Center for Social Development

GEORGE WARREN BROWN SCHOOL OF SOCIAL WORK

# Raising Parent Expectations

## Can Wealth and Parent College Accounts Help?

William Elliott III
Center for Social Development

Kristen Wagner
Center for Social Development

2008

CSD Working Papers
No. 08-18

Campus Box 1196 One Brookings Drive St. Louis, MO 63130-9906 • (314) 935.7433 • www.gwbweb.wustl.edu/csd

Washington University in St. Louis

# Raising Parent Expectations: Can Wealth and Parent College Accounts Help?

*For many children, especially minority and low-income children, attending college is a genuinely desired but elusive goal. Research on aspirations and expectations provides a way to understand the gap between what children desire and what they actually expect to happen. This study examines the potential role of children's college accounts (CCAs) as a way to reduce the gap between aspirations and expectations among at-risk children. I find that only 39 percent of children without savings for college expect to attend college; there is an aspirations/expectations gap of 41 percentage points among children with CCAs. Moreover, children with a CCA are five percent more likely to expect to attend college than children without a CCA. It appears that when the financing of college is perceived to be under the child's control, college attendance becomes a more plausible reality. Children with CCAs are not only more likely to attend college; they also perform better in school.*

***Key words:*** *child development accounts, college enrollment, college expectations*

Educational attainment is widely believed to be an important predictor of children's future economic well-being (Haveman & Wolfe, 1994; Hertz, 2006). However, large disparities exist between poor and affluent children's attainment in America. For example, there is a 27-point gap between poor and affluent children's math achievement and a 28- point gap in reading achievement (National Assessment of Educational Progress, 2005).[1] Not only are there disparities between poor and affluent children's test scores, there are also disparities in college enrollment. While nearly all (97%) of the highest-achieving children from affluent families attend college, only 78 percent of the highest-achieving poor children attend college (ACSFA, 2002). These data on educational achievement translate into disparities that reduce the likelihood of later economic success (Wilson, 1987), including lower income and earnings (King & Bannon, 2002), less stable employment (Topel, 1993), less stable family support (Axinn & Arland, 1992), and lower wealth (Oliver & Shapiro, 1995; Shapiro, 2004).

Various theories have been offered to explain differences in academic attainment, most of which eventually focus on poor and minority children, the schools they attend, and their families and communities. Parent expectations might help provide a way to explain academic attainment among children. In this study, parent expectations are differentiated from parent aspirations in the following way: parent expectations refer to the perceived likelihood that the child will actually attend college, while parent aspirations refer to the level of education the parent would ideally like the child to obtain (Reynolds & Pemberton, 2001).

The authors wish to thank Michael Sherraden and Margaret Sherraden at the Center for Social Development for their consultation on this paper, and the Ford Foundation, Lumina Foundation for Education, and F.B. Heron Foundation for their support.

[1] Poverty is based on whether a child is eligible for free or reduced lunch.

Findings consistently indicate that parent expectations are an important factor in predicting children's academic attainment on a number of indicators such as test scores, enrollment in college, and college completion (Axinn, Duncan, & Thornton, 1997; Conley, 2001; Fan & Chen, 2001; Reynnolds & Gill, 1994; Seyfried & Chung, 2002). In addition, research suggests that parent expectations have a strong correlation with children's expectations for attending college (Hossler & Stage, 1992). Children's college expectations appear to be an important factor in predicting academic achievement (Marjoribanks, 1984). Given this, investing in policies that have a positive impact on parent expectations might be a way of increasing academic attainment among at-risk children.

