Low-Income Students and College Attendance: An Exploration of Income Expectations*

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Objectives. Some have hypothesized that unrealistic expectations regarding their futures may explain the weak link between expectations and realizations among low-income (particularly minority) youth. Unfortunately, there is little evidence characterizing students' expectations around the time that they make college decisions that would allow one to study this hypothesis. *Methods.* In this exploratory article, I analyze data on income expectations from a small sample of low-income minority high school seniors in Baltimore City, MD; and use data from Dominitz and Manski's sample of higher-income white students in Madison, WI, and the NELS88 for comparisons. *Results.* I find little evidence that the income expectations of lower-income minority students are so different from those of higher-income students. Rather, the expected returns to postsecondary education appear similar between the two samples of high school seniors. Analysis of a nationally representative sample of high school seniors suggests that lower-income students do not place less weight on expected economic returns to college when making their plans than do more advantaged students, although low-income students are less able to translate their college plans into actual college attendance. *Conclusions.* These results suggest that differing income expectations do not explain the weaker relationship between expectations and educational attainment among low-income students.

A well-established stylized fact in the U.S. economy is that there is a positive return to education that has risen over the past 20 years (see, e.g, Ashenfelter and Rouse, 1998, for a review). According to the canonical Becker model of investment in education, such trends should have resulted in increasing rates of college attendance as well (Becker, 1975). A simple

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model of college attendance suggests that students who expect to earn more having attended college than had they not attended college (net of college costs, including opportunity costs), will choose to attend college. And yet, 25 percent of high school seniors from the class of 1992 did not go on to attend any postsecondary institution (within 20 months of graduation) and this rate varied by the socioeconomic status of the student. Although 90 percent of students from the highest-income quartile furthered their education, only 60 percent of those from the lowest-income quartile did so. Even controlling for the students' math test scores does not completely close the gap. Perhaps more strikingly, the gap in four-year college attendance persisted between the early 1980s and the early 1990s despite the increasing returns to college (Ellwood and Kane, 2000).

Many policymakers and researchers cite factors such as lack of information, credit constraints, and poor elementary and secondary school quality as explanations for these differences in college attendance by family background (e.g., Ellwood and Kane, 2000; Heckman and Lochner, 2000). A sociological literature focuses on the role of educational aspirations in explaining the racial gap in educational attainment (see Morgan, 2002b, for an overview of this literature). Specifically, many argue that the relationship between educational and occupational aspirations and eventual realization is much weaker for low-income (and minority) students than for more advantaged and majority students (for recent papers, see, e.g., Morgan, 2002b; Yowell, 2000).

Another factor that may explain these patterns (and that might partially explain the relationship between educational aspirations and actual behavior) is differences in expected returns to college. If lower-income students expect lower returns to college, they will be less likely to attend. The importance of expectations is not limited to the theoretical realm. For example, the purpose of programs such as *I Have a Dream,* and the federal version GEAR-UP, in which entire classes of sixth- and eighth-grade students are "adopted" and mentored throughout high school, is to increase the educational aspirations of low-income youth and to ensure that they have accurate information about their postsecondary options. As such, the programs are based on the hypothesis that low-income students lack information on "what it takes" to go to college (both from the standpoint of class preparation during high school and the mechanics of applying for college and financial aid) and on the potential benefits of attending college.

Many believe that the expected income distribution likely matters for college attendance, but there is little evidence characterizing students' expectations around the time that they make college decisions.[1] For example, Eckstein and Wolpin (1999) model the decision to drop out of high school, while Blau and Ferber (1991) and Smith and Powell (1990)

[1]It is worth noting that income expectations may also affect college attendance decisions indirectly by changing work effort during high school (Morgan, 2002a).

focus on income expectations of older students. Other studies impose assumptions on the individuals' likely expectations (e.g., Freeman, 1971; Lauer, 2002, assumes that individuals are myopic and base their expectations on current income distributions). However, the imposed assumptions may not be valid, and because expectations questions typically do not ask the respondent to condition response on the anticipated level of education, such information cannot be used to construct anticipated returns to schooling.

