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Expectations on Track? High School Tracking and Adolescent Educational Expectations

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This paper examines the role of adaptation in expectation formation processes by analyzing how educational tracking in high schools affects adolescents' educational expectations. I argue that adolescents view track placement as a signal about their academic abilities and respond to it in terms of modifying their educational expectations. Applying a difference-in-differences approach to the National Educational Longitudinal Study of 1988, I find that being placed in an advanced or honors class in high school positively affects adolescents' expectations, particularly if placement is consistent across subjects and if placement contradicts tracking experiences in middle school. My findings support the hypothesis that adolescents adapt their educational expectations to ability signals sent by schools.

Introduction

Many important factors contribute to inequalities in educational attainment, among them educational expectations. Sociologists of education have long regarded educational expectations as a key component in models of status attainment (Sewell, Haller, and Portes 1969; Otto and Haller 1979), and have examined the psychological consequences of unmet expectations (Hanson 1994; Reynolds and Baird 2010). Even with overall increases in adolescents' educational expectations over the past three decades (Goyette 2008; Reynolds et al. 2006), studies show that expectations continue to be strongly linked to educational attainment (Morgan 2004, 2005).

Despite the well-documented effects of educational expectations on attainment, researchers debate how adolescents form expectations about their future (Andrew and Hauser 2011; Bozick et al. 2010; Manski 1993; Morgan 1998). Scholars disagree on the extent to which adolescents modify their educational expectations in the light of new information about their academic abilities.

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However, most studies on expectation formation focus on the information about academic abilities that adolescents receive from grades; therefore, they tend to ignore other ability signals that schools send them. One such signal is educational tracking. Previous research suggests that educational tracking, because it clearly differentiates chances for future success, is associated with cultural beliefs about academic competence and the legitimate entitlement of social status (e.g., Oakes 1985; Sørensen 1984). Consequently, adolescents may have good reasons for modifying their educational expectations in response to their track placement.

This paper analyzes the role of high school tracking in the formation of adolescents' educational expectations and makes three contributions to the literature. First, in contrast to previous studies, I use educational tracking to test the hypothesis that adolescents adapt their educational expectations to new information about their academic abilities. Second, I extend previous research by arguing that adolescents differ according to the extent by which high school track placement reveals *new* and *consistent* information to them. As most adolescents are tracked prior to high school, I expect the informational effects of high school tracking to depend on previous tracking experience. Moreover, a considerable fraction of adolescents may experience contradictory or fuzzy track signals, because they are in a high-track class in one subject and in a low-track class in another. I therefore expect adolescents to respond more strongly to consistent, as opposed to discrepant, track placement across different subjects. Third, to handle the issue of selectivity bias in the estimation of tracking effects, I apply a difference-in-differences approach to the National Educational Longitudinal Study of 1988. As this approach controls for stable, unmeasured characteristics of adolescents, it allows me to isolate the signaling effect of track placement in high school.

My empirical analysis largely corroborates the theoretical predictions. Adolescents appear to adapt their educational expectations to the ability signals sent by the track placement in high school. The extent to which adolescents respond to their high school track placement depends, first, on whether their placement is consistent across subjects and, second, on their prior tracking experience. These findings support the position that emphasizes processes of adaptation in the formation of adolescents' educational expectations, and point to the need for considering the role of prior academic experiences in expectation formation processes.

Background

Performance Feedback and the Formation of Educational Expectations

Research in educational stratification has long documented the positive consequences of adolescents holding high hopes for their future educational attainments (Sewell, Halles, and Portes 1969; Morgan 2004). Expecting to complete college not only mediates a substantial portion of the socioeconomic gradient in educational attainment but also propels schooling choices independent of family background and previously demonstrated abilities. Scholars nevertheless disagree on the origin and nature of adolescents' expectations for the future. In the status attainment tradition, which has dominated much of the sociological writing on

this subject, adolescents' expectations are the outcome of the early socializing influences of significant others (Haller 1982; Haller and Portes 1973; Otto and Haller 1979). Children internalize the achievement expectations that significant others hold for them as a static mental construct that, once crystalized, comes to motivate schooling behaviors and decisions (Andrew and Hauser 2011).

A contrasting perspective, which has regained momentum in recent years, challenges the view that adolescents' expectations are the sole outcome of early socialization. This perspective argues that expectations also reflect the organization of society's opportunity structure and, not least, the individual's perceived chances for success in this structure (Kerckhoff 1976; Gambetta 1987; MacLeod 1987; Ogbu 1978; Willis 1981). Recent literature—attempting to clarify the micro-foundations of educational decision-making—argues along similar lines that adolescents' educational decisions are guided by their appraisals of the outcomes of and their chances for success in future schooling (Breen and Goldthorpe 1997; Morgan 2005). This bourgeoning literature assumes that adolescents make their appraisals in response to the continuing provision of information from various sources, such as parents, teachers, peers, and the mass media (Bozick et al. 2010; Breen 1999; Grodsky and Jones 2007; Morgan 2005; Rosenbaum 2001; Schneider and Stevenson 1999).[1] Yet, among the most pertinent sources of information available to adolescents is the ongoing feedback on their academic abilities, provided by institutionalized performance indicators in schools (Bozick et al. 2010). As these indicators likely assist the adolescent in determining his or her chances for success in future education (Covington 1992), adolescents may have good reasons for regulating their educational expectations in light of the new information these indicators convey.

Nonetheless, existing research provides mixed support for the hypothesis that adolescents adapt their educational expectations to new information about their academic abilities. In a recent study, Andrew and Hauser (2011) find that adolescents appear to largely disregard new information about their academic standing when forming educational expectations. Andrew and Hauser therefore conclude that expectations stabilize before adolescence and are rather persistent over time. In support of this conclusion, using retrospective adolescent reports, Grodsky and Riegle-Crumb (2010) report that many students from a young age take college enrollment for granted. Although these findings appear to confirm the lasting importance of the early formation of expectations, recent studies in the economics of education provide evidence to the contrary. They find that learning about academic abilities in college plays an important role in the formation of expectations and ultimately in college major and dropout decisions (Stinebrickner and Stinebrickner 2009, 2011; Zafar 2011). Similarly, studies in both sociology and economics report that adolescents' revisions of expectations over their educational career are a result of learning about their academic abilities (Bozick et al. 2010; Jacob and Wilder 2011).[2]

In sum, studies on expectation formation appear to disagree about the extent to which new information about academic abilities leads adolescents to revise the expectations they hold for their future. However, most of these studies focus narrowly on how the grade point average (GPA) conveys information about abilities. While GPAs are an important source of information, schools have other channels

for sorting adolescents according to academic abilities. One such channel is educational tracking, which entails the organizational differentiation of learning opportunities by which adolescents are divided into tracks or groups for instructional purposes (Sørensen 1970). To examine the role of adaptation in adolescents' formation of educational expectations, in this paper I test whether high school track placement affects educational expectations.