Some of the typical factors examined when studying parent expectations and their impact on children's achievement are income, race, parent's education level, parent engagement, household size, and employment status. Recently, researchers have begun to pay closer attention to the role of parental wealth in understanding parent expectations and children's academic attainment. For example, Yamada and Sherraden (1996), using data from the PSID, find that wealth has a casual relationship with future orientation and self-efficacy, with wealth leading to a greater time horizon, prudence, and self-efficacy. Phillips, Brooks-Gunn, Duncan, Klebanov, and Crane (1998) used data from Children of the National Longitudinal Survey of Youth (CNLSY). The children in the sample were five and six years old. They find that wealth, as net worth, is not meaningfully associated with scores on the Peabody Picture Vocabulary Test – Revised (Phillips et al., 1998).

However, the majority of the evidence suggests that wealth might be an important factor for understanding children's academic attainment. Using PSID data from 1984 to 1995, Conley (2001) finds that net worth is a strong predictor of whether children between the ages of 19 and 30 enroll in college; however, it does not affect enrollment in graduate school. In a sample of female-headed households from 1992 to 1995, from the National Survey of Families and Households (NSFH), Zhan and Sherraden (2003) find that wealth, defined in terms of home ownership and savings, is positively associated with children's academic achievement (mother's report of grades and high school graduation). Orr (2003) uses NSLY Pennsylvania's Initiative on Assistive Technology (PIAT) math scores measured in 1996 with children aged five to 14. She examines wealth as net worth but also looks at liquid assets such as CDs and stocks and illiquid assets (homes and vehicles). She finds that liquid assets have a positive association with children's math scores; net worth and illiquid assets are not significant. Using 1997 data from the Child Development Supplement (CDS) to the PSID, Williams (2004) finds that wealth, defined as net worth, account ownership and stock/IRA ownership, is positively associated with children's math achievement. Examining both mothers and fathers, using data from NLSY, Zhan (2006) finds that wealth (net worth) is positively associated with children's educational performance (Zhan, 2006).

Moreover, in a recently published article, Yeung and Conley (2008) use the PSID/CDS to examine the impact of wealth on the black/white test score gap for children ages three to 12. They examine several different kinds of wealth: net worth with home equity, net worth without home equity, liquid assets such as stocks and mutual funds, illiquid assets such as real estate and business. Yeung and Conley (2008) find that there is little evidence that wealth mediates the black/white test score gap. Moreover, they find that none of the variants of wealth measured had a significant association with preschoolers' test scores, except for a negative association with debt They postulate that this might be due to the fact that acquiring assets for young families requires lowering current consumption. Similar to Orr's (2003) findings, Yeung and Conley (2008) do find, however, a strong association between liquid assets and school-aged children's achievement.

Though most of these studies have shown significant positive associations between assets and child achievement, little research has been conducted on the specific relationship between parent college accounts, parent expectations, and college enrollment. The lack of studies investigating the impact of parent savings for college on parent expectations might be due to the lack of readily available data to test this relationship. In this study, using 2002 data from the Panel Study of Income Dynamics (PSID) and the Child Development Supplement (CDS), we are able to begin testing the relationship between parent savings for child's college education and parent expectations. We ask, "Is parent savings for college associated with an increase in parent expectations for their child to attend college?" This is an important question considering the increased emphasis on saving as a potential way to finance college.

In this study, we examine the potential of parent college accounts (PCAs) as a way to increase expectations among heads of households. A PCA in this study is the savings primary care givers have set aside in a conventional savings account for their child's college education. Given this, college savings can be thought of as a pot of money. There is growing evidence that people use mental accounting techniques to think about different pots of money in different ways, which affects when and how they use the money in these accounts (Kahneman & Tversky, 1979; Lea, Tarpy, & Webley, 1987; Thaler, 1985; Winnett & Lewis, 1995). In other words, money is not entirely fungible; different accounts hold different purposes and meanings. These meanings affect how people deposit money into the accounts, and how they use the money (Winnett & Lewis, 1995). Families, especially those with children, have numerous household accounts that are non-fungible, designated for certain purposes, and subject to negotiation within the family (Winnett & Lewis, 1995).

