

PAA Extended Abstract

Does High School Poverty Matter? College Achievement and Satisfaction

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Introduction:

The racial and ethnic achievement gap has been the focus of many studies highlighting inequality in educational outcomes in the United States. While this gap has decreased substantially over the past thirty years (Kao and Thompson 2003) an achievement gap along economic lines is growing. In particular, differences in academic performance between children born in high- and low-income families appear to have been steadily increasing over the past twenty-five years (Reardon 2011). One potential explanation is the pattern of increasing residential segregation by income (Jargowsky 1996) which, in turn, is closely linked to school-attendance patterns and school quality, especially in terms of school composition (Reardon 2011). Following that line of research, this paper uses data from the Wisconsin Scholars Longitudinal Study (WSLS) to elucidate how the relative affluence of the high school attended by students from low-income families shapes his or her college experience subsequent to the initial enrollment decision.

Background:

Given that the rising income inequality of the past four decades has led to increasing segregation by family income (Reardon and Bischoff 2011) and that high-income parents are better able to accumulate resources for their schools (Reardon 2011) it is not surprising that high school attended is a good predictor of postsecondary outcomes.

Most of this research, however, focuses on the racial or ethnic composition of high schools and the systematic (Fletcher and Tienda 2010) variation in the quality of high schools attended by minority versus non-minority students (Schneider, Martinez et al. 2006). For instance, minority students' college experiences are influenced by the fact that they attended high schools of lower quality on a number of dimensions, including levels of violence (Massey 2006). There is also, generally, an emphasis in this literature on the effects a high school has on a student's short-term postsecondary outcomes. The quality of the high school that a student attends is, for example, a powerful predictor of a student's college choice set and, in particular, whether a student considers selective institutions as a viable option (Niu and Tienda 2008). Additionally, this body of research tells us that low-income students are less likely to enroll in postsecondary institutions than their high-income peers and are also less likely attend more prestigious colleges or universities (Aud, Hussar et al. 2011; Bailey and Dynarski 2011). In the work that does examine the impact a high school has on long-term postsecondary outcomes, the emphasis has been, as discussed earlier, on the racial or ethnic achievement gap's persistent presence in college graduation rates (Vars and Bowen 1998). More recent work, which has focused on income-related gaps among high-achieving college students, has suggested that only 59 percent of those with lower family incomes earn bachelors' degrees compared to 77 percent of students with higher family incomes (Wyner, Bridgeland et al. 2007).

Contribution:

Building on that literature, this paper helps us understand how post-secondary institutions replicate the inequalities present in the secondary educational system via differential college experiences. Since we know that student enrollment in college has expanded while college completion has leveled off (Bailey and Dynarski 2011) and that the quality of high school a student attends shapes his or her college experiences, this paper examines the implications of high school poverty on students' academic and social experiences in college which, in turn, shapes their decision to persist or drop-out. As such, it extends the prior literature with empirical evidence from a longitudinal study that enables us to understand trends in post-secondary academic achievement and social satisfaction as well as the mechanisms which underpin those particular student experiences.

While the prior literature tells us that students from poor neighborhoods are less well prepared for the college application and selection process (Haveman and Smeeding 2006) this paper examines the (positive and negative) postsecondary academic and social experiences of students from low-income families after they enroll in college. The longitudinal nature of the dataset employed enables us to capture high school effects on outcomes three years into a student's college experience. Moreover, this paper answers the concern that there is a lack of adequate data to establish an association between high school quality and post-secondary performance (Fletcher and Tienda 2010) by appending to the WSLs dataset innovative and compelling measures (from the federal Department of Education and Wisconsin Department of Public Instruction) which operationalize that link.

Data and Methods:

The Wisconsin Scholars Longitudinal Study was designed and implemented to understand the impact of private need-based financial aid on college persistence and graduation (for more see www.finaidstudy.org). The study has followed approximately 3,000 students who matriculated in a public two- or four-year college in Wisconsin beginning in September 2008. Students have been surveyed in the fall and spring of their first year of college (Fall 2008 and Spring 2009) as well as in the spring of their second and third years (Spring 2010 and Spring 2011). In addition to information in the WSLs dataset, this paper draws data on the FAFSA completion rates by high school which is made available by the Office of Federal Student Aid. Finally, information on the percentage of students in poverty at each high school, as released by the Wisconsin Department of Public Instruction, is also appended to the WSLs dataset.

The relationship between college outcomes (related to academic achievement and student satisfaction) and income-level of high school is measured using Ordinary Least Squares (OLS) models and logistic regression. All models include the percentage of students in poverty and FAFSA completion rates by high school, median parental income by district and control for a variety of other personal attributes of students (test scores, high school GPA, age etc.) and parental characteristics (annual income and level of education). Cluster analysis – by high school – has been employed in the models whose results are presented below.

Initial Results:

I. Academic Achievement

	Fall 2009 GPA	Spring 2010 GPA	Spring 2011 GPA
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High-poverty High School:	-0.084 (0.066)	-.049 (0.076)	-0.113* (0.067)
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The table above presents preliminary results from OLS models that examine the impact of attending a high-poverty high school on a student's (unadjusted) GPA in the fall of their second year and at the end of their second and third years of college. The data show that having attended a high-poverty high school (as compared to a low-poverty high school) has an increasing negative impact on a student's academic achievement the longer they are in college. Just as the minority-majority high school effect disappears in Fletcher and Tienda's analysis (2010), there appears to be relatively little difference between students from high and low-income schools in their early college years. For later college years, however, this data suggests that the effects of attending a high poverty high school for the college experience are significant.

II. Student Satisfaction

	Odds-Ratio of Having Enjoyed College During the First Year	Odds-Ratio of Having Enjoyed College During the Second Year
High-poverty High School:	1.35	1.57*

The table above presents initial results from logistic models that examine the impact of attending a high-poverty high school on a student's overall level of enjoyment of college, measured at the end of their first and second year. Enjoying the company of their college peers is increasingly and positively associated with being from a high-poverty high school. As with academic achievement, this association becomes significant as a student's time in college increases. The mechanisms for this finding are not altogether clear although the data clearly suggests that between the fall of the first year and the subsequent fall (that of their second year) the percentage of students who reported that they felt more comfortable with their college peers increased from 23.4 percent to 32 percent. Similarly, students from high poverty high schools were more likely to say that they felt like they fit in at their college during the fall of their second year as compared to their first.

Analysis to be Completed:

While the results above tell a compelling story about the increasing impact that attending a high-poverty high school can have on long-term college outcomes, there are a number of avenues that have yet to be explored:

1. The impact of attending a high-poverty high school on college persistence. It is important to examine whether students from high or low income high schools are more likely to transfer, drop out or complete their college education at the location where they originally matriculated.
2. An additional round of analysis which includes college-level fixed effects. Since a number of the parameters of interest (including the income level of a high school) affect the choice of college, fixed effects analysis will potentially provide a good test of the robustness of the initial results. A number of other researchers have also used a similar strategy (Pike and Saupe 2002; Fletcher and Tienda 2010)

3. Since income is correlated with race (Johnson and Neal 1998) this analysis warrants the use of interaction terms so that the income effect can be directly observed.

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