

High School Economic Composition and College Persistence

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Abstract:

Using a longitudinal sample of Texas high school seniors of 2002, we examine whether and how college persistence differs according to high schools economic composition. Students who graduated from affluent high schools have the highest persistence rates and those who attended poor high schools have the lowest rates. Moreover, the advantages in persistence and on-time graduation from four-year colleges enjoyed by graduates of affluent high schools cannot be fully explained by family background, pre-college academic preparedness and characteristics of college attended. Family background and pre-college academic preparation largely explain why graduates from poor high schools who first enroll in two-year colleges have low transfer rates. Finally, economic reasons are paramount in students' decisions to discontinue their postsecondary education, with nearly 70 percent of students from poor high schools explaining that their need to work was a very important reason for withdrawing.

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I. Introduction

Students who enroll in college do so expecting to graduate in four years, but growing numbers are prolonging enrollment beyond eight semesters or leaving before completing a degree. Although four-year college graduation rates remained stable at around 66 percent until the early 1990s, the norm of completing requirements and graduating in four years has eroded since the 1970s (Barton 2002; Adelman 2004). Nearly 50 percent of college enrollees graduated after four years of continuous enrollment during the 1970s, and 75 percent did so within 6 years; however, by the mid-1990s these shares dropped to 30 percent and 60 percent, respectively (NCES, 1996). About one-third of fall 2000 first-time enrollees at four-year colleges completed a bachelor's degree within four years, and 58 percent did so within six years (NCES, 2009). Nearly two in three students who began their postsecondary education at two-year colleges in 1992 sought a bachelor's degree or higher (Hoachlander, Sikora, and Horn 2003), yet only 37 percent had successfully transferred to a four-year institution within eight years (Adelman 2006). These results are puzzling in light of the increased emphasis on "admissions management," where admissions officers, counselors and parents seek to optimize the fit between students and institutions.

Tinto's (1975) interactionalist formulation of college withdrawal, including its subsequent extensions and revisions (1982; 1986), provides a comprehensive template of the factors that influence students' college persistence and completion. His theoretical framework, which is largely concerned with the individual and institutional circumstances that shape college experiences among enrolled students, spawned a spate

of studies that tested one or more of 15 propositions (Braxton, et al., 1997). Empirical support for many propositions, including some designated as “fundamental” to Tinto’s theory, is mixed. Most studies concur that family socioeconomic status, students’ demographic attributes and pre-collegiate academic preparation directly influence college persistence, but as Braxton and associates (1997) point out, support for this general proposition depends on institutional characteristics, and in particular, whether the institution is a community college or a four-year residential college. Among the fundamental propositions for which there is mixed support is the claim that pre-collegiate circumstances *directly* influence college persistence, but in fact few studies consider whether high school attributes are associated with college successes.

There are few studies that seek to establish links between secondary school attributes and college persistence is sparse, but a reexamination of possible links is warranted for several reasons. First, extensive high school variation in college going traditions suggests that high school climate may carry over to college outcomes. Jencks and Mayer (1990), for example, claim that high school socioeconomic mix is a proxy for school climate and college orientation (see also Meyer, 1970), and is likely associated with the odds of successful completion. Second, even though standardized test scores are notoriously poor predictors of college success (Bowen and Bok, 1998; Espenshade, et al., 2009), admissions officers at selective institutions have increased the weight given to test scores in admissions decisions (Alon and Tienda, 2007). Because school test scores vary directly with high schools’ socioeconomic mix (Rothstein, 2004), it is conceivable that students’ persistence will vary directly with the economic mix of their school. Third, many studies show that students who begin their college careers at two-year institutions

are less likely to persist through a baccalaureate degree compared with equivalent students who begin at four-year institutions (Velez, 1985; Braxton, et al., 1997; Light and Strayer, 2000; Alon and Tienda, 2005; Schneider, et al., 2006). Because students from poor high schools who enroll in college are more likely to begin their postsecondary studies at two-year institutions, it is conceivable that high school influences on persistence may operate via institutional type. Finally, much of the available evidence about links between high school economic mix and postsecondary outcomes is not only dated, but also focused on college intentions rather than actual experiences (Myers, 1970; Alwin and Otto, 1977; Rutter, 1983).

In light of lengthening college careers and high rates of withdrawal, we ask whether the economic composition of high school attended, which is a proxy for school climate and postsecondary orientation (Jencks and Mayer, 1990; Meyer, 1970), directly influences college persistence and completion among students of comparable family background and academic preparation. Section II summarizes research about the determinants of college persistence, including recent studies showing links with high school economic composition, and discusses the value of the Texas case study for identifying high school influences on collegiate academic outcomes. Following a description of data and operational definitions in Section III, we present descriptive results in Section IV. In Section V we outline the analytical strategy used to model the association between high school economic composition and college persistence and discuss empirical results. The final section summarizes the key findings and discusses their implications.

II. Individual and Institutional Determinants of Persistence

Empirical studies that investigate why some students persist through their college career while others discontinue their postsecondary education before completion agree that family background and pre-collegiate academic achievement are critical determinants. For the high school class of 1972 Manski and Wise (1983) show that parental education and income are positively associated with college persistence. Among high school seniors who began their college careers at four-year colleges in 1980, those in the top SES and test score quartiles were more likely to graduate than their counterparts ranked in lower SES and test quartiles (Porter, 1990). For this same high school cohort Kane (1994) finds no race/ethnic difference in college completion among students of comparable family background and academic achievement. Light and Strayer (2002), who use a different national sample around 1980 to jointly model college attendance and completion decisions, find that minorities are more likely than statistically equivalent whites to graduate from a four-year college. Comparing the high school classes of 1972 and 1992, Bound and associates (2010) show that academic preparation (measured by math test percentiles) is associated with the likelihood of college completion for both cohorts even when jointly considered with race/ethnicity, parental education and income as well as institutional type and resources.

Researchers interested in community colleges also confirm that family background influences persistence and transitions to four-year institutions as well as the likelihood of completing a bachelor's degree. For example, Grubb (1991) examines transfers to four-year institutions for two cohorts of high school seniors who enrolled in college in 1972 and 1980. In addition to documenting higher transfer rates for white

compared with black and Hispanic students, for both cohorts he shows that students of high SES, those with higher test scores, and those who completed a college prep curriculum were more likely to transfer to a four-year institution compared with students of lower SES, with lower scores on standardized tests, and who pursued a general education track. Studies based on single postsecondary institutions corroborate these claims. For example, Dougherty and Kienzl's (2006) study based on a cohort of students who enrolled in a community college in 1989 affirm that high-SES students have significantly higher transfer rates than their low-income classmates, which they attribute both to better academic preparation and to higher educational aspirations.

