



**From Aspirations to Access:
The Role of Place in the School Factors
that Facilitate or Impede Postsecondary
Education Attendance**

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A Note of Gratitude...

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“There are no guarantees in life with or without a college diploma...but the odds are increasingly stacked against those with the least education and training.”

--Gladieux (2004)

In Kahlenberg’s (Ed.) *America’s Untapped Resource: Low-income Students in Higher Education*

Importance of Postsecondary Education

- A postsecondary education holds economic and social value at the individual, local, and national levels
- Necessary credential for many well-paying, secure jobs in today's society (Strauss & Howe, 2005)
- In 2003, those aged 25-34 who held at least a Bachelor's degree earned significantly more income than those with less education (Wirt, Choy, Rooney, Provasnik, Sen, & Tobin, 2004)
- Moreover, communities with greater percentages of higher educated residents experience less crime and have fewer citizens relying on governmental support (Baum & Payea, 2004)

Policy on Postsecondary Attendance

- Not all students are attaining postsecondary educations at the same rate, particularly race-, ethnic, and class- minorities (Cameron & Heckman, 2001; Goetz, 2001)
- In *Measuring Up 2000*, the National Center for Policy and Higher Education (NCPHE; 2001) identified preparation for and participation in postsecondary education among the most important policy issues
- “**Geography**, wealth, income, and ethnicity still play far too great a role in determining the educational opportunities and life chances of Americans” (Hunt, NCPHE Chairman, 2001, par. 6).

Postsecondary Intervention Programs

- Developed to improve rates of college attendance among underrepresented students
- Improvements in academic achievement, higher educational aspirations, and increased college attendance rates among minority students (Gándara, Gándara, & O'Hara, 2001).
- However, attendance has remained unequally distributed between rural and non-rural students (Charles, Roscigno, & Torres, 2007; Hu, 2003; Shaw, De Young, & Rademacher, 2004; Smith, Beaulieu, & Seraphine, 1995; Yan, 2002)

Existing Disparities in Postsecondary Attendance

- Smith et al. (1995) found that suburban students have the highest likelihood of attending college (67%), while rural students have the lowest (45%)
- Using NELS: 88, Hu (2003) reported that 64% of suburban and urban students enrolled in college compared to 56% of rural students
- Among Pennsylvania students, 48% of rural students reported having no postsecondary education while only 28% of urban students and 36% of suburban students reported no postsecondary education (Yan, 2002)

Remaining Disparities in Postsecondary Education Attendance

- Intervention programs target underrepresented urban students (Gándara, et al., 2001)
- Disparities in attendance may be a reflection of program components that are incongruent with the needs of rural students
- Factors identified as facilitating postsecondary attendance in urban settings may not promote attendance for rural students

Purpose

- Consider students' educational characteristics and outcomes as being embedded in those places that help to shape students' life opportunities (Marjoribanks, 2003; Roscigno & Crowley, 2001)
- Therefore, to eradicate the existing disparities in postsecondary education attendance researchers must:
 - identify individual and contextual factors that facilitate or impede college attendance among rural students
 - determine how those factors differ from those among urban and suburban students

Theoretical Framework

- Human development does not occur in a vacuum
 - Investigate relationships from an ecological perspective by considering the context within which the individual develops (Bronfenbrenner, 1977), including school and geography
- Schools are shaped by communities
 - Consequence of living in any location is access to or restriction from opportunities and resources
 - Resource disparities may have negative effects upon school investments and can affect educational outcomes (Davies et al., 2006; Roscigno & Crowley, 2001)

Theoretical Framework, cont.

- Characteristics of rural and urban schools differ remarkably
- Rural schools:
 - Small school and class size (Khattri, Riley, & Kane, 1997)
 - High levels of community support (McCracken & Barcinas, 1991)
 - Strong parent-teacher relations (McCracken & Barcinas, 1991)
 - Limited access to educated role models (Fan & Chen, 1998)
 - Limited curricular offerings, including advanced courses (Fan & Chen, 1998; Spicker, Southern, & Davis, 1987)
 - Transportation difficulties (Williams, 2003)
 - Outdated technology (Beeson & Strange, 2000; Williams, 2003)
 - Difficulty attracting and retaining qualified teachers (Williams, 2003)
 - Lower teacher expectations (Roscigno & Crowley, 2001)

Theoretical Framework, cont.