More recently, Dominitz and Manki (1996) developed a computer-assisted self-administered interview survey designed to elicit income expectations from high school seniors and college students. The survey asked students for their expected median earnings at ages 30 and 40 and under the hypothetical scenarios that they did not attend any postsecondary institution (for the high school seniors), that they did not complete any further schooling (for the college students), and that they completed a bachelor's degree. The authors conclude that this mode of interview generates meaningful data, that there is a common belief of a positive return to college education, and that most respondents overestimate the degree of earnings inequality in the U.S. economy. This study, however, does not include students from more disadvantaged backgrounds and therefore cannot assess if there is a difference in expectations across subgroups of the population. The study also did not attempt to link the students' expectations to their future education plans.[2]

In this article, I study income expectations among a population of low-income minority high school students. I do so by analyzing data from focus groups with high school seniors in Baltimore City, Maryland and from data from the National Education Longitudinal Study of 1988 (NELS88). The results are largely suggestive but provide the only quantitative evidence on whether low-income students have different expectations than more advantaged students, as hypothesized by many. Analysis of a nationally representative sample of high school seniors suggests that low-income (and possibly African-American) students are less able to translate their college plans into actual college attendance. However, I find that lower-income and minority students do not place less weight on expected economic returns to college when making their plans or in deciding to attend college. Data from Baltimore and Wisconsin suggest that the mean expected income of lower-income minority students appears similar to that of higher-income students and that all generally expected a positive return to postsecondary education. Those who expected a positive payoff are more likely to have been planning on attending college the following fall as well. Analysis also suggests that differing income expectations may not explain the weaker relationship between expectations and educational attainment among low-income students.

[2]In a subsequent paper, Dominitz (2001) links subjective earnings expectations of a national sample to future earnings realizations and finds a positive relationship.

Data

Focus Groups with High School Seniors

In late May 1997, I conducted eight two-hour focus groups with seniors from high schools in the Baltimore City Public School (BCPS) District. The purpose of the groups was to get a better understanding of the postgraduation plans of the students, their income, education, and occupation expectations, as well as their assessment of the advantages and disadvantages of each of their various postsecondary options. Each group discussion was video taped and audio recorded. The audio recordings were transcribed, providing a transcript for analysis. In addition to the focus-group discussion, I also administered two questionnaires—both of which were completed before the focus-group discussion. The first survey contained traditional questions regarding family background, expectations, and postsecondary plans. Most of the questions were modeled after items in the NELS88. The second survey was an attempt to elicit students' expectations regarding their future earnings under hypothetical situations. Using a Powerpoint presentation, I projected a series of questions (or situations) for the students, who then filled in their responses on a response form; I referred to these as "guided questions." These questions, described below, were modeled after those used by Jeff Dominitz and Charles Manski in their study of income expectations among high school seniors and college students in Wisconsin (Dominitz and Manski, 1996).

For all the questions, I asked the students to "look ahead to when [they] will be 30 years old" and to "think of the kinds of jobs that would be available to [them] and that [they] would accept." I also asked them to "think about the amount of money [they] would make on these jobs" and to "consider the chance of working part-time or not working at all." I then asked them to respond to the following question.

Expectations of the median:

> *What is your BEST GUESS as to the amount of money that you think you will earn per year by the time you are 30 years old?*

I refer to the question as stated above as eliciting their "unconditional" expectation. I also asked them to put themselves into five different hypothetical situations.

1. Complete their high school diploma, but get no further schooling.
2. Attend a vocational-technical (trade) school and attain a certificate, but get no further schooling.
3. Attend two years of college at a community college, but get no further schooling.
4. Attend two years of college at a four-year college, but get no further schooling.

5. Earn a four-year college diploma (bachelor's degree), but get no further schooling.

An important issue regarding this approach is whether the students actually understand the statistical concepts being asked of them. When asking for the student's expected median income, I defined the median using the following.

> *These questions will ask you about the amount of money that you think you will earn at some point in the future.*
>
> *Some will ask you for your BEST GUESS as to the amount of money that you think you will earn at some point in the future.*

I then defined "Best Guess" as:

> *To answer these questions, you should try to pick the amount of money that you think there is just as good a chance you will earn more than it as less than it.*

I cannot be certain that these clarifications ensured that students understood the definition of the median, but the response rates for these items were quite high, about 93 percent for most questions. (An exception is that the response rate for attending two years at a four-year college was only about 85 percent.)

In selecting the students for the focus groups, I started with a list of all seniors attending high school in Baltimore City, Maryland in the spring of 1997. From this list, I invited a random sample of students to participate in the focus groups. Sixty-nine students with parental consent participated in the focus groups, which represents a response of just under 60 percent. Unfortunately, the responses to the guided questions were misplaced for one focus group of 10 males. Fortunately, because each focus group represented a random sample of students, the sample without this focus group is still representative of the BCPS sample as a whole. (For example, there are no statistically significant differences between the background characteristics of students in the full sample and those in the sample when the students in the focus group missing the guided questions are excluded.)