High School Effects on Educational Outcomes

The question of school effects on academic outcomes engages a longstanding controversy dating back to the Coleman report, which claimed that family background rather than school attributes is largely responsible for variation in student academic performance. Jencks and associates (1972) reinforced this conclusion by arguing that scholastic achievement gaps (based on standardized test scores) would narrow by one percent or less if all high schools were of equal quality. Subsequently a spate of studies that attempted to discern school influences on scholastic academic outcomes produced mixed evidence. Rutter (1983) attributes the contradictory findings about "school effects" on K-12 student achievement to inconsistencies in standards of evidence, differences in the academic outcomes analyzed, the statistical methods used to assess school effectiveness, and, importantly, the measurement of school attributes.¹

¹ Rutter (1983), along with Hanushek (1989) and Evans and Schwab (1995), among others, questions whether norm-referenced test scores are appropriate for evaluating the existence of school effects on academic outcomes. Goldschmidt and Wang (1999), for instance, show that school characteristics account

For example, Betts (1995) illustrates the importance of using attributes of actual schools attended rather than district averages to discern school influences on students' scholastic outcomes. Although Jencks and Mayer (1990) claim that a high school's average social composition has little influence on the chances that a student will finish high school or attend college, Rutter (1983) emphasizes the need to move beyond school means and focus, instead, on relative differences among schools based on their placement in a distribution. In fact, Jencks and Mayer (1990) concede that in locations with high levels of socioeconomic inequality among schools, as in the case we analyze, average SES may conceal more than it reveals.

In contrast with Coleman (1968) and Jencks (1972), but in agreement with Rutter (1983), Hedges, Laine and Greenwald's (1994) meta-analysis of K-12 school effects on student performance concludes that the median association is sufficiently large to be substantively important. Although none of the studies they included in their meta-analysis considers links between high school characteristics and college success, some analysts have acknowledged them explicitly or implicitly. Tinto's (1975) theoretical formulation of college experiences claims that high school characteristics influence students' aspirations, expectations and motivations for college education, but does not postulate possible direct influences on persistence. A few studies, however, do explore this possibility and find significant influences.

Manski and Wise (1983) claim that students who attended "better" high schools (represented by the share of the high school class who go to college) are considerably more likely to persist in college than students of comparable SES and academic

for about two-thirds of the differences in secondary school persistence, but are not well suited to predicting specific student risk factors that contribute the likelihood of dropping out.

achievement who attended high schools with low college traditions. Examining enrollees at seven selective colleges and universities in the late 1990s, Espenshade and Radford (2009) similarly show that the quality of high school attended is associated with both college persistence and graduation, and that the association is independent of individual attributes and family background. Specifically, they show that students who attended elite high schools are significantly more likely to graduate within six years compared with statistically equivalent students who attended non-elite high schools.

In a more recent study Fletcher and Tienda (2010) analyze administrative data using a fixed effects methodology that compares students who graduated from the *same high school* to show that variation in the quality of high schools that black, Hispanic, Asian and white students attend is largely responsible for racial and ethnic differences in graduation rates from four-year Texas public universities. Because Fletcher and Tienda's analysis is limited by the absence of family background data, the authors stop short of discussing what aspects of high schools carry over to postsecondary performance.²

Among existing studies suggesting that high school characteristics, including economic mix, are associated with college persistence, none considers two-year institutions.

High School Economic Composition and Collegiate Behavior

Early assessments of high school influences on collegiate outcomes focused postsecondary intentions or aspirations and used standardized tests to characterize variation across schools. Meyer's (1970) highly influential study of high school effects

² Economists also have attempted to show that high school quality matters not only for interim outcomes, such receipt of a diploma, college enrollment, and degree completion, but also labor market outcomes (Betts, 1995; Strayer, 2002). For example, Altonji (1995) finds little evidence of an association high school between the number of courses taken and earnings, but concedes that the quantity and quality of courses taken are higher at better schools. Betts (1995) finds an association between high school attended and earnings, but notes that conventional measures of school quality, such as teacher salaries and average class size do not capture variation in student performance.

on college intentions is among the first to consider the socioeconomic context of the school. Credited with early evidence of what became known as the “frog pond effect,” Meyers finds a strong interaction between student ability and high school economic mix (represented by the share of students ranked in the top two deciles of the socioeconomic distribution), such that average ability students attending high-income schools exhibit lower college intentions than their status counterparts attending low-income schools. Social comparison is one of the alleged mechanisms, but school climate, peer influences, and curriculum placement (e.g., tracking) are also viable contenders (Jencks and Mayer, 1990; Rutter, 1983; Alwin and Otto, 1977).

Reinforcing the value of situating schools on a continuum of inequality, several recent studies capitalized on changes in admission regimes in Texas to identify possible links between high school quality and collegiate outcomes. In response to judicial and statutory bans on use of race-sensitive criteria in college admissions, California, Florida, Texas and Washington implemented percent plans to recruit top performing minority and low-income students. Among them, the Texas top 10% law, which guarantees students who graduate in the top decile of their senior class admission to any Texas public university, is the most generous. Because the Texas percent plan guarantees admission to a segment of the top-performing students *of each high school* in the state, it theoretically leveled the playing field by diversifying the high school feeding patterns to the State’s four-year public institutions (Long, et al., 2010). Because of their weak college-going traditions, we expect that college enrollees from high schools populated by large numbers of economically disadvantaged students will exhibit lower persistence rates than

equivalent students who graduated from affluent schools with very high college attendance rates.

In fact, several recent studies have used Texas survey data to establish associations between high school economic mix, defined by percent of students ever economically disadvantaged, and various aspects of college behavior, including application behavior and college choices. For example, Koffman and Tienda (2010) show that students from affluent high schools who qualify for automatic admission are significantly more likely to apply compared with comparably ranked students from poor high schools. Niu and Tienda (2008) find that an association between both the number and selectivity of institutions included in students' college choice sets and the socioeconomic mix of their high school.

If student sorting by social class is largely responsible for observed differences in college persistence among graduates from affluent, average and poor high schools, then adjustments for family background and other characteristics associated with collegiate experiences and social class (e.g., high school curriculum, type of institution and institutional resources, as well as financial support) should eliminate the disparities in persistence. Accordingly, we test whether the association between high school economic status and college persistence is merely driven by family background, academic ability and student characteristics, and also whether college persistence depends on the type of institution attended and high school class rank. Consideration of community colleges is important because low-income students are more likely than middle-class students to begin their college careers at two-year institutions, to live at home, and to attend part-time—all circumstances that are negatively associated with persistence through a

bachelor's degree. Furthermore, given the positive association between institutional selectivity and college graduation (Bowen and Bok, 1998; Rothstein, 2004; Alon and Tienda, 2005), we also consider whether college attributes explain differential rates of college persistence among four-year enrollees who attended high schools of different socioeconomic mix.