- Urban schools
 - Large school size (McCracken & Barcinas, 1991)
 - Diverse array of courses, extracurricular activities, and athletics (McCracken & Barcinas, 1991)
 - Decreased opportunities for participation in activities (McCracken & Barcinas, 1991)
 - Breakdowns in school, family, and community relations (Smith et al., 1995)
- Unique characteristics of rural and urban schools (Rosignano & Crowley, 2001) may function as attributes or detriments to the academic success of their students

Previous Studies

- Many have examined the individual and contextual factors that predict postsecondary education *attainment* (e.g., Adelman, 1999; Charles et al., 2007; Kaufman & Gabler, 2004)
- Fewer studies have examined how these factors facilitate *attendance* for students differently based on *place*
- Literature is very limited in explaining how educational processes vary through spatial stratification (Roscigno & Crowley, 2001)

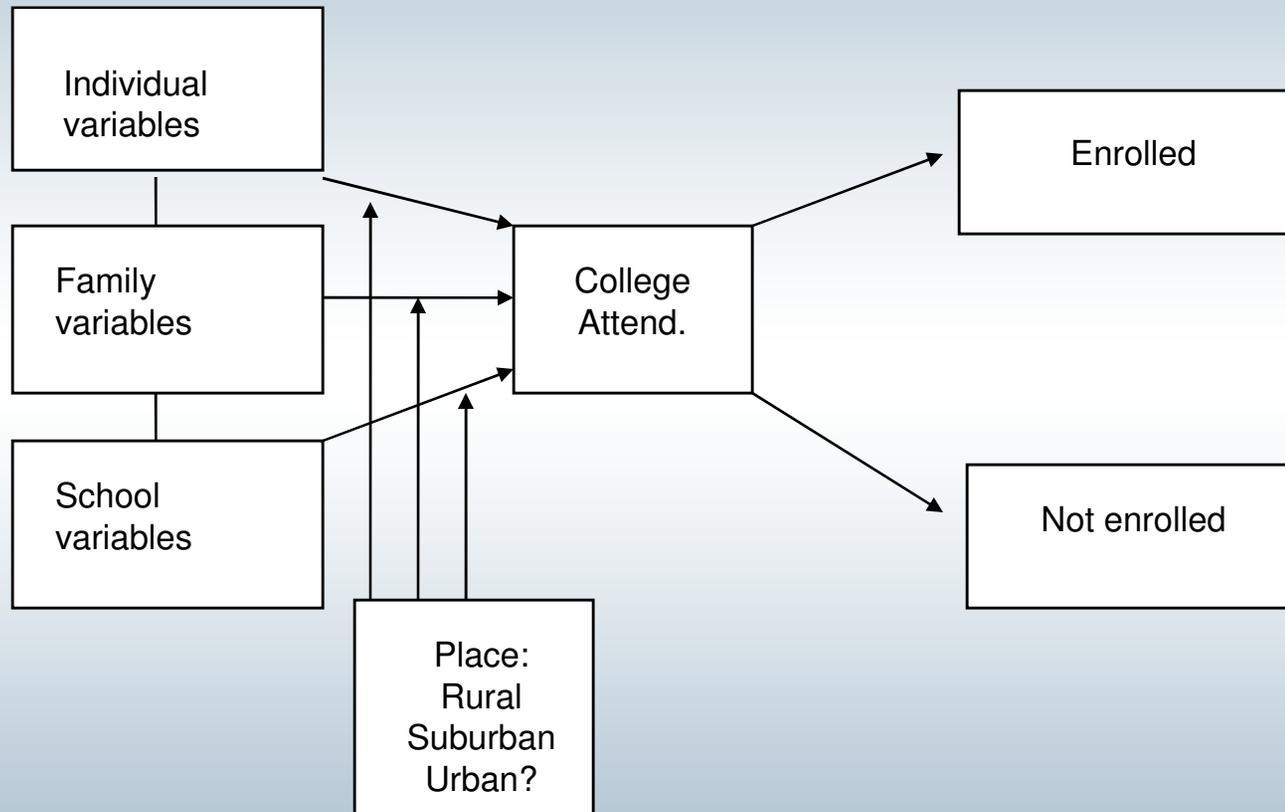
Previous Studies

- Smith, Beaulieu, & Seraphine (1995) found differential relations based on place among individual/contextual factors and attendance
 - parental involvement significant
 - urban students only
 - family income significant
 - all except rural students
- Snyder (2004) found
 - home resources and parent education
 - rural students only

Current Study

- Attempted to advance the literature by overcoming the limitations in previous work
- Within an ecological framework, identified the school factors that facilitate or impede college attendance
- Determined how the school factors may be *moderated* by *level of urbanicity* (i.e., rural, suburban, or urban), or “place” (see Figure 1)

Figure 1: Model of Moderating Effects by Place



Research Questions

*Based on enrollment at a 2- or 4-year college
within two years after high school:*

- *What school factors predict postsecondary education attendance?*
- *Among rural, suburban, and urban students, for which school factors does place moderate their influence on postsecondary education attendance?*

Methodology: Sample

- Rural, urban, and suburban students ($n = 2068$)
 - 54% females
 - 21% rural, 29% urban, and 50% suburban
- Student participants of ELS: 2002 were:
 - high school sophomores during the base-year (BY)
 - high school seniors during the first follow-up (F1)
