

Provided for non-commercial research and education use.
Not for reproduction, distribution or commercial use.



This article appeared in a journal published by Elsevier. The attached copy is furnished to the author for internal non-commercial research and education use, including for instruction at the authors institution and sharing with colleagues.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited.

In most cases authors are permitted to post their version of the article (e.g. in Word or Tex form) to their personal website or institutional repository. Authors requiring further information regarding Elsevier's archiving and manuscript policies are encouraged to visit:

<http://www.elsevier.com/copyright>



College for some to college for all: Social background, occupational expectations, and educational expectations over time[☆]

Kimberly A. Goyette

Department of Sociology, Temple University, 1115 West Berks Street, Gladfelter Hall, 7th Floor, Philadelphia, PA 19122, USA

Available online 10 March 2008

Abstract

The educational expectations of 10th-graders have dramatically increased from 1980 to 2002. Their rise is attributable in part to the changing educational composition of students' parents and related to the educational profiles of their expected occupations. Students whose parents have gone to college are more likely to attend college themselves, and students expect occupations that are more prestigious in 2002 than in 1980. The educational requirements of particular occupation categories have risen only slightly. These analyses also reveal that educational expectations in recent cohorts are more loosely linked to social background and occupational plans than they were in 1980. The declining importance of parents' background and the decoupling of educational and occupational plans, in addition to a strong and significant effect of cohort on educational expectations, suggest that the expectation of four-year college attainment is indeed becoming the norm.

© 2008 Elsevier Inc. All rights reserved.

Keywords: Stratification; Education

1. Introduction

In a June 3, 2007, debate among candidates for the Democratic presidential nomination, John Edwards promoted a policy of “college for everyone.” The assumption underlying his vision is that the desire to attend college is nearly universal among young adults in the US. Indeed, researchers and policy-makers have noted that the expectation to complete college is widely held and has risen over time. As a cause of this, Rosenbaum (2001) and others (Schneider and Stevenson, 1999) have pointed to a norm that promotes college not simply

[☆] This research was generously supported by a National Academy of Education/Spencer Foundation postdoctoral fellowship and a summer research fellowship from Temple University. I thank Allison Carey, Gretchen Condran, Kevin Delaney, David Elesh, Eugene Ericksen, Annette Lareau, Ann Mullen, Jennifer Malat, Yu Xie, James Wright, and several anonymous reviewers for comments on previous drafts. The views represented here and the potential errors are solely those of the author.

E-mail address: kgoyette@temple.edu

for those who are academically talented or socially elite, but for everyone regardless of academic aptitude and social background. This they term a norm of “college for all” that is promoted by schools and society at large.

This research explores the entrenchment of the “college for all” norm by documenting how expectations to achieve a bachelor’s degree have risen over time and by investigating several possible reasons why these expectations have grown. One explanation is that the social backgrounds of students have changed over time. As more parents of students have themselves achieved college degrees, the expectations of their offspring have risen. A second explanation is that the educational requirements of students’ occupational ambitions have changed. Current high school students may be more likely to set their sights on jobs that require bachelor’s degrees than have previous cohorts of high school students. Third, it is possible that students are less likely to associate their expectations to attain a bachelor’s degree with their social backgrounds and their occupational ambitions, suggesting that time spent attaining a bachelor’s degree may be perceived to be part of the life course of all young adults (whether or not that perception is actually reflected in college enrollment). College may no longer be perceived as only a means to an occupation or only for the socially advantaged.

Analyses consider the relationships between social background, occupational ambitions, and educational expectations over time using three cohorts of 10th-grade students from the 1980 study *High School and Beyond (HS&B)*, the 1990 *National Educational Longitudinal Study (NELS)*, and the 2002 *Educational Longitudinal Study (ELS)*. The results indicate that students’ expectations have risen considerably and steadily over these decades. This growth in expectations remains even after accounting for the increasing educational attainment of students’ parents and the shifting educational requirements of students’ expected occupations. Results from interactions between social background, occupational expectations, and cohort show that the most recent cohort of students is less likely to base their expectation of a bachelor’s degree on their parents’ social background and less likely to link it to the educational requirements of their expected occupations than students did in 1980.

2. The “college for all” norm

While the rising educational expectations of high school students, particularly among recent cohorts, has not gone unnoticed in the research community (Hauser and Anderson, 1991; Morgan, 1996; Reynolds and Pemberton, 2001; Reynolds et al., 2006; Schneider and Stevenson, 1999), James Rosenbaum and colleagues (Rosenbaum, 2001; Rosenbaum et al., 1996) were among the first researchers to suggest that these increasing expectations were due to a norm of “college for all.” (Rosenbaum, 2001:56).¹ This norm is an extension of a US mobility system that Turner (1960) coined as “contest,” as opposed to “sponsored.” In societies with “contest” mobility, students are not chosen for elite careers until after they have had ample time to compete in the educational system. Educational institutions are presumed to mitigate the initial influences of social background on students’ academic achievement, thus “leveling the playing field” so that students’ true talents may surface. In contrast, under sponsored mobility regimes, socially advantaged or exceptionally talented students are chosen to occupy elite careers early in their educations and then trained specially for them. While Turner (1960) may have envisioned entrance to college as the time at which students are chosen to occupy elite careers, high school students may now expect to be able to compete for elite careers well into their college educations.

Rosenbaum (2001) and others (Reynolds et al., 2006) point to the problems associated with a “college for all” norm, arguing that it is not realistic for all students. Contemporary high schools are not structured to meet the needs of students who may be well-matched to stable jobs that do not require college degrees. There are fewer vocational course offerings and tracks, with most high schools expanding their college preparatory and even more elite streams, like honors and Advanced Placement (AP) (Cantor, 1989; Rothschild, 1999). High school guidance counselors do not connect students with occupational opportunities that do not require

¹ The phrase “college for all” has been used among educational researchers since at least the 1940s, though (Franklin, 1950; Nelson, 1947; Scroggs, 1946). Historically, the term has referred to an ideal or future challenge, rather than a norm. These researchers debated how to deal with the challenge of educating the non-elite in the future. The expectation to attain a bachelor’s degree was not well entrenched enough to be considered the “norm.”

bachelor's degrees, so students who might benefit from these options are instead encouraged to create paths to four-year colleges.

High school guidance counselors, afraid of dampening their students' ambitions, encourage students who may not be academically prepared to apply to two-year, as well as four-year schools (Rosenbaum et al., 1996). These students, facing challenging college-level work, may need remediation to catch up to their prepared peers. Eventually, they may be discouraged from attending a four-year college or "cooled out" (Clark, 1960; Grubb, 1989; Karabel, 1986), but not after spending tuition on courses many can already ill afford.

Similar to Rosenbaum (2001), Schneider and Stevenson (1999) document the growing tendency of high school students in the 1990s to expect a four-year degree, titling them the "ambitious generation." They also recognize the limitations of this generalized ambition. The high school students in their research held the expectation to attain a bachelor's degree, perhaps based on the "college for all" norm; however, many were unable to connect their bachelor's degree with their career ambitions. Students who could identify how their educational paths met the requirements of their desired careers attained bachelor's degrees within four to six years. Students who could not match their educational plans with the requirements of their desired occupations, either because they had little information or because their chosen careers had vaguely defined educational requirements, were more likely than their well-matched peers to "stop out" of their educations, and less likely to attain their bachelor's degrees.

These researchers point out that those most at risk for failure because of the "college for all" norm are those who are the least prepared academically, and those with little information about specific career paths. Often these students are the most socially disadvantaged. The "college for all" norm may cause the most harm to those who can least afford to attend college. Rather than accepting "college for all" as an unqualified good for society, the work of these researchers suggests that further research critically examine this norm.

This research does so in a different manner from past research in that it considers not the present nature of the "college for all" norm, but rather its origins, updating the literature with expectations of a bachelor's degree from a 2002 cohort of high school sophomores. To what extent has the expectation of a four-year degree increased from 1980 to 2002? Second, this research looks for some explanations for this phenomenon. Is the shift in expectation of a bachelor's degree due to the changing educational composition of parents? Is it related to the rising educational requirements of students' expected careers? Are high school students more likely to expect a four-year college education in recent cohorts, regardless of social background, and not necessarily connected to future occupational goals? Answers to these questions provide clues about changing perceptions of the role of post-secondary education in the life course.

2.1. Educational expectations over time and social background

Because of their prominence in explanations of educational attainment and social mobility (e.g. Alexander and Eckland, 1975; Kerckhoff, 1976; Sewell et al., 1970), educational expectations have themselves become the focus of much research. The original Wisconsin Models of Sewell et al. (1969, 1970) show that parents' socioeconomic status (SES) indirectly influences students' educational expectations through a weak influence on academic performance and a stronger effect on significant others' influence. Students of lower SES perform less well on standardized tests and get worse grades than do those of high SES. This influences the perceptions of the parents of these students, their teachers, and their friends, and these perceptions then affect students (Conklin and Dailey, 1981; Looker and Pineo, 1983; Picou and Carter, 1976; Reitzes and Mutran, 1980). In addition to socioeconomic background, academic ability and performance, and significant other's influence, family composition, and interactions with parents have been found to influence students' educational expectations (Goyette and Xie, 1999; Hao and Bonstead-Bruns, 1998; Hossler and Stage, 1992; Qian and Blair, 1999; Teachman and Paasch, 1998). Important variations in expectations and their formation are observed by the social categories of gender and race/ethnicity, as well as by social background (Cheng and Starks, 2002; Goyette and Xie, 1999; Hauser and Anderson, 1991; Hout and Morgan, 1975; Morgan, 1996).

Educational attainment and educational expectations have both increased over the decades. Generally, generations attain and expect more education than previous ones, in part based on their parents' experiences. Mare (1979) finds that the changing educational background of parents explains variation in grade progression at the high school level for cohorts of students born from 1951 to 1970. Hauser and Anderson (1991)

show that the educational aspirations and expectations of both Blacks and Whites increased from the 1970s to the 1980s, and that much of this rise can be attributed to the increased educational attainment of their parents. This research revisits this hypothesis using the most recent cohort of high school sophomores available, the sophomore cohort of the *Educational Longitudinal Study* or *ELS*, 2002.

2.2. *Educational expectations over time and occupational expectations*

Post-secondary education is often perceived as a necessary step toward a student's choice career. The type of career a student expects then may have some influence on the type of degree a student plans to attain. In traditional status attainment models, occupational expectations affect educational attainment (e.g. Sewell et al., 1970). With a few exceptions (Berman and Haug, 1975; Looker and McNutt, 1989; Reynolds et al., 2006) though, little work has considered how occupational expectations may influence educational expectations. Recently, Xie and Goyette (2003) add occupational expectations to models predicting educational expectations to account for the high educational expectations of Asian Americans compared to Whites. They suggest that Asian Americans pursue jobs with greater educational requirements than do Whites and, thus, they seek more education. It is difficult to attribute causal direction to the relationship between occupational and educational expectations, though. It is also likely that students who plan to attain a bachelor's degree or more choose their careers based on this expectation. Whatever the direction of causality, researchers find that there is a relationship between educational and occupational expectations, such that those who expect more prestigious occupations also expect more education.

