

Expectations, Education, and Opportunity

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Abstract

Children from households with lower levels of income, wealth, and parental education are less likely to attain high school and college degrees. However, our findings do not support the hypothesis that these outcomes are driven by a “culture of despair,” where children are low-achieving because they are expected to underachieve. Instead, we find that parents in disadvantaged households are actually more optimistic than parents from advantaged households. That is, these parents have expectations for the educational outcomes of their children that differ more from the statistical likelihood of these outcomes than do parents of children from advantaged households.

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1 Introduction

One's group identity may have a strong impact on economic outcomes, such as educational attainment. Akerlof and Kranton (2000) model the effects of group identity and self-perception on such economic decisions. Consider the example of a youth whose reference group (i.e., the group she perceives herself to be a member of) is one where a strong emphasis is placed on academic success. Models of group identity would predict that this youth would work harder in school to maintain her sense of group identity; her perceptions of herself influence her decisions to continue and excel in academics. Group affiliations and self-perceptions may also result in a "culture of despair" as described by Kearney and Levine (2014a) and Genicot and Ray (2014). That is, groups who have low success attaining desirable economic outcomes may adjust their subjective probabilities of attaining these outcomes downward, resulting in decisions not to invest in or pursue these options. As an example relevant to this work, those in a low income group, where rates of high school graduation are low, may adjust down the subjective probability they assign to completing high school. These actors then use this lower subjective probability of completion in their calculation of the costs and benefits to continuing school. As the lower probability reduces the expected value of continuing in school, the result is that more low income individuals drop out of school.

We test the degree to which subjective probabilities of educational attainment vary by socioeconomic status. In particular, we test for differences in expectations of completing high school and college across households grouped by income, wealth, and parental education. We find that subjective and objective expectations differ significantly across groups. Children from lower income households, households with less wealth, and households headed by individuals with less education have much less likelihood of graduating high school by age 20 or college by age 30. As would be the case if the culture of despair effect of group identity were true, parents of these children have lower subjective expectations of these achievements for their children. However, what is important for there to be a feed-back loop between self-perceptions and outcomes are not the subjective beliefs per se, but the differences between subjective beliefs and the objective like-

likelihood of the outcomes. If economic agents have rational expectations, there can be no culture of despair belief traps. We find that the differences between the subjective and objective probabilities of achieving high school or college degrees are inversely related to income, wealth, and parental education. That is, parents from households at the bottom of the income distribution have the most optimistic expectations. On average, parents from households in the lowest income quintile assign a subjective probability 21 percentage points (43 percentage points) higher than the objective probability of attaining a high school degree by age 20 (college degree by age 30). This compares to a bias of 8 percentage points (28 percentage points) for parents from households in the top quintile. Using wealth quintiles instead of income, or using the level of parental education, we see similar patterns. Thus our findings show a bias in subjective expectations that may mitigate the effects of group identity and the negative feedback loop between group outcomes and individuals' perceptions.

There is substantial support for the importance of aspirations and expectations in determining economic outcomes, such as the educational outcomes studied here. Appadurai (2004) calls the capacity to aspire to better outcomes a "meta-capacity." Genicot and Ray (2014) also note that income and aspirations work in a self-reinforcing way and are jointly determined. That is, higher income leads to higher aspirations, which begets higher income. Specifically relating to academic achievement, a number of studies find an important role for the expectations of both students and their parents in determining educational outcomes. Attanasio and Kaufmann (2009) survey high school and college students in Mexico and their parents. They find that students' and parents' expected returns from schooling matter for high school completion rates and that students' expectations matter for college completion rates. Jensen (2010) does a field experiment where he informs students of the actual returns to schooling and finds that students respond to this information through increasing graduation rates. Betts (1996) finds that U.S. students' expectations of the returns to schooling vary substantially and vary with income. Our survey data gauge the probability of completion and not expected income after completion. However, the subjective probability of completion is instrumental in determining the expected returns to schooling.

Bailey and Dynarski (2011) note the growing achievement gaps between children from low and high income families in terms of college entrance and graduation rates. Whether this is due to differences in the expectations of completion or something else is an open question. However, Case and Katz (1991) use a survey of Boston youth to show that students are more likely to drop out of high school if their parents or peers did. Murnane (2013) points out the dramatic differences in the graduation rates of youths from low and high income families. Bailey and Dynarski (2011) and Reardon (2012) highlight how this gap has increased over the last several decades. Murnane (2013) suggests that the most important contributor to the students' decisions to dropout of high school are the non-monetary costs to completing school, which vary depending upon the students' cognitive abilities. As Cunha, Heckman and Schennach (2010), and Fryer and Levitt (2004) show, lower income students get less investment in cognitive skills from an early age, thus making it more difficult for them to complete schooling than for children from high income families. Kearney and Levine (2014b) find that high school completion rates are affected by local income inequality, thus supporting the proposition of a "culture of despair." Our survey evidence shows that these differences in investment across income groups do not correlate with significantly different subjective expectations of the student's parents. That is, despite the potentially lower investment in cognitive skills by lower income parents, these parents have much more optimistic expectations for their children's education than parents in families with higher income and wealth.