III. Data and Operational Measures

This study uses the longitudinal survey data collected under the auspices of the Texas Higher Education Opportunity Project (THEOP). In spring 2002, a representative sample of Texas public high school seniors was surveyed (wave-1); a random sub-sample of the senior cohort was re-interviewed the following spring (wave-2) and again four years after high school graduation (wave-3). The baseline survey obtained basic demographic, socioeconomic and standard tracking information as well as information about high school performance, experience and college plans. The first follow-up survey (wave-2) recorded whether respondents actually enrolled in college one year after high school graduation, and if so, where. Wave-3 interviews solicited information about students' educational pursuits and college attainment.

The baseline sample was drawn using a two-stage stratified sampling design. In the first stage, 62 primary sampling units (PSUs) were randomly chosen to represent the high school-age population in Texas. For the second stage, 108 public high schools were randomly drawn from the universe of secondary schools that included both 10th and 12th grades and had a senior class of 10 or more students. From the sampled high schools, 13,803 seniors were interviewed using a paper and pencil in-class survey instrument. For

cost reasons a random sub-sample of 8,345 seniors were selected for follow-up surveys. To guarantee the maximum possible precision for blacks and Asians, all baseline respondents from these groups were included in the longitudinal samples; proportionate samples of Hispanics and non-Hispanic whites were randomly drawn for the sample balance. The response rate for wave-2 interviews was 70 percent, generating 5,836 completed surveys; sample weights were developed to recalibrate the first follow-up survey (wave-2 sample) to the original population.

Due to the difficulty of relocating respondents, wave 3 field operations lasted over a year (from January 2006 to March 2007), and 12 percent (485 out of 4114) of wave-3 respondents were interviewed after August 2006 – four years after respondents’ high school graduation. The wave-3 response rate of 50 percent yielded 4,114 cases; sample weights adjust the sample to the original population.³ Although the 50 percent response rate for wave-3 survey raises questions about the representativeness of the sample, comparisons between the 8,345 random sub-sample of 13,803 baseline respondents and the 4,114 wave 3 respondents show a high degree of similarity based on ethno-racial composition and post-high school intentions.

Consistent with other social surveys (Porter and Umbach, 2006; Shavers, Lynch and Burmeister, 2002), whites are slightly over-represented among wave-3 respondents compared with blacks; furthermore, wave-3 respondents are more likely to have stated their college intention than the full baseline sample. We are confident that wave-3

³ The sampling scheme for the baseline is described in detail in the “Methodology Report,” http://theop.princeton.edu/surveys/baseline/baseline_methods_pu.pdf. For wave 2 surveys, the sampling scheme is described in “Senior Wave 2 Survey Methodology Report,” http://theop.princeton.edu/surveys/senior_w2/senior_w2_methods_pu.pdf. Finally, the wave 3 sampling scheme is described in “Senior Wave 3 Survey Methodology Report,” http://theop.princeton.edu/surveys/senior_w3/senior_w3_methods_pu.pdf. Tables comparing respondent attributes across waves are in the methods reports.

respondents are representative of 2002 Texas high school seniors in their college going behavior and their subsequent post-secondary attainment; however, to verify this premise we evaluate the robustness of our results by using different working samples. The robustness checks, summarized in the methodological appendix, affirm the core findings.

High School Economic Composition

To portray variation in economic composition of secondary schools, we devised a typology that differentiates poor and affluent high schools from those that serve average shares of economically disadvantaged students. The Texas Education Agency (TEA) calculated the share of students who were ever economically disadvantaged (i.e. ever receive a free or reduced lunch), which we use to classify high schools into quartiles. Schools in the lowest quartile poor were designated affluent; those in the highest quartile poor were labeled resource poor; and the remainder classified as average. Thus, the three mutually exclusive economic strata include:

- *affluent high schools*: low shares of economically disadvantaged students;
- *average high schools*: average shares of economically disadvantaged students;
- *poor high schools*: high shares of economically disadvantaged students.

College Persistence

The empirical analyses of college persistence four years after high school graduation focus on the 2,752 students who matriculated at a four- or a two-year college in the fall 2002 (often designated as “on-time” enrollees). Focusing on the 1st post-secondary institution attended, we derive five mutually exclusive outcomes:⁴

⁴ Students could have dropped out and re-enrolled, and they also could have attended other institutions during the summer time; for transfer students, besides the 1st post-secondary institution and the wave 3 institution, they could have attended and/or transferred to other institutions. However, about 70% of transfer students attended only two institutions.

- *on-time graduation*: students graduated from the 1st college attended (or expected to do so by August 2006) four years after first matriculating;
- *continuation*: students remained enrolled at the 1st college attended;
- *transfer to a 4-year institution*: students enrolled at a degree-granting institution when interviewed at the wave 3;
- *transfer to a 2-year/vocational institution*: students transfer to a community college or vocational/technical school when interviewed at the wave 3;
- *dropout*: students withdrew from the 1st college attended and did not enroll at another postsecondary institution during the observation period.

A handful of students who enrolled in four-year institutions not only had graduated from the 1st attended institution, but also begun graduate study. For purposes of this study they are treated as on time graduates. Substantial shares of two-year college students graduated and then enrolled at another institution; they are classified as transfers.

Table 1 presents the distribution of first college enrollment by high school economic composition and type of postsecondary institution attended. Paralleling national estimates for the cohort of 2003 high school seniors (Bozick, Lauff and Wirt, 2007), about 60 percent of 2002 Texas college enrollees matriculated at four-year colleges, 35 percent enrolled at two-year community colleges and the rest enrolled in a vocational program that lasted less than two years. Texas college enrollees draw disproportionately from the upper tail of class rank distribution, therefore we report enrollment outcomes for both top decile and non-top decile students. Larger shares of top decile students matriculated at four-year institutions compared with their lower ranked classmates – 85 percent of top decile students and 52 percent of non-top decile students

did so within a year of graduating from high school—but there are large disparities according to high school economic composition.