Changes in students' expected occupations, and the education that is required to attain them, may be related to increasing educational expectations over time. For instance, many social scientists and policy-makers argue that a globalizing labor market requires a more skilled labor force. Because of this, students may be compelled to attain particular educational credentials, like bachelor's degrees, for more skilled jobs or for jobs that did not require them in the past decades. Whether or not the skills learned in higher education are immediately relevant in the labor market, students who, in 1980, would forgo college for an immediate position in the labor force may not be so easily able to do so in 1990 or 2002 (Collins, 2002). Students who expect even those careers with less prestige may increasingly be required to attend college to acquire these positions.

In addition, students' occupational expectations may have shifted over time to meet the changing profile of the labor market. Students may no longer desire farm, clerical, or craftworker positions, as these occupations are shrinking in the US labor market. Further, the economic rewards to these positions have not grown as quickly as have the income benefits to many professional and entrepreneurial positions (Reich, 1990). The waning influence of labor unions and perceptions of job instability that result from the global expansion of free trade may influence the desires of high school students to avoid positions that they perceive may be "shipped overseas" (Reich, 1990). High school students desiring stable, well-paying jobs may adjust their occupational expectations away from those jobs which require less education (farm, service, craftworkers, and clerical) to those requiring more education (professional, teaching, managerial, and technical occupations). If high school students expect jobs that require more education, either because they expect higher prestige jobs over the decades or because jobs that once did not require a bachelor's degree now do, then students' rising educational expectations may be related to the changing educational requirements of their occupational expectations. It is also possible that students' rising educational expectations lead them to choose more prestigious careers.

2.3. *Educational expectations over time and the role of a college education in the life course*

Students' goals for further education are important components of the education they expect to achieve. Max Weber, in his writing on the rationalization of education, recognized two different purposes of higher education. Weber recognized that, for the "cultivated man," education was a means to maintain a stable position in a status group with social power and prestige, whereas the "specialist type of man" had to gain a degree that indicated a particular set of occupational skills in order to be admitted to such a status group (Gerth and Mills, 1946). Higher education was a way to maintain a lifestyle for the cultivated man, and a way to increase status through attainment of an upwardly mobile occupation for the specialist man.

Weber believed that the system of education for the “cultivated man” would eventually be displaced by specialist education. Indeed, vocational post-secondary education, which has seen growing enrollment in the past several decades (Brint et al., 2005; National Center of Education Statistics, 1999), provides skills that are directly translatable to specific careers. Education majors are taught to work as teachers or guidance counselors, engineering majors learn the specific skills of an engineer, and nursing majors are trained to become nurses. Students (and their parents) may be drawn to such fields because they can easily see the relationship between this type of education and their future goals.

This suggests that the importance of occupational goals in students' educational plans may be increasing. First-generation, less socially advantaged students may see college as a way to attain skills for a particular occupation (Goyette and Mullen, 2006). As the enrollment of first-generation students increases, so may the importance of occupational goals (Choy, 2002).

In contrast, Schneider and Stevenson's (1999) research suggests that the expectation of a bachelor's degree and career goals are increasingly becoming decoupled. Reynolds et al. (2006) suggest that this “decoupling” may be the result of students becoming increasingly unrealistic over time. They argue that students' educational and occupational ambitions have grown much faster than have the proportion of the young adults attaining bachelor's degrees, and the proportion of professional workers in the labor force. Though Reynolds et al. (2006) do not determine why students are less likely to be “realistic,” there are a few plausible explanations. One reason is that students have less access to information about the requirements and difficulty of college entry and college-level work in current compared to past cohorts. Another, related reason is that college degree attainment may be perceived to be less related to specific occupational ambitions, and more a society-wide norm.

Time spent pursuing a bachelor's degree may increasingly be perceived as a stage in the life course of a young adult, much like Weber's “cultivated man.” However, unlike Weber's “cultivated man,” this life course stage may be less related to social background as more first-generation, non-elite students attain bachelor's degrees. This life stage devoted to “cultivation” may be less directed toward learning the skills and manner of the elite and directed more broadly toward becoming a mature adult, for all students. Time spent in higher education may be considered a life course stage during which the student is surrounded by others who are like him or her in age, tastes, and interests (Bellah et al., 1985). Students may view this stage of the life course as a time to explore interests or “experiment” with various careers, searching for the best fit. Students who view college as a life course stage may enjoy a feeling of security, despite not having firm occupational ambitions, because the credential of a four-year degree allows students to keep many high-status career options open.

Particularly for students from less advantaged backgrounds, perceptions may not closely mirror reality, as Reynolds et al. (2006) point out. Goldrick-Rab (2006) finds that like other life course transitions (Rindfuss et al., 1987), those from less privileged social backgrounds are more likely to experience the transition to post-secondary education according to less predictable paths than their socially advantaged counterparts. They are less likely to make the transition to post-secondary education overall, more likely to delay entry, more likely to enter two-year as opposed to four-year schools, more likely to transfer institutions, and less likely to finish degrees than socially advantaged students (Goldrick-Rab, 2006; Reynolds et al., 2006). Reynolds et al. (2006) find that one consequence of increasing educational expectations over time has been attenuation in their ability to predict educational attainment. As the proportion of students who expect to attain a four-year degree has grown, that expectation has become a weaker predictor of who actually will attain one.

This research investigates three of many potential explanations for why the expectation of a four-year degree has grown over time. First, it explores the extent to which differences in the expectation of a bachelor's degree can be accounted for by the changing educational backgrounds of students' parents. Second, it investigates whether the shifting educational profiles of students' expected occupations are related to rising expectations. Finally, it considers whether the relationships between educational expectations, and social background and occupational expectations have changed over time.

3. Data and methods

The main sources of data for the following analyses are from the National Center for Education Statistics: *High School and Beyond (HS&B)*, 1980, the *National Educational Longitudinal Study (NELS)*, 1990, and the

Education Longitudinal Study (ELS), 2002. In addition to student information, *HS&B*, *NELS*, and *ELS* also collected information from parents, teachers, and schools, and administered proficiency tests to sampled students. The 10th-grade cohort from each of these studies is used to explore the relationships between educational expectations, occupational expectations, and social background.

The sampling strategies of *HS&B*, *NELS*, and *ELS* differ in several ways. While *HS&B* and *ELS* first sampled students in the 10th-grade, *NELS* began surveying students in the eighth grade. Following the practices of other researchers who have used data from both *HS&B* and *NELS* (Glick and White, 2003; Morgan, 1996), I use the freshened sample of 10th graders from *NELS* and drop those from the base year who were not in the 10th grade during 1990 from that sample. Another difference in the design of the studies is that *HS&B* only oversampled black and Hispanic students, while *NELS* and *ELS* also oversampled Asians. For *HS&B*, *NELS*, and *ELS*, weights were used to account for the higher likelihoods that some groups were included in the samples. Differences in response rates to the surveys are another source of bias, though response rates to all three surveys were above 85%. Though there are differences across these three studies, other researchers have concluded that the similarities in overall sampling design and question wording allow for them to be used to compare cohorts in analyses (Glick and White, 2003).

Although early models of status attainment originally underscored the important influence of educational and occupational aspirations on educational and occupational attainment, later research found that measures of expectations are better predictors of future accomplishment (Hanson, 1994; Marini and Greenberger, 1978). Aspirations are indicators of the level of education students would ideally like to attain or desire to attain. Expectations gauge the amount of education a student realistically predicts attaining. Because of this, the *HS&B*, *NELS*, and *ELS* include measures of expectations on surveys. Aspirations are not consistently asked.

The first dependent variable in these analyses is expectation of a bachelor's degree. The dependent variable is measured dichotomously following Hanson (1994), rather than continuously (Goyette and Xie, 1999) or ordinally (Cheng and Starks, 2002) because this best reflects the expectation underlying the norm of "college for all." The "college for all" ideal is that all students should be able to complete a bachelor's degree. Two-year community colleges are perceived as low-cost stepping stones to this goal, but not as final goals, at least not when students are forming their expectations in high school (Rosenbaum, 2001). Others have pointed out, though, that students' ambitions to attain a bachelor's degree are "cooled out" during community college. As they realize the challenges of college-level academic work, affording a four-year school, and/or balancing work, education, and family commitments, their expectations may be likely to change after entering post-secondary institutions (Deil-Amen and Rosenbaum, 2002).

The main independent, explanatory variables are social background and occupational expectations. Social background is measured by the highest level of education completed by either parent. This measure is used rather than the more standard measure of socioeconomic status, the SES index, for two reasons. First, parent' education better captures the goals of education and strategies for social mobility of those in status groups. Analyses do not focus on the positions of parents in the labor force and their effects on children. The SES index is a composite scale that mixes elements of class and status. Second, the SES index imposes a linear structure on these elements of class and status. If this linear form is not the best specification of SES then interaction effects between variables may simply reflect the non-linear nature of the SES index, not a true interaction. While parent's education is the main explanatory variable of interest in analytic models, family income is also controlled. Family income is standardized by computing students' Z-scores for that sample year. It is measured according to standard deviations from the mean family income for each sample—1980, 1990, or 2002.²

² The composite measure of socioeconomic status (SES) in these National Center for Education Statistics (NCES) databases includes parents' education, family income, and parents' occupational prestige, or SEI, scores, all standardized across the samples so that the mean SES score is zero and a standard deviation is equal to one. I use two components of this measure—parent's education and family income—in the analyses. I do not include the third component, SEI scores of parents' occupations, in these analyses, however. Hauser and Warren (1997) argued that over the decades SEI scores have become weaker measures of the prestige of parents' occupations, and should be replaced with measures of occupational education and income.

