



Do high school peers have persistent effects on college attainment and other life outcomes?



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HIGHLIGHTS

- Examines impact of high school classmates on educational and labor market outcomes
- Classmates with college educated mothers increase college attendance in short-run
- No discernible effects on college attendance or completion in longer-run
- Evidence suggests possible effects on household income during late 20s/early 30s

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ABSTRACT

Using data from the National Longitudinal Study of Adolescent Health, this study examines the impact of high school cohort composition on the educational and labor market outcomes of individuals during their early 20s and again during their late 20s and early 30s. We find that having more high school classmates with a college educated mother has positive effects on college attendance in the years immediately following high school, but no statistically discernible effects on college attendance and college completion as individuals reach their late 20s and early 30s. Some evidence suggests that the delay in college attendance associated with the composition of one's high school cohort may affect household income during the late 20s and early 30s.

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1. Introduction

Recent evidence suggests that the composition of one's high school classmates can also influence college enrollment. Bifulco et al. (2011) find that students whose school cohorts have higher percentages of students with college educated mothers are more likely to attend college; Black et al. (2013) present evidence that the gender composition of school cohorts in Norway influence years of schooling; and Billings et al. (2013) find that changes in peers arising from the end of

school desegregation policies in Charlotte, NC have affected college attendance.⁴

Over the last several decades, however, as college going rates have increased significantly, completion rates among those who enter college have fallen (Belley and Lochner, 2007). Thus, it is not clear that increasing college enrollment is sufficient for increasing degree attainment. Descriptive evidence suggests that returns to completing college are substantially higher than the return to merely attending college (Baum, Ma, and Payea 2010), and thus, effects on college completion may be more policy relevant than effects on college enrollment.

Research on whether factors that influence college enrollment can also influence college completion and degree attainment is scarce, and studies of the impact of peer group composition on degree completion

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⁴ See Ross (2011) for a recent survey on the peer effects literature.

have not been conducted. In this study, we turn to data that was used in the Bifulco et al. (2011) study referenced above. Specifically, we use the recently released Wave 4 of the Add Health, which measures the outcomes of respondents between the ages of 27 and 32, to examine whether the percent of high school classmates with college educated parents influences college attendance, college completion, and labor market outcomes.

Following the earlier study by Bifulco et al. (2011) we use arguably idiosyncratic variation in student composition across cohorts within the same schools to identify the effects of the percent of classmates with college educated parents. We first examine the effect of this school composition variable on college attendance in Wave 4. By Wave 4, a substantially larger fraction of students have attended college than was observed in Wave 3, and we find that respondents ages 27–32 exposed to a large share of classmates with college educated mothers are not significantly more likely to have attended some college as of Wave 4 than other students. We also show that the estimated effect of peers on college attendance in Wave 3 and Wave 4 statistically differ from each other. The effects on Wave 3 and Wave 4 outcomes are estimated using the same sample and so the apparent differences in effects across the waves cannot be attributed to differential attrition between waves. These findings suggest that differences in college attendance during ages 19–23 are eliminated over time as individuals who might have been discouraged from attending college by their high school classmates have time to re-evaluate their economic opportunities and return to school.

Next, we examine whether or not the composition of one's high school cohort has any longer term effects on college completion and labor market outcomes by age 27–32. The analysis identifies positive point estimates of the effect of classmates with college educated mothers on completion of two and four year degrees and employment that are sizable in magnitude, but none of these point estimates are statistically significant, and these positive estimates are substantially smaller when changes to the estimation sample are made. Thus, the data provide no statistical evidence for a long-run effect of high school classmates with college educated mothers on educational attainment. Again, supplementary analyses suggest that the primary reason why we find little long-run effect on degree attainment is that students discouraged from enrolling in college immediately after high school by the composition of their high school class tend to enroll in their 20s and catch-up to those who attend college immediately. Evidence suggests that the delay in college attendance and completion associated with high school cohort composition might influence household income during the late 20s and early 30s.