Table 1 About Here

Not surprisingly, students from affluent high schools are more likely to enroll at four-year colleges compared with students from average and poor high schools, but consistent Meyer's (1970) observations about within and between school comparisons, top 10 percent class rank does not equalize enrollment chances between graduates from poor and affluent high schools. Graduates from affluent high schools are about 14 to 15 percentage points more likely to enroll in a four-year institution compared with their class rank counterparts who attended poor high schools. Only 11 percent of top decile graduates from affluent high schools enrolled in a 2-year institution, which is 14 percentage points below that of top 10% graduates from poor high schools. Because the type of first institution attended influences the likelihood of receiving a baccalaureate degree, we examine the implications of these enrollment profiles for persistence and completion before evaluating whether economic composition of high school attended directly influences persistence. In particular, transfer status is an important dimension of persistence that requires separate consideration both because it involves additional adjustment costs and because its occurrence depends on the initial institutional type.

IV. High School Economic Composition and Persistence Outcomes

In recent years, not only has the time-to-degree increased, but so too has students' propensity to switch institutions (Adelman, 1999). The majority of students who begin their college careers at two-year colleges do so intending to transfer to a degree-granting

institution; some do so before receiving an associate's degree and others transfer afterwards. A less typical switch is for two-year enrollees to transfer to another community college or vocational school (lateral transfer). Likewise, students who enroll at four-year colleges may decide to continue their baccalaureate studies at another degree-granting institution (lateral transfer), or possibly a two-year or vocational school (reverse transfer) (Goldrick-Rab and Pfeffer, 2009).

Table 2 shows that one-third of enrollees at four-year institutions graduated on-time; however, graduates from affluent high schools were twice as likely to do so compared with those from poor high schools – 44 percent versus 21 percent, respectively, and they were significantly less likely to abandon college – 3 vs. 13 percent, respectively. Another third of four-year matriculants remained enrolled at their first institution, but 20 percent had transferred to another institution. Consistent with Goldrick-Rab and Pfeffer's (2009) study on college transfers, students from poor high schools are least likely to make lateral transfers and most likely to engage in reverse transfers. Whether to improve institutional fit or to realize preferences, students who attended typical high schools are most likely to engage in lateral transfers between degree-granting institutions.

Table 2 About Here

Compared with their classmates who did not graduate in the top decile of their class, on-time graduation rates are higher for top 10 percent students, and their withdrawals from the post-secondary system also are considerably lower. Nevertheless, there are noteworthy disparities in college persistence according to high school economic composition, as evident in differential dropout rates. Only one percent of affluent school top decile students and three percent of their rank counterparts from average high schools

withdrew from a four-year college and did not re-enroll anywhere during the observation period. By comparison, roughly 12 percent of top-ranked students from poor high schools dropped out of college. Four percent of affluent school graduates who were ineligible for the admission guarantee had abandoned higher education by 2006-2007, compared with 13 and 15 percent, respectively, of their rank counterparts who attended average and poor high schools.

The bottom panel of Table 2 reports college persistence outcomes for two-year enrollees (including those enrolled at vocational/technical institutions) according to their high school economic status.⁵ Over one-third of students who initially enrolled at a two-year college transferred to a four-year institution; this transfer rate is similar to the national rate reported by Adelman (2006) for the high school class of 1992.⁶ Transfer rates vary directly with high school economic composition: over 40 percent of affluent school graduates transferred to degree-granting institutions compared with 38 percent of students who attended average high schools. Less than a quarter of graduates from poor high schools transferred to four-year institutions; rather, for them withdrawal was the modal outcome. By comparison, only 12 percent of affluent high school students who enrolled at two-year institutions withdrew from college.

Not only are graduates from affluent high schools less likely than students who attended average or poor high schools to begin their college careers at two-year institutions, but community colleges also appear to serve different functions for them. A mere seven percent of affluent high school graduates who begin college at two-year

⁵ We do not disaggregate two-year college enrollees by class rank because very few top decile graduates enroll in community colleges, and vocational institutions in particular. Results are available on request.

⁶ These transfer rates are based on 4 years after initial enrollment, unlike Adelman's (2006), which is based on outcomes eight years after initial enrollment.

institutions receive a terminal associate's degree, compared with 16 percent of graduates from average and poor high schools. Furthermore, auxiliary tabulations reveal that nearly 60 percent of affluent school graduates who begin their college at two-year institutions transfer before receiving an associate's degree, compared with about 30 percent of graduates from average and poor high schools.⁷ Consistent with national data, Texas community colleges both permit experimentation in higher education and serve as a pathway to a four-year degree for graduates from affluent high schools, but more often become the final education destination for college-bound graduates from poor high schools (Dougherty, 1994; Dougherty and Kienzl, 2006).

The descriptive results reported in Tables 1 and 2 are consistent with a vast literature about social class variation in access to and success in postsecondary institutions, but reveal little about the mechanisms responsible for unequal persistence rates. Therefore we turn to a multivariate analysis to consider whether the economic composition of high school attended directly influences college persistence among students of comparable academic preparation and family background.

V. Multivariate Analyses

Most analyses of college persistence use discrete choice models (e.g., Manski and Wise, 1983; Ganderton and Santos, 1995; Stratton et al., 2008, Goldrick-Rab and Pfeffer, 2009). Following Stratton and associates (2008), we use the multinomial logit model to evaluate students' college persistence outcomes. Because two- and four-year colleges serve somewhat different purposes and populations, we analyze enrollees at four-year and

⁷ These tabulations are available from the authors on request.

two-year institutions separately. Formally, the probability that the i^{th} student achieves outcome j is given by:

$$\text{Prob}(Y_i = j) = \frac{e^{\beta(j)W(i)}}{\sum_K e^{\beta(k)W(i)}} \quad (1)$$

Where, $k = 1, 2, 3$ for college graduation, dropout and continuation/transfer, respectively, for enrollees at four-year institutions. For two-year college enrollees, $k = 1, 2, 3, 4$, indicating, respectively: (1) graduate with a terminal associate degree; (2) transfer to a four-year institution; (3) continuation (at the same or another two-year institution); and (4) drop out. In the interest of parsimony, we focus on graduation and dropout outcomes for four-year enrollees, using remaining enrolled (at the 1st or a transfer institution) as the reference category. For enrollees at two-year institutions, we focus on completion of associate degrees, transfers to four-year institutions and withdrawal decisions, using remaining enrolled (either at the 1st or a 2-year transfer institution) as the reference category.