The second variable of interest is occupational expectations. Students' occupational expectations in the 10th grade may have only a weak relationship to the occupation they actually hold at age 30 because students may not have thought concretely about particular jobs or may be considering lots of unrelated careers.³ Despite this, the *HS&B*, *NELS*, and *ELS* instructed them to choose only one occupation among the categories provided. To approximate the educational requirements of each of these occupational choices, occupation categories from the 1980, 1990, and 2000 Census 5% Public Use Microsamples (PUMS) are aggregated to match those categories in the *HS&B*, *NELS*, and *ELS*. From the Census 5% PUMS for 1980, 1990, and 2000, the percentage of each occupational category, aged 30–40, who holds a bachelor's degree or higher was calculated. Percentages were limited to those between ages 30 and 40 in order to approximate those workers who students might feel best resembles them at age 30, but for whom advanced education is likely completed (Xie and Shauman, 1997). Students may not look to workers over 40 to assess how much education they will need to achieve for their expected occupation, as educational profiles of occupations change over time.⁴ For each occupational category, the percentage of all workers and the percentage of bachelor's degree holders among them are reported in Table 2. Craftworkers and operatives typically have the lowest percentage holding bachelor's degrees in the labor force at over 5%, while the professional II and teacher categories have the highest percentage of bachelor's degree holders at 70–80%. Appendix A presents a table comparing the *HS&B*, *NELS*, and *ELS* occupational categories to those derived from the 1980, 1990, and 2000 5% Census PUMS.⁵

All models include controls for other demographic characteristics, students' test scores, and school characteristics. Family and demographic characteristics include sex; race of the student measured with the four broad categories of (1) White, (2) Black, (3) Asian American, and (4) Hispanic, Native American, other or Multiracial;⁶ and whether or not the student's family is intact (the student lives with both biological or adoptive parents) or non-intact (the student lives in a single-parent family, step-parent family, with other relatives, or with non-relatives). A second set of control variables includes students' proficiency test scores in reading and math

³ Indeed, the occupational expectations of students in both the *HS&B* and *NELS* are unstable over time. Over 60% change occupational categories from the 10th to the 12th grade in both cohorts. Students whose parents have less education are slightly more likely to change occupational expectations overall, but not within specific occupational categories. Students in categories with low educational requirements, like service and crafts occupations, are most likely to change, but to categories with similar educational requirements. Those students who expect occupations with high educational requirements, like professional and teaching occupations, are least likely to change. This suggests that students do not often hold precise occupational goals, but the more education an occupation requires, the more likely they are to consistently expect that occupation.

⁴ Students require access to accurate information in order to match their educational and occupational expectations. Indeed, Morgan (2005) calls for more research on the extent to which educational expectations reflect individuals' beliefs about such structural factors as tuition costs, financial aid packages, and labor market returns to education, as well as individuals' own subjective probabilities of entering college, and getting a particular occupation after achieving the desired level of education. An individual's perception of the educational requirements of her or his expected occupation may also be a key belief that requires further investigation. Some studies have found that knowledge about the income returns of a college degree is reasonably accurate, even across students of different socioeconomic statuses (Dominitz and Manski, 1996; Kane, 2001). In contrast, other researchers have found that Black students, particularly those in segregated schools, have less accurate information about the education required for particular occupations and may have "inflated" occupational expectations based on this unrealistic information (Hoelter, 1982). Students' access to good information about the educational requirements of occupations is likely to vary by important social characteristics: social background, race/ethnicity, and gender. Less certain, though, is how access to information varies over cohorts. If errors due to lack of information do not systematically vary by cohort, then changes in the relationship between the educational requirements of occupations and educational expectations are not likely to be biased.

⁵ The occupational status scores of Hauser and Warren (1997) suggest that education is the most important component of occupational prestige, and should be considered separately from occupational income. They find that measures of occupational education and income have more validity currently than do the occupational scores of prestige that have been used in much past stratification research. Hauser and Warren (1997) measure educational occupation according to the logit transformation of the percentage in an occupation that has attained one or more years of college. While I base my measure of the educational requirements of occupations on the insights of Hauser and Warren (1997), I do not use their scores in this research. Rather than the percentage of workers with one or more years of college, I use the percentage that has achieved a BA or more in each occupation to explicitly connect the student's expectation of a BA to the requirements of a BA for their occupation. Further, unlike Hauser and Warren (1997), I compute %BA for 30–40-year-old workers, not all age groups. This is because students may base their perceptions of the educational requirements of occupations not on all workers, but on recent entrants to their chosen fields who have completed their educations.

⁶ Hispanic, Native American, Other, and Multiracial students were aggregated in a single category in order to account for differences in these racial categories across the three surveys. For example, *HS&B*, conducted in the 1980s, does not consistently include a Hispanic category. The Multiracial category is only an option for the 2000 wave of the *NELS* and for the *ELS*.

administered as part of the *HS&B*, *NELS*, and *ELS*. These tests are standardized across the sample such that the mean for the entire sample is 50 with a standard deviation of 10.⁷

School characteristics include whether the school is located in an urban, suburban, or rural area; and whether the school is public, Catholic, or some other private school. These are included as controls in all multivariate models. Region of the country was also included in early models but provided little explanatory power. Standard errors are adjusted to account for the clustering of students within their 10th-grade schools, and the data are weighted using the sample weights from each cohort. A table of variables and their measures are included in [Appendix B](#). Descriptive information for the 10th-grade cohorts of *HS&B*, *NELS*, and *ELS* is included in [Appendix C](#).

4. Descriptive and multivariate results

[Table 1](#) shows the percentage of students who expect bachelors' degrees in the *HS&B*, *NELS*, and *ELS* among those whose parents' have bachelor's degrees and who expect particular types of occupations. [Table 2](#) includes the percentage of 30–40 year workers in each occupational category, and of those, the percentage who hold a bachelor's degree from the 1980, 1990, or 2000 Census 5% PUMS.

Several trends can be observed from [Table 1](#). First, the expectation of a BA has steadily risen from 1980 to 2002. In 1980, 43.4% of high school sophomores expected a bachelor's degree. By 1990, that percentage had risen to 62.0%, and in 2002, it was 84.5%. While the expectation to attain a bachelor's degree is not universal at this point, more than four out of five students expect a bachelor's degree in 2002. One explanation for this is that the level of parents' education has risen. [Appendix C](#) shows that in 1980, about 16% of students' parents held bachelor's degrees. In 1990, the percentage had increased to almost 30%, and by 2002, it was almost 40%.⁸ Another explanation is that students' occupational expectations have changed. [Appendix C](#) shows that students are more likely to expect to enter fields that have high proportions of bachelor's degree holders in 2002 than they were in 1980. For example, 12% of high school sophomores in 1980 expected to be craftworkers or operatives, 4.8% expected to be farmers or laborers, and 8.1% wanted to be clerical workers. By 2002, only 4.7% of sophomores expected craftworker or operative occupations, less than 1% wanted to be farmers or laborers, and less than half a percent wanted to be in clerical positions. In contrast, 25.6% of sophomores expected professional I occupations like engineer, accountant, or librarian, and 13.5% expected professional II jobs like professor, doctor, or lawyer in 1980. In 2002, 38.4% of sophomores expected professional I positions, and 32.0% expected professional II jobs.

While overall the expectation of a bachelor's degree has increased across the cohorts, [Table 1](#) shows that the growth has not been the same across students of all social backgrounds. The expectation to attain bachelor's degrees has risen most for students whose parents do not have bachelor's degrees compared to those that do. In 1980, 72.4% of students whose parents had bachelor's degrees expected bachelor's degrees themselves. In 2002, 92.2% of students whose parents held bachelor's degrees expected the same. The difference in percentages from 1980 to 2002 is 19.8. Among those who would be first-generation college students (whose parents did not hold bachelor's degrees), 38.0% in 1980 and 79.4% in 2002 expected bachelors' degrees. The difference in percentages between 1980 and 2002 for students whose parents did not hold BA's is 31.4.

Increasing expectation of a bachelor's degree from 1980 to 2002 was also more dramatic for those who expected occupations that have fewer occupants who hold bachelor's degrees. While 60.3% of those who expected professional I occupations, 69.1% of those who expected to be teachers, and 88.4% of those who expected professional II jobs expected bachelor's degrees in 1980, those numbers had only increased

⁷ *HS&B* includes two math proficiency tests, I and II. For consistency with the other surveys, only the math I proficiency test results are used.

⁸ While this gap is indeed large, it is comparable to what has been found in other sources. For example, in 1980, the US Census Bureau reports that 16.2% of adults 25 and older had attained bachelor's degrees. The National Center for Education Statistics (NCES) finds that 42.9% of white families, 31.0% of black families, 52.0% of Asian families, and 21.2% of Hispanic families in *ELS* have at least one parent whose educational attainment is a bachelor's degree or higher (Ingles et al., 2005:14). One reason the figures from 2002 seem high compared to 1980 is because women's educational attainment has risen faster than men's. Because of this, it has become more likely that mothers hold the highest degree in a family. The parent's education variable measures the highest degree received by either parent, so this variable captures whether a mother, father, or both have received a bachelor's degree or higher.

Table 1

Tenth-grade educational expectations by parent's education, and occupational expectations, *HS&B* 1980, *NELS* 1990, and *ELS* 2002

	<i>HS&B</i> : 1980 %BA+	<i>NELS</i> : 1990 %BA+	<i>ELS</i> : 2002 %BA+
Overall	43.4	62.0	84.5
By parent's education			
No BA	38.0	52.5	79.4
BA+	72.4	84.6	92.2
By expected occupation			
Crafts, operatives	9.7	14.4	42.3
Service	10.9	24.3	59.6
Farm, labor	13.6	26.8	44.3
Home-maker/not working	21.2	24.2	64.6
Clerical	17.6	23.0	41.7
Protective service	26.9	34.3	73.8
Military	32.8	43.8	65.2
Sales	39.4	61.7	76.0
Technical	48.6	56.7	81.0
Owner	27.5	47.9	67.8
Manager	51.1	57.1	81.7
Prof. I	60.3	72.4	87.2
Teacher	69.1	75.2	91.6
Prof. II	88.4	88.3	96.4
<i>N</i>	10,585	13,401	8246

NELS respondents not in the 10th-grade in 1990 were excluded from the sample for comparability across cohorts.

Table 2

Educational requirements of occupations Census 5% *PUMS*

30–40 year-old workers	% in 1980	%BA+ in 1980	% in 1990	%BA+ in 1990	% in 2000	%BA+ in 2002
Crafts, operatives	23.4	5.3	21.9	5.4	22.8	5.4
Service	8.1	5.8	9.4	7.4	9.5	8.0
Farm, labor	5.0	6.9	5.4	6.2	2.2	3.5
Home-maker/not working	13.2	11.8	7.9	11.2	8.2	13.6
Clerical	14.4	12.1	13.8	14.3	13.5	16.5
Protective service	1.4	16.1	1.6	18.2	1.9	19.5
Military	0.1	20.4	0.3	33.4	0.3	30.1
Sales	7.8	23.9	9.4	27.3	9.2	27.9
Technical	2.8	31.4	4.1	33.1	3.7	53.7
Owner	0.6	38.9	0.6	40.0	0.7	40.6
Manager	8.3	43.8	9.7	44.2	10.4	49.9
Prof. I	6.6	52.2	8.2	58.2	3.7	53.7
Teacher	4.9	85.0	4.0	78.1	3.7	70.0
Prof. II	3.3	87.4	3.8	86.8	3.1	89.2
<i>N</i>		1,483,082		2,082,924		2,154,495

to 87.2% (a difference of 26.9), 91.6% (22.5 difference), and 96.4% (8), respectively, in 2002. In contrast, in 1980, 9.7% of those who expected to be craftworkers or operatives expected a bachelor's degree, 10.9% of those who expected service positions planned a BA, and 13.6% of those who planned to be farmers or laborers wanted a bachelor's degree. By 2002, those percentages had risen to 42.3, 59.6, and 44.3, for differences of 32.6, 48.7, and 30.7.

