

Elite Higher Education: Who Attends and Why?

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Motivation of Study

- **Improving access to “elite” colleges is important, because:**
 - **Students attending more selective colleges are more likely to graduate** (Goldrick-Rab, Harris, & Trostel, 2009; Horn, 2006; Ishitani, 2006; Light & Strayer, 2000) **and experience greater success in the labor market** (Eide, Brewer, & Ehrenberg, 1998; M. Long, 2008), **particularly if they come from disadvantaged backgrounds** (Dale & Krueger, 2011).

Examining the Predictors of Elite College Attendance

■ Hearn (1990; 1991)

- Incorporated data from the High School and Beyond (HS&B) survey.
- Focused on institutions with a minimum average SAT score (1175).
- Identified female, Black, Latino and low-income students as less likely to enroll at highly selective colleges.
- Results showed that “highest-income” students were over 20 percent more likely than “lowest-income” students to attend an elite institution.

■ Karen (2002)

- Analyzed data from HS&B and NELS.
- Also identified negative effects for Black and Latino students.
- Uncovered a particular strong effect with respect to paternal education.
- Revealed a negative relationship between rural location and selective college attendance.

Limitations of Previous Research

Prior studies:

- Fail to account for the sequence of milestones/events that facilitate **selective** college access.
- Produce results attributable to pre-enrollment behaviors/achievements that make attendance possible.

Modeling the Pathway to Elite College Attendance

This study employs a sequence of multilevel probit models examining variations in the probability of:

- Developing college-ready credentials.
- Applying to an elite institution.
- Matriculating at an elite institution.

Data and Sample

- Relies on data collected from the Education Longitudinal Study (ELS).
- Includes 10,100 respondents.
- Limited to students with postsecondary plans.
- Represents 2.4 million students attending 20,000 U.S. high schools

■ Independent variables

- Gender (Hearn, 1991)
- Race (An, 2010)
- SES (Walpole, 2003)
- High School GPA
- ACT (or converted) SAT score
- Importance of Low College Expenses (Perna, 2006)
- Importance of Financial Aid (McDonough & Calderone, 2006)
- School Control (Hill, 2008)
- Urbanicity (Turley, 2009)
- Geographic Region (Hill & Winston, 2010)

■ Dependent variables (3)

- Dichotomous indicating whether “college-ready” .
 - 3.0 GPA, ACT (or converted SAT) score of 22, and Algebra II or higher.
- Dichotomous indicating application to an “elite” college or university.
- Dichotomous indicating matriculation at an “elite” college or university.
 - “Elite” includes institutions indicated by Barron’s as “Most Competitive” or “Highly Competitive Plus.”
 - Admit students with B+ or higher, top 25% rank, and at least 1290 SAT

Analytic Techniques

This study...

- **Uses multilevel modeling**
 - Sequence of three models, each with a random intercept and probit link function.
 - Inclusion in subsequent models is conditional upon achieving a positive outcome in the former model.
- **Employs imputation by chained equations**
 - To address missing data.
 - To reduce bias.
- **Accounts for complex survey design of ELS study**
 - Incorporates variables for stratification and clustering.
 - Incorporates student- and school-level weights, the former of which are scaled (Thomas & Heck, 2001; Rabe-Hesketh & Skrondal, 2005).

SES & Race

	Ready	Apply	Matriculate
SES	0.163***	0.127***	-0.001
Race			
Black	-0.313***	0.219***	0.217*
Hispanic	-0.174***	0.265***	0.110 [†]
Asian	0.048*	0.260***	0.064
Interaction			
Black X SES		-0.201***	
Hispanic X SES		-0.150***	
Asian X SES		-0.107***	