The focus groups were grouped by sex and contained students from a variety of high schools (as their allocation to each group was random) and the students were each paid $40. As a result, the students did not know one another before the meetings. Another aspect that is important to this study is that the focus groups were conducted just days before high school graduation such that it is reasonable to assume that all the students were high school graduates.

The students who participated in the focus groups were, on average, just about 18 years old, about one-half of them were female, almost 90 percent were African American, and about 20 percent were eligible for a free or reduced-price lunch. Notably, there were few statistically significant differences in the characteristics of all BCPS students and those in the

focus groups, with the exception that the focus-group students had fewer days absent from school. Thus there were no obvious observable differences between those who participated and the sample frame.

Dominitz and Manski Wisconsin High School Seniors

I modeled the questions eliciting expectations regarding future income after those reported by Dominitz and Manski (1996) so that I would have a sample to which to compare the data obtained from the focus groups in Baltimore. As discussed in the introductory paragraphs to this article, in 1993 Dominitz and Manski conducted a survey of 71 high school seniors in Madison, Wisconsin. Not surprisingly, their sample was quite different from the Baltimore focus-group students. First, only 3 percent of the sample was African American. Second, almost 60 percent of the sample's mothers and 71 percent of their fathers had attained at least a bachelor's degree, compared to 23 percent of mothers and 27 percent of fathers in the Baltimore sample. Hence the students in Wisconsin were much more advantaged than those in Baltimore, providing a useful comparison.

National Education Longitudinal Study of 1988 (NELS88)

To compare the results of the focus groups to a nationally representative sample of high school seniors, I also rely on the National Education Longitudinal Study of 1988 (NELS88). The NELS88 is a national, stratified sample of eighth graders in 1988 who were followed up in 1990, 1992, and 1994. The NELS88 contains extensive information regarding students' backgrounds, high school experiences, and postsecondary plans and expectations. To study expectations during the senior year in high school, I use a sample that includes all students who were present in the 1992 wave and who were high school seniors at the time. I weight the analyses using the second wave participation weight or the second to third wave panel weight.

Comparing the characteristics of subgroups of students from the NELS88 to those of the students from BCPS, I find that, on average, the focus-group students had 1.6 brothers and 1.5 sisters compared to 1.4 brothers and 1.3 sisters among all high school students, and 1.9 brothers and 1.8 sisters among African-Americans and low-SES students in the NELS88. Regarding parent education, however, the bachelor's degree attainment among the mothers and fathers of the students in Baltimore more closely matched that of the full NELS88 sample than of subgroups of African-American and low-SES students. Overall, however, the students in the Baltimore City focus groups appear relatively representative of other African-American students, but not so representative of other low-SES students.

U.S. Decennial Census of 1990

Finally, I also use data from the public release micro data of the 1990 Decennial Census of the United States (the 5 percent sample) to characterize the "actual" distribution of earnings. I use two samples, both of which include all native-born U.S. citizens aged 25–35 years old with at least 12 years of schooling. The first sample, designed to be compared to the students from Baltimore, contains African Americans living in Maryland, Washington, D.C., Virginia, and Delaware. The second sample includes white non-Hispanics living in Wisconsin, Iowa, Minnesota, and Illinois. I focus on the individual's wage or salary income in 1989 (although the results are similar if I use total income). Further, I weight all statistics with the Census person weight and use the Personal Consumption Expenditure Price Index to update the incomes to 1997 dollars.

Empirical Findings

Education Expectations

An important first step in understanding the income expectations of students is to understand their educational expectations, since education is an important component of earnings. Table 1 shows the expected education distribution of students from the Baltimore focus groups and from the NELS88. Only 5.8 percent expected to stop at a high school diploma, compared to 3.9 percent of African Americans in the NELS88 and 4.7 percent of the NELS88 participants overall. Fully 64 percent of the students in Baltimore expected to eventually earn a bachelor's degree, compared to 63 percent of the NELS88 samples. It appears that students in Baltimore held similar expectations as other African Americans nationwide.

Given that the students in Baltimore generally come from poor families, a question arises whether their expectations match as well with those of other poor students. A comparison of the students in Baltimore (Column 1 of Table 1) and those of low-SES students in the NELS88 (Column 4 of Table 1) suggests that the educational aspirations of the Baltimore students were more closely aligned to those of African Americans nationwide than to those of low-SES students nationwide. For example, only 41 percent of the low-SES students in the NELS expected to complete a bachelor's degree, compared to over 60 percent of the students in Baltimore.