It is possible that students' occupational expectations have shifted to more prestigious occupations that require more education because of changes in the labor market. Table 2 shows the percentage of 30–40 year-old workers in the labor force that occupy particular job categories. Shifts away from less-skilled toward more-skilled occupations in the labor market are evident, though they tend to be smaller in degree than the

changes in students' occupational expectations. For example, the percentage of 30–40 year-old craftworkers and operatives has decreased in the labor force from 23.4% in 1980 to 22.8% in 2000. One of the biggest declines was among farmers and laborers, going from 5.0% in 1980 to 2.2% in 2000. However, an exception to this is service workers, who experienced an increase from 8.1% in 1980 to 9.5% in 2000. More-skilled occupations that have higher proportions of occupants with bachelor's degrees have not, in general, seen much increasing representation from 1980 to 2000. The proportion of those occupying professional II positions has stayed around 3%, while the proportion of professional I positions has declined from 6.6% to 3.7%. The exceptions to this are technical workers and managers. The proportion of technical workers has increased from 2.8% in 1980 to 3.7% in 2000. Managers have seen an even larger increase, from 8.3% in 1980 to 10.4% in 2000. These results suggest that shifting student occupational expectations may not be completely explained by changes they observe in the labor market.

One reason why students' expectations of a bachelor's degree may have grown across the cohorts is not only because they expect more-skilled occupations, but also because the educational requirements of particular occupations have risen. Table 2 shows changes in the percentage of 30–40 year olds in the labor force in each occupational category that have attained bachelor's degrees or more over time. Generally, the percentage of 30–40-year-old workers with a bachelor's degree has increased across all categories, but this increase is small for most of them. For example, 5.3% of craftworkers and operatives had bachelor's degrees in 1980 and 5.4% had bachelor's degrees in 2000. The percentage of bachelor's degree holders among service workers went from 5.8% in 1980 to 8.0% in 2000. Most occupational categories saw modest increases of about three to five percentage points. Two categories saw larger increases than 6% points: the military, going from 20.4% of BA holders to 30.1%, and technical workers who saw an increase from 31.4% with a BA or higher to 53.7%. Surprisingly, the percentage of bachelor's degrees among teachers has declined during this same period. Although it is difficult to definitively identify the cause of this decline, there are two possible explanations. One is that as the need for teachers has grown over the decades, there may be a greater proportion of teachers who are allowed to teach before earning their bachelor's degrees or who teach as they work toward their bachelor's degrees. Another possibility is that the number of positions that fall under the general definition of "Teacher" given by the Census Bureau ("Educator K-12") has increased to include positions that do not necessarily require bachelor's degrees. Although assistants are specifically excluded from the definition in 2000, positions such as reading and other specialists, which may or may not require bachelor's degrees, may be included in this category.

In sum, Tables 1 and 2 show that educational expectations have been steadily increasing from 1980 to 2002. The percentage of students whose parents have bachelor's degrees has also increased; however, students whose parents do not have bachelor's degrees experienced the largest increase in the expectation of a bachelor's degree from 1980 to 2002. Students' occupational expectations have generally shifted from lower- to higher-skilled occupations, even though the proportion of high-skilled occupations in the labor market has not grown appreciably. Students' expectations of a bachelor's degree have grown most among those who expect low- as opposed to high-skilled occupations. In the next section, I explore these relationships using first log-linear regression and then multivariate logistic regression models that include controls for other related characteristics to explore the degree to which these factors can account for the rising expectation of a bachelor's degree over time.

4.1. *Log-linear regression models*

Log-linear models are appropriate for examining relationships between categories of variables without necessarily specifying causal direction. Because there may be reciprocal causality between educational and occupational expectations, these models are especially useful for examining this relationship. In log-linear analysis, I consider four different dimensions, or variables. These are educational expectation, parent's education, occupational expectation, and cohort. In order to capture the relationship between the educational requirements of expected occupations and preserve degrees of freedom, in models that consider the interaction between educational expectation and occupational expectation, I specify occupational expectation using the percentage of BA holders in that occupational category (%BA) (Table 3).

Table 3

Log-linear regression models for parent's education × (educational expectation), and occupational expectation × (educational expectation) using HS&B 1980, NELS 1990, and ELS 2002: goodness-of-fit statistics and selected coefficients

Model	L^2	DF	BIC
(1) PA OCC ED YR	18,946.48	150	18,177.88
(2) + PA*OCC PA*ED	14,622.24***	138	13,915.13
(3) +BA*ED	7324.65***	136	6627.79
(4) + YR*OCC YR*PA	1799.33***	107	1251.07
(5) +YR*ED	646.95***	105	108.93
(6) +YR*PA*ED	575.39***	103	47.62
(7) +YR*BA*ED	560.11***	101	42.59
(8) +YR*PA*BA*ED	549.02*	98	46.87

Selected interaction coefficients and standard errors from the preferred model (7):	Coeff.	SE
Parent has BA*Expectation of BA*Year (excluded = 1980)	1.095***	0.061
Parent has BA*Expectation of BA*1990	0.578***	0.078
Parent has BA*Expectation of BA*2002	-0.047	0.098
%BA in expected occupation*Expectation of BA*Year (excluded = 1980)	0.044***	0.001
%BA in expected occupation*Expectation of BA*Year*1990	-0.005***	0.001
%BA in expected occupation*Expectation of BA*Year*2002	-0.005**	0.002

The sample size across all three cohorts is 32,232. L^2 is the likelihood ratio χ^2 statistic for deviance and DF refers to the degrees of freedom. $BIC = L^2 - DF \log(n)$. %BA is measured as the logit transformation of the percentage of bachelor's degree holders in an occupational category.

Model 1 is the baseline model including only the marginal distributions of expectation of a BA, occupational expectation, parent's education, and year. Model 2 is a model of conditional independence with the interactions between educational expectation × parent's education, and occupational expectation × parent's education. Model 3 approximates the occupational expectation × educational expectation interaction with %BA in an occupational category × educational expectation. Model 4 tests whether occupational expectation and parent's education vary by year. Model 5 adds variation in the expectation of a BA by year. Model 6 considers the three-way interaction between parent's education, expectation of a BA, and year. Model 7 adds the three-way interaction between %BA in expected occupation, expectation of a BA, and year. Model 8 consider the four-way interaction of educational expectation, %BA in expected occupation, parent's education, and year.

- * $P < 0.05$.
- ** $P < 0.01$.
- *** $P < 0.001$.

The first model is the baseline model without any interactions. This model fits only the marginal distributions of the four variables—parent's education, occupational expectation measured with 14 categories, educational expectation, and cohort year. From both the L^2 statistic and Raftery's (1986) more conservative BIC statistic ($BIC = L^2 - (DF) \log(n)$), the model is a far worse fit than the saturated model. The L^2 is a very large 18,946.48, while the BIC is not much smaller at 18,177.88. The next model is of conditional independence between the 14-category measure of occupational expectation and educational expectation regardless of year. In this model, the two-way interactions, parent's education and occupational expectation, and parent's education and educational expectation, are fit. Although this model is a better fit than the baseline model with an L^2 of 14,622.24 for 138 degrees of freedom and a BIC statistic of 13,915.13, it is still a far worse fit than the saturated model.

In the next model, I approximate the categorical measure of occupational expectation with a continuous variable, the percentage who have earned a bachelor's degree according to the 1980, 1990 or 2000 Census 5% PUMS. While %BA does not capture as much of the variation in the educational expectation and occupational expectation relationship as does the 14-category measure of occupational expectation, it is a significant improvement over the previous model. The improvement in model fit suggests that individuals to some degree match the educational profiles of the occupations they expect to their own educational expectations, regardless of cohort year.

The next two models interact the categorical measure of occupational expectation and parent's education with year (Model 4) and then educational expectation with year (Model 5). Indeed, both models show significant improvements over the previous models, suggesting that parents' education, students' occupational expectations, and students' educational expectations have changed over the three cohorts.

In Models 6 and 7, three-way interactions are added to the model. Model 6 considers the three-way interaction between cohort year, parent's education, and educational expectation. This is a significant improve-

ment in fit over the model with all two-way interactions specified. The BIC statistic is much lower than in previous models, at 47.62. The relationship between parent's education and student's educational expectation appears to have changed over time. Model 7 adds an interaction between the bachelor's degree holders in an occupation, educational expectation, and cohort year. This, too, is a significant improvement over the previous model and suggests that the relationship between the educational requirements of occupations and students' educational expectations has changed over time.

The final model (8) adds a four-way interaction between cohort year, parent's education, the percentage of BA holders in a student's expected field, and educational expectation. This is a significant improvement over the previous model, though it is significant at $p < 0.05$, rather than $p < 0.001$ as in the previous model comparisons. The BIC statistic increases from Model 7 to Model 8, though, which suggests that this model is not a large improvement over the previous Model 7. The preferred model from this series, then, is Model 7 with an L^2 of 560.11 and a BIC of 42.59.

The second half of this table shows the coefficients of interest from the preferred model, Model 7. The first line shows the main effect of the coefficient representing the interaction between whether a parent holds a BA and the expectation of a BA for the reference year, 1980. These results show that the relationship between parents' BA attainment and children's expectation is significantly stronger in 1990 than it was in 1980, but it is about the same in 2002 as it was in 1980. It is possible that the stronger effect of parents' BA attainment during the 1990s is a result of changes in the affordability of college during the 1980s. During the 1980s, the cost of tuition in real dollars increased (Heller, 1997), and eligibility for the expanded Pell and Stafford loan programs of the 1970s and early 1980s became more restricted during the Reagan administration (Mumper and Vander Ark, 1991). As funding for government subsidized loans decreased during the mid-1980s, less socially advantaged students may have perceived they were less able to afford college. In multivariate logistic regression models, I control for family income to see if this is the case.

The educational requirement of a student's expected occupation is significantly and positively related to a student's expected education, but this relationship has become weaker over time. The coefficients for the %BA \times educational expectation interactions show that as the percentage who hold a BA in an occupation increases so does the likelihood of expecting a bachelor's degree. The relationship between %BA holders in an occupation and educational expectation becomes significantly weaker in 1990, and remains so in 2002.

The log-linear models show that educational expectations, parents' education, and occupational expectations have all changed over the past three cohorts, and the relationships between parents' education and educational expectations, and the educational requirements of expected occupations and educational expectations have also changed over time. In the next section, I present multivariate logistic regression results that relate variation in educational expectations over time to the changing educational composition of parents and the shifting educational requirements of students' expected occupations, while holding constant other related factors.