\mathbf{W} is a vector of individual, high school and college characteristics known to influence college persistence, including parental education, home ownership⁸, geographic location, student's race/ethnicity, sex, academic preparation, and institutional characteristics. The appendix tables, which present summary statistics, show clear gradients by high school economic composition. For example, measures of academic preparedness, represented by college orientation (when first thought about going to

⁸ Students' reports of their family income are unreliable, but other studies find that home ownership combined with parental education variables serves as a reliable proxy (see Hauser, Pager and Simmons, 2004; Frederick and Hauser, 2008).

college),⁹ grades and pre-calculus and AP course taking, vary directly with high school economic composition. Nearly three-fourths of graduates from affluent high schools reported they had always thought about going to college and 80 percent took pre-calculus before graduating; the corresponding numbers for graduates from poor high schools are 62 percent and 65 percent, respectively. The average SAT score was 1134 for affluent high school students and 911 for poor high school students. Similar differentials obtain among 2-year enrollees, except that the variances are smaller.

Compared with students who attended average or poor Texas high schools, graduates from affluent high schools are more likely to enroll at competitive, out-of-state and pricier private colleges. Specifically, over 80 percent of college students from affluent high schools enrolled at a competitive institution, compared with 55 percent of students from poor high schools. Annual costs average about \$13,000 for colleges enrolled by students from affluent high schools compared with less than \$9,500 for institutions enrolled by graduates from poor high schools. Compared with four-year institutions, there is limited information that effectively differentiates two-year colleges.

Estimation Strategy

For four-year enrollees, we estimate three models to evaluate the association of college persistence with high school economic status. In the first models, vector **W** includes high school economic composition, which is the primary focus of our investigation, and top decile class rank status and the interactions with high school economic status, which allows us to examine whether top decile status protects graduates from poor high schools from withdrawal. Subsequently, we expand **W** by sequentially

⁹ We estimate these models using an alternative measure: students' college expectations in senior year, and our findings hold. Results are available upon request.

adding family background and student attributes, including measures of college readiness, and finally college characteristics. Changes in the coefficient estimates for high school economic status reveal whether and to what extent the association between high school economic status and college persistence is produced by individual family background and pre-college academic preparedness or college characteristics or both. Owing to the lack of effective measures to differentiate two-year community colleges, we only report the baseline model and an expanded specification that includes both family background and pre-college academic preparedness.

Empirical Results

Given the monotonic variation between high school economic composition and student background, academic preparedness, and college selectivity, claims about trivial school effects on secondary school academic outcomes is highly plausible at the post-secondary level as well. Our analyses indicate otherwise, however. Table 3 presents relative risk ratios (RRR) for the association between high school economic composition and college persistence obtained from three models for four-year college enrollees. The estimates from model 1 show that, relative to their counterparts from average high schools, affluent high school students are about twice as likely to graduate on-time and are only one-third as likely to drop out versus remain enrolled.

For graduates from average high schools, top decile rank is associated with a higher likelihood of on-time graduation and lower likelihood of withdrawal versus remaining enrolled. The interaction terms between high school economic composition and top 10% class rank do not obtain statistical significance, indicating similar propensities to persist among graduates from high schools that differ in their economic

composition. The large point estimate of dropout status for top decile students from poor high schools is worrisome, particularly because its magnitude does not differ among students of comparable family background, pre-college academic preparation and who attend institutions that are similar in selectivity, size, and cost (see estimates from model 2 and 3). These results suggest that top-ranked graduates from poor high schools face an elevated risk of dropping out, but we cannot precisely measure the risk owing to small case numbers.

Table 3 About Here

A comparison of estimates from model 1 and 2 for students from affluent high schools reveals that individual family background and pre-college academic preparation only modestly diminishes their on-time graduation advantage compared with their statistical counterparts who attended average high schools. Once college characteristics are modeled (model 3), the on-time graduation advantage enjoyed by students who attended affluent schools is only marginally attenuated; the RRR remains large and statistically significant ($p < 0.01$). Substantively, the results indicate that affluent high school graduates are 63 percent more likely to graduate on time than otherwise similar students who attended average high schools.

Neither individual pre-college attributes nor college characteristics eliminate the differentials in college withdrawal by high school economic status. The RRR for affluent high schools changes very slightly once covariates for family background and academic preparation are modeled; furthermore, taking into account college characteristics increases modestly the relative risk of withdrawal. Still, graduates from affluent high

schools are only half as likely to drop out versus remain enrolled at a four-year institution compared with their statistical counterparts who attended average high schools.

Relative risk ratios for enrollees at two-year institutions, which are presented in Table 4, show that graduates from poor high schools have a lower likelihood of transferring to four-year institutions than their class rank counterparts who attended from average high schools. Affluent high schools graduates, however, are less likely to achieve a terminal associate's degree or to withdraw without a degree. Because only a small number of top 10% students actually enrolled at two-year institutions, coefficients, including interactions, are imprecisely estimated. Only one interaction term achieves marginal statistical significance, substantively indicating that top 10% graduates are 2.5 times as likely to transfer to a 4-year institution as their lower ranked peers.

Table 4 About Here

A comparison of the relative risk ratios corresponding to high school economic composition based on model 1 and 2 reveals that differences in family SES and academic preparation, in particular, whether students took a college admission test, partly explain lower transfer rates relative to remaining enrolled for students from poor high schools. Pre-college individual attributes offer no account for differences in either receipt of a terminal associate's degree or withdrawal among students who attended affluent, average or poor high schools. The magnitude and the statistical significance of the estimated relative risk ratios for affluent high schools change very slightly once covariates for family background and academic preparation are considered.

In sum, we find that students from affluent high schools are significantly less likely to withdraw from college than their counterparts who attended average high

schools, and suggestive results show that top decile students from poor high schools who enrolled at four-year institutions face high risks of dropping out. Yet, variation in family socioeconomic status, academic preparation, and college characteristics do not explain differential risks of withdrawal. Our analyses focus on pre-college factors and college characteristics, but other studies that consider dropout decisions identify individual college experience, family and peer support and other life events occurring during college career as explanatory factors (Tinto, 1975; Stratton et al, 2008). It is possible that family economic circumstances drive the differential dropout rates by high school economic status.

Reasons for Withdrawal

To examine this possibility, we examine responses to questions about their decision to withdraw. Wave 3 respondents were asked, “How important were the following factors in your deciding to leave (the college)?” For each of eight reasons, respondents were offered three choices: “very important,” “somewhat important” and “not important.” Table 5 summarizes the responses for dropouts who indicated “very important” for each of the eight reasons separately by high school economic status and according to whether students first attended four- or two-year institutions.