The Complexities of Track Signals

Research on educational tracking in secondary schools offers at least three mechanisms through which we can expect track placement to affect adolescents' educational expectations. First, as tracking differentiates opportunities for learning, high-track adolescents are likely to learn more than low-track adolescents (Gamoran 1986). Insofar as learning affects expectations, the effects of track placement on expectations may reflect this learning mechanism. Second, tracking may affect expectations through its stratification of peer group memberships (Hallinan and Sørensen 1985). Peers are widely regarded as influencing adolescents' orientations and self-concepts via prevailing aspirational norms and group-specific evaluation standards (Hallinan and Williams 1990; Kelley 1952). Whenever track-dependent peer influences lead adolescents to adjust their educational expectations, the track effects will pick up this adaptation of expectations to the surrounding social environment.

Third, ethnographic studies find that educational tracking involves social labeling processes that are rooted in cultural assumptions about the role of individual competence (LeTendre, Hofer, and Shimizu 2003; Oakes et al. 1997; Schwartz 1981). As Oakes (1985, 3) puts it, "A student in a high-achieving group is seen as a high-achieving *person*, bright, smart, quick, and in the eyes of many, good [italics in original]." Because track placement makes publically visible the opportunities of achieving success in the educational system, it conveys a signal to the adolescents about their academic potential, independent of their actual abilities (Gamoran 1986; Sørensen 1984). Insofar as adolescents respond to this signal, I expect track placement to affect educational expectations via the social labeling processes caused by curricular differentiation.

Previous tracking studies support the hypothesis that track placement affects expectations, even after controlling for expectations at the beginning of high school (Alexander and Cook 1982; Wiatrowski et al. 1982; Vanfossen, James, and Spade 1987). Studies also find that adolescents, when forming expectations, rely heavily on the cues conveyed by the tracking structure, leaving little room for peer influences (Shavit and Williams 1985; Yuchtman and Samuel 1975). This latter evidence therefore suggests that the direct signaling effect of track placement, as implied by the social labeling explanation, dominates the indirect effects that operate via learning and peer influences. Nevertheless, despite this evidence, previous research has not examined two issues that have substantive implications for the study of the signaling value of track placement in expectation formation processes.

First, tracking practices in secondary schools have changed markedly over the past four decades, rendering the signaling value of track placement more

ambiguous than earlier. Today, high school students enroll in courses, not in overarching programs. Yet, whereas they have some degree of freedom in choosing their subjects, they have less control over their placement in the stratified curriculum within subjects (Lucas 1999).[3] As a result, a considerable fraction of adolescents experience discrepant course placements across different subjects (Kelly and Carbonaro 2012). To the degree that adolescents glean information about their academic abilities from their course placements, this group of adolescents may experience their mixed placements as providing a fuzzier signal about their academic abilities and consequent future opportunities (compared to those who are consistently placed in high- or low-track courses).

Second, previous research has put little effort into theoretically identifying the adolescents for whom high school track placement can be considered as revealing *new* information to them about their academic abilities. Most adolescents are exposed to tracking before entering high school and thus have an idea about which track they belong in. Because track placement in high school can either corroborate or conflict with this idea, adolescents are likely to respond in different ways to the ability signals conveyed by track placement in high school. For adolescents staying in the same track in the transition from middle to high school, their high school track placement will tend to confirm their initial beliefs about their academic abilities. Thus, from the perspective of the adolescent, track placement does not reveal new information about his or her academic abilities. In contrast, for those changing tracks during the transition, high school track placement will tend to disconfirm their initial beliefs, consequently providing new information to them about their academic abilities.

Appreciating the complex ability signals that track placements convey has consequences for any proper evaluation of the degree to which adolescents adapt their educational expectations to the information implied by their high school track placement. On the one hand, as the informational value of track signals depends on the consistency of placements across disparate subjects, adolescents should exhibit stronger adaptation to consistent, not discrepant, course placements. On the other hand, as only adolescents changing tracks from middle to high school can meaningfully be said to receive new information about their abilities, evaluating track placement effects requires differentiating between movers and stayers in the stratified curriculum during the transition to high school. Thus, in the empirical analyses in this paper, I test whether adolescents differ in their response to the signals they receive according to both the consistency of their course placements and their previous tracking experiences in middle school.

Data and Methods

Sample

For the empirical analysis, I use the eighth- and tenth-grade cohorts in the Public Use Version of the National Educational Longitudinal Study of 1988 (NELS) (Curtin et al. 2002). In contrast to other surveys, NELS provides longitudinal information on adolescents' educational expectations and tracking experiences both before (eighth grade) and after (tenth grade) adolescents are tracked in high

school. This unique design allows me to study, first, whether track differences in educational expectations in high school were in place before adolescents enter high school and, second, how the effect of high school track placement on expectations depends on tracking experiences in middle school.

NELS is a national probability sample following 25,000 eighth graders in 1,000 schools from 1988 through 2000. I use those 17,184 adolescents who are observed in both of the first two waves (1988 and 1990). For each adolescent, NELS provides teacher reports on high school course placements in two out of four subjects (Ingels et al. 1992). This feature of the data means that track information for each course is available only for different random subsamples of adolescents, subsamples that only partially overlap. In my analyses, I therefore examine curricular placements in mathematics and English, because these two subjects provide the largest possible overlap of random subsamples and because previous research has analyzed adolescents' joint placements in the two subjects (e.g., Lucas 1999). Given substantial nonresponse on control variables, I combine multiple imputation with inverse probability weighting to increase efficiency and to restore generalizability of the analyzed subsamples.[4] Because NELS uses a complex sampling design, I also use the panel weight available in NELS (Curtin et al. 2002), and I correct standard errors for the stratified design and clustering of observations both within eighth-grade school units and within individuals over time.

The final samples comprise 6,013 and 7,217 adolescents in mathematics and English, respectively, with 3,169 adolescents overlapping in the combined placement sample. In each of these samples, each adolescent is observed twice, in the eighth and tenth grade.[5] Although these samples comprise only partially overlapping adolescents, table 1 shows that the composition of the samples is very similar in terms of the distributions of the control variables used in the analyses. Additional calculations, which I do not report here, show that this pattern also holds for background characteristics such as parental socioeconomic status, race, and gender. These calculations also show that the social composition of the samples resembles that of the full NELS sample covering all youth observed in both of the first two waves.