The remainder of the paper proceeds as follows. We propose a simple model illustrating the relationship between subjective expectations, objective likelihoods, and education in Section 2. Section 3 discusses the data we use, and presents some descriptive statistics from those data. Section 4 outlines the empirical methodology. We highlight our results in Section 5. A test of whether expectations indeed affect educational outcomes is performed in Section 6. In Section 7, we offer concluding remarks.

2 A Model of Expectations and Education

To illustrate how parental expectations influence educational outcomes, consider the following model. Parents derive utility over their own consumption and the utility of their children. For simplicity, assume the child's utility is determined solely by the child obtaining a given educational outcome (e.g., graduating high school or college).¹ Parents choose to allocate their scarce resources (i.e., time and wealth) between their own consumption and investment in the human capital of the child. Investing in the human capital of the child increases the child's likelihood of obtaining a given educational outcome. Thus, we can write the problem of the parents as:

$$\begin{aligned} \max_i u(c) + \mu p(i, \mathbf{X})v^g + (1 - \mu p(i, \mathbf{X}))v^{ng} \\ \text{subject to: } c + i \leq y, \end{aligned} \tag{1}$$

where y are total resources available to the household and i is investment in the child's human capital. The function $p(i, \mathbf{X})$ represents the objective probability that the child will achieve the desired educational outcome, g , given investment in the child, i , and other factors summarized in the vector \mathbf{X} (e.g., parental education, household wealth, educational success of peers). The parameter μ represents the expectations of the parent, so that $\mu \times p(i, \mathbf{X})$ are the subjective expectations of the parent. Thus if $\mu = 1$, the parent has rational expectations and if $\mu < 1 (> 1)$ the parent is relatively pessimistic (optimistic) about the child's outcome. The terms v^g and v^{ng} represent the value to the parent of the child obtaining educational outcome g or not, respectively. It is assumed that $v^g > v^{ng}$ and that utility is increasing and concave in c .

Maximization yields the necessary condition that the marginal utility of parental consumption equal the marginal change in subjective probability for a change in child investment times the

¹The deterministic and simplistic nature of this assumption not necessary. It need only be the case that increases in education increase the likelihood of a higher well-being for the child and that this is valued by the parent (or that the parent places intrinsic value on the child's education).

difference in utilities from the two educational outcomes. That is,

$$u'(c) = \mu \frac{\partial p(i, \mathbf{X})}{\partial i} [v^g - v^{ng}]. \quad (2)$$

In words, the parent will invest in the child's human capital up to the point that the marginal expected benefits of doing so are equal to the marginal utility of the forgone consumption. Let the amount of human capital investment that satisfies this condition be i^* . If the objective probability of outcome g (given by $p(i, \mathbf{X})$) is increasing and concave in i , then we know that i^* is increasing in μ . Specifically, the comparative static is:

$$\frac{\partial i^*}{\partial \mu} = \frac{\frac{\partial p(i, \mathbf{X})}{\partial i} [v^g - v^{ng}]}{-u''(c) - \mu \frac{\partial^2 p(i, \mathbf{X})}{\partial i^2} [v^g - v^{ng}]} > 0 \quad (3)$$

Thus, higher subjective expectations increase parental investment and lower subjective expectations decrease investment. This is the feature at work in the "culture of despair" described by others. Parents with low subjective expectations (i.e., a low μ) invest less in their children and thus the objective likelihood of the children having desirable outcome is lower. The key here is the difference between subjective and objective probabilities as represented by the μ parameter. If parents have rational expectations (i.e., $\mu = 1$), then optimal investment by the parent is the same as if the parent were using the objective probability function. If expectations are higher (lower), parents over (under) invest relative to what they would do had their expectations been rational. Because the probability of educational attainment is a function of investment, the subjective expectations of the parent affect educational outcomes. These outcomes then feed back into the subjective probabilities (through updates to the objective probability function, $p(i, \mathbf{X})$) that affect investment decisions.

The goal of the empirical analysis that follows is to see how μ varies across demographic groups. That is, are some groups more optimistic or pessimistic than others? The degree to which some groups are more optimistic or pessimistic may itself influence the educational outcomes of those groups. If some groups are pessimistic, this may lead them into an expectations trap, where

low expectations beget low outcomes.

3 Data on Expectations and Outcomes

Data on expectations and outcomes come from the National Longitudinal Survey of Youth 1997 (NLSY97). Conducted by the U.S. Department of Labor's Bureau of Labor Statistics, this annual survey began in 1997 and consists of 8,984 respondents born between the years 1980 and 1984. The survey instrument was designed to track the significant life events of Americans, especially their labor market experiences, and contains high quality survey weights that transform the pool of respondents into a nationally-representative sample. Major educational events are captured by these surveys. In the initial survey round, the respondent's parents were also interviewed.