How well did these expectations accord with their ultimate educational attainment? I cannot conduct such an analysis for the students in Baltimore, but I can for the students in the NELS88. The first four columns of Table 2 show results of probit models of student expectations of college attendance from the NELS88. The coefficients reflect the marginal effect (i.e., the predicted change in probability). As these are all dummy variables, the

TABLE 1

Percentage Distribution of Education Attainment: BCPS Focus Groups and NELS88

	Sample			
	BCPS Focus Groups 1	NELS88		
		All 2	African Americans 3	Low-SES 4
Less than high school	0.00	0.14	0.29	0.36
High school diploma	5.80	4.71	3.87	9.70
<2 years vocational school	0.00	1.65	0.98	2.84
2+ years vocational school	5.80	2.95	2.99	5.92
Degree from vocational school	5.80	5.25	4.82	8.85
<2 years college	0.00	1.98	1.91	3.77
2+ years college (incl. AA degree)	13.04	11.18	10.18	14.51
Bachelor's degree	27.54	32.91	29.62	23.49
Master's degree	10.14	17.06	18.83	10.77
Ph.D. or professional degree	26.09	13.30	14.83	6.82
Don't know	1.45	5.26	6.57	7.85
Multiple response or missing	4.35	3.63	5.10	5.11
N	69	16,092	1,495	3,014

NOTES: The NELS88 data include students currently enrolled in the 12th grade and are weighted by the second follow-up questionnaire weight. The "low-SES" students are those in the lowest quartile of the NELS88 family SES measure in 1992.

coefficients reflect the difference in probability assuming that all observations have a value of 0 for the variable and then that all observations take on a value of 1; all other covariates are evaluated at their mean.

Controlling only for whether the student is female, whether the student attended a public school, and whether the student lived in an urban area, African-American students were as likely as other students to plan to attend college after high school. In contrast, students from low-SES families were 20 percentage points less likely to plan to attend college right after high school, as shown in Column 2. Further, the model presented in Column 3 that controls for both whether the student is African American and whether the student is from a low-SES family suggests that once one accounts for socioeconomic status, African-American students were more likely to plan to attend college—the coefficient on whether the student is African American is now positive (although statistically insignificant). Column 4 also includes the student's 12th-grade composite test score. Now the coefficient on whether the student is African American is positive and statistically significant, suggesting that African-American students were seven percentage points more likely to plan to attend college right after high school conditional on their 12th-grade educational achievement. Students from low-SES families were 14 percentage points less likely to plan to attend college.

TABLE 2

Probit Estimates of Expected College Plans and Actual Attendance: Evidence from the NELS88

	Dependent Variable							
	Plan to Attend College				Attended College			
	1	2	3	4	5	6	7	8
African American	−0.008		0.029	0.071	−0.023		0.017	0.082
	(0.019)		(0.018)	(0.015)	(0.042)		(0.042)	(0.038)
Low-SES family		−0.201	−0.205	−0.142		−0.175	−0.178	−0.129
		(0.015)	(0.015)	(0.015)		(0.034)	(0.035)	(0.033)
Plan to attend college					0.543	0.531	0.537	0.490
					(0.014)	(0.016)	(0.016)	(0.018)
Plan to attend college × African American					−0.085		−0.082	−0.076
					(0.051)		(0.055)	(0.058)
Plan to attend college × Low-SES family						−0.088	−0.078	−0.046
						(0.037)	(0.037)	(0.036)
12th-grade test score?	No	No	No	Yes	No	No	No	Yes
Pseudo R^2	0.020	0.050	0.050	0.094	0.191	0.216	0.217	0.269

NOTES: Standard errors (clustered at the school level) are in parentheses. There are 9,341 observations. The coefficients presented are marginal effects. All regressions are weighted by the second to third wave panel weight. Other covariates include a constant, dummy variables indicating whether the student is female, urban status, and attended a public high school. There is also an indicator for whether the low-SES variable is missing and interactions of this indicator with the student's college plans in Columns 6–8. The 12th-grade test score is the student's composite test; there is also an indicator for whether this measure is missing. The coefficients from these other covariates are available from the author on request.