Educational Expectations

In each of the two first waves of NELS, adolescents are asked about their expected level of educational attainment: "As things stand now, how far in school do you think you will get?" Following previous studies on educational expectations (Morgan 1998; Andrew and Hauser 2011), I code these responses into years of education. On average, adolescents expect to attain about 16 years of education, which is equivalent to completing a four-year college degree, and this average does not change from eighth to tenth grade (table 1). However, the standard deviation in expectations increases from about 2.10 years to about 2.25 years from eighth to tenth grade, suggesting a widening dispersion in expectations. Further calculations reveal that about 54 percent of the variation in expectations over time lies between individuals, indicating that a considerable fraction of adolescents revise their expectations during the transition to high school.

Table 1. Means and Standard Deviations for the Variables in the Analysis

	Mathematics		English		Combined placement	
	Eighth grade (1988)	Tenth grade (1990)	Eighth grade (1988)	Tenth grade (1990)	Eighth grade (1988)	Tenth grade (1990)
Expectations in years	15.974 (2.103)	15.971 (2.260)	15.993 (2.097)	16.002 (2.252)	15.999 (2.101)	16.065 (2.258)
Teacher-reported tenth-grade track						
Advanced/honors	–	0.121	–	0.204	–	0.071
Academic or general	–	0.879	–	0.796	–	0.743
Discrepant	–	–	–	–	–	0.186
Self-reported eighth-grade ability group						
High	0.344	–	0.281	–	0.197	–
Middle/low	0.481	–	0.431	–	0.322	–
Not grouped	0.175	–	0.288	–	0.166	–
Discrepant: High or middle/low	–	–	–	–	0.179	–
Discrepant: Other combination	–	–	–	–	0.136	–
Family background controls						
Intact family (ref.: non-intact)	0.696	0.668	0.696	0.666	0.701	0.670
Father employed (ref.: not employed)	0.921	0.879	0.929	0.880	0.920	0.878
Mother employed (ref.: not employed)	0.900	0.885	0.906	0.886	0.908	0.892
At least one parent has died (ref.: no parents have died)	0.031	0.041	0.033	0.044	0.031	0.039
Adolescent-specific controls						
Average test score (range 0–10)	4.147 (1.939)	5.289 (2.278)	4.172 (1.934)	5.305 (2.259)	4.253 (1.897)	5.407 (2.242)
Average grade (1: mostly Ds through 5: mostly As)	4.048 (0.766)	4.094 (0.798)	4.069 (0.761)	4.125 (0.778)	4.088 (0.748)	4.120 (0.773)

(*Continued*)

Table 1. continued

	Mathematics		English		Combined placement	
	Eighth grade (1988)	Tenth grade (1990)	Eighth grade (1988)	Tenth grade (1990)	Eighth grade (1988)	Tenth grade (1990)
Delinquency scale (range 0–10)	1.142 (1.109)	1.571 (1.094)	1.130 (1.079)	1.565 (1.101)	1.094 (1.050)	1.515 (1.061)
Self-esteem (range 0–10)[a]	5.206 (1.302)	5.081 (1.280)	5.208 (1.289)	5.113 (1.272)	5.216 (1.302)	5.123 (1.253)
Locus of control (range 0–10)[b]	6.747 (1.560)	6.627 (1.527)	6.781 (1.561)	6.672 (1.530)	6.807 (1.540)	6.707 (1.524)
Teacher assessment scale (range 0–10)[c]	8.981 (1.671)	9.174 (1.262)	9.011 (1.640)	9.152 (1.311)	9.103 (1.538)	9.209 (1.183)
Peer perception scale (range 0–10)	5.659 (2.180)	5.388 (2.105)	5.657 (2.128)	5.420 (2.100)	5.681 (2.157)	5.415 (2.075)
Parents expecting adolescent to graduate college (ref.: not graduate)	0.755	0.708	0.759	0.706	0.753	0.709
School-level controls						
School socioeconomic context scale (range 0–10)	7.402 (1.473)	6.944 (1.286)	7.378 (1.548)	6.875 (1.352)	7.407 (1.515)	6.999 (1.283)
Public school (ref. private)	0.879	0.898	0.874	0.896	0.883	0.896
More than 1/3 of adolescents in college-bound tracks	–	0.033	–	0.025	–	0.021
N (adolescents)	6,013		7,217		3,269	
N (eighth-grade school units)	655		749		458	
N (high school units)	779		874		528	

Note: Combined weight applied (weight provided in NELS multiplied with the inverse probability of being in the sample conditional on race, gender, and parental socioeconomic status).

[a]Rosenberg's self-esteem scale provided in NELS. [b]Rotter's locus of control scale provided in NELS. [c]Scale is the average of two subject-specific teacher reports on the behaviors of the adolescent.

Teacher-Reported Track Placement in the Tenth Grade

I use the teacher-reported course level in tenth-grade mathematics and English for constructing indicators of track placement. In NELS, the tenth-grade teacher is asked to categorize the adolescent's class in one of five tracks: (1) advanced or honors, (2) academic, (3) general, (4) vocational, or (5) other. I restrict my analysis to the three first tracks, assuming that they form a general ranking of tracks in terms of content, level, and rigor, with advanced/honors being high rank; academic, middle rank; and general, low rank. Catsambis (1994) notes that for mathematics, this ranking reflects the actual curricular differentiation, as measured by teachers' reports on the topics covered in class. Gamoran and Carbonaro (2003) report a similar pattern for English. Moreover, because teachers represent the institutional authority of the school, using teacher reports might add to the potency of the track labels.

In the empirical analysis, I examine the consequences of placements in each subject and, combining placements in the two subjects, I investigate the effects of consistent versus discrepant track placements in the overall tracking structure. To make these two parts of my analysis compatible and to simplify exposition, I collapse adolescents placed in academic or general classes into one group.[6] Consequently, this crude track indicator differentiates at the top of the track distribution, separating elite- or high-track adolescents from middle- or low-track adolescents. Given the paper's focus on the signaling value of track placement, using this crude indicator suffices for testing its theoretical predictions, and additional analyses (not reported here) also show that not collapsing tracks reveals the same basic pattern of findings that I report in the empirical analyses.

In the analyses combining course placements in mathematics and English, I construct an overall track indicator, which divides adolescents into three overall groups: those who are consistently placed in advanced/honors classes, those who are consistently placed in general or academic classes, and those who have discrepant course placements (defined as those being placed in an advanced/honors class in one subject and in a general or academic class in the other).

Self-Reported Ability Group in the Eighth Grade

In NELS, adolescents report whether their ability group in eighth-grade mathematics and English is high, middle, or low, or whether they are grouped at all. I use this information to measure an adolescent's tracking experience prior to high school enrollment. Dauber, Alexander, and Entwisle (1996) found that ability-group placement is stable from sixth to eighth grade, suggesting that the eighth-grade ability group is a good proxy for previous ability-group experience. Given the small fraction reporting being in a low-ability group, I collapse the middle and low groups. As was the case for the tenth-grade track placement, I construct an indicator of overall ability-group placement in eighth grade. This indicator groups adolescents into those who are consistently grouped as either high or middle/low track, those who are consistently not grouped, those who have discrepant course-level placements in mathematics and English, and those who have less clear discrepant placements (i.e., those who are ungrouped in one subject but grouped in the other).