A subsample of these parents were asked seven additional questions pertaining to their predictions of their child's life outcomes. Of these, four are related to the child's education. Parents were asked to rate the percent chance that their child would (i) be enrolled in school next year; (ii) be both enrolled in school next year and work a job requiring 20 or more hours per week; (iii) graduate high school by the age of 20; and (iv) earn a college degree by the age of 30. Parents could respond with any whole number percent between and including 0 and 100 percent. Here, we are particularly interested in the last two predictions, high school and college graduation. Table 1 presents the mean responses to these two questions for the full sample and separately by socioeconomic group, specifically across the five household income and wealth quintiles and increasing levels of parental education. The full sample mean responses for graduating high school and college were an approximate 94 and 69 percent chance, respectively. The educational expectations of children increase, both at the high school and college levels, as we move up both the income and wealth distributions. This is perhaps unsurprising. More interesting are the sizes of the differences in predictions across these two distributions. Even for the lowest income quintile, the mean responses are that children have an approximate 87 and 56 percent chance to graduate high school and college, respectively. For the highest income quintile, these mean responses are approximately

a 98 and 80 percent chance, respectively. As we will show, these differences in educational expectations across income and wealth groups are much smaller than the objective probabilities of the educational outcomes across these groups. Lastly, we present these mean predictions within four categories of parental education level. As one might expect, increases in parental education correlate with higher expectations for the educational attainment of children.

[Table 1 about here.]

Using data from NLSY97 survey waves 1997 through 2011, we are able to create indicator variables for these two events actually coming to fruition. That is, we create a dummy variable that equals one for respondents who graduated from high school by the age of 20, and zero otherwise, and another for those that earned a college degree by age 30, and zero otherwise. Table 2 presents means for these educational outcomes across all subsamples examined. For comparison, means for the parental predictions subsample are shown as well as those for the NLSY97 as a whole. Generally, the means for the parental expectations subsample are very close to those for the entire NLSY97. The actual outcomes follow a pattern similar to the expectations. Moving up the income and wealth distributions, a greater and greater share of children complete both high school and college. A similar pattern is shown across the parental education categories. However, note that the gradient of the likelihood of educational outcomes is much steeper across the income and wealth distribution than is the the gradient for the expectations of these outcomes. Similarly, parents with lower education tend to overestimate the likelihood of their child's educational attainment to a greater degree than parents with more education.

[Table 2 about here.]

4 Modeling Educational Outcomes

We test for differences in expectations of high school and college completion across socio-economic status. The important variable will be the difference between subjective and objective probabilities

of each outcome. Thus, our analysis will proceed in two stages. First, we model the likelihood of the two educational outcomes of interest. It is from these statistical models that we are able to construct objective probabilities. In the second stage, we analyze the difference between parents' subjective probabilities and our model-estimated objective probabilities.

We use logit models to estimate the likelihood a child obtains a high school degree by age 20 or a college degree by age 30. In these two models, we use a large set of NLSY97 variables which have been shown to be educational determinants in prior literature. For example, Belley and Lochner (2007) find important roles for income and ability in both high school and college completion rates, Ginther and Pollak (2004) show that family structure is an important determinant in educational outcomes, and Lynskey and Hall (2000) find the drug use of students to be an important factor. When estimating these models, we make use of the full NLSY97 sample, not just the parental predictions subsample. We additionally use the NLSY97 sample weights to make the sample nationally-representative. Thus, these logit models take the form

$$y_i = \alpha + \beta \mathbf{X}_i + \varepsilon_i \quad (4)$$

where y_i is the binary degree (either high school or college) completion outcome; α is an intercept; \mathbf{X}_i a vector of educational outcome predictors, with β its corresponding vector of coefficients; and ε_i a well-behaved error term.

Table 3 presents summary statistics for the independent variables used in our education prediction models. Note that all variables used in the logit models are determined at the time of the parental expectation survey. That is, all variables we use to construct the objective probabilities of the outcomes were potentially in the information set of the parents at the time they elicited their subjective probabilities. Among these are several general demographics including the child's age at the time of the parental prediction; gender; race (four categories, omitted category white); a rural residence indicator; geographic region (four categories, omitted category West); and U.S. citizenship status. We also include several parental and familial characteristics including family net

worth; family income; the age of the mother when the child was born; her age when she birthed her first child; number of siblings; an intact family indicator (both biological parents present); an indicator for a female head of household; an indicator for those raised by their biological mother and a stepfather; both of the parents' education levels; and the religion in which the child was raised (five categories, omitted category "no religion"). Importantly, we include a measure of ability, the child's score on the math and English portions of the Armed Services Vocational Aptitude Battery (or ASVAB), and its square. A useful characteristic of the NLSY97 is that all respondents were administered this multiple choice test, regardless of military service aspirations.