 - out of high school for at least two years at the time of the second follow-up (F2)

Methodology:

Outcome & Moderator Variables

- Postsecondary education attendance
 - Dichotomous
 - Derived from ELS:2002 second follow-up variable, F2B07
 - Collected two years after leaving high school
 - *Have you attended any postsecondary institution since leaving high school?*
- School place
 - Rural, urban, or suburban
 - Derived from ELS: 2002 base-year variable, BYURBAN
 - U.S. Census Bureau data used in NCES Common Core Data Study (i.e., CCD)

Methodology:

Individual Predictor Variables

Variable Name

ELS Label

Student's sex

BYSEX

Student's race/ethnicity

BYRACE

High school credential

F2PHSHDG

High school program

BYSCHPRG

AP exam

BYS55C

Standardized test composite score

BYTXCSTD

Student high school GPA

F1RAGP

Employment

BYS75

Extracurricular activity participation

BYS42

Community service

BYS44C

Methodology:

Individual Predictor Variables, cont.

Variable Name

ELS Label

Finds classes interesting or challenging

BYS27A

Finds getting a good education important

BYS54O

Finds getting away from local area important

BY54I

Finds living close to friends and family important

BYS54H

Student's educational expectations

BYSTEXP

Perception of mom's desires for student after high school

BY66A

Perception of dad's desires for student after high school

BY66B

Perception of teacher's desires for student after high school

BY66F

Methodology:

Family Predictor Variables

Variable Name

Parents' native language

Family composition

Parent's educational attainment

Parents' educational aspirations

Total household income

Home resources

Parent involvement

ELS Label

BYPARLNG

BYFCOMP

BYPARED

BYPARASP

BYINCOME

BYS84A-BYS84E;
BYS84H

BYS59D, BYP56C,
BYP57C, BYP57D

Methodology:

School Predictor Variables

Variable Name

ELS Label

School enrollment

BYG10ER

Percent free-lunch

BY10FLP

Poor facilities and resources

BYA50A-BYA50I

Career preparation

BYA15A;

BYA18B-BYA18D

Percent college prep program

BYA14B

Percent vocational/technical program

BYA14D

Academic press

BYA51B

School mentoring

BYS59A-BYS59C

Results

Question 1

Based on enrollment at a 2- or 4-year college immediately after high school, what school factors predict postsecondary education attendance?