Table 5 About Here

Not surprisingly, economic considerations are the most prominent reason for withdrawal. Among students who matriculated at a four-year college, half of those who withdrew from the higher education system explained that the “need to work” was very important in their decision. Nevertheless, the salience of work as a reason for withdrawing from college differs appreciably by high school economic composition:

nearly 70 percent of graduates from poor high schools and over half of those from average high schools indicated they withdrew in order to work compared with only eight percent of students from affluent high schools. That over 40 percent of students from poor high schools answered that “insufficient financial aid” was very important for their decision to leave, compared with only 12 and 2 percent, respectively, of graduates from average and affluent high schools, provides further evidence that economic factors are largely responsible for the premature withdrawal of graduates from poor high schools. These students confront both the burden of tuition, fees and housing costs and the opportunity cost of forgone earnings.

By comparison to economic factors, claims about the difficulty of scheduling classes, dissatisfaction with the institution, or taking time off from studies figured less prominently in decisions to withdraw from college. Still, students from poor high schools are most likely to consider these factors very important in their decision to leave colleges. By contrast, academic problems figure more prominently among the reasons that students from affluent high schools leave the higher education system, with one in three reporting this reason for withdrawing. Only about 10 percent of dropouts from average and poor high school reported that academic problems motivated their decision to withdraw. This estimate may be conservative if students who experienced academic difficulties reported dissatisfaction with school rather than admit to poor performance. Although nearly one-third of poor high school students considered distance from home in their decision to withdraw, on average they tend to matriculate in colleges close to their homes. In fact, graduates from affluent high schools travel the greatest distance to attend a four-year college; yet, only 4 percent of them consider that distance from home a very important

reason to leave the college. We interpret this anomaly as an indication of the unequal affordability of college for students from affluent and poor high schools.

Although tuition and fees at two-year institutions are much lower than those at most four-year institutions, and most community college students live at home while attending, economic factors are still prominent in students' decisions to withdraw. Half of the community college dropouts considered "need to work" and one in five considered "insufficient financial aid" when deciding to drop out. These shares are comparable to those of enrollees at four-year colleges, with the notable difference that graduates from poor, average and affluent high schools are about equally likely to dropout for financial reasons. Conceivably this reflects the tendency of low income students to pursue postsecondary education via the more affordable community college option, irrespective of the economic status of their high school.

VI. Concluding Remarks

Using a longitudinal sample of Texas high school seniors of 2002, we investigate variation in college persistence by high school economic status. Top 10 percent class rank, which is a powerful indicator of postsecondary academic success (Bowen and Bok, 1998) does not seem to protect graduates from poor high schools from dropping out of college; moreover, the advantages in on-time graduation from four-year colleges enjoyed by graduates of affluent high schools cannot be fully explained by family background and pre-college academic preparedness. Even controlling for characteristics of college attended does not fully explain the advantaged persistence and on-time graduation enjoyed by affluent school graduates who enroll at four-year colleges. Consistent with

other studies, family background and pre-college academic preparation partly explain why graduates from poor high schools who first enroll in two-year colleges have low transfer rates, however. Finally, economic reasons are paramount in students' decisions to discontinue their postsecondary education, with nearly 70 percent of students from poor high schools explaining that their need to work was a very important reason for withdrawing.

The empirical results reported here suggest that the Texas top 10% law did not succeed in leveling socioeconomic access to postsecondary opportunities. Rather, we find that high school economic composition, which is a proxy for school climate and college-going traditions, exerts lasting effects on students, from college enrollment and through their college careers. Although many studies based on K-12 student populations do not find reliable influences on academic outcomes, our results are in line with the handful of studies that have attempted to establish links between high schools attended and collegiate outcomes. It is also possible that high school economic composition influences college persistence indirectly, through differential college experiences, including enrollment intensity, employment status during enrollment, and social and academic integration, as proposed by Tinto (1975). Unfortunately, our data lack information needed to evaluate whether the reduced-form estimates of school socioeconomic composition on persistence are truly direct effects, or whether they operate indirectly through on-campus experiences. We leave for future research additional clarification of how high school economic mix diversifies college experiences and translates them to persistence.

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Table 1. Two-year and Four-year College Enrollment Outcome by High School Economic Status
Texas Public High School Seniors in 2002

College Enrollment Outcome (Row %)				
	4-year	2-year	Technical/Vocational	N
All Seniors				
Affluent	65	32	3	1055
Average	60	34	6	1087
poor	52	42	6	610
<i>Total</i>	60	35	5	
[N]	[1766]	[836]	[150]	[2752]
Top Decile				
Affluent	89	11	0	239
Average	86	11	3	300
poor	75	25	1	155
<i>Total</i>	85	14	1	
[N]	[608]	[77]	[9]	[694]
Non-Top Decile				
Affluent	59	38	4	816
Average	50	43	7	790
poor	44	48	8	455
<i>Total</i>	52	42	6	
[N]	[1158]	[759]	[141]	[2058]

Source: Texas Higher Education Opportunity Project, Senior Wave 1, 2 & 3 Data

Table 2. College Persistence Outcome by High School Economic Status and Institution Type
Texas Public High School Seniors in 2002 (Row %)

	Graduated	Continue	Transfer to		Dropout	N
			4-Year Institution	2-year or vocational Institution		
<u>All 4-Year Enrollees</u>						
Affluent	44	35	13	5	3	724
Average	29	39	16	7	9	706
Poor	21	46	6	13	13	336
Total	34	38	13	7	7	
[N]	[615]	[685]	[220]	[132]	[114]	[1766]
<u>4-Year Enrollees</u>						
<u>Top Decile Grads</u>						
Affluent	65	29	5	1	1	220
Average	44	39	10	3	3	269
Poor	43	36	7	3	12	119
Total	51	35	8	3	4	
[N]	[326]	[202]	[45]	[17]	[18]	[608]
<u>4-Year Enrollees</u>						
<u>Non-Top Decile Grads</u>						
Affluent	35	38	16	6	4	504
Average	19	39	20	10	13	437
Poor	8	51	6	20	15	217
Total	25	40	16	10	9	
[N]	[289]	[483]	[175]	[115]	[96]	[1158]
<u>All 2-Year Enrollees</u>						
Affluent	7	12	39	30	12	331
Average	16	14	37	13	19	381
Poor	16	18	21	17	27	274
Total	13	14	34	20	18	
[N]	[136]	[154]	[349]	[169]	[178]	[986]

Source: Texas Higher Education Opportunity Project, Senior Wave 1, 2 & 3 Data

Table 3. Relative Risk Ratios for College Persistence Outcomes for 4-year Enrollees (N=1766)
(clustered s.e. in parentheses, reference in brackets)
 Texas Public High School Seniors in 2002