We also make use of responses to the survey's education-specific questions as independent variables. These are the number of days the child was suspended from school the prior year; the number of days absent from school in the prior year; the number of times the child has changed schools to date; indicators for whether, during the last summer, the child took enrichment courses (meaning anything additional to what is required and/or courses to help the child get ahead of their peers), make-up courses, and/or summer courses for other reasons; indicators for the child's agreement level with the survey statement "I have good teachers" (four categories, omitted category "strongly disagree"); an indicator for individuals that are not currently enrolled in school but legally should be; and the number of times the child has been physically threatened at school. Additionally, we include variables related to behavior and criminal activity, health and sexuality, and life experiences. All of these have been shown by others to be, at least in part, educational determinants (see, for example, Ribar (1994) and Gaviria and Raphael (2001)). These include a dummy for those that have ever been arrested; an emotional and/or learning handicap indicator; a physical handicap indicator; the child's general health status (five categories, omitted category "poor health"); a dummy for those that already have a driver's license; separate indicators for those that have ever smoked or sold marijuana; similar indicators for hard drugs; a dummy for those that have ever been in a fight; another for those that have ever been in a gang; a dummy for those that have ever carried a gun (either legally or otherwise); the number of times the child has run away from home; the total number of places the child has ever lived; and a "hard times" indicator (which

equals one if the parent reports that the child has ever experienced hardship).

[Table 3 about here.]

Table 4 shows the results of the logistic regressions we use to form predicted values. We report the marginal effects of the independent variables on the probability of achieving the outcome in question; a high school degree by age 20 or a college degree by age 30. These marginal effects generally have the sign one might expect. For example, higher income, wealth, parental education, and ability all enter positively in both models. Overall, the model fit is good, with a pseudo- R^2 of about 0.30, and a χ^2 p-value of about 0.81 for the model of high school completion and of 0.72 for the model of college completion.

[Table 4 about here.]

5 Differences Between Expectations and Predicted Values

With the model estimates in hand, we form predicted values of the outcome variables. These predicted values represent the objective probabilities of the outcome variables since they relate the probability of achieving the outcome conditional on all relevant, observable characteristics, but without the bias that a parent may have regarding her own child. We then use these predicted values to construct a variable that is the difference between the parental expectations (as measured through the survey responses) and the predicted probability of the outcome occurring (based on the logistic regression models described in the prior section). Table 5 summarizes the mean difference for each educational outcome. The table also notes how these differences vary across socio-economic groups. Note that the differences are given as the survey expectations minus the predicted values. Therefore, one can read a positive average difference as “over-optimism” about the outcome.

[Table 5 about here.]

For both outcomes, and each group, we see positive differences on average. That is to say that parents, in general, over-estimate the likelihood that their child will earn a high school diploma or college degree.² Parents being overly optimistic about the abilities of their children is not surprising.

The results become more interesting as we drill down to the differences among socio-economic groups. If a “culture of despair” has empirical validity, we should see that parents in households which are more disadvantaged in terms of income, wealth, or education would be less optimistic than parents from more advantaged households. Looking at the differences by income and wealth quintile, we see the opposite story. The most optimistic parents are those from the lowest income and wealth quintiles, while the parents from the top quintiles have expectations much more in line with the predicted likelihood of the educational outcomes. For example, parents from the lowest income (wealth) quintile overestimate the probability of their child attaining a high school degree by age 20 by over 20 (17) percentage points. Parents in the highest income (wealth) quintile overestimate this same probability by just over 8 (8) percentage points.

Expectations about children attaining a college degree by age 30 follow a similar pattern, though the differences between expected and predicted values are greater. Parents in the lowest income (wealth) quintile overestimate the likelihood their child attains a college degree by over 42 (41) percentage points. Parents in the highest income (wealth) quintile overestimate the likelihood their child attains a college degree by 28 (27) percentage points. Figure 1 shows how these predictions vary by income quintile. For college completion rates, the degree of over-optimism is monotonic, with the exception of the second income quintile, that monotonicity is true of expectations of high school completion as well. This means that those in the upper end of the income distribution have expectations for educational attainment that are more in line with the objective likelihood of attainment, whereas those in the lower end of the income distribution believe their children will be more likely to achieve high school and college degrees than evidence suggests.

²Note that when considering negative questions, such as expectations about incarceration, parents are also overly optimistic, under-estimating the likelihood of these negative events.

Figure 2 shows the same patterns persist across the wealth distribution.

[Figure 1 about here.]

[Figure 2 about here.]

If we look across categories of parental education, a similar pattern emerges. Parents with more education still have overly optimistic expectations for their children, but the difference between their expectations and reality are much closer than for parents with less education.

To show the importance of income, wealth, and parental education in driving these differences we regress the differences in expectations and predicted values on a large set of control variables that includes income, wealth, and parental education. Thus, these models are of the form

$$p_i - \hat{y}_i = \alpha + \beta \mathbf{Z}_i + \varepsilon_i \quad (5)$$

where p_i is the parental expectation and Z_i is a vector of relevant characteristics. Table 6 presents the results. Even controlling for a measure of the child's ability using their ASVAB score, we find that income, wealth, and parent's education are important in explaining these differences and have the same sign as suggested by the group means in Table 5.³ For example, for each \$25,000 in income, the gap between expectations and predicted values of attaining a high school degree by age 20 shrinks by about one percentage point. While parents do overestimate the child's likelihood of achieving these educational outcomes, they do account for their child's individual ability. We see that as ability increases, the differences between the subjective and objective probabilities decrease.