- Logistic regression analysis
- Generalized Estimated Equations (GEE) in SPSS 16.0
 - accounted for clustering of students and the correlations of responses by school (Molenberghs & Verbeke, 2005)

Descriptive Statistics by Place

Table 1
Regression Results for School Variables among All Participants

Variable Name	Place					
	Rural		Urban		Suburban	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
School enrollment	185.60	177.45	291.79	207.29	293.75	193.53
Percent-free lunch	18.16	15.66	16.80	22.33	16.08	17.94
Poor facilities and resources	1.76	0.67	3.78	1.68	1.67	0.60
Career preparation	2.04	1.24	1.40	1.17	1.82	1.22
Percent college prep program	60.84	28.16	75.94	33.75	66.05	31.02
Percent vocational/technical program	15.73	19.15	11.21	20.47	13.37	19.34
Teacher academic pressure	4.07	0.70	4.43	0.71	4.19	0.84
School mentoring	0.31	0.30	0.35	0.30	0.34	0.31

School Variables Related to Postsecondary Education Attendance

Table 2
Regression Results for School Variables among All Participants

Variable	<i>B</i>	S.E.	Exp (<i>B</i>)
School enrollment	-3.40 E-5	0.00	1.00
Percent-free lunch	-0.01*	0.00	0.99
Poor facilities and resources	-0.04	0.12	0.96
Career preparation	0.07	0.07	0.93
School mentoring	0.02	0.50	0.98

*Indicates significance at the .05 alpha level

**Percent College Prep, Percent Vocational, and Academic Press variables did not achieve convergence

School Variables Related to Postsecondary Education Attendance

- Percent-free lunch negatively predicted college attendance
 - Each percentage increase in the students receiving free lunch within a school resulted in a 1.1% decreased chance of college attendance
- Neighborhood districting of schools
 - Students who attend schools with greater percentages of students receiving free lunches are likely to come from poverty themselves and students of lower SES are less likely to attend college

School Factors Related to Postsecondary Education Attendance

- SES is often used as an indicator of the overall SES level of the families of students within a school
 - Instrumental in shaping academic outcomes (e.g., attainment)
 - However, total household income did not predict college attendance
- School SES provides a unique contribution to college attendance
 - Indirect effect of SES as mediated through:
 - school ethos
 - educator characteristics
 - background and values of other students

School Factors Related to Postsecondary Education Attendance

- Students must weigh the opportunities and compromises that attending college presents
 - Students' educational aspirations are similar across class lines
 - However, “the realities on which they (low and high income students) must base their decision reflect different landscapes” (Bloom, 2007, p. 356)
- Low-income students must reconcile their dreams for the future with the realities of today
 - risks may appear too great

School Factors Related to Postsecondary Education Attendance

- Risks of low-income students do not exist for middle and high-income families
 - Low-income students face far greater financial hurdles when deciding to attend college (Chenoweth & Galliher, 2004)
- In 2001, average yearly costs for college were nearly 60% of the annual household income of low-income families
 - Only 5% of the income of high income families (Gladieux, 2004)
 - Low-income students will pay more over time for education
- Risk of dropping out and owing money leads to a refusal to attend college among some low-income students (Bloom, 2007; Campaigne & Hossler, 1998; Kane, 1999)

School Factors Related to Postsecondary Education Attendance

- Several psychological risks that low-income students must take to attend college
- Certain questions asked on the FAFSA and other “seemingly benign...bureaucratic forms,” such as inquiries about net worth of investments and tax deferred pension plans, may imply that low-income students have no place in college (Bloom, 2007)
 - Also request income information for those from non-traditional family structures, due to parental death or imprisonment

School Factors Related to Postsecondary Education Attendance

- Unlike middle- and high-income students, low-income students often lack the guidance of informed adults to help
 - Complex college application
 - Financial aid
- These subtle, yet harsh messages may explain why many low-income students self-select out of many college applicant pools (McDonough, 1997)

School Factors Related to Postsecondary Education Attendance

- Highlight the need to target schools with high percentages of students receiving free lunch
- Provide intervention programming to clarify college and financial aid application process
 - Improve their likelihood of college attendance

Results

Question 2

Based on enrollment at a 2- or 4-year college immediately after high school, among rural, urban, and suburban students, for which school factors does place moderate their influence on postsecondary education attendance?