The rest of the paper is organized as follows. Section 2 provides a brief discussion of why we might not expect short-run effects of cohort composition on college enrollment to persist over time. Section 3 describes the data and sample used in the analyses. Section 4 explains the within-school, across-cohort identification strategy that we use and how we implemented it. It also presents the results of balancing tests that provide empirical support for this identification strategy. Section 5 presents our empirical results, and Section 6 concludes.

2. Why might short-run peer effects not persist?

There are several reasons that we might expect the composition of one's high school cohort to influence college enrollment. First, attending school and classes with more educationally advantaged students might influence the development of academic skills, attitudes toward school, and college aspirations. Changes in skills, attitudes, and aspirations are likely to change the perceived and real benefits of a college education, and thereby the likelihood of enrolling in college (Becker, 1964). Second, an important strand in the literature on post-secondary attainment has emphasized the importance of the information provided through social networks (Granovetter, 1995). Information about opportunities can influence decisions to attend college even if we hold expectations,

grades, and cognitive achievement constant. Third, if a student has incomplete information about the returns to attending college, then he might use the decisions of his peers as a guide (Bikchandani et al., 1992; Manski, 1993). As students on the margin of enrolling or not enrolling in college see other students applying for and preparing to attend college, they might be tipped toward enrolling themselves (Fletcher, 2012).

If the composition of one's high school cohort affects college enrollment decisions by influencing skills and attitudes, or by improving access to information, then we would expect effects on college completion and labor market outcomes. Improved skills and attitudes will help students persist in college and increase their labor market productivity. Improved information about post-secondary options will not only make an individual more likely to enroll, but may also improve a student's match with the college he chooses, thereby increasing the likelihood of college completion. If, however, cohort composition influences the college enrollment decision through imitative behavior without changing skills, attitudes, or information, then we might expect to see the effect of cohort composition on college enrollment decline as individuals age. As individuals enter their mid-twenties and make decisions about whether or not to return to school, the influence of high school peers is likely to wane, and underlying skills and attitudes will be more telling. Also, if those on the margin of enrolling, whose decisions are influenced by what their peers are doing, are among those least likely to succeed in college, then effects on enrollment decisions will often not translate into effects on degree attainment.

Bifulco et al. (2011) present evidence that although the percent of classmates with college educated parents increases the likelihood of having attended college by one's early 20s, it does not have any effect on individual skills and attitudes during school. They also document that children of college educated parents are substantially more likely to attend college themselves, even when compared to students who have selected into the same school. This evidence suggests that the effect of classmates with college educated parents on college attendance is due largely to imitative behavior during or shortly after high school, rather than changes in underlying skills or attitudes. Thus, short-term effects on college attendance may not persist as individuals make decisions about returning to school during their 20s, and any positive effects on degree attainment might be smaller than the short-term effects on college attendance.

3. Data and samples

The Add Health is a school-based, longitudinal study of the health-related behaviors of adolescents and their outcomes in young adulthood. The study used a clustered sampling design in which first a nationally representative set of high schools, and then a random sample of students from each grade in each school were selected. The survey consists of four waves. Wave 1 was conducted between April 1995 and December 1995. In addition to an extensive in-home survey for the students selected for the longitudinal study, an in-school survey was administered to all of the students attending each sampled school. Waves 2, 3, and 4 consist of follow-up in-home surveys of individuals in the longitudinal sample conducted 1, 7, and 13 years after the Wave 1 survey.

Approximately 20,000 individuals completed the full Wave 1 survey and of these approximately 12,300 responded to the Wave 3 and Wave 4 surveys. Following Bifulco et al. (2011), the analyses presented here are conducted using subsamples of these students who, during Wave 1, were in grades 9–12; attended a school serving each of grades 10, 11, and 12; reported themselves as either white, black, Hispanic, or Asian; and had 10 or more students in their school cohort.

The independent variable of interest in the analyses is the percent of students in an individual's school cohort who have a college educated mother, which is computed using information from the in-school

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