The previous literature suggests that low-income and minority students are less able to translate their expectations into actual behavior. I examine this issue in Columns 5–8 of Table 2 where I estimate the relationship between college plans and whether the student actually enrolled in a two- or four-year college within 20 months of high school graduation. Non-African-American students who planned to attend college were 54 percentage points more likely to actually enroll in college than were non-African-American students who did not plan to attend college. Among African-American students, the effect of planning to enroll in college on actual behavior was only 46 percentage points; however, the difference between African-American and non-African-American students is not statistically significant. Low-income students also had a weaker relationship between college plans and future behavior (which is statistically significant in Column 6), although once one controls for the student's 12th-grade test scores, the gap is no longer statistically significant.

Overall these results suggest that African-American students are more likely to plan to attend college after high school than non-African-American students, while low-income students are less likely to plan to attend college than more advantaged students. Further, while African-American students may be less able to translate these plans into actual educational attainment, the effect is not statistically discernable. In contrast, there is evidence that lower-income students are less able to fulfill their educational plans, although some of this difference is explained by student academic achievement by 12th grade. The question is whether there are differences in expected economic returns to a college education by family income (and to a lesser extent race) and whether any such differences might help explain the observed patterns in expectations and behavior.

Median Unconditional Income Expectations

The top panel of Table 3 shows the median expected earnings at age 30 for the Baltimore and Wisconsin seniors, and for samples from the NELS88 by sex, not accounting for the level of education. Beneath each median is the difference between the 90th and 10th percentiles to give a measure of the spread of the expectations. The female high school seniors in Baltimore expected to earn about $45,000 per year by the time they were 30 years old and the males expected to earn about $60,000. It is useful to compare these expectations with those of other groups of students. Column 2 shows the median expected earnings of the high school students from the Dominitz and Manski sample. Surprisingly, the median expected earnings for females in Baltimore is quite similar to that in Madison; in fact, these two medians are within a (bootstrap) standard error given a standard error of the median in the Baltimore sample of $3,614. In contrast, the males in Baltimore expected to earn substantially more than the males in Madison, although the

TABLE 3

Median Expected and Actual Earnings at Age 30, Unconditional on Schooling: Evidence from High School Seniors in Baltimore, Madison, the NELS88, and the 1990 U.S. Census

	Expected Earnings at Age 30					
	Baltimore, MD	Madison, WI	NELS88			
	1	2	All 3	African Americans 4	Low-SES 5	Whites 6
Females	$45,250 [$55,800]	$43,467 [$38,033]	$38,942 [$55,632]	$44,505 [$66,758]	$33,379 [$50,069]	$38,942 [$55,632]
Males	$60,000 [$1,475,000]	$43,467 [$48,900]	$50,069 [$81,223]	$55,632 [$82,335]	$44,505 [$53,407]	$50,069 [$80,667]

	Census—Actual Earnings				
	MD+, African Americans 7	WI+, Whites 8	All 9	African Americans 10	Whites 11
Females	$16,811 [$37,359]	$13,503 [$32,602]	$13,741 [$48,047]	$13,392 [$32,378]	$14,178 [$36,114]
Males	$19,880 [$43,585]	$26,803 [$47,583]	$26,151 [$52,301]	$18,679 [$39,849]	$27,397 [$53,165]

NOTES: The difference between the 90th and 10th percentiles is in brackets. The Madison, WI results are from Dominitz and Manski (1996), Table 5, updated using the Personal Consumption Expenditure Price Index to 1997 dollars. In the Baltimore sample, there are 19 males and 22 females. In the NELS88 there are 4,709 males and 4,581 females; among African Americans there are 436 males and 472 females, among "Low-SES" students, 911 males and 971 females, and among whites there are 3,292 males and 3,113 females. The NELS88 figures are weighted using the second panel weight. The Census data include high school graduates. The "MD+" sample includes African Americans living in Delaware, Maryland, Virginia, and Washington, D.C.; the "WI+" sample include whites living in Illinois, Iowa, Minnesota, and Wisconsin. The medians are weighted using the Census person weight. All data are reported in 1997 dollars.

two medians would not be considered statistically different.[3] More generally, when comparing the students in Baltimore to those in the NELS88, the females expected to earn more than females nationally, although they had similar expected earnings to other African Americans; the males in Baltimore consistently expected to earn a bit more.[4]

The results in Table 3 also suggest that the dispersion among the responses is much greater in Baltimore than in Madison or in the NELS88 samples. This difference is most likely due to the small sample size in Baltimore, for the distributions of expected income for the Baltimore students and for all students in the NELS88 and African-American students in the NELS88 (not shown) are quite similar. Overall, the data in Table 3 suggest that the income expectations of low-income African Americans are quite similar to those of other high school students.