Reference: Continue/Transfer	(1)		(2)		(3)	
	Graduated	Dropout	Graduated	Dropout	Graduated	Dropout
HS Economic Status [Average]						
Affluent	2.07 (.384) ***	0.33 (.085) ***	1.69 (.333) **	0.36 (.101) ***	1.63 (.317) **	0.50 (.146) *
Poor	0.65 (.194)	1.30 (.427)	1.08 (.326)	1.33 (.452)	1.00 (.308)	1.40 (.475)
Class Rank [Non-Top10%]						
Top 10%	3.31 (.622) ***	0.32 (.143) **	2.00 (.461) **	0.44 (.220) †	2.11 (.486) ***	0.58 (.311)
Top 10%*Affluent	1.15 (.250)	0.87 (.878)	1.12 (.267)	0.94 (.973)	1.12 (.271)	0.83 (.875)
Top 10%*Poor	1.49 (.375)	2.61 (1.65)	1.65 (.455) †	2.93 (1.890) †	1.54 (.407) †	2.58 (1.697)
Individual Characteristics						
Parental Education [High School]						
Less than High School			0.73 (.218)	0.81 (.274)	0.61 (.201)	0.83 (.311)
Some College			1.11 (.167)	0.50 (.175) *	1.09 (.169)	0.54 (.186) †
College and Higher			1.27 (.217)	0.49 (.152) *	1.17 (.202)	0.50 (.154) *
Home Ownership [Own]						
Rent			0.75 (.190)	1.51 (.453)	0.72 (.189)	1.55 (.468)
Location						
South-East			1.23 (.161)	1.11 (.230)	1.22 (.173)	0.96 (.193)
Race/Ethnicity [White]						
Black			0.99 (.229)	0.76 (.243)	1.01 (.256)	0.68 (.224)
Hispanic			0.76 (.154)	0.66 (.194)	0.78 (.161)	0.68 (.207)
Asian			1.31 (.211) †	0.73 (.261)	1.67 (.276) **	0.78 (.299)
Sex [Male]						
Female			1.30 (.174) *	0.62 (.116) **	1.31 (.177) *	0.63 (.117) **
Academic Preparation						
First Thought About College [Always]						
Middle High School			0.77 (.170)	1.54 (.430)	0.75 (.167)	1.47 (.395)
High School			1.04 (.176)	1.07 (.278)	1.07 (.180)	1.01 (.280)
Grades						
English A			1.34 (.189) *	0.98 (.216)	1.38 (.182) **	1.01 (.231)
Math A			1.06 (.134)	0.85 (.208)	1.08 (.141)	0.84 (.205)
Social Science A			1.37 (.183) *	1.07 (.218)	1.31 (.179) *	1.10 (.223)
Science A			0.96 (.123)	0.86 (.182)	0.92 (.117)	0.89 (.198)
Courses						
Pre-Calculus			0.81 (.135)	0.60 (.151) *	0.87 (.150)	0.64 (.160) †
AP Science			1.05 (.147)	1.26 (.330)	1.04 (.150)	1.22 (.305)
AP Math			1.00 (.137)	0.76 (.250)	1.01 (.133)	0.80 (.262)
Test Score						
SAT (100)			1.18 (.058) ***	1.01 (.073)	1.14 (.087) †	0.88 (.085)
SAT Missing			0.93 (.260)	1.26 (.339)	1.03 (.302)	1.39 (.371)
College Characteristics						
Competitive					1.35 (.238) †	1.06 (.263)
Private					0.82 (.142)	0.71 (.318)
In-state					1.38 (.302)	0.54 (.183) †
Distance (100 miles)					1.21 (.076) **	1.00 (.091)
Distance sq					0.99 (.004) *	1.00 (.003)
Cost (\$1000)					1.04 (.040)	1.11 (.101)
Cost Sq					1.00 (.001)	1.00 (.004)
Enrollment (1000)					0.94 (.019) ***	0.94 (.035) †
Enrollment Sq					1.00 (.000) *	1.00 (.001)
SAT<25th Percentile					1.00 (.198)	0.74 (.211)
SAT>75th Percentile					1.03 (.208)	2.36 (.783) **
Pseudo R2	0.09		0.13		0.16	

Source: Texas Higher Education Opportunity Project, Senior Wave 1, 2 & 3 Data

Note: ***: p<0.001, **: p<0.01, *: p<0.05, †: p<0.10

Additional variables: parental education don't know/missing, home ownership don't know/missing, race/ethnicity don't know/missing, when first thought about college don't know/missing.

Table 4. Relative Risk Ratios for College Persistence Outcomes for 2-year Enrollees N=986)
(clustered s.e. in parentheses, reference in brackets)
Texas Public High School Seniors in 2002

	(1)			(2)		
	Graduated & No More	Transfer to a 4-Year	Dropout	Graduated & No More	Transfer to a 4-Year	Dropout
Reference: Continue/transfer to a 2-year/vocational						
HS Economic Status [Average]						
Affluent	0.37 (.097) ***	1.13 (.247)	0.59 (.137) *	0.39 (.116) **	0.86 (.183)	0.56 (.131) **
Poor	0.77 (.213)	0.50 (.101) ***	0.97 (.284)	0.69 (.201)	0.67 (.145) †	1.24 (.398)
Class Rank [Non-Top10%]						
Top 10%	1.66 (1.043)	2.52 (1.350) †	0.50 (.380)	2.33 (1.542)	0.95 (.614)	1.05 (.790)
Top 10%*Affluent	0.68 (.831)	1.10 (.798)	0.00 (.000)	0.72 (.912)	1.07 (.872)	0.00 (.000)
Top 10%*Poor	0.20 (.203)	0.82 (.554)	1.42 (1.240)	0.19 (.199)	0.81 (.605)	0.97 (.826)
Individual Characteristics						
Parental Education [High School]						
Less than High School				1.23 (.407)	1.05 (.335)	0.96 (.270)
Some College				0.77 (.249)	1.28 (.287)	0.69 (.202)
College and Higher				0.73 (.304)	1.57 (.384) †	0.39 (.123) **
Home Ownership [Own]						
Rent				0.88 (.328)	0.99 (.248)	0.93 (.312)
Location						
South-East				0.85 (.191)	1.19 (.219)	0.82 (.174)
Race/Ethnicity [White]						
Black				0.69 (.281)	0.86 (.217)	0.61 (.259)
Hispanic				0.72 (.220)	0.86 (.191)	0.41 (.125) **
Asian				0.37 (.217) †	2.03 (.879) †	0.72 (.356)
Sex [Male]						
Female				0.90 (.204)	1.07 (.165)	0.77 (.179)
Academic Preparation						
First Thought About College [Always]						
Middle High School				1.77 (.509) *	0.76 (.193)	1.09 (.273)
High School				1.69 (.495) †	1.06 (.253)	1.08 (.273)
Grades A						
English				0.91 (.227)	1.17 (.180)	0.87 (.190)
Math				0.94 (.283)	1.41 (.377)	0.94 (.282)
Social Science				0.81 (.196)	1.69 (.356) **	1.06 (.194)
Science				0.79 (.224)	0.85 (.168)	0.47 (.142) **
Courses Taken						
Pre-Calculus				1.18 (.306)	1.15 (.198)	1.14 (.275)
AP Science				0.91 (.277)	0.82 (.252)	1.05 (.370)
AP Math				1.30 (.402)	1.29 (.406)	0.60 (.236)
Test Scores						
SAT (100)				0.91 (.120)	1.18 (.087) *	0.95 (.097)
SAT Missing				1.36 (.344)	0.42 (.078) ***	1.42 (.267) †