4.2. Logistic regression models

In Table 4, I consider all of the above factors and several control variables together in multivariate logistic regression models. The first model of Table 4 is the baseline model, which includes only cohort year and all of the control variables. While the table shows the logit coefficients associated with these variables, I transform them to odds ratios when I report them. This baseline model shows that the educational expectations of high school sophomores have significantly increased from 1980 to 2002. In 1990, sophomores were 2.6 times more likely to expect a bachelor's degree than similar students in 1980, and, in 2002, they were almost 10 times more likely to expect a bachelor's degree than in 1980. Regarding the control variables, results from this model are consistent with those found in past research. For example, minorities appear to have higher expectations when controlling for socioeconomic background (Cheng and Starks, 2002; Kao and Tienda, 1995). Women have significantly higher expectations than do men. Family income has a significant positive effect, and residing in a non-intact family has a negative influence. Reading and math scores maintain strong, significant effects on expectations, and both Catholic and private schools are related to increased expectations. Students in suburban and rural schools have significantly lower expectations than do those in urban schools.

Table 4
Logistic regression models of expectation of a BA, *HS&B* 1980, *NELS* 1990, and *ELS* 2002

	Model 1		Model 2		Model 3		Model 4	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Constant	−6.496***	0.155	−6.622***	0.164	−6.634***	0.164	−6.772***	0.169
Cohort year (1980 = excluded)								
1990	0.963***	0.047	0.870***	0.047	0.479***	0.031	0.749***	0.097
2002	2.289***	0.054	2.135***	0.054	1.764***	0.059	2.116***	0.110
Sex (male = excluded)								
Female	0.388***	0.040	0.410***	0.040	0.141**	0.043	0.151**	0.043
Race (White = excluded)								
Black	1.031***	0.068	1.057***	0.069	0.872***	0.072	0.874***	0.072
Asian	0.688***	0.133	0.627***	0.135	0.489***	0.138	0.488***	0.137
Hispanic/other/multiracial	0.417***	0.064	0.469***	0.064	0.379***	0.071	0.373***	0.070
Family structure (intact = excluded)								
Non-intact	−0.124**	0.046	−0.133**	0.046	−0.197***	0.050	−0.199***	0.050
Family income	0.372***	0.027	0.279***	0.027	0.238***	0.029	0.239***	0.029
Reading score	0.038***	0.003	0.035***	0.003	0.023***	0.003	0.023***	0.003
Math score	0.081***	0.003	0.079***	0.003	0.070***	(0.003)	0.070***	0.003
Urbanicity (urban = excluded)								
Suburban	−0.138*	0.054	−0.146**	0.054	−0.125*	0.058	−0.128*	0.058
Rural	−0.302***	0.056	−0.269***	0.057	−0.173**	0.062	−0.171**	0.062
School type (public = excluded)								
Catholic	0.726***	0.066	0.677***	0.068	0.616***	0.071	0.623**	0.072
Private	0.409**	0.147	0.242	0.153	0.143	0.166	0.136	0.168
Parent's education (no BA = excluded)								
BA or more			0.943***	0.056	0.871***	0.039	0.973***	0.093
%BA in occupation					0.035***	0.001	0.039***	0.001
Parent's education * Cohort								
BA or more * 1990							−0.050	0.137
BA or more * 2002							−0.369**	0.138
%BA * Cohort (1980 = excluded)								
%BA * 1990							−0.006**	0.002
%BA * 2002							−0.007**	0.002
Adjusted Wald <i>F</i> -statistic, DF	217.93	17	211.49	18	247.90	19	209.09	23

The *HS&B* sample size is 10,585. The *NELS* sample size is 13,401, and the sample size for the *ELS* is 8246, resulting in an overall *n* of 32,232. *NELS* respondents not in the 10th-grade in 1990 were excluded from the sample for comparability across cohorts.

The models contain coefficients representing missing information for sex, race, and family structure. Missing values for family income, reading scores, and math scores were imputed.

* $p < 0.050$.

** $p < 0.010$.

*** $p < 0.001$.

In the second model, I add parent's education to see the degree to which this factor can account for the rise in educational expectations across the three cohorts. As expected, whether or not a student's parent has attained a BA has a strong, positive influence on a student's expectation to attain a bachelor's degree. Students whose parents have BA's are 2.6 times more likely to expect a bachelor's degree than those whose parents do not hold a BA. Once this variable is included in the model, the influence of cohort year on educational expectations decreases, but the effect of cohort on students' educational expectations is still significant and strong. Though it explains some part of the rising educational expectations of students over time, parents' increasing

educational attainment does not completely account for why students are more likely to expect a bachelor's degree in 1990 and 2002.

Model 3 adds the educational requirements of students' expected occupations to the model to see whether or not they are related to students' higher educational ambitions over time. An increase of 1% of BA holders in a student's expected occupation is positively and significantly associated with a 4% increase in the likelihood of expecting a bachelor's degree. This relationship accounts for a substantial portion of the remaining variation in the relationship between cohort year and educational expectations. The coefficient for the 1990 cohort reduces to 0.479, and the 2002 cohort to 1.764. In this model, students in 1990 are 1.6 times more likely to expect bachelor's degrees than students in 1980, and, in 2002, students are 5.8 times more likely to expect BA's than students in 1980.⁹ Taken together, parent's education and the changing bachelor's degree requirements of students' expected occupations account for about 23% of the increase in the expectation's of a bachelor's degree from 1980 to 2002, ignoring sampling error.

Another notable result from this model is the reduction in the coefficient for females. Female students expect to attain a bachelor's degree more so than do male students, but this difference decreases by more than half when the educational requirements of students' occupational expectations are added to the model. This suggests that women's rising educational expectations (and perhaps even their increasing attainment) may be because female students aspire to careers that require more education than do male students. However, because the reciprocal relationship between educational and occupational expectations is not accounted for in these models, it is also possible that women's rising educational expectations influence the occupations that they expect to attain at age 30.

Model 4 adds two interaction terms to see whether the relationships between social background and educational expectations, and occupational expectations and educational expectations have changed over time. This model is an improvement in fit over the previous model with a decrease in the adjusted Wald *F*-statistic of more than 38 for four degrees of freedom. In contrast to the results for the log-linear model, the interaction between parents' BA attainment and cohort year shows that controlling for family income and other related variables, parent's education did not have a different influence on educational expectation in 1990 than it did in 1980. This is likely because family income is controlled. While a four-year college degree was less affordable during the 1990s than the 1980s for many students, once income is controlled, the influence of parent's education on educational expectations does not change between the two decades. However, the effect of parent's educational attainment on children's expectations of a BA did significantly decline from 1980 to 2002. In 1980,

⁹ In other analyses, I added a measure of grade point average (GPA) to multivariate models. I do not report coefficients with this measure included in Table 4, though, because measuring GPA across cohorts is not straightforward and required several assumptions. Students' grades during their sophomore year of high school could come from two sources. The first is students' high school transcripts, which are available in *HS&B*, *NELS*, and *ELS* for those who were in high school during their senior year. However, I perform analyses with the sample of students who were sophomores in high school, the wave prior to when the high school transcripts are available. Transcripts are not available for students who were not followed in this subsequent wave. A second source of data concerning students' grades is their self-reports. Students' self-reported grades are available for *HS&B* and *NELS* sophomores, but not for the sophomores of the *ELS*. Further, students in *HS&B* were asked to estimate their grades across all subjects, and *NELS* respondents were asked to estimate their grades by subject. I used students' self-reported grades in my analyses, converting the *HS&B* and *NELS* measures to a four point scale across all subjects, such that mostly A's correspond to a 4.0 GPA. I then imputed GPA for students in the *ELS* using the information from the first two cohorts. However, since it is possible that high school grades have become inflated over the past decades, I attempted to account for this in my measure of GPA for 2002. The National Center of Education Statistics (2007) reports from the *HS&B*, *NELS*, and *ELS* transcript studies that the GPA's of high school seniors across all subjects were 2.68 in 1982, 2.79 in 1992, and 2.96 in 2004 (National Center of Education Statistics, 2007:12). From these averages, it appears that grades "inflated" about 6.1% from 1992 to 2004, so I increased the imputed grades for *ELS* by this percentage. The means from my measure of GPA, with these assumptions, are close to, but higher, than those reported by the National Center for Education Statistics for seniors. My means are 2.76 for *HS&B*, 2.90 for *NELS*, and 3.06 for *ELS* sophomores. My measures may slightly overestimate the effects of GPA on educational expectations. After performing analyses with GPA using these assumptions, I find few differences between the results reported in Table 4 and those with GPA included in the models. The coefficients for year and parent's education are slightly smaller, though still significant, and the interactions between year and parent's education, and year and percentage with a bachelor's degree in a student's chosen occupation are about the same and still significant. The main difference is in the coefficient for sex, which reduces and becomes insignificant. It appears that girls' higher expectations of a bachelor's degree may be due, in large part, to their higher grade point averages in high school than boys. An interaction between year and GPA did not significantly improve the model, suggesting that the influence of GPA on student's expectation of a bachelor's degree has not decreased over the years. The results of these analyses are available from the author upon request.

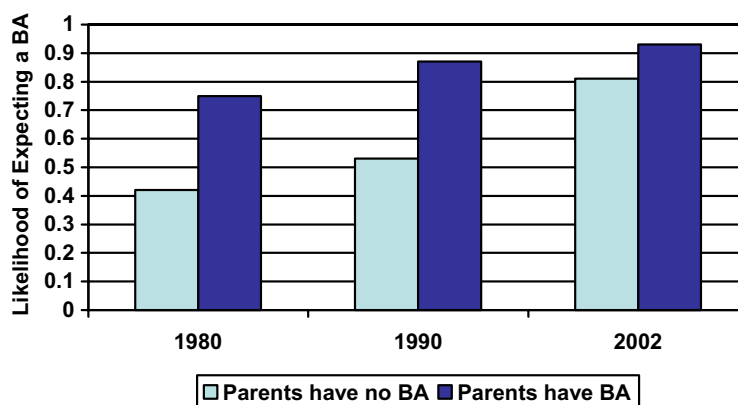


Fig. 1. Predicted probability of expecting a bachelor's degree by parent's education and cohort year, *HS&B* 1980, *NELS* 1990, and *ELS* 2002.

a student whose parent had a BA was 2.6 times more likely to expect a BA him or herself. In 2002, a student whose parent had a BA was only 1.8 times more likely to expect a BA compared to his or her peer whose parent did not have a BA. Ignoring sampling error, the influence of parent's education on the expectation of a bachelor's degree declined by almost 40% between 1980 and 2002.¹⁰

Similarly, the relationship between the educational requirements of a student's expected occupation and a student's educational expectation has grown weaker over time. In 1980, an increase of 1% of BA holders in an occupation was associated with a 4% increase in the likelihood of expecting a BA. In 1990 and 2002, it was about 3%. Particularly from 1980 to 1990, students were less likely to match their educational and occupational expectations. The influence of the educational requirements of students' planned occupations on their expected bachelor's degree attainment declined by about 20%, again ignoring sampling error.¹¹

For ease of interpretation, Figs. 1 and 2 present the predicted probabilities from Model 4 in order to illustrate these changes in educational expectations and their relationship to parents' educational attainment and occupational expectations. Fig. 1 shows that indeed the expectation of a BA has increased over time across both students whose parents have BA's and those who do not, but the increase among those whose parents do not have BA's has been sharpest. In Fig. 2, the increase in the expectation to complete a bachelor's degree has been greatest among those whose chosen occupations have the lowest percentages of bachelor's degree recipients. Rising educational expectations have not been so dramatic for those who expect occupations in which a large proportion of workers have bachelor's degrees.