Although the level of the expected earnings may be similar, the ''accuracy'' of the expectations by subgroup may be quite different. That is, many believe that low-income students (particularly African Americans) often have unrealistic income expectations. Therefore, it is of interest to assess how ''realistic'' these expectations are by comparing them to actual incomes of demographically similar populations. The bottom panel of Table 3 shows ''actual'' earnings using the Census for comparable samples—Column 7 includes the sample of African-American high school graduates in and around Maryland; Column 8 includes the sample of white high school graduates in and around Wisconsin; Column 9 includes all high school graduates (aged 25–35) in the United States; Column 10 is limited to African Americans nationwide; and Column 11 includes whites nationwide.

Clearly, all the high school seniors had overly optimistic expectations regarding the level of income they were likely to make by age 30. While the median woman earned $14,000–17,000 per year, the female high school seniors expected to earn closer to $40,000. Similarly, while the male high school seniors expected to earn about $50,000 per year, the actual median male earned between $20,000 and $30,000 per year. Two other patterns stand out. First, as also reported by Dominitz and Manski (1996), the female students tended to have more exaggerated expectations than the male students (although the pattern is the reverse among the Baltimore students). And second, the African-American males tended to have more exaggerated expectations than all high school seniors and white high school seniors. Both these patterns may be due to the fact that the students expected to graduate from college and work full time at age 30. For example, the median salary of

[3]The bootstrap standard error of the male median (based on 1,000 replications) in the Baltimore sample is $9,516. Further, among the males in Baltimore there were three who expected earnings of more than $1,000,000 per year. When these three participants are excluded, the median expected earnings for males is $49,000 with a standard error of $7,300.

[4]The female median in Baltimore is within 1.95 times the standard error (based on the Baltimore sample) of all but the low-SES median in the NELS88 sample. The male median is within 1.95 times the standard error of the median for all of the NELS88 samples.

a full-time, full-year female college graduate living in and around Maryland was $32,378, and the median for males was $36,114.

Returns to Schooling Expectations

Unconditional income expectations are interesting, but they cannot help inform college attendance plans and decisions because they do not specify the educational level assumed. Table 4 shows the expected earnings of the students conditional on obtaining only a high school diploma and conditional on completing a bachelor's degree. Again, the expected median incomes, conditional on earning high school and bachelor's degrees, are quite similar between the two groups of students. With the exception of the female expected income with a high school degree, the medians of the Wisconsin sample are within a (bootstrap) standard error of the medians in the Baltimore sample. Further, the discrepancies between the expected incomes and the actual incomes (as represented by the Census) are smaller than those in Table 3, which represented expected income irrespective of education level.

What also follows from this analysis is that the anticipated returns to completing a bachelor's degree (as represented by the ratio of the expected income with a bachelor's degree to the expected income with a high school diploma) are closer in magnitude to the actual returns in the Census than one might expect given differences in the expected levels of earnings. High school seniors from disparate backgrounds and regions expect positive returns to completing a bachelor's degree. As one male from Baltimore explained, "I'll go to college to get some education. Maybe with some more education, I'd get a good job with some money." Or as a female participant remarked: "If you went to a four-year college, you have a better chance of getting a job."

It is important to keep in mind that there are several reasons why, although these expectations appear somewhat similar, they may not be so. First, the actual data from the Census reflect salaries in 1989 and the high school seniors may believe that the future income distribution will differ from this previous one. As such, although it may appear that the different populations are providing medians of similar distributions, they may not, in fact, be doing so. This caveat is especially important given the strength of the labor market over the 1990s.[5] Second, the high school seniors have more information about their own characteristics, including family and academic backgrounds and motivation, which would presumably factor into their subjective expectations regarding their future income. And, unfortunately, in

[5]I have also calculated the median earnings of African-American males and females using the 2000 Census, which may be a better reflection of the expected earnings of the students from Baltimore. The median expected earnings by age 30 are slightly higher in 2000; however, the qualitative patterns hold. I report the results using the 1990 Census for consistency with the other samples. These results are available on request.