- To examine how the school factors differed by place, interaction terms were included in the full regression model

Interaction Results

Table 3
Regression Results for Interactions

Variable	<i>B</i>	<i>S.E.</i>	<i>Exp (B)</i>
Female X Rural			
Urban	-0.28	0.42	0.76
Suburban	0.19	0.36	1.21
Perception of mom's desire (no college) X			
Urban	0.27	0.79	1.31
Suburban	-0.30	0.64	0.74
Perception of dad's desire (no college) X			
Urban	0.34	0.71	1.41
Suburban	0.47	0.63	0.16
Student's educational expectations X			
Urban	0.12	0.12	1.13
Suburban	-0.13	0.10	0.88
Importance of getting away (not) X			
Urban	-0.29	0.41	0.75
Suburban	-0.48	0.35	0.62
Parent involvement X			
Urban	0.74	0.74	2.11
Suburban	0.46	0.67	1.59
Home resources X			
Urban	-0.17	0.14	0.84
Suburban	0.01	0.13	1.01
School mentoring X			
Urban	-0.44	0.76	0.64
Suburban	0.31	0.62	1.36

School Factors that are Moderated by Place

- No significant interactions between place (i.e., rural, urban, and suburban) and the relations among certain individual, family, and school factors and postsecondary education attendance
- Statistical explanations:
 - Lack of within group variation
 - Small cell sizes (Tabachnick & Fidell, 2007)

Results

Question 3 (post-hoc)

- *Based on enrollment at a 2- or 4-year college immediately after high school, which individual, family, and school factors successfully predict postsecondary education attendance among rural, urban, and suburban students, respectively?*
- Separate regression models estimated for rural, urban and suburban students

School Factors that Predicted Postsecondary Education Attendance for Rural, Urban, and Suburban Students

- No family or school variables significantly predicted college attendance for rural, urban, or suburban students
- Suggests that the relationships among individual factors and college attendance, such as early academic performance, educational expectations, and perception of teacher's desires, are stronger than those among family and school variables and college attendance, for the individual places

School Factors that Predicted Postsecondary Education Attendance for Rural, Urban, and Suburban Students

- Individual factors could be mediating family and school factors, which are thus indirectly related to college attendance
 - Such a relationship would not have been found in the analyses employed in the current study
- Could also be due to less variability in those variables, particularly within each place (i.e., rural, urban, and suburban) group

Conclusions

- Identified several individual and family factors related to college attendance
 - Only a single school factor related to college attendance
- Suggests that individual and family factors are the most salient within a ecological model in predicting college attendance
- However, this study identified a relationship between schools with higher percentages of students receiving free lunch and decreased college attendance rates

Conclusions

- Geographical inequities have been linked with barriers to educational opportunity (Roscigno et al., 2006)
- In post-hoc analyses, this study revealed a few individual and family (but no school) factors that predict college attendance differently for students from different places
- Findings may be valuable to educators, parents, researchers, and policymakers whose work and relations concern underrepresented students, particularly those from rural and urban areas

Limitations

- Secondary data analysis
 - research questions may need to be adjusted to fit the data and thus may not fully explore the phenomena of interest
 - financial aid
 - dichotomous versus continuous data
- Level of urbanicity
 - based on school not home
- Logistic regression
 - did not fully explore the issue; why weren't they enrolled?
- Relational study
 - no causation

Future Research

- Improve upon the limitations to explore the variables that may predict attendance differently for students from different places
 - identifying continuous variables within national datasets
- Longitudinal designs will be informative
- Qualitative work is warranted to further understand the experiences of first-generation students
- Consider the influence of class in explaining educational trajectories
- Create stronger connections bridging high school educators and those in higher education

Final thoughts...

- For the United States to be prosperous in the global economy of the 21st century, a critical mass of citizens with education and training beyond high school is a necessary requisite
- Improving postsecondary education attendance rates among all American students, regardless of race, ethnicity, class, or place, will facilitate this challenging objective