5. Discussion and conclusion

There has been a dramatic increase in the expectation of a bachelor's degree from 1980 to 2002. Less than half of the high school sophomores in 1980 expected to attain a BA. In 2002, more than three quarters expect to achieve at least a four-year degree. In 2002, the expectation of most high school students was to complete a four-year degree. Indeed, it appears this expectation has, over the past twenty years, become the "norm."

¹⁰ Separate models were also run for each cohort year. Findings from these were consistent with the results from models including interaction terms. These models are available from the author upon request. Because it is much easier to judge whether interactions between variables are significant improvements over simpler models without such coefficients, I chose to combine all three cohort years—1980, 1990, and 2002—to compare models with and without the interaction terms for Table 4.

¹¹ Other significant interaction terms show that females have even greater growth in expectation of a BA in 2002 than have males, similar to the findings of Reynolds and Pemberton (2001). Asians' higher expectations were attenuated in 1990. Family income was more strongly related to educational expectation in 1990 (after federal loan policies were restricted) than in 1980. By 2002, family income mattered significantly less to student's expectation of a BA than it did in 1980. In contrast to the findings of Reynolds and Pemberton (2001) and Reynolds et al. (2006), the influence of math and reading test scores (relative to the sample) on expectation of a BA remained the same across the three cohorts.

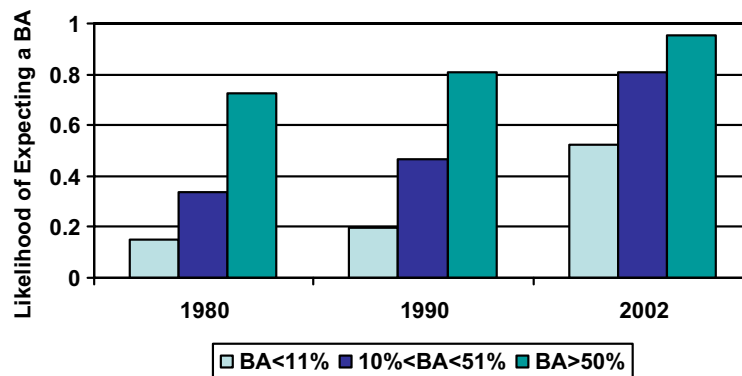


Fig. 2. Predicted probability of expecting a bachelor's degree by %BA in expected occupation and cohort year, *HS&B* 1980, *NELS* 1990, and *ELS* 2002.

This remarkable increase is not attributable to demographic changes alone. The educational attainment of the parents of these students has risen, and students' educational plans are strongly influenced by their parents' attainment. However, parents' higher attainment explains only a small portion of the changes in educational expectations from 1980 to 2002.

Students' occupational ambitions have also shifted over time. Students in 2002 are more likely to expect to become professionals like doctors, lawyers, or judges. Even students who plan lower-skilled service, clerical, craftworker, or operative occupations face a labor market in which the educational credentials of the holders of these occupations are increasing. These changes, though they are related to students' rising educational ambitions, still do not tell the whole story of the growth in educational expectations.

There is some evidence to suggest that parents' educational backgrounds and students' occupational ambitions have become less related to students' educational plans over the three cohorts. Though changes to subsidized loans and increasing college tuition in the mid 1980s may have made it more difficult to attend college during the late 1980s and 1990s (Heller, 1997), by 2002, students' social background was less important in their expectation to attain a BA than it was in 1980. In 1990 and 2002, the percentage of bachelor's degree occupants in students' chosen fields mattered less than it did in 1980. This supports Schneider and Stevenson's (1999) finding that students' educational and occupational plans are becoming misaligned. The declining importance of parents' educational backgrounds and the decoupling of educational and occupational plans, in addition to the remaining strong and significant effect of cohort on educational expectations, suggest that time spent attaining a four-year college degree is perceived to be part of the life course of all young adults regardless of social background and occupational plans.

Questions remain about how and why this norm is emerging. In addition to the explanations considered in this research, there are changes in the labor market and in educational institutions over time that may be related to rising expectations of a bachelor's degree. For example, over all occupations, earnings returns to workers with college degrees have increased (Card and Lemieux, 2001). Forgoing college has become more costly for all workers. Changes in high school structure and organization may also be related to rising expectations. As many high schools have replaced tracks with decentralized course choices (Lucas, 1999), students are provided with less consistent information on their academic abilities and performance in relation to their peers. Because of this, students may no longer rely on their high school track placement (vocational, general, college preparatory, etc.) to indicate their future educational and occupational trajectories (Reynolds et al., 2006).

There are also questions concerning variation in what educational expectations actually measure (Morgan, 2002). Educational expectations are thought to measure both a student's desire to attain a particular level of education and that student's assessment of the likelihood of achieving that level of education. For this reason, researchers have argued that educational expectations are better predictors of attainment than are educational aspirations, which are presumed to measure only desires for further education.

However, it is unclear how students weigh their desires to attain a level of education against the assessment of their chances when answering questions about educational expectations. For some students, educational expectations may reflect their goals of achievement, while for others they may be a realistic assessment of their chances of being accepted, financing, and completing a four-year degree. For example, while Agnew and Jones (1988) find that most students who are unlikely to attend college based on their high school achievement lower their expectations based on this information, a large portion of these students who face pressure from significant others to attend college do not lower, but rather inflate, their expectations based on an overestimation of their abilities. Expectations of a bachelor's degree result from students' high estimations of themselves and, according to Twenge and Campbell (2001), the self-esteem of some groups, particularly college students, has been increasing over birth cohorts from 1965–1994. High educational expectations may both reflect and maintain these students' high self-esteem (Agnew and Jones, 1988).

Despite its origins, many policy-makers uncritically hail the rising expectations of recent generations. That students, regardless of social background, see college as a realistic and attainable goal may be evidence of declining stratification by social background in the US. Similar to a high school education in the past, a college education may soon become nearly universal in the US.

Others have pointed out, though, that these rising ambitions are often not able to be fulfilled. As high school students come closer to planning their post-secondary educations, students, particularly those who are socioeconomically disadvantaged, face obstacles to navigating the route through schools that best matches their occupational goals and interests. Students from less advantaged background do not have access to the same number of high school guidance counselors nor can they afford to hire private college counselors (McDonough, 1997) to help guide them through the college testing and application process. Students may lack information about available financial aid or may perceive that they cannot afford higher education from some institutions (Perna, 2002). Consequently, some students may choose not to apply to any post-secondary programs.

Other students facing financial challenges or those who may have had lower academic performance in high school may apply to two-year colleges. Time spent in two-year colleges allows students to better afford credits that can be applied to a four-year degree, and may enable less prepared students to get the remediation they need to perform well in a four-year school. Oftentimes, though, the paths from two-year to four-year colleges are complex. Students frequently lack the information they need to make smooth transitions between the two types of post-secondary institutions (Deil-Amen and Rosenbaum, 2002). Though many two-year college students hold the expectation to attain a BA, a large portion cannot clearly navigate their paths to a four-year college and their aspirations to attain a four-year degree are “cooled out,” after having spent time and money in a two-year program.

Even when less socially advantaged students are able to enroll in a four-year college or university, they still face difficulties that their more advantaged peers do not. Less advantaged students are less likely to be retained in four-year institutions, and are less likely to graduate within six years of enrolling (Tinto, 1993; Goldrick-Rab, 2006).

Even if students' increasing expectations of a bachelor's degree lead them to enroll in four-year colleges in greater proportions, there are many other ways that higher education serves to stratify students. It is possible that as access to college increases for all students, inequality in educational and occupational outcomes by social background may be maintained through the type and purpose of the post-secondary institution a student attends and, consequently, through graduate school credentials, as the “maximally maintained inequality” (e.g. Raftery and Hout, 1993) and “effectively maintained inequality” positions suggest (e.g. Lucas, 2001). College type and field of study once in college have grown in prominence as stratifiers both in the US and abroad, calling researchers to consider horizontal, as much as vertical stratification, in post-secondary institutions (e.g. Ayalon and Shavit, 2004; Gerber and Schaefer, 2004; Goyette and Mullen, 2006; Karen, 2002; Mullen et al., 2003). If a four-year college degree does indeed come to be perceived as the norm for US young adults, researchers should shift their focus from exploring the determinants of educational expectations to investigating whether and how expectations are realized. Differences in post-secondary enrollment, persistence, pathways, and other choices become even more critical sites for stratification if and/or when expectations for a college degree become universal.

Appendix A. Occupational categories in the *HS&B*, *NELS*, and *ELS*, and the 1980–2000 Census 5% PUMS

<i>HS&B</i> , <i>NELS</i> , and <i>ELS</i> categories	Census 1980 and 1990 categories	Census 2000 categories
Clerical: secretaries and receptionists, cashiers, tellers, clerks, data entry, legal support, other clerical	Administrative support, including clerical, except computer equipment operators (303–307; 313–389)	Office and administrative support occupations, except computer operators (500–570, 581–593); paralegals, legal assistants, and legal support workers (214–215)
Crafts, operatives: mechanics, repairers, craftsmen, skilled operatives, transport operatives	Precision production, craft, and repair occupations (503–699); operators and fabricators (703–859)	Construction trades, extraction, installation, maintenance, and repair workers (620–762); production occupations (770–896); transportation and material moving occupations (900–960, 963–975)
Farm, labor: farmers, foresters, laborers (other than farm)	Farming, forestry, and fishing occupations (473–499); Laborers (863–889)	Farming, fishing, and forestry occupations (600–613); laborers and freight, stock, and material movers (961–962)
Manager, administrator: business, financial services, managers–executive, managers–midlevel, managers–supervisory	Executive, administrative, and managerial occupations (003–022); management related occupations, except accountants (024–037)	Management occupations (001–043); business operations specialists (050–073); financial specialists, except accountants (081–095, 120)
Military	Last worked in the armed services (in the past 5 years) (903–905)	Military specific occupations (980–983)
Prof. I: medical services, health/recreation services, engineers, architects, human services, editors, writers, reporters, performers, artists	Accountants (023); engineers, architects and surveyors (043–063); health assessment and treating occupations (095–097, 207); therapists (098–106); librarians, archivists, and curators (164–165); social and recreation workers (174–175); writers, artists, entertainers, and athletes (183–199)	Accountants (080); architecture and engineering occupations (130–156); community and social service workers, except clergy and religious workers (200–203); librarians, archivists, and curators (240–244); other education and library workers (255); arts, design, entertainment, sports, and media occupations (260–296); health assessment and treating occupations (300, 303, 305, 311, 340, 350, 352); therapists (313–324); health care support occupations (360–365)
Prof. II: legal professionals, medical practicing professionals, medical licensed professionals, educators–instructors, scientists, statisticians, research assistants	Mathematical, computer, and natural scientists (064–083); Health diagnosing, occupations (084–089); teachers, post-secondary (113–154); social scientists and urban planners (166–173); clergy and religious workers (176–177); lawyers and judges (178–179)	Mathematicians and statisticians (121, 123, 124); life, physical, and social science occupations (160–196); clergy and religious workers (204–206); lawyers and judges (210–211); post-secondary teachers (220); health diagnosing occupations (301, 304, 306, 312, 325–326)

