persell et al. 1992; Hearn 1991). The paper also uniquely extends work in this area by examining the effects of social origins on selectivity decisions among a relatively privileged group who not only applied and enrolled in college, but also completed their degrees.

Attending a selective school has been (and continues to be) greatly influenced by social origins. In many cases, students are unequally slotted into these various educational outcomes by a combination of family background, demographics, ability and aspirations. Both parent income and education exhibited strong, positive effects over time. At the same time, considerable evidence for indirect effects emerged, as ability had a significant impact on selectivity decisions. In addition, coupling a high level of ability with a privileged family background remains a key ingredient to increasing one's likelihood of attending a selective college.

This paper makes an important contribution to a growing body of literature charting the less obvious, qualitative or 'horizontal' avenues of educational inequality in expanded postsecondary systems (Zarifa 2012; Gerber and Cheung 2008; Ayalon and Yogev 2005; Lucas 2001). Future research may wish to answer Gerber and Cheung's (2008) call for analyzing data from a wider range of countries to examine how national postsecondary systems may relate to these new educational inequalities.

A new line of inquiry is charting the level of system-wide inequality across postsecondary institutions in terms of their resources (Davies and Zarifa 2012). Future strands could attempt to link processes of social background, selectivity choices, and institutional inequality both in the U.S. and cross-nationally. Not all countries have such an explicit hierarchy of institutions. Yet, in countries where the hierarchy of institutions is less explicit and potentially flatter, the returns to attending

a selective school may also diminish. In such situations, it is also possible that social origins may play a more modest role.

For decades, researchers have documented the importance of higher education in the process of social mobility, calling numerous times for governments and policymakers to improve access to colleges and universities. While, in a previous era, students were largely sorted by their entry into postsecondary education, today's students encounter additional exclusivity in their quests for entry into more prestigious schools, programs, fields of study or college majors. As higher education becomes nearly a universal stage in the life course for many of today's youth, these findings highlight a new (yet strangely familiar) challenge for educational officials and policymakers – how to expand higher education and increase access in ways that reduce less apparent but substantial social inequalities.

Notes

1 Karen (2002) predicted the selectivity choices of the 1992 cohort of high school graduates and made comparisons to Hearn's (1991) work on the 1980 cohort. More recently, Turley et al. 2007 compared high school seniors and the effects of social origins on college expectations across three cohorts (1972, 1982 and 1992).

2 The B&B data do not identify elite boarding schools, but a set of four dummy variables (i.e., public, private Catholic, private not religious, private other religious) for high school type are included in the analyses.

3 The B&B sampling design consists of multiple sampling stages and stratified sampling at each stage. Consequently, statistical analyses used the survey package in R and svy commands in Stata to employ balanced repeated replicate (BRR) weights to adjust the standard errors for the complexity of the sampling procedures.

4 Unfortunately, given the sampling design of the B&B surveys, the data do not contain information on students who initially entered other kinds of institutions and dropped out, and also individuals who may have initially entered a four-year institution but did not persist to a degree in that sector.

5 As in previous research on selectivity (see Thomas 2003), students who attended or transferred from an HBCU were excluded from the analyses to provide a more accurate picture of the inequalities racial minorities may face in their school choices. Traditionally, the principal mission of HBCU's has been the education of African Americans, and even today graduates from HBCU's account for a disproportionate percentage of all African American graduates nationwide (see <http://www.ed.gov/about/inits/list/whhbcu/edlite-index.html> for details). That is, the picture of access in HBCU's may look quite different from the rest of the population of postsecondary institutions, confounding the true level of racial inequality in entering particular schools.

6 Students under the age of 24 were generally considered to be dependent on their parents for financial support. For independent students, the B&B surveys collected information on the income of the student. The B&B surveys deemed students to be independent if they met any of the following criteria: 1) age 24 or older at the time of degree completion, 2) a veteran of the U.S. Armed Forces, 3) enrolled in a graduate or professional program beyond a bachelor's degree, 4) married, 5) orphan or ward of the court, or 6) have legal dependents other than a spouse.

7 The graph is produced using the estimated regression equation and allowing ability (as measured by SAT scores) to take on a range of values, holding all other predictors at their sample means/proportions (see Fox, 2008; Preacher et al. 2006).

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