TABLE 4

Expectations of Median Earnings and Median Actual Earnings at Age 30: Evidence from Baltimore, Madison, and the 1990 Decennial Census

	Median Income with High School Degree			
	Baltimore, MD	Census, MD+	Madison, WI	Census, WI+
Females	$20,000	$9,962	$16,300	$9,153
	[$26,000]	[$28,642]	[$18,473]	[$24,906]
Males	$25,000	$14,943	$21,733	$23,661
	[$25,000]	[$37,359]	[$16,300]	[$42,340]
	Median Income with Bachelor's Degree			
	Baltimore, MD	Census, MD+	Madison, WI	Census, WI+
Females	$45,000	$28,642	$43,467	$23,660
	[$43,000]	[$46,077]	[$43,467]	[$43,585]
Males	$50,000	$31,132	$48,900	$34,868
	[$60,000]	[$51,089]	[$33,687]	[$57,066]
	Ratio of Median Expected Income with Bachelor's Degree/Median Expected Income with HS Diploma			
	Baltimore, MD	Census, MD+	Madison, WI	Census, WI+
Females	2.25	2.87	2.67	2.59
Males	2.00	2.08	2.25	1.47

NOTES: The difference between the 90th and 10th percentiles is in brackets. The Madison, WI results are from Dominitz and Manski (1996), Table 5, updated using the Personal Consumption Expenditure Price Index to 1997 dollars. In Baltimore, there are 14 males and 17 females in the high school diploma sample; and 17 males and 19 females in the bachelor's degree sample. The Census data include high school graduates. The "MD+" sample includes African Americans living in Delaware, Maryland, Virginia, and Washington, D.C.; the "WI+" sample include whites living in Illinois, Iowa, Minnesota, and Wisconsin. The medians are weighted using the Census person weight. All data are reported in 1997 dollars.

the Census I am only able to control for the sex, race, and geographic region of the student. Although the students in the Baltimore sample may reflect a random sample of students from Baltimore City, MD, I cannot know where the students from Baltimore City, MD lie in the distribution of workers in Maryland and surrounding states.

Another key issue is that Baltimore students perceived differences in the return to different levels of postsecondary schooling. Kane and Rouse (1995) estimated that two years at a four-year college was as valuable as two years at a community college. However, most of the students in Baltimore appeared to believe that an education at a four-year institution was more valuable. For example, several students believed that a community college was "just an extension of high school," and that employers would not take the education as seriously. One female explained that it would make a difference whether one studied about computers at a four-year or a community college because

"say you majored in the field of computers, if you go to an employer, he's going to look at your record to see how much education you had. If you went to a four-year college, you have a better chance of getting a job. You might have the same chance as going to a community college, but a four-year college advances you more so you might have a better chance of getting a job."

If one defines the "return" to schooling as the ratio of the expected level of postsecondary schooling (at age 30) to the expected level of schooling should the student not complete anymore schooling, students expected to double their income by obtaining a bachelor's degree but they only expected to increase their earnings by 50 percent by attending a vocational school. Further, most students expected the return to completing two years at a community college to be about the same as attending a vocational/technical school and less than the return to attending two years at a four-year college.[6] These results suggest that from the perspective of high school seniors in Baltimore, a "credit is not a credit" when it comes to community colleges and four-year colleges, but that community colleges and vocational schools are more substitutable.

Effects of Income Expectations on College Plans and Attendance

According to the human capital model, each student's expected return to attending college should affect his or her decision to attend college. Thus, for example, one would expect that those not planning to further their education do not believe it is valuable. As one male who planned to get a job right out of high school noted:

> I ain't going to go to college and spend my money. Spend $20.00 an hour to go to college for four years and be all set to beg for a job somewhere. Whereas uh I could go out and be a firefighter or something like that and make an equal amount of money.

Therefore, in this section I estimate the effect of income expectations on college plans and actual attendance using the survey data from the Baltimore City focus groups—in which I asked the participants what they planned to do next fall—as well as the nationally representative NELS88.

Table 5 shows the mean expected "return" to attending each level of postsecondary school by whether or not the BCPS participant indicated that he or she was planning on attending college next fall and by whether the participant indicated he or she expected to complete a bachelor's degree eventually. The "return to school" is defined as the ratio of the expected income should the individual complete the indicated postsecondary schooling to the expected income should the individual only complete a high school diploma. Overall, 68 percent of the sample planned on attending

[6]These results are available from the author on request.