[Table 6 about here.]

Overall, the regression models explain a substantial amount of the cross-sectional variation in the differences between the subjective and objective probabilities. The model of differences in

³The exception here is that income is not found to be a statistically significant predictor of the difference between expectations and predicted values for the attainment of a college degree by age 30.

expectations of high school completion account for about 30 percent of the variation and the model of college completion accounts for about 12.3 percent of the variation.

6 Expectations and Educational Outcomes

Now that we have considered variations in expectations across groups, we turn to the question of whether expectations affect educational outcomes. Across all groups, subjective expectations exceed the objective probabilities, though the degree to which these differ are larger for those with less education, income, or wealth. The fact that educational outcomes by group, as shown in Table 2, are correlated with expectations by group, as shown in Table 1, suggests that expectations may affect educational outcomes. However, this correlation is confounded by the fact that these groupings are over variables like income, wealth, and parental education, that have significant effects on the child's probability of achieving a given educational outcome. Thus, we now use microdata to test whether expectations matter after controlling for a host of family characteristics. In particular, we estimate the following logit models:

$$y_i = \alpha + \beta \mathbf{X}_i + \gamma p_i + \varepsilon_i, \quad (6)$$

where y_i a dummy variable for the educational outcome of interest (high school graduate or college graduate) p_i is the parental expectation and all other variables are the same as in Equation 4. The estimated γ 's are presented in Table 7.

[Table 7 about here.]

We find that, even having controlled for a large number of covariates determined at the time of the expectations survey, parental expectations still have a positive and statistically significant effect on both educational outcomes of interest. This provides some justification for the assumptions of the model in Section 2, which implies a causal relationship between parental expectations and educational outcomes. However, a word of caution is in order. The effect of expectations may be

biased to the extent that the parent knows something about the child that the econometrician does not. This is not unlikely, although we do control for factors that should mitigate this bias (and may not necessarily be in the information set of the parent) such as the child’s cognitive ability, the child’s schooling history, interactions with drugs and alcohol, and so forth. The omitted variable bias introduced has the effect of biasing upwards the coefficient on expectations.⁴ Still, we take these results as support for the idea that parental expectations do matter for childrens’ educational outcomes.

Expectations playing a causal role in educational outcomes, taken together with the results of Section 5, imply that there is little empirical support for the idea of a culture of despair with respect to educational outcomes. We find that those from groups with lower objective probabilities of achieving given educational outcomes have the most optimistic expectations. We further find that optimistic expectations positively affect the probabilities of achieving positive educational outcomes. Thus the optimistic expectations of parents in households with lower income/wealth/parental education work against, not in the direction of, the other factors common to these households that negatively affect educational attainment.

7 Conclusion

Children from households with lower levels of income, wealth, and parental education are less likely to attain high school and college degrees. However, our findings do not support the hypothesis that these outcomes are driven by a “culture of despair” (Genicot and Ray (2014)), where children are low-achieving because they are expected to under achieve.

We find that parents in disadvantaged households are actually more optimistic than parents from advantaged households. That is, these parents have expectations for the educational out-

⁴Although we do note that our findings in previous sections show that parental expectations are generally biased in the positive direction, so the omitted variable bias discussed here is somewhat mitigated by the fact that parents do not appear to be shaping expectations solely on the objective predictive power of child characteristics observed and unobserved in the data.

comes of their children that exceed the statistical likelihood of these outcomes to a greater extent than do those of parents from households with higher income, wealth, or parental education. On average, parents from households in the bottom income quintile assign a subjective probability 21 percentage points (43 percentage points) higher than the objective probability of their children attaining a high school degree by age 20 (college degree by age 30). This compares to a bias of 8 percentage points (28 percentage points) for parents from households in the top quintile. Highly similar comparisons are found using wealth quintiles and parental education.

In addition, we find that expectations positively contribute to high school and college completion rates, holding constant other household factors. That is, higher expectations of success lead to increases in educational success.

These two facts are contrary to the negative feedback loop implied by the culture of despair. Positive expectations do beget positive outcomes, but we find the most optimistic expectations from those with the lowest likelihood of achieving those positive educational outcomes. In short, expectations matter, but the objective likelihood of educational outcomes do not appear to drive subjective expectations downwards.

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Tables and Figures

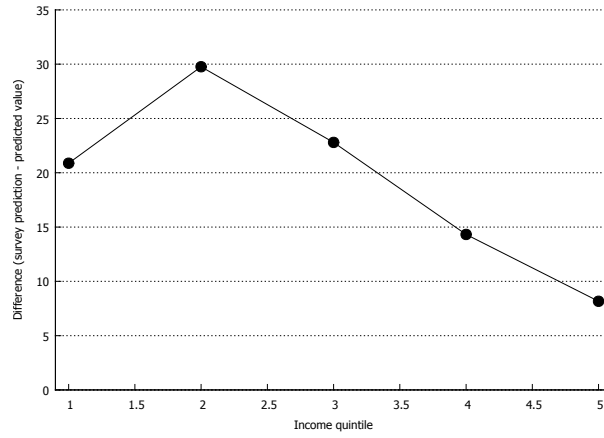
Table 1: Expectations of Educational Attainment, NLSY Survey of Parents