Movements in the Stratified Curriculum from Middle to High School

In the empirical analysis, I combine the eighth- and tenth-grade curricular position indicators to define groups of movers and stayers in the stratified curriculum from middle to high school. Although I explain these groups more fully in the empirical analysis (see tables 4 and 5 for the empirical translations I use), I emphasize that the two indicators are not fully compatible and cannot, for institutional reasons, be made so. This partial compatibility introduces some indeterminacy into the definitions of movers and stayers in my analysis. Nevertheless, as I later explain, combining the two indicators still allows for meaningful comparisons required for testing the theoretical stipulations central to this paper. Moreover, because not all adolescents are ability grouped in eighth grade, I can also evaluate the effects of high school track placements among adolescents with no previous tracking experience. This property of the data provides me with the opportunity to evaluate educational tracking impacts that are insensitive to the partial compatibility of curricular positions.

Control Variables

To interpret track placement as a signal about academic abilities, I adjust my estimations for the range of time-varying control variables described in table 1. First, I control for exogenous changes in the family situation of the adolescent, changes that may jointly affect track allocation and the development of educational expectations. Second, to control for the learning mechanism described earlier, I include averaged test scores in math and reading and averaged grades (i.e., grade point average, GPA) in math and English in the estimations. Including the GPA also allows me to compare the magnitudes of track placement effects to those of the GPA effects. Third, to control for the influence of parents in expectation formation—a central stipulation in the status attainment tradition (Haller 1982; Sewell, Haller, and Portes 1969)—I include a self-report on whether at least one of the adolescent's parents expects the adolescent to complete college.

Fourth, to control for changing teacher influences (Kelly and Carbonaro 2012), I include a scale based on teacher assessments of whether the adolescent is frequently absent, tardy, inattentive, disruptive, or rarely completes his or her homework. Fifth, because the transition into high school—and, within high schools, into tracks—often alters an adolescent's social relationships (Crosnoe 2002; Kubitschek and Hallinan 1998), I include variables that either directly or indirectly control for this peer effects mechanism. These variables measure changes in delinquent behavior (using appropriate self-reports), self-esteem, locus of control, peer perceptions (using self-reports on how classmates view the adolescent), the socioeconomic context of schools (using various indicators on the school's socioeconomic composition), the school type, and whether more than one-third of the adolescents in the high school are in college-bound tracks.[7]

Analytical Approach

The aim of my empirical analysis is to examine the role of adaptation in adolescents' expectation formation. To meet this aim, I use a difference-in-differences

(DID) approach to isolate the signaling effects of high school track placement on educational expectations. This approach allows me to control for all unmeasured characteristics of adolescents that do not change over time (Halaby 2004; Gangl 2010). The approach is therefore an improvement over that used in previous studies, which typically control for measures of academic ability, family background, and expectations at the onset of high school (Alexander and Cook 1982; Wiatrowski et al. 1982; Vanfossen, Jones, and Spade 1987). Indeed, because expectations measured at the onset of high school may be a consequence of initial track placement, the approach used in previous studies will likely fail to control for selectivity bias (Rosenbaum 1984). This issue is particularly pertinent in the study of expectation formation, because adolescents "adapt their personal qualities in anticipation, even prior to attendance" (Meyer 1977, 63).

The DID approach I adopt compares the average difference in expectations between tracks *before* adolescents enter high school, in eighth grade (d_1), to the average difference *in* high school, in tenth grade (d_2). The difference between these two differences is the DID estimate of the track effect, $\delta = d_2 - d_1$, and is mathematically equivalent to the between-track difference in the average change in expectations from middle to high school. As Halaby (2004) demonstrates, the DID approach is a member of the class of panel fixed-effects methods that exploits over-time changes in variables to estimate causal effects. Thus, the DID estimates reported in this paper are based on the first-differences estimator, which in a balanced two-period panel yields the DID estimates (Angrist and Pischke 2009).[8] Adopting this specification also allows me to control the DID estimates for time-varying control variables.

The DID estimate can be given a causal interpretation under the assumption that, in the absence of tracking, the average difference in expectations between adolescents in two tracks would be the same over time (Angrist and Pischke 2009). To maintain this identifying assumption, I extend the DID approach in two ways. First, because various individual and institutional factors are likely to change as adolescents move from middle to high school (e.g., Lord, Eccles, and McCarthy 1994), any comparison of changes in expectations between tracks may pick up these other changes—changes that do not reflect the signaling effect of interest to this paper. To deal with this problem and thereby isolate the signaling effect, I control for the time-varying variables previously described.

Second, because inference based on DID rests on modeling how adolescents' expectations would have changed, had they not been in a particular track in high school, picking proper control groups to form these counterfactual changes becomes important to any proper evaluation of the effects of track placement on educational expectations. To deal with this problem, I exploit the rich information on ability-grouping experiences in eighth grade to compare adolescents that differ by the extent to which their high school track placement can be said to reveal new information to them. The guiding idea is to compare changes in educational expectations from middle to high school among groups of movers and stayers constructed from adolescents' positions in the stratified curriculum in both middle and high school.[9] In this setup, the change in expectations experienced by stayers is taken to be the change that movers would have experienced, had they remained in their initial curricular position. Put differently, this extended

approach compares adolescents who occupy similar positions in the stratified curriculum in eighth grade but who differ in terms of their positions in tenth grade.

Despite the advantages of the DID approach to evaluating the role of educational tracking in expectation formation processes, my application is vulnerable to two limitations set by the data. First, the collection of observations in NELS is separated by two years, from eighth to tenth grade. Changing expectations in ninth grade could therefore potentially cause a change in track placement in tenth grade, leading to upwardly biased track effects. However, because adolescents have only partial control over their course-level placements, I consider this scenario as having negligible influence on the substantive results I report here.[10]

Second, the curricular positions in eighth and tenth grade are, for reasons explained earlier, not fully compatible. Nevertheless, my analyses still provide sufficient grounds for meaningfully separating adolescents according to the extent to which track placement in high school conveys new information to them. For example, if adolescents moving from a comparatively low curricular position in middle school to a comparatively high position in high school regulate their expectations to a degree larger than do adolescents staying in comparatively low positions, I take this finding as supporting the contention that adolescents adapt their expectations to the ability signals sent by their track placement. Moreover, exploiting the fact that not all adolescents are ability grouped in eighth grade, I can estimate effects that are insensitive to any incompatibility of curricular positions. This latter group therefore provides me with a powerful control group that enhances my inferences about the role of educational tracking in adolescents' expectation formation.