Appendix A (continued)

<i>HS&B</i> , <i>NELS</i> , and <i>ELS</i> categories	Census 1980 and 1990 categories	Census 2000 categories
Owner: reports working for self	If self-employed and incorporated (classwkd = 14) and reports a manager or administrator occupation	If self-employed and incorporated (classwkd = 14) and reports a manager or administrator occupation
Protective service	Protective service occupations (413–427)	Protective service occupations (370–395)
Sales: sales, purchasing, customer service	Sales occupations (243–285)	Sales occupations (470–496)
Teacher: educator–K-12	Teachers, except post-secondary (155–163)	Teachers, except post-secondary, and assistants (230–234, 254)
Service: personal services, cooks, chefs, bakers	Private household service occupations (403–407); service occupations, except protective and household (433–469)	Food preparation and serving occupations (400–416); building and grounds cleaning and maintenance occupations (420–425); personal care and service occupations (430–465)
Technical: technical professional, computer systems, computer programmers, computer equipment	Technicians and related support occupations (203–206, 208–235); computer equipment operators (308–309),	Computer occupations (100–111, 122); medical technicians (330, 331–332, 341, 351, 353–354); computer operators (580)
Home-maker, not working	Not in the labor force (00) or in the labor force and currently not working (909)	Not in the labor force (00) or in the labor force and currently not working (992)

Appendix B. Table of *HS&B* 1980, *NELS* 1990, and *ELS* 2002 variables and their measures

Variable	Categories
Educational expectation: Measured in 1980 (BB065), 1990 (F1S49), and 2002 (STEXPECT). “As things stand now, how far in school do you think you will get?”	Recoded to 0 = No bachelor’s degree; 1 = Bachelor’s degree or more. Missing values are excluded
Parent’s education: Measured in 1980 (PAREDUC), 1990 (F1PARED), and 2002 (PARED). Highest level of education completed by either parent	Recoded to 0 = No bachelor’s degree; 1 = Bachelor’s degree or more. Missing values are excluded
Expected occupation: Measured in 1980 (BB062), 1990 (F1S53B), and 2002 (BYOCC30). “What kind of work do you expect to be doing when you are 30 years old? Do not choose more than one. . . Make your best guess”	See Appendix A for a detailed description of categories. Educational requirements of expected occupation at age 30 are approximated using the percentage of 30–40 year olds with a BA or more in that occupational category from the 1980, 1990, and 2000 Census 5% PUMS

(continued on next page)

Appendix B (continued)

Variable	Categories
Sex: Measured in 1980 (BB083), 1990 (F1SEX), and 2002 (SEX)	Coded as 0 = Male; 1 = Female; 2 = Missing
Race: Measured in 1980 (BB089), 1990 (F1RACE), and 2002 (RACE)	Recoded to 0 = Non-Hispanic white; 1 = Black; 2 = Asian American; 3 = Hispanic/other/multiracial; 4 = Missing. The third category includes Hispanics with Others because Hispanic was not a category choice in the <i>HS&B</i> . Many Hispanics may have chosen “Other” on this survey. The Multiracial option was only available in the <i>ELS</i> , and, those who thought of themselves as “Multiracial” may have chosen “Other” on previous surveys. Native Americans are included in this “Other” category, as well
Family structure: Measured in 1980 (BB036A-H), 1990 (FAMCOMP), and 2002 (BYFCOMP). “Intact” families include only those with both biological or adoptive mothers and fathers. “Non-intact” families include single-parent homes, step-families, other relative families, and non-relative families	Recoded to 0 = Intact; 1 = Not intact; 2 = Missing. The <i>HS&B</i> variables were combined such that a respondent who chose both “Father in household” and “Mother in household” is considered to reside in an “Intact” family. All other combinations are coded “Not intact.” Because respondents may consider step-fathers or step-mothers as “mothers” or “fathers” according to this question, the percentage of intact families is likely overestimated and cannot be compared to the measures of family composition from <i>NELS</i> and <i>ELS</i>
Standardized family income: Measured categorically in the base year of 1980 (FAMINC), 1990 (BYFAMINC), and 2002 (INCOME)	Categories were replaced with their midpoints to approximate a continuous variable, and then standardized by computing the <i>Z</i> -score for each year. Missing values were imputed for 1980 and 1990. There were no missing values in 2002
Standardized test scores: Measured in 1980 (YBREADSD and YBMTH1SD), 1990 (F12XRSTD and F12XMSTD), and 2002 (BYTXRSTD and BYTXMSTD). Tests were administered by NCES and designed by the Educational Testing Service (ETS) to measure mathematical knowledge and reading comprehension	NCES standardized reading and math scores such that the means for the 1980, 1990, and 2002 samples were 50 and the standard deviations were 10. Missing values were imputed for 1980 and 1990. There were no missing values in 2002
Urbanicity: Measured in 1980 (HSURBAN), 1990 (G10URBAN), and 2002 (BYURBAN). School’s metropolitan status, according to the 1980, 1990, and 2000 Censuses	Coded as 0 = Urban; 1 = Suburban; 2 = Rural; 3 = Missing
School type: Measured in 1980 (HSTYPE), 1990 (G10CTRL1), and 2002 (BYSCTRL). Type of school attended	Recoded to 0 = Public; 1 = Catholic; 2 = NAIS private or other private; 3 = Missing

Appendix B (continued)

Variable	Categories
Base year weight: For the 1980 base year sample (BYWT), the 1990 <i>NELS</i> (F1QWT), and the 2002 <i>ELS</i> (BYSTUWT). All descriptive and multivariate analyses are weighted with the appropriate year's weight except for sample sizes. F1SEQFLG was used to determine whether or not the respondents in the <i>NELS</i> 1990 sample were in the 10th-grade that year	Weights were assigned for over-sampling and non-response by the NCES. There is no missing information

A note on the treatment of missing information: A category was assigned to those respondents who had missing information for ordinal or nominal variables. This missing category was included in all analyses. Because it is not substantively interesting, it is not reported in multivariate tables. For continuous variables, missing values were imputed. Including missing values in this way avoids listwise deletion of cases in analyses and, thus, preserves as much information as possible. Percentages missing for each variable are included in [Appendix C](#).

Appendix C. Descriptive characteristics of the 10th-grade cohorts of *HS&B* 1980, *NELS* 1990, and *ELS* 2002

	<i>HS&B</i>	<i>NELS</i>	<i>ELS</i>
Educational expectations			
No BA	56.6	38.0	15.5
BA or more	43.4	62.0	84.5
Sex			
Male	46.1	49.9	45.5
Female	48.7	49.7	54.5
Missing	5.2	0.4	0.0
Race			
White	83.1	72.5	63.6
Black	11.5	13.0	14.3
Asian	1.0	3.7	3.7
Hispanic/other/multiracial	3.7	10.8	18.4
Missing	0.7	0.0	0.0
Family structure			
Intact	71.0	60.6	58.2
Non-intact	28.8	29.1	41.8
Missing	0.2	10.2	0.0
Mean family income Z-Score*	-0.003	-0.102	-0.059
(s.d.)	(0.012)	(0.015)	(0.012)
Mean reading score*	51.1	51.1	51.7
(s.d.)	(0.123)	(0.140)	(0.124)
Mean math score*	51.1	51.2	51.6
(s.d.)	(0.121)	(0.129)	(0.126)
School type			
Public	89.6	89.9	92.0
Catholic	6.9	6.2	4.7
Other private	3.6	3.9	3.3

(continued on next page)

Appendix C (continued)

	<i>HS&B</i>	<i>NELS</i>	<i>ELS</i>
School urbanicity			
Urban	18.5	28.4	28.9
Suburban	49.9	41.1	50.9
Rural	31.7	30.5	20.2
Parent's education			
No BA	84.2	70.4	60.2
BA or more	15.8	29.6	39.8
Occupation at age 30			
Clerical	8.1	4.4	0.4
Crafts, operatives	12.0	6.0	4.7
Farm, labor	4.8	1.1	0.7
Manager	4.2	6.4	3.0
Military	3.2	3.5	1.2
Prof. I	25.6	27.8	38.4
Prof. II	13.5	23.3	32.0
Owner	3.8	6.4	3.1
Protective service	1.6	3.4	3.2
Sales	1.9	2.2	0.9
Teacher	2.6	5.3	2.5
Service	4.3	1.9	3.8
Technical	7.5	5.7	5.2
Homemaker/not working	7.0	2.5	0.9
Mean percent BA in occupation*	37.4	51.6	57.1
(s.d.)	(0.352)	(0.367)	(0.345)
<i>N</i>	10,585	13,401	8246

* These variables are means, not percents as reported in the rest of the table.

References

- Agnew, Robert, Jones, Diane H., 1988. Adapting to deprivation: an examination of inflated educational expectations. *Sociological Quarterly* 29 (2), 315–337.
- Alexander, Karl, Eckland, Bruce K., 1975. Basic attainment processes: a replication and extension. *Sociology of Education* 48, 457–495.
- Ayalon, Hanna, Shavit, Yossi, 2004. Educational reforms and inequalities in Israel: the MMI hypothesis revisited. *Sociology of Education* 77 (2), 103–120.
- Bellah, Robert N., Madsen, Richard, Sullivan, William M., Swidler, Ann, Tipton, Steven M., 1985. *Habits of the heart: individualism and commitment in American life*. University of California Press, Berkeley, CA.
- Berman, Gerald S., Haug, Marie R., 1975. Occupational and educational goals and expectations: the effects of race and sex. *Social Problems* 23 (2), 166–181.
- Brint, Steven, Riddle, Mark, Turk-Bicakci, Lori, Levy, Charles S., 2005. From the liberal to the practical arts in American colleges and universities: organizational analysis and curricular change. *The Journal of Higher Education* 76 (2), 151–180.
- Cantor, Leonard, 1989. The 're-visioning' of vocational education in the American high school. *Comparative Education* 25 (2), 125–132.
- Card, David, Lemieux, Thomas, 2001. Can falling supply explain the rising return to college for younger men? a cohort-based analysis. *The Quarterly Journal of Economics* 116 (2), 705–746.
- Cheng, Simon, Starks, Brian, 2002. Racial differences in the effects of significant others on students' educational expectations. *Sociology of Education* 75 (4), 306–327.
- Choy, Susan, 2002. *Access & persistence: findings from 10 years of longitudinal research on students*. American Council on Education, Washington, DC.
- Clark, Burton R., 1960. The 'cooling out' function in higher education. *American Journal of Sociology* 65 (6), 569–576.