Sample	High school graduate by age 20	College graduate by age 30	<i>N</i>
Full	94.113	69.197	3,026
Income quintile 1	86.850	56.201	608
Income quintile 2	92.427	61.882	359
Income quintile 3	94.337	70.501	694
Income quintile 4	95.954	71.585	678
Income quintile 5	97.598	79.844	687
Wealth quintile 1	88.893	57.820	140
Wealth quintile 2	91.753	60.503	806
Wealth quintile 3	92.294	68.735	763
Wealth quintile 4	95.772	68.940	705
Wealth quintile 5	97.840	80.511	702
Parent with no HS	89.783	60.533	961
Parent with HS	94.215	66.430	1,634
Parent with some college	95.119	73.337	1,157
Parent with college +	95.854	75.801	1,062

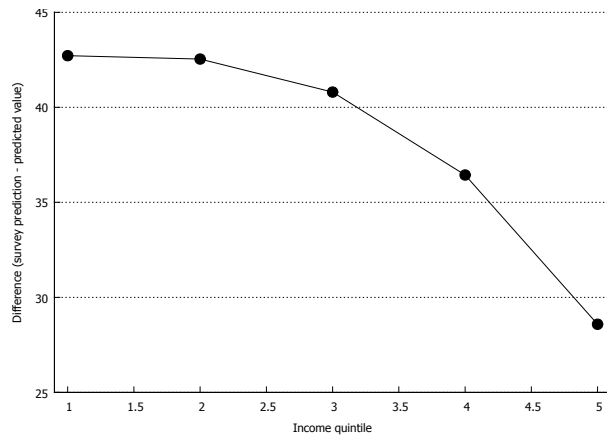
Notes: The primary respondent's parents were asked to rate the percent chance their child would complete the above and could respond with any whole number percent between and including 0 to 100.

Table 2: Empirical Frequency of Educational Outcomes

Sample	Entire NLSY97		Parental Predictions Subsample	
	High school graduate by age 20	College graduate by age 30	High school graduate by age 20	College graduate by age 30
Full sample	0.756	0.304	0.758	0.311
		8,984		3,026
Income quintile 1	0.592	0.118	0.560	0.128
Income quintile 2	0.706	0.206	0.702	0.193
Income quintile 3	0.720	0.283	0.732	0.288
Income quintile 4	0.816	0.325	0.814	0.342
Income quintile 5	0.894	0.521	0.887	0.515
687		1,798		687
Wealth quintile 1	0.677	0.170	0.650	0.172
Wealth quintile 2	0.690	0.207	0.655	0.200
Wealth quintile 3	0.705	0.269	0.711	0.280
Wealth quintile 4	0.806	0.306	0.803	0.287
Wealth quintile 5	0.891	0.520	0.888	0.526
140		426		140
806		3,165		806
673		1,799		673
705		1,797		705
702		1,797		702
Parent with no HS	0.637	0.163	0.636	0.171
Parent with HS	0.747	0.252	0.747	0.264
Parent with some college	0.790	0.331	0.787	0.342
Parent with college +	0.824	0.453	0.832	0.448
961		2,980		961
1,634		4,771		1,634
1,157		3,350		1,157
1,062		3,111		1,062



(a) High School Completion Predictions



(b) College Completion Predictions

Figure 1: Prediction Accuracy by Income Quintile

Table 3: Summary Statistics, Control Variables

Variable	Mean	Std Dev	Min	Max
Age	14.350	1.488	12	18
Male	0.512	0.500	0	1
Net worth (\$0,000)	66.450	124.360	0	600
Family income (\$0,000)	34.004	41.497	0	247
African-American	0.260	0.439	0	1
Hispanic	0.212	0.408	0	1
Mixed or other race	0.009	0.096	0	1
Number of siblings	2.319	2.430	0	45
ASVAB math/English percentile	35.779	31.832	0	100
Rural residence	0.226	0.418	0	1
Num. days suspended (last yr)	1.190	8.367	0	180
Num. days absent (last yr)	4.731	7.518	0	200
Num. times changed schools	0.417	0.603	0	5
Age of mother when born	25.370	5.263	10	45
Age of mother, her first child	23.000	5.031	10	45
“Hard times” indicator	0.048	0.215	0	1
U.S. citizen	0.765	0.424	0	1
Emotional/learning handicap	0.092	0.288	0	1
Ever arrested	0.081	0.273	0	1
Summer enrichment courses	0.005	0.074	0	1
Summer make-up courses	0.005	0.074	0	1
Other summer courses	0.086	0.280	0	1
Good teachers, strongly agree	0.175	0.380	0	1
Good teachers, agree	0.689	0.463	0	1
Good teachers, disagree	0.107	0.310	0	1
Intact family	0.489	0.500	0	1
Female household head	0.282	0.450	0	1
Excellent health	0.387	0.487	0	1
Very good health	0.337	0.473	0	1
Good health	0.225	0.418	0	1
Fair health	0.048	0.213	0	1
Physical handicap	0.063	0.244	0	1
Highest grade completed, mother	12.530	2.995	1	20
Highest grade completed, father	12.990	3.309	1	20
Has driver’s license	0.145	0.352	0	1
Ever smoked marijuana	0.200	0.400	0	1
Ever used hard drugs	0.058	0.233	0	1
Ever sold marijuana	0.050	0.219	0	1
Ever sold hard drugs	0.026	0.161	0	1
Ever been in a fight	0.182	0.386	0	1
Ever been in a gang	0.053	0.223	0	1
Ever carried a gun	0.096	0.294	0	1
Not enrolled in school but should be	0.025	0.157	0	1
Num. times threatened at school	0.965	5.194	0	99
Raised by bio mother & stepfather	0.110	0.313	0	1
Num. times ran away	0.252	1.474	0	30
Jewish	0.008	0.090	0	1