Results

Placement Effects on Educational Expectations in Mathematics and English

Does track placement in tenth-grade mathematics and English affect educational expectations, or are differences already in place before adolescents enter high school? To answer this question and to give an exposition of the logic of the DID approach, I first report results that disregard adolescents' ability-group placements in eighth grade. Thus, in table 2, I report DID estimates of the effect of tenth-grade track placement, estimates that involve comparing, for each subject, the average change in expectations (from eighth to tenth grade) between the two tenth-grade tracks. In both subjects, the change in expectations of advanced/honors course takers is noticeably larger than the change of academic or general course takers (panel A). The difference between the two changes, that is, the gross DID estimate, is of about 0.4 years of expected education in each subject. Although controlling the estimates for other factors that might change during the transition to high school results in minor reductions, the controlled, direct effects remain substantial, statistically significant, and in the predicted directions (panel B). Therefore, adolescents appear to regulate their educational expectations in light of the signals sent by their high school track placements.

Nevertheless, the results reported in table 2 ignore the possibility that adolescents differ by the extent to which track placement in high school reveals new information to them about their academic abilities. For some adolescents, their position in the stratified high school curriculum will be similar to the curricular position they held in middle school; for others, the positions will differ. To investigate whether movers in the stratified curriculum regulate their expectations more than stayers do (from eighth to tenth grade), I report in table 3 the DID estimates based on the empirical translation of stayers and movers provided in table 4. Although the estimates differ somewhat between mathematics and English, the overall pattern of effects reported in table 3 shows that adolescents respond in the predicted directions to the signals sent by their high school track placements.

For example, in mathematics, "low- to high-track movers" (i.e., moving from a middle or low eighth-grade ability group to a tenth-grade advanced/honors class) upwardly regulate their expectations by about half a year more than do "low-track stayers" (i.e., moving from a middle or low eighth-grade ability group to a tenth-grade academic or general class). This estimate is statistically significant, in the predicted direction, and robust to changing the reference group of stayers from low-track stayers to "all stayers," thereby showing the significant impact of high-track placements in high school mathematics.[11] Although the corresponding estimate for English is about one-third of a year of expected

Table 2. Difference-in-Differences (DID) Estimates of the Effect of Tenth-Grade Track Placement on Educational Expectations in Mathematics and English

	Mathematics course placement			English course placement		
Panel A: Gross levels and differences in expectations						
	Eighth grade	Tenth grade	Difference	Eighth grade	Tenth grade	Difference
Advanced/ honors class	17.058	17.424	0.367	16.937	17.264	0.326
Academic or general class	15.825	15.771	−0.054	15.750	15.678	−0.073
Difference	1.233	1.653	0.421	1.187	1.586	0.399
Panel B: DID estimates (advanced/honors – academic or general)						
DID (no controls)		0.421*** (0.091)			0.399*** (0.085)	
DID (family background controls)		0.416*** (0.091)			0.394*** (0.085)	
DID (all controls)		0.377*** (0.090)			0.355*** (0.080)	

Note: Weight used (see note in table 1). Sample design corrected standard errors. Numbers may deviate slightly because of rounding. Years of expected education. Standard errors in parentheses.

***$p < .001$

Table 3. Difference-in-Differences Estimates of High School Track Placement Effects on Educational Expectations, Based on Constructed Groups of Stayers and Movers in the Math and English Tracking Structure from the Eighth to Tenth Grade (see table 4 for the empirical translation of these groups)

	Mathematics			English		
	No controls	Family background controls	All controls	No controls	Family background controls	All controls
Downward movements:						
High- to low-track movers [II] – High-track stayers [I]	–0.279* (0.123)	–0.271* (0.123)	–0.163 (0.116)	–0.434*** (0.127)	–0.425*** (0.126)	–0.399** (0.119)
High- to low-track movers [II] – All stayers pooled [I+IV]	0.046 (0.095)	0.061 (0.095)	0.013 (0.098)	–0.128 (0.099)	–0.091 (0.100)	–0.152 (0.100)
Upward movements:						
Low- to high-track movers [III] – Low-track stayers [IV]	0.590** (0.205)	0.575** (0.205)	0.526** (0.211)	0.366† (0.202)	0.374† (0.201)	0.375† (0.199)
Low- to high-track movers [III] – All stayers pooled [I+IV]	0.530** (0.203)	0.512* (0.204)	0.504* (0.212)	0.280 (0.200)	0.277 (0.201)	0.340† (0.198)
From non-tracked to tracked system:						
Ungrouped to high-track movers [V] – Ungrouped to low-track movers [VI]	0.653* (0.276)	0.667* (0.278)	0.778** (0.288)	0.423* (0.175)	0.418* (0.176)	0.304* (0.153)

Note: Weight used (see note in table 1). Sample design corrected standard errors. Years of expected education. Standard errors in parentheses.
***$p < .001$ **$p < .01$ *$p < .05$ †$p < .10$

Table 4. Empirical Translation of Movers and Stayers in the Mathematics or English Tracking Structure from the Eighth to Tenth Grade, Defined by the Eighth-Grade Ability-Group Indicator and Tenth-Grade Track Placement Indicator

	Tenth-grade track placement	
	Advanced/honors	Academic or general
Eighth-grade ability-group placement:		
High	*High-track stayers [I]*	*High- to low-track movers [II]*
Middle/low	*Low- to high-track movers [III]*	*Low-track stayers [IV]*
Not grouped	*Ungrouped to high-track movers [V]*	*Ungrouped to low-track movers [VI]*

Note: Unweighted group sizes for Mathematics are [I] 600; [II] 1,545; [III] 98; [IV] 2,734; [V] 123; and [VI] 914.
Unweighted group sizes for English are [I] 824; [II] 1,240; [III] 346; [IV] 2,773; [V] 294; and [VI] 1740.

education, this estimate is not statistically significant at a 5 percent level (although the *p*-value is less than 0.1).

In contrast, table 3 shows a less clear picture for downward movers in the stratified curriculum. Although some of these effects are statistically significant and in the predicted directions, they are not robust to using the pooled group of all stayers as the reference group for those not changing tracks. This lack of symmetry in the effects of downward and upward movements suggests that positive ability signals loom larger than negative ones in adolescents' expectation formation. However, this configuration of effects may, as explained earlier, result from the partial compatibility of the eighth- and tenth-grade curricular position indicators. This partial compatibility makes substantively interpreting the pattern of effects difficult. Nonetheless, detecting any heterogeneity in responses is sufficient for testing the theoretical predictions central to this paper. Therefore, I take the significant impact of upward movement in the tracking structure as supporting the contention that high school track placement offers new information to which adolescents respond.