- Collins, Randall, 2002. Credential inflation and the future of universities. In: Steven, Brint (Ed.), *The Future of the City of Intellect: The Changing American University*. Stanford University Press, Stanford, CA, pp. 23–46.
- Conklin, Mary E., Dailey, Ann Ricks, 1981. Does consistency of parental encouragement matter for secondary school students? *Sociology of Education* 54 (4), 254–262.
- Deil-Amen, Regina, Rosenbaum, James, 2002. The unintended consequences of stigma-free remediation. *Sociology of Education* 75 (3), 249–268.
- Dominitz, Jeff, Manski, Charles F., 1996. Eliciting student expectations of the returns to schooling. *Journal of Human Resources* 31 (1), 1–26.
- Franklin, Alberta Miller, 1950. College for all versus educational standards. *The Classical Journal* 46 (1), 27–20+45.
- Gerber, Theodore P., Schaefer, David R., 2004. Horizontal stratification of higher education in Russia: trends, gender differences, and labor market outcomes. *Sociology of Education* 77 (1), 32–59.
- Gerth, H.H., Mills, C. Wright, 1946. *From max weber: essays in sociology*. Oxford University Press, New York.
- Glick, Jennifer E., White Michael J., 2003. The academic trajectories of immigrant youths: Analysis within and across cohorts. *Demography* 40 (4), 759–783.
- Goldrick-Rab, Sara, 2006. Following their every move: an investigation of social-class differences in college pathways. *Sociology of Education* 79 (1), 61–79.
- Goyette, Kimberly, Mullen, Ann, 2006. Who studies the arts and sciences? Social background and the choice and consequences of undergraduate field of study. *The Journal of Higher Education* 77 (3), 497–538.
- Goyette, Kimberly, Xie, Yu, 1999. Educational expectations of Asian American youths: determinants and ethnic differences. *Sociology of Education* 72 (1), 22–36.
- Grubb, W. Norton, 1989. Dropouts, spells of time, and credits in postsecondary education. *Economics of Education Review* 8 (1), 49–67.
- Hanson, Sandra L., 1994. Lost talent: unrealized educational aspirations and expectations among U.S. youths. *Sociology of Education* 67 (3), 159–183.
- Hao, Lingxin, Bonstead-Bruns, Melissa, 1998. Parent-child differences in educational expectations and the academic achievement of immigrant and native students. *Sociology of Education* 71 (3), 175–198.
- Hauser, Robert M., Anderson, Douglas K., 1991. Post-high school plans and aspirations of black and white high school seniors: 1976–86. *Sociology of Education* 64 (4), 263–277.
- Hauser, Robert M., Warren, John Robert, 1997. Socioeconomic indexes for occupation: a review, update, and critique. *Sociological Methodology* 27, 177–298.
- Heller, Donald E., 1997. Student price response in higher education: an update to Leslie and Brinkman. *Journal of Higher Education* 68 (6), 624–659.
- Hoelter, Jon W., 1982. Segregation and rationality in black status aspiration processes. *Sociology of Education* 55 (1), 31–39.
- Hossler, Don, Stage, Frances K., 1992. Family and high school experience influences on the postsecondary educational plans of ninth-grade students. *American Educational Research Journal* 29 (2), 425–451.
- Hout, Michael, Morgan, William R., 1975. Race and sex variation in the causes of the expected attainments of high school seniors. *American Journal of Sociology* 81 (2), 364–394.
- Ingles, Steven J., Burns, Laura J., Chen, Xianglei, Cataldi, Emily Forrest, Charleston, Stephanie, 2005. A profile of the American Sophomore in 2002: initial results from the base year of the educational longitudinal study of 2002 (NCES 2005-338). National Center for Education Statistics: US Department of Education, Washington, D.C.
- Kane, Thomas J., 2001. *College-going and Inequality: A Literature Review*. Working Paper. New York: Russell Sage Foundation.
- Karabel, Jerome, 1986. Community colleges and social stratification in the 1980s. In: Stephen, Zwerling (Ed.), *The Community College and Its Critics*. Jossey-Bass, San Francisco.
- Kao, Grace, Tienda, Marta, 1995. Optimism and achievement: the educational performance of immigrant youth. *Social Science Quarterly* 76 (1), 1–19.
- Karen, David, 2002. Changes in access to higher education in the United States: 1980–1992. *Sociology of Education* 75 (3), 191–210.
- Kerckhoff, Alan C., 1976. The status attachment process: socialization or allocation? *Social Forces* 55 (2), 368–381.
- Looker, E. Dianne, Pineo, Peter C., 1983. Social psychological variables and their relevance to the status attainment of teenagers. *American Journal of Sociology* 88 (6), 1195–1219.
- Looker, E. Dianne, McNutt, Karen L., 1989. The effect of occupational expectations on the educational attainments of males and females. *Canadian Journal of Education* 14 (3), 352–367.
- Lucas, Samuel, 2001. Effectively maintained inequality: educational transitions, track mobility, and social background effects. *American Journal of Sociology* 106 (6), 1642–1690.
- Lucas, Samuel, 1999. *Tracking inequality: stratification and mobility in American high schools*. Teachers College Press, New York.
- Mare, Robert D., 1979. Social background and school continuation decisions. *Demography* 16 (1), 55–71.
- Marini, Margaret Mooney, Greenberger, Ellen, 1978. Sex differences in occupational aspirations and expectations. *Sociology of Work and Occupations* 5 (2), 147–178.
- McDonough, Patricia M., 1997. *Choosing colleges: how social class and schools structure opportunity*. State University of New York Press, Albany, NY.
- Morgan, Stephen L., 2005. *On the edge of commitment: educational attainment and race in the United States*. Stanford University Press, Stanford, CA.
- Morgan, Stephen L., 2002. Modeling preparatory commitment and non-repeatable decisions: information processing, preference formation, and educational attainment. *Rationality and Society* 14, 387–429.

- Morgan, Stephen L., 1996. Trends in black–white differences in educational expectations: 1980–1992. *Sociology of Education* 69 (4), 308–319.
- Mullen, Ann L., Goyette, Kimberly A., Soares, Joseph A., 2003. Who goes to graduate school? social and academic correlates of educational continuation after college. *Sociology of Education* 76 (2), 143–169.
- Mumper, Michael, Vander Ark, Pamela, 1991. Evaluating the student Stafford Loan Program: current problems and prospects for reform. *Journal of Higher Education* 62 (1), 62–78.
- National Center of Education Statistics. 1999. *Digest of Education Statistics, 1998*. Washington, DC: U.S. Department of Education.
- National Center of Education Statistics. 2007. *The Nation's Report Card (NCES2007-467)*. Washington, DC: U.S. Department of Education.
- Nelson, Lester W., 1947. The schoolmaster looks at college. *The Journal of Higher Education* 18 (7), 361–364.
- Perna, Laura W., 2002. Financing higher education at selective private institutions: implications for college access and choice. *Review of Higher Education* 25 (2), 225–335.
- Picou, J. Steven, Carter, T. Michael, 1976. Significant other influence and aspirations. *Sociology of Education* 49 (1), 12–22.
- Qian, Zhenchao, Blair, Sampson Lee, 1999. Racial/ethnic differences in educational aspirations of high school seniors. *Sociological Perspectives* 42 (4), 605–625.
- Raftery, Adrian E., 1986. Choosing models for cross-classifications (comment on Grusky and Hauser). *American Sociological Review* 51 (1), 145–146.
- Raftery, Adrian E., Hout, Michael, 1993. Maximally maintained inequality: expansion, reform, and opportunity in Irish education. *Sociology of Education* 66 (1), 41–62.
- Reich, Robert, 1990. Why the Rich Are Getting Richer and the Poor, Poorer. *Utne Reader* (January/February):42–49.
- Reitzes, Donald C., Mutran, Elizabeth, 1980. Significant others and self-conceptions: factors influencing educational expectations and academic performance. *Sociology of Education* 53 (1), 21–32.
- Reynolds, John R., Pemberton, Jennifer, 2001. Rising college expectations among youth in the United States: a comparison of the 1979 and 1997 NLSY. *The Journal of Human Resources* 36 (4), 703–726.
- Reynolds, John R., Stewart, Michael, MacDonald, Ryan, Sisco, Lacey, 2006. Have adolescents become too ambitious? high school seniors educational and occupational plans, 1976 to 2000. *Social Problems* 53 (2), 186–206.
- Rindfuss, Ronald R., Swicegood, C. Gray, Rosenfeld, Rachel A., 1987. Disorder in the life course: how common and does it matter? *American Sociological Review* 52 (6), 785–801.
- Rosenbaum, James, 2001. *Beyond college for all: career paths for the forgotten half*. Russell Sage Foundation, New York.
- Rosenbaum, James E., Miller, Shazia Rafiullah, Krei, Melinda Scott, 1996. Gatekeeping in an era of more open gates: high school counselors views of their influence on students' college plans. *American Journal of Education* 104 (4), 257–279.
- Rothschild, Eric, 1999. Four decades of the advanced placement program. *The History Teacher* 32 (2), 175–206.
- Schneider, Barbara L., Stevenson, David., 1999. *The ambitious generation: America's teenagers, motivated but directionless*. Yale University Press, New Haven.
- Scroggs, Schiller, 1946. College for all. *The Journal of Higher Education* 17 (8), 429–432.
- Sewell, William H., Haller, Archibald O., Ohlendorf, George W., 1970. The educational and early occupational status attainment process: replication and revision. *American Sociological Review* 35 (6), 1014–1027.
- Sewell, William H., Haller, Archibald O., Portes, Alejandro, 1969. The educational and early occupational attainment process. *American Sociological Review* 34 (1), 82–92.
- Teachman, Jay D., Paasch, Kathleen, 1998. The family and educational aspirations. *Journal of Marriage and the Family* 60 (3), 704–714.
- Tinto, Vincent, 1993. *Leaving college: rethinking the causes and cures of student attrition*. University of Chicago Press, Chicago.
- Turner, Ralph, 1960. Sponsored and contest mobility in the school system. *American Sociological Review* 25 (6), 855–867.
- Twenge, Jean M., Campbell, W. Keith, 2001. Age and birth cohort differences in self-esteem: a cross-temporal meta-analysis. *Personality and Social Psychology Review* 5 (4), 321–344.
- Xie, Yu, Goyette, Kimberly, 2003. Social mobility and the educational choices of Asian Americans. *Social Science Research* 32 (3), 467–498.
- Xie, Yu, Shauman, Kimberlee A., 1997. Modeling the sex-typing of occupational choice: influences of occupational structure. *Sociological Methods and Research* 26 (2), 233–261.