Table 4: Probability of Educational Outcomes, Logit Regression Marginal Effects

Variable	High school graduate by age 20	College graduate by age 30
Age	-0.007** (0.003)	0.009** (0.004)
Male	-0.043*** (0.063)	-0.096*** (0.010)
Net worth (\$0,000)	0.009* (0.005)	0.001*** (0.000)
Family income (\$0,000)	0.003** (0.001)	0.001*** (0.000)
African-American	0.055*** (0.010)	0.024 (0.014)
Hispanic	0.014 (0.013)	-0.030** (0.014)
Mixed or other race	0.018 (0.045)	0.039 (0.052)
Number of siblings	0.003* (0.001)	0.009*** (0.002)
ASVAB math/English percentile	0.008*** (0.001)	0.007*** (0.001)
Rural residence	0.026** (0.010)	0.015 (0.012)
Num. days suspended (last yr)	-0.002*** (0.000)	-0.018*** (0.004)
Num. days absent (last yr)	-0.003*** (0.000)	-0.006*** (0.001)
Num. times changed schools	-0.005 (0.007)	-0.005 (0.009)
Age of mother when born	0.001 (0.001)	0.003*** (0.001)
Age of mother, her first child	0.003*** (0.001)	0.002 (0.001)
“Hard times” indicator	-0.039* (0.020)	-0.070*** (0.023)
U.S. citizen	-0.017 (0.013)	-0.098*** (0.019)
Emotional/learning handicap	-0.043** (0.017)	-0.089*** (0.017)
Ever arrested	-0.052*** (0.017)	-0.059*** (0.020)
Summer enrichment courses	0.008 (0.059)	-0.069 (0.046)
Summer make-up courses	-0.025 (0.015)	-0.072 (0.060)
Other summer courses	-0.037** (0.013)	-0.031* (0.017)
Good teachers, strongly agree	0.082*** (0.018)	0.078* (0.044)

**Table 4 (con't): Probability of Educational Outcomes,
Logit Regression Marginal Effects**

Variable	High school graduate by age 20	College graduate by age 30
Intact family	0.091*** (0.013)	0.112*** (0.017)
Female household head	0.033*** (0.012)	0.072*** (0.020)
Excellent health	0.126** (0.056)	0.010 (0.100)
Very good health	0.125** (0.052)	0.016 (0.100)
Good health	0.117*** (0.045)	0.036 (0.094)
Fair health	0.086** (0.040)	0.075 (0.076)
ASVAB percentile - squared	-0.001*** (0.000)	-0.001*** (0.000)
Physical handicap	-0.007 (0.017)	-0.007 (0.025)
Highest grade completed, mother	0.009*** (0.002)	0.019*** (0.002)
Highest grade completed, father	0.004*** (0.001)	0.011*** (0.002)
Has driver's license	0.119*** (0.010)	0.043** (0.017)
Ever smoked marijuna	-0.026** (0.013)	-0.047*** (0.014)
Ever used hard drugs	-0.018 (0.017)	-0.031 (0.021)
Ever sold marijuana	-0.010 (0.024)	0.025 (0.032)
Ever sold hard drugs	-0.037 (0.024)	0.018 (0.044)
Ever been in a fight	-0.001 (0.001)	-0.035** (0.014)
Ever been in a gang	-0.043** (0.021)	-0.045* (0.026)
Ever carried a gun	-0.013 (0.015)	-0.040** (0.018)
Not enrolled in school but should be	-0.280*** (0.042)	-0.154*** (0.022)
Num. times threatened at school	0.001 (0.001)	-0.003** (0.001)
Raised by bio mother & stepfather	0.046*** (0.013)	0.050** (0.024)
Num. times ran away	-0.005* (0.003)	-0.002 (0.005)

Continued...