Source: Texas Higher Education Opportunity Project, Senior Wave 1, 2 & 3 Data

Note: ***: p<0.001, **: p<0.01, *: p<0.05, †: p<0.10

Additional variables: parental education don't know/missing, home ownership don't know/missing, race/ethnicity don't know/missing, when first thought about college don't know/missing.

Table 5. Reason for Dropping-out by High School Economic Status
Texas Public High School Seniors in 2002

	Percent Considered Very Important							
	Four-Year Enrollees				Two-Year Enrollees			
	Affluent	Average	poor	Total	Affluent	Average	poor	Total
Difficult Scheduling Classes	5	4	15	7	7	12	20	14
Not Satisfied With the School	3	12	21	13	2	13	18	12
Academic Problem	33	9	12	14	3	3	11	5
Taking Time Off from Studies	8	13	30	17	8	22	23	19
Need To Work	8	53	68	50	37	51	55	50
School Too Far from Home	4	13	28	16	3	7	8	7
Insufficient Financial Aid	2	12	44	20	17	18	22	19
Family Reasons	22	21	35	25	16	24	39	27
[N]	[17]	[55]	[42]	[114]	[37]	[64]	[60]	[161]

Source: Texas Higher Education Opportunity Project, Senior Wave 1, 2 & 3 Data

Methodological Appendix

Although wave 3 respondents are similar to the random wave 3 subsample in race and ethnic composition, college intentions and attainments, the low response rate (50 percent) warrants further scrutiny. Therefore, we evaluate the robustness of our main findings by using different working samples: (1) three-wave longitudinal sample, which is the working sample used in the paper; (2) wave 3 respondents who were interviewed by August of 2006, which restricts the timeline to four years after high school graduation; and (3) respondents who were interviewed in both wave 2 and wave 3 surveys, which excludes individuals not interviewed in wave 2 and “recaptured” in wave 3.

The appendix table reports relative risk ratio estimates obtained from the baseline models which include only high school economic status dummies using different working samples. Results reveal highly consistent estimates both in magnitude and statistical significance levels for both four-year and two-year enrollees. The sole exception corresponds to withdrawal from a four-year college among students from poor high schools. These students are estimated to be marginally more likely to drop out than graduates from average high schools, but the point estimates are smaller and statistical significance compromised for two of the alternative samples: the subset of wave 3 cases interviewed by August, 2006 and those restricted to cases interviewed in both waves 2 and 3. Differences in estimates obtained from the three alternative samples indicate that students from poor high schools who withdraw from 4-year colleges disproportionately represent observations interviewed only in wave 3 or from cases interviewed after August 2006.

To verify this possibility, we examine distributions by high school status, which confirms that graduates from poor high schools who dropped out of a four-year institution were more likely to have been interviewed only at wave 3 compared with average school students who withdrew from a four-year college—5 percent compared with over 20, respectively. The corresponding figures for cases interviewed after August 2006 are 14 percent and 22 percent, respectively. But, this group of college dropouts is an exception. For other college persistence outcomes, the proportions of wave 3 respondents and late respondents are either very comparable to those of respondents from average and poor high schools, or the proportions are slightly lower for college enrollees from poor high schools. That is, the changes in the magnitude and significance of the four-year college withdrawal estimates for graduates from poor high schools are consistent with the differences across working samples. This result also highlights that cases interviewed in wave 3 but not in wave 2 (i.e., recapture cases) not only rebalance the longitudinal sample, but also ensure the representativeness of wave 3 respondents.

Appendix. Relative Risk Ratio for College Persistence Outcomes with Different Working Samples
 (clustered s.e. in parentheses)
 Texas Public High School Seniors in 2002

	Four-year Enrollees (Reference: Continue/Transfer)		Two-Year Enrollees (Reference: Continue/Transfer to a 2-year/vocational)		
	W2&W3 Respondents		W2&W3 Respondents		
	Graduated	Dropout	Graduated & No More	Transfer to a 4-Year	Dropout
Affluent	1.69 (.215) ***	0.36 (.091) ***	0.40 (.110) ***	1.15 (.267)	0.69 (.174)
poor	0.73 (.175)	1.35 (.336)	0.72 (.191)	0.57 (.139) *	1.12 (.317)
	N=1580		N=853		
	All W3 Respondents		All W3 Respondents		
	Graduated	Dropout	Graduated & No More	Transfer to a 4-Year	Dropout
Affluent	1.82 (.221) ***	0.36 (.089) ***	0.36 (.097) ***	1.10 (.248)	0.59 (.138) *
poor	0.78 (.172)	1.57 (.399) †	0.68 (.186)	0.52 (.110) **	0.96 (.258)
	N=1766 ^a		N=986 ^a		
	W3 Respondents Interviewed Before Aug. 2006		W3 Respondents Interviewed Before Aug. 2006		
	Graduated	Dropout	Graduated & No More	Transfer to a 4-Year	Dropout
Affluent	1.77 (.232) ***	0.35 (.104) ***	0.37 (.099) ***	1.22 (.308)	0.67 (.171)
poor	0.73 (.186)	1.22 (.314)	0.61 (.181) †	0.57 (.129) **	1.01 (.294)
	N=1489		N=829		

Source: Texas Higher Education Opportunity Project, Senior Wave 1, 2 & 3 Data

Note: Results are from base models, which include only high school economic status dummies.

^aSample used for estimations reported in Table 3 and 4.

***: p<0.001, **: p<0.01, *: p<0.05, †: p<0.10