This finding is further corroborated by the DID estimates reported in table 3 for adolescents who were not ability grouped in eighth grade. Because track effects for this group of adolescents are insensitive to the particular empirical translation of stayers and movers in table 4, they provide a strong test of the informational effects of high school track placement. Controlling for all variables, the estimates show that this group of adolescents respond in the predicted direction to their track placement in both subjects. Yet, the response appears more substantial for placement in mathematics (about three-quarters of a year) than for placement in English (about one-third of a year). This difference between the two subjects may arise because advancement in mathematics is of a comparatively more cumulative and differentiated nature (Gamoran 1987). According to this view, the differentiation of the math curriculum may convey a clearer signal about an adolescent's relative standing than the corresponding differentiation in the English curriculum. However, despite this difference, on balance the subject-specific analyses show significant informational effects of high school track placement in both mathematics and English.

Effects of Consistent and Discrepant Track Placements

The key conjecture of this paper is that track placement serves as a structural location that systematically conveys information to the adolescent. To investigate whether adolescents with consistent course-taking patterns receive a stronger signal regarding their academic abilities than adolescents with discrepant course-taking patterns, I compare changes in expectations from middle to high school among groups of stayers and movers in the overall tracking structure. I provide the empirical translation of these groups in table 5.[12] In contrast to the subject-specific movements analyzed earlier, factoring in discrepant placements allows me to differentiate *within* groups of movers and stayers. I can distinguish between those moving between consistent track placements (e.g., from consistent placements in middle- or low-ability groups in eighth grade to consistent placements in advanced/honors classes in tenth grade) and those who make partial moves (e.g., from consistent placements in high-ability groups in eighth grade to discrepant course placements in tenth grade). Moreover, I can distinguish between "consistent track stayers," who keep their consistent placements, and "discrepant track stayers," who keep their particular combination of course levels in the two subjects. This distinction provides two control groups of adolescents for whom track placement in high school arguably conveys little new information.

Table 6 reports track effects based on the grouping of movers and stayers in table 5. The cells show DID estimates comparing changes in expectations (from eighth to tenth grade) between movers and stayers, defined respectively in the rows and columns of the table. The table reveals two findings. First, whereas "consistent high- to low-track movers" appear to regulate their educational expectations to a degree much similar to the various control groups of stayers, the corresponding impact of about 1.5 years of expected education among "consistent low- to high-track movers" is positive, statistically significant, and very substantial (panel A). This lack of symmetry in the effects of upward and downward movements in the consistent tracking structure appears to corroborate the finding reported in the subject-specific analyses, namely, that positive ability signals loom larger than negative ones in adolescents' formation of expectations. However, as explained earlier, this pattern of effects may simply result from the partial compatibility of the eighth- and tenth-grade curricular position indicators. This partial compatibility makes it difficult to draw any firm conclusions about the pattern. Nonetheless, as explained earlier, the pattern of effects still provides sufficient support for the theoretical predictions. Thus, in line with these predictions, the informational effect of being consistently placed in high-track classes in high school is particularly substantial among those who, given their consistent low-track placements in eighth grade, are those least expected to enter this position in the stratified high school curriculum.

Second, table 6 shows that partial movers in the tracking structure do not revise their educational expectations to a degree that is statistically significantly different from the various control groups of stayers (panel B). In other words, there is little signaling impact of moving from consistent placements in middle school to discrepant placements in high school, *or* of moving from discrepant placements in middle school to consistent placements in high school (when compared to those

Table 5. Empirical Translation of Groups of Stayers and Movers in Tracking Structure from the Eighth to Tenth Grade, Defined by the Combined Eighth-Grade Ability-Group Indicator and the Combined Tenth-Grade Track Placement Indicator

	Combined tenth-grade track placement			
	Consistent placement		Discrepant placement	
	Advanced/honors	Academic or general	Advanced/honors: Math Academic or general: English	Advanced/honors: English Academic or general: Math
Consistent eighth-grade ability-group placement:				
High	*Consistent high-track stayers [A]*	*Consistent high- to low-track movers [B]*	*Partially downward movers [C]*	*Partially downward movers [D]*
Middle/low	*Consistent low- to high-track movers [E]*	*Consistent low-track stayers [F]*	*Partially upward movers [G]*	*Partially upward movers [H]*
Not grouped	*Consistently ungrouped to consistent high-track movers [I]*	*Consistently ungrouped to consistent low-track movers [J]*	*Consistently ungrouped to discrepant track placement movers [K]*	*Consistently ungrouped to discrepant track placement movers [L]*
Discrepant eighth-grade ability-group placement:				
High: Math Middle/low: English	*Partially upward movers [M]*	*Partially downward movers [N]*	*Discrepant track stayers [O]*	–
High: English Middle/low: Math	*Partially upward movers [P]*	*Partially downward movers [Q]*	–	*Discrepant track stayers [R]*
Other discrepant placement	–	–	–	–

Note: Unweighted group sizes are [A] 147; [B] 268; [C] 62; [D] 160; [E] 8; [F] 899; [G] 34; [H] 66; [I] 17; [J] 427; [K] 29; [L] 35; [M] 29; [N] 257; [O] 36; [P] 8; [Q] 188; [R] 66. The number of unweighted respondents in the remaining (excluded) groups is 514.

Table 6. Difference-in-Difference Estimates of the Effect on Educational Expectations of Combined High School Track Placement, Based on Constructed Groups of Stayers and Movers in the Tracking Structure from the Eighth to Tenth Grade (see table 5 for the empirical translation of these groups)

	Groups of stayers			
	Consistent high-track stayers [A]	Consistent low-track stayers [F]	Consistent track stayers pooled [A + F]	Discrepant track stayers pooled [O + R]
Panel A: Movers in consistent tracking structure				
Consistent high- to low-track movers [B]	–0.323 (0.217)	–	0.076 (0.172)	0.144 (0.296)
Consistent low- to high-track movers [E]	–	1.680** (0.596)	1.672** (0.606)	1.740** (0.663)
Panel B: Partial movers in tracking structure				
Partially downward movers pooled [C + D + N + Q]	–	–	0.038 (0.143)	0.106 (0.682)
Partially upward movers pooled [G + H + M + P]	–	–	0.115 (0.213)	0.183 (0.313)

Note: Weight used (see note in table 1). Sample design corrected standard errors. Table cells contain DID estimates that subtract the change in expectations among stayers (in the columns) from the change in expectations among movers (in the rows). Controlling for all control variables. Years of expected education. Standard errors in parentheses.
**$p < .01$

who keep either their consistent or their discrepant placements from middle to high school). Analyses (not reported here) that break down the types of partial movers (according to the possible movements defined in table 5) corroborate this finding of no signaling effects for these groups of adolescents. Consequently, the results in table 6 support the contention that consistent course placements convey a clearer signal to the adolescent than discrepant course placements do.