**Table 4 (con't): Probability of Educational Outcomes,
Logit Regression Marginal Effects**

Variable	High school graduate by age 20	College graduate by age 30
Jewish	-0.011 (0.069)	0.141* (0.072)
Muslim	-0.025 (0.071)	0.093 (0.088)
Christian	0.033** (0.016)	0.044*** (0.016)
Religious, other	0.025 (0.057)	0.010 (0.062)
Num. places lived	-0.003** (0.001)	-0.005*** (0.002)
Region: northeast	-0.054*** (0.016)	-0.008 (0.015)
Region: northcentral	-0.046*** (0.015)	-0.040*** (0.014)
Region: south	-0.049*** (0.013)	-0.027** (0.013)
χ^2 p-value	0.809	0.716
Pseudo R^2	0.301	0.297

Notes: Standard errors in parentheses.

Table 5: Differences Between Expectations and Predicted Probabilities

Sample	High school graduate by age 20	College graduate by age 30
Full	18.030	37.611
Income quintile 1	20.879	42.721
Income quintile 2	29.764	42.543
Income quintile 3	22.796	40.805
Income quintile 4	14.320	36.437
Income quintile 5	8.165	28.586
Wealth quintile 1	17.065	41.770
Wealth quintile 2	28.573	40.692
Wealth quintile 3	25.932	40.336
Wealth quintile 4	17.251	39.544
Wealth quintile 5	8.113	27.541
Parent with no HS	25.411	43.996
Parent with HS	19.227	38.976
Parent with some college	14.996	35.368
Parent with college +	10.670	27.729

Notes: Difference = survey prediction - predicted value.

Table 6: Regressions of Differences Between Expectations and Predicted Values on Controls

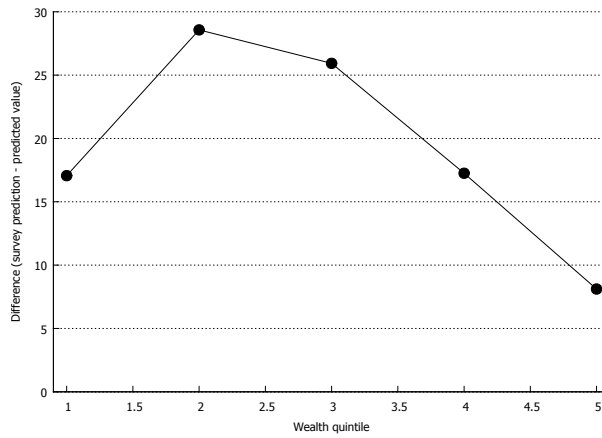
Variable	High school graduate by age 20	College graduate by age 30
Net worth (\$0,000)	-0.008** (0.003)	-0.017*** (0.005)
Income (\$0,000)	-0.046*** (0.010)	-0.021 (0.015)
African-American	-2.195** (0.966)	9.624*** (1.459)
Hispanic	-1.260 (1.078)	7.943*** (1.627)
Mixed race	4.195 (4.062)	-5.196 (6.101)
Number of siblings	-0.101 (0.149)	-0.510** (0.224)
ASVAB percentile	-0.343*** (0.012)	-0.142*** (0.019)
Rural residence	-3.431*** (0.864)	-5.462*** (1.300)
Highest grade completed, mother	-0.617*** (0.141)	-0.615*** (0.213)
Highest grade completed, father	-0.256** (0.116)	-0.627*** (0.175)
Jewish	-0.905 (4.491)	-7.981 (6.755)
Muslim	-2.090 (5.042)	-20.480*** (7.780)
Christian	-2.900 (1.934)	-1.556 (2.920)
Region: northeast	5.722*** (1.201)	1.974 (1.819)
Region: north central	3.424*** (1.120)	1.384 (1.686)
Region: south	2.109** (1.050)	2.235 (1.582)
Constant	46.345*** (2.894)	59.600*** (4.372)
Adj. R^2	0.307	0.123
N	3,026	3,004

Notes: Standard errors in parentheses.

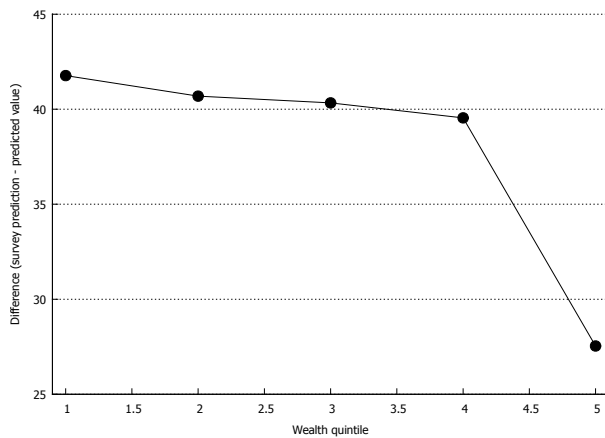
Table 7: Parental Expectations as an Explanatory Variable

	High school graduate by age 20	College graduate by age 30
Parental expectations	0.003*** (0.0004)	0.003*** (0.0004)
χ^2 p-value	0.810	0.718
Pseudo R^2	0.307	0.298
N	3,026	3,004

Notes: Standard errors in parentheses.



(a) High School Completion Predictions



(b) College Completion Predictions

Figure 2: Prediction Accuracy by Wealth Quintile