*** = .001 ** = .01 * = .05 [†] = .10

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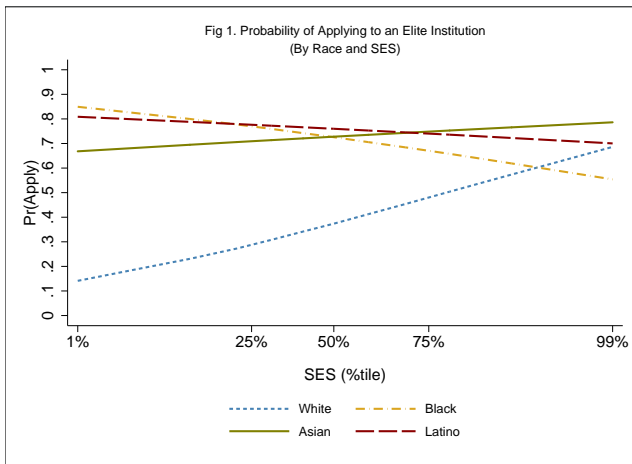
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Race-related effects vary on the basis of socioeconomic status for college-ready students:



Possible Explanations

College-ready, low-SES whites have a relatively low probability of applying to elite institutions, perhaps because:

- Affirmative action and college recruitment policies prioritize ethnic above economic diversity (Espenshade & Radford, 2009; Grodsky, 2007).
- Lack of college-related interventions in less densely populated areas, where low-SES whites are more likely to reside (Hoxby and Avery, 2012).

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Reference Category: White

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Financial Attitudes

	Ready	Apply	Matriculate
Low College Expenses			
Somewhat Important	-0.046**	-0.103***	-0.130***
Very Important	-0.112***	-0.186***	-0.065

Reference Category: Not Important

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Significant findings suggest that low-income/low-SES students may not be aware of the low costs and savings associated with attendance at elite colleges.

Urban-Centric Locale

	Ready	Apply	Matriculate
Low College Expenses			
Suburban	0.021	-0.053*	-0.130
Rural	0.021	-0.072*	-0.101 [†]

Reference Category: Urban

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College-Ready “Rural” students are less likely to apply and matriculate at elite institutions

Geographic Region

	Ready	Apply	Matriculate
Low College Expenses			
Mid-Atlantic	-0.005	-0.086	-0.113
Southeast	0.039	-0.219***	-0.114
Southwest	0.007	-0.305***	-0.235***
Midwest	0.049	-0.088	-0.089
Plains	0.092*	-0.305***	-0.319***
Mountain West	0.030	-0.255***	-0.355**
Far West	0.025	-0.159**	-0.220**

Reference Category: New England

*** = .001 ** = .01 * = .05 † = .10

This study:

- Reveals differences in access to elite colleges across SES and race.
- Differences are greatest stages of preparation and application.
- Suggests when interventions may prove particularly effective.
- Argues for increased focus on college application.

% Applying to Elite Colleges (by SES & Locale)

SES (Quartile)	Rural	Suburban	Urban
Low	13.63	22.53	23.50
Low-Middle	13.65	18.51	27.61
High-Middle	21.17	26.07	28.96
High	35.43	42.67	48.24

Low-SES students from rural areas are least likely to apply at elite colleges

Applications Matter

- **Hoxby & Turner (2013)**
 - Assessed the effects of the Expanding College Opportunities (ECO-C) Intervention
 - ECO-C mailed information packets, including application fee waivers, to low-income, high achieving students
 - ECO-C mailings cost **\$6 per student**
 - Students receiving ECO-C mailings **were 20 percent more likely to apply and enroll** at appropriately selective institutions
- **The College Board**
 - Has committed to mailing information-packets and fee-waivers to every low-income, senior scoring in the top 15% on SAT or PSAT
 - Packets include information on graduation rates, net costs and the application process
 - Intervention based on the work of Hoxby & Turner (2013).
- **Delaware's "Summer Nudge" Program**
 - Partnering with the College Board to send similar information packets to its low-income, high scoring residents.

Recommendations

- Target students earlier, given that information influences college prep and planning (Elwood & Kane; Mcdonough & Calderone, 2006).
- Incorporate ACT performance
- Leverage state- and district-level data

In closing...

- **Barriers to elite education are manifold, but perhaps more malleable than previously thought**
- **Inequities in access exist at multiple points**
- **Application-related interventions may prove most cost-effective**

Contact Information

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