However, drawing this conclusion may depend on the compatibility of the eighth- and tenth-grade curricular position indicators. Thus, I report in table 7 the DID estimates for adolescents who are consistently not ability grouped in eighth grade. These adolescents have little experience with any curricular differentiation prior to high school, and—as was the case for the subject-specific analyses—the estimates are therefore insensitive to the particular empirical translation of stayers and movers (see table 5). Table 7 shows that, for this group of adolescents—compared to consistent low-track placement (i.e., in two academic or general classes)—consistent high-track placement (i.e., in two advanced/honors classes) significantly boosts expectations by about one year, whereas discrepant track placement significantly increases expectations by about half a year (panel A). However, although the difference between these two estimates supports the contention that consistent track placement provides a clearer signal to adolescents than discrepant placement does, the difference—which is the difference between consistent high-track placement and discrepant track placement—is not

Table 7. Difference-in-Differences (DID) Estimates of the Impact of Consistent and Discrepant High School Track Placement on Educational Expectations among Adolescents Consistently Not Ability-Grouped in the Eighth Grade (see table 5 for the empirical translation of groups)

	DID (All controls)
Panel A: DID estimates	
Consistently ungrouped to consistent high-track movers [I] – Consistently ungrouped to consistent low-track movers [J]	0.963† (0.555)
Consistently ungrouped to discrepant track placement movers pooled [K + L] – Consistently ungrouped to consistent low-track movers [J]	0.585* (0.274)
Consistently ungrouped to consistent high-track movers [I] – Consistently ungrouped to discrepant track placement movers pooled [K + L]	0.378 (0.606)
Panel B: DID estimates based on collapsing consistent and discrepant course takers	
Being in at least one advanced/honors class [I + K + L] – Being in no advanced/honors class [J]	0.665** (0.255)

Note: Weight used (see note in table 1). Sample design corrected standard errors. Controlling for all control variables. Years of expected education. Standard errors in parenthesis.
$^{**}p < .01$ $^{*}p < .05$ $^{\dagger}p < .10$

statistically significant at conventional levels. Thus, discrepant placement appears to convey as clear a signal as consistent placement. Put differently (and illustrated in panel B in table 7), among adolescents with little prior tracking experience, being in at least one advanced/honors class in high school, compared to being in none, significantly affects educational expectations.

Taken together, the analyses of combined track placements provide mixed support for the conjecture that adolescents revise their educational expectations more strongly to consistent, as opposed to discrepant, course-taking patterns. Nonetheless, the analyses show clear signaling effects of being in advanced/honors classes in high school, particularly for adolescents for whom their track placement—given their prior tracking experience or inexperience—can be said to convey new information to them about their academic potential and consequent chances for success in future schooling.

Interpreting Track Effects

The findings in my analysis suggest that adolescents revise their educational expectations consistently and in the predicted directions in light of the signals that their high school track placements send. Yet, the question remains of how large these effects are. Answering this question is important for analyzing the role of adaptation in adolescents' formation of educational expectations. To interpret the magnitudes of the track effects, I use three approaches. The first approach exploits the panel data and examines the extent to which observed differences in expectations between tracks in high school were in place before adolescents enter high school. Given that much of the literature on expectation formation focuses

on ability signals sent by the GPA, the second approach compares the magnitude of track effects to that of the effect of the GPA. The third approach compares the magnitude of track effects to average differences in expectations across background variables known to correlate with educational attainment.

For the first approach, I break down the total difference in educational expectations in tenth grade into a component attributable to the difference that existed in eighth grade and a component attributable to the effect of the tenth-grade track placement. This approach therefore gives the relative importance of track placement vis-à-vis the selection into tracks on stable, unobserved characteristics in the formation of educational expectations. Analyses (not reported here) show that roughly 50 percent of the total tenth-grade difference in expectations between consistent low- to high-track movers and consistent low-track stayers is attributable to the effect of track placement. Thus, for this comparison, the track effect is as important as the selection effect in bringing about track differences in educational expectations in high school. Decomposing the tenth-grade difference in expectations between consistent placement in advanced/honors classes and consistent placement in academic or general classes among adolescents not ability grouped in eighth grade yields a corresponding percentage of 30. Thus, these results suggest that although high school track differences in expectations are in place before adolescents enter high school, tracking plays an important role in conveying pertinent information in light of which adolescents form their educational expectations.

For the second approach, I compare the track effects with the GPA effect on expectations. Estimations (not reported here) suggest that the GPA effect is about 0.33 years of expected education (a result found in all subsamples used in this paper). An adolescent would thus have to move about 1.5 units along the GPA scale (e.g., from a C average to a B+ average)—a considerable achievement—before adapting his or her educational expectations to an extent that parallels the adaptation reported in table 3 for low- to high-track movers (compared to low-track stayers) in mathematics. Moreover, the adaptation to track placement among consistent low- to high-track movers (compared to consistent low-track stayers) reported in table 6 would correspond to a move across the entire GPA distribution. In this respect, track placement appears to strongly influence adolescents' educational expectations.

For the third approach, I compare the effects of high school track placement on educational expectations to the influence of two variables known to affect educational attainment: parental income and ability.[13] Estimations (not reported here) show that the weighted average difference in eighth-grade expectations across adjacent quartiles in the distribution of parental income is about half a year of expected education, whereas the corresponding difference across test scores in mathematics and reading in eighth grade is about three-quarters of a year. Thus, the effect of consistent low- to high-track movers (compared to consistent low-track stayers) corresponds to three times the average difference in expectations between two income quartiles and twice the difference in expectations between two ability quartiles. Given the impact of these variables on educational attainment, this finding suggests that tracking in high school exerts a strong influence on educational expectations.

Discussion and Conclusion

This paper examines the role of high school track placement in the formation of adolescents' educational expectations and makes three contributions to the literature. First, I use educational tracking to evaluate the extent to which adolescents adapt their educational expectations to new information that helps them determine their chances for success in future schooling. Second, I argue that any proper evaluation of the informational effects of high school track placement requires comparing adolescents that differ by the extent to which their placement reveals new information to them about their academic abilities. Third, applying a DID approach that controls for the non-random selection into tracks in high school, I isolate the signaling effect of high school track placement on educational expectations.

The empirical analysis provides evidence in favor of the theoretical position stressing the crucial role of information in adolescents' formation of beliefs about their future. I find that adolescents actively revise their educational expectations in response to their track placements in high school—an ability signal whose value, I argue, derives from its relation to adolescents' perceived chances for success in future schooling. As expected, these revisions are particularly pronounced when placement is consistent across subjects, and they exist primarily when placements in high school contradict tracking experiences in middle school. In terms of magnitude, the effects of track placement are substantial when considered in relation to both expectation formation processes that occur before high school and the impact on expectations of variables known to be strongly linked to educational attainment.