TABLE 5

Mean Expected Return to Postsecondary Schooling and Education Expectations Among High School Seniors in Baltimore, MD

	Mean Ratio of Expected Postsecondary Income to High School Income			
	Vocational School	Community College	Some Four-Year College	Bachelor's Degree
Did not plan to attend college (next fall)	1.50	2.50	2.73	2.35
	(0.13)	(0.96)	(1.02)	(0.27)
Planned to attend college	5.16	6.91	7.51	12.49
	(2.54)	(3.71)	(3.91)	(4.96)
N	53	52	49	54
Did not expect to complete BA	1.60	2.87	3.06	2.34
	(0.21)	(1.31)	(1.28)	(0.31)
Expected to complete BA	5.24	7.24	7.87	13.11
	(2.61)	(3.92)	(4.15)	(5.22)
N	47	46	44	48

NOTE: Standard errors are in parentheses.

college next fall and 72 percent expected to (eventually) complete a bachelor's degree.

In all cases, the mean expected return to schooling among those who expected to attend college is larger than the mean among those who did not. The magnitudes of these expected returns are sensitive to whether the expected returns are trimmed or not, suggesting that these estimates are quite noisy in this small sample. However, in most cases the relative size of the expected returns is larger among those who expected to attend college in the fall or eventually complete a bachelor's degree. This provides some evidence that is consistent with the theoretical framework. However, due to the small samples the differences are not statistically significant and therefore the results are only suggestive.

As a second exercise, I also estimated the relationship between income expectations, college plans, and actual college attendance using the NELS88. The advantage of the NELS88 is that there is a much larger sample of individuals and I can observe whether students do, in fact, attend college within 20 months of graduating from high school; the disadvantage is that there is no measure of the expected return to college attendance. Therefore, assuming that students have myopic expectations, I merged onto the NELS88 the mean annual income by education level calculated from the 1990 Decennial Census by race, sex, and state, and used these "actual" incomes as proxies for the students' expectations.[7] I calculated the "college

[7]I included only cells with at least 50 observations, although the results are robust to different cut-off levels.

TABLE 6

Probit Estimates of the Relationship Between Expected Returns to a College Education, College Plans, and Actual Attendance: Evidence from the NELS88

	Dependent Variable		
	Plan to Attend College	Attended College	
	1	2	3
College return	0.094	0.105	0.068
	(0.037)	(0.038)	(0.039)
College return × African American	−0.061	0.001	0.042
	(0.055)	(0.074)	(0.085)
College return × Low-SES family	0.022	−0.016	−0.037
	(0.035)	(0.051)	(0.053)
Plan to attend college			0.489
			(0.020)
Plan to attend college × African American			−0.079
			(0.061)
Plan to attend college × Low-SES family			−0.043
			(0.033)
Pseudo R^2	0.095	0.152	0.270

NOTES: Standard errors (clustered at the state and race level) are in parentheses. The coefficients presented are marginal effects. See note to Table 2 for other covariates.

return" as the ratio of the median income of college graduates to the median income of high school graduates. The results are presented in Table 6. Student plans of attending college appear to be positively related to a measure of their expected returns to a college education. As shown in Column 1, students are 0.07 percentage points more likely to plan to attend college for a two standard deviation increase in the expected college return. Further, the effect of the anticipated college return on college plans is statistically similar for African-American and low-income students. Similarly, students' actual enrollment behavior is sensitive to the expected return to a college education (Column 2), but there are no significant differences by race. Once I control for whether the student planned to attend college, the coefficient on the expected college return fell by about one-half and is no longer statistically significant; there are still no statistical differences by race and family income. Importantly, the fact that the interactions between whether a student planned to attend college and the student's race and family SES in Column 3 are similar in magnitude to those in Table 2 suggests that differences in expected returns may not explain the muted relationship between plans and future behavior among African-American and low-income students.

Conclusion

Although some have hypothesized that inner-city youth have unrealistic expectations regarding their futures, there is little or no direct evidence on expectations by social class and race/ethnicity. This exploratory article provides some of the first quantitative evidence on the issue and finds little evidence that the income expectations of lower-income minority students are so different from those of higher-income students. Rather, the expected returns to postsecondary education appear similar to those of more advantaged students. Analysis of a nationally representative sample of high school seniors suggests that lower-income and minority students do not place less weight on expected economic returns to college when making their plans, although low-income students are less able to translate their college plans into actual college attendance. Together, these results suggest that differing income expectations do not explain the weaker relationship between expectations and educational attainment among low-income students.

A potentially promising avenue for future research on student expectations would be the role of uncertainty in expected returns to a college education. A straightforward extension of the human capital model suggests that students with more uncertainty about the returns to a college education will be less likely to further their education, ceteris paribus. Thus, it is possible that low-income students feel greater uncertainty about the economic value of a college degree than do more advantaged students. As one female in Baltimore remarked, "I think there's no guarantee that you will have a job when you graduate from college."

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