My study has four implications for research on the formation of adolescent educational expectations. First, the informational effects of the sorting of students according to academic abilities are likely to differ among adolescents. The findings illustrate that educational expectations are formed in the interaction between individual biographies and institutionally defined expectations. Prior experience in the educational system shapes the conditions under which adolescents respond to the signals sent by schools. Thus, future research on expectation formation among adolescents should examine how these conditions evolve and function, and should develop taxonomies for educational trajectories that can provide a backdrop for interpreting the effects of ability sorting on educational expectations.

Second, while this paper shows that educational tracking plays a role in the formation of adolescents' educational expectations, it says little about the evolution of educational expectations before adolescence. As Andrew and Hauser (2011) note, we lack a consistent theory of the development of educational expectations. In status attainment theory, significant others respond to the signals conveyed from grades in the expectations these others hold for the individual adolescent (e.g., Haller and Portes 1973). Throughout elementary school, parents receive signals about the academic abilities of their children and likely use this information to form their expectations for them. In this way, the educational expectations that individuals hold at the onset of adolescence are the result of socializing influences, which reflect the learning processes of their parents.

Understanding and analyzing these dynamic processes requires not only a theoretical framework that views the evolution of beliefs as the outcome of joint learning processes in the family, but also rich panel data on beliefs, expectations, and outcomes related to academic success over the educational careers of individuals.

Third, research on expectation formation needs better measures of adolescents' educational expectations. The measure I use does not provide information on the certainty with which an adolescent expects a given level of educational attainment. Recent work on the elicitation of expectations conceives of expectations as subjective probability distributions (Manski 2004). In this view, each adolescent assigns a probability to each potential level of education, yielding an individual-specific distribution of potential years of education. Eliciting these expectation distributions would allow for modeling both the level and dispersion of these distributions, thereby providing better insights into the functions of educational tracking in the formation of educational expectations. However, to study these critical aspects of expectation formation, future research needs to collect fine-grained data on expectation distributions.

Fourth, my study demonstrates that educational tracking stratifies conceptions of academic ability, conceptions through which adolescents come to view themselves and to which they respond in terms of modifying their educational expectations. Because these labeling processes operate independent of actual abilities, they tend to produce self-fulfilling prophecies (Merton 1948). Labeled a high-track or low-track student, an adolescent is likely to change goal orientation, in turn possibly leading to behavioral changes that will tend to conform to these labels. Given the strong impact of educational expectations on final educational attainment, this feedback mechanism has two related consequences for inequalities in educational attainment. On the one hand, the mechanism is likely to perpetuate inequalities in educational attainment. On the other hand, because track placement correlates with socioeconomic background, tracking in high schools is likely to reinforce preexisting socioeconomic inequalities in educational expectations and consequent educational attainment. Either way, the educational system ends up serving a purpose—that of stratifying adolescents, independent of their academic potential—very different from its intentions.

Notes

1. Much of this literature shows that adolescents often have imperfect knowledge about the objective aspects of future schooling, such as the costs of college (Grodsky and Jones 2007), the returns to schooling (Dominitz and Manski 1996), the academic demands of higher education (Rosenbaum 1998), and the educational requirements of jobs (Morgan et al. 2013). In light of this literature, it also appears likely that adolescents use new information to resolve some of the uncertainties associated with these aspects of future schooling. I return to the issue of uncertain beliefs in the concluding section of the paper.
2. Morgan's (1998) analysis of historical trends in high school seniors' educational expectations presents related evidence that adolescents respond to information relevant to educational decision-making. Morgan found that trends in expectations

mirror changes in the earning returns to education, suggesting that adolescents respond to the changing costs and benefits associated with educational decisions (see also Wilson, Wolfe, and Haveman 2005). Similarly, studies have long documented the increasing realism of students' educational expectations over the educational career (Bozick et al. 2010; Kerckhoff 1977), reflecting both the development of cognitive self-appraisals and a process of self-reflexive adaptation to changing environments (Stipek and Mac Iver 1989; Wigfield and Eccles 2000).

3. Factors beyond the control of adolescents relate not only to academic potential and teacher decisions but also to between-school differences in the implementation of tracking (Lucas and Berends 2002; Kelly 2007). Even among adolescents with similar abilities and family background, opportunities to enter high-track classes may vary idiosyncratically between schools and, within schools, between subjects—thus making placements in the stratified curriculum beyond the immediate control of adolescents (and their families).
4. To maximize efficiency, I use the imputation strategy that deletes missing values on the outcome variable after imputation (Von Hippel 2007). I estimate the inverse probability weight conditional on gender, race, and parental socioeconomic status. Results based on listwise deletion and no probability weights, albeit less efficient, are very similar to those reported here, indicating the robustness of my findings to alternative specifications.
5. Following previous research (e.g., Hallinan and Kubitschek 1999), the final samples exclude high school dropouts and adolescents who never attended high school. I further omit adolescents classified as taking a vocational course, because this group constitutes only a minor fraction of the samples and because the track indicator I use differentiates among ordered tracks, thereby allowing me to make comparisons necessary for testing the claims central to this paper.
6. Simplifying exposition also becomes important, because, as I later explain, a substantial part of the empirical analysis combines eighth-grade ability grouping and tenth-grade tracking, yielding a plethora of possible combinations of course-level movements from middle to high school.
7. Information on the construction of these variables is available from the author upon request. As the last school characteristic is not available for the eighth-grade wave, it is not truly time-varying. To control for it in my first-difference estimations (described later), I therefore set its values to zero in the eighth-grade period.
8. The first-differences estimator I use effectively regresses changes in expectations on groups of adolescents defined by their track placements. For a formal exposition of the equivalence of these panel model estimators, Halaby (2004, 514–15).
9. This analysis is inspired by the strategy used by Meghir and Palme (2005) in their study of educational reform impacts in Sweden. I thank an anonymous reviewer for pointing out the relevance of this approach to my analyses.
10. Dauber, Alexander, and Entwisle's (1996) study corroborates this assumption. They report negligible effects of prior educational expectations on track placement in both the sixth and eighth grades, when controlling for prior performance and family background.
11. Using "all stayers" as an alternative reference group is inspired by Meghir and Palme (2005) and serves the simple purpose of constructing the counterfactual change in expectations using a more comprehensive group of adolescents for whom track placement conveys little new information.
12. Because table 5 has 24 possible combinations, I simplify the exposition by reporting only the groups of stayers and movers that I use for testing the theoretical predictions.
13. I use the eighth-grade measure of parental income provided in NELS.

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