A separate savings account, which imposes constraints on the parent's ability to spend, makes money less likely to be used for current consumption, emergencies or otherwise (Maital & Maital, 1994). If the account is a savings contract with rules and penalties for early withdrawal, there is even less likelihood that it will be used for current consumption (Katona, 1975). Therefore, when parents have money designated specifically for college in a savings account, they are likely to think about the savings differently than other pots of money (accounts). Having savings designated for college may have the important cognitive effect of encouraging parents to think more about their child's education, ponder what it takes to get there (academically and financially), and picture their child going to college.

In sum, we suggest that having savings designated specifically for a child's college education has two main effects. One is direct: owning savings increases the means for the parent to afford their child's tuition, making it a more realistic option. But the indirect effect may be as important: saving and owning savings over a period of years may raise expectations for their child to attend college. In this study we examine the indirect and direct effects that having savings may have on parents' college expectations for their children. We pay particular attention to parents of at-risk children (i.e., income-poor children, asset-poor children, children with parents with no college experience, and black children). In addition, we also look at the influence amount saved has on expectations and academic achievement.

## Sample

*Data*

This study uses the following data sets: (1) Panel Study of Income Dynamics (PSID) and (2) Child Development Supplement (CDS) to the PSID. The PSID is a nationally representative longitudinal survey of U.S. individuals and families that began in 1968. Data on employment, income, and marital status have been collected annually, with questions on wealth added beginning in 1984. In 1997, a supplement was drawn from PSID interviews to collect a wide range of data on parents and their children, from birth to 12 years.

In the 1997 sample, there are 3,563 children. The numbers are fairly evenly distributed across all ages. There are 1,642 white children and 1,455 children. There are also Hispanics, Asians, Native Americans, and "other" in the sample, but the counts are much smaller. Because the PSID initially over-sampled low-income families, there are a greater number of blacks than would be expected in the US population. In some cases, data were collected on more than one child per household, but the maximum number of interviews per household was limited to two. Whenever there were three or more eligible children less than age 13 in a household, two were randomly selected for interview (Hofferth, Davis-Kean, Davis, & Finkelstein, 1997).

*Study Sample*

The study sample includes parents of children 12 to 18 years of age in 2002 (see Table 1). 2002 is the first and only year that the CDS asked parents if they had savings set aside for their children's education. Therefore, longitudinal data analysis is not possible on the key variable of interest in this study. Regression analysis is, therefore, limited to a cross-sectional data. However, for descriptive purposes, multiple years of data will be used to provide a broader picture (e.g., in the case of parent expectations). The sample was also restricted to children in public schools in an attempt to reduce differences in quality of schooling. This reduces the sample size to 1,065.

The non-weighted sample suggests that the households in this study are diverse in circumstances (see Table 1). More than half of the heads of households are married (64 percent). Moreover, the majority of heads are male – 69 percent. Fifty-three percent of heads of households have a high school degree or less, 25 percent have some college, and 22 percent have four years of college or more. Forty-five percent of heads of households are black and 55 percent are white.[2] Fifteen percent of the households are poor and 26 percent are upper class. Similarly, 24 percent are asset-poor and 25 percent are asset-rich.

[2] In the PSID/CDS, blacks are over sampled.

Table 1. Non-weighted demographics for sample

| Variable Name | Percent | Number | *SE* |
|---|---|---|---|
| *Parent controls* | | | |
| Head's race | | | |
| White | 55% | 567 | 1.54 |
| Black | 45% | 473 | 1.54 |
| Head's gender | | | |
| Male | 69% | 730 | 1.42 |
| Female | 31% | 333 | 1.42 |
| Head's education 2001 | | | |
| High school or less | 53% | 540 | 1.57 |
| Some college | 25% | 251 | 1.36 |
| Four years of college or more | 22% | 222 | 1.30 |
| Marital status 2002 | | | |
| Married | 64% | 685 | 1.47 |
| Single | 36% | 378 | 1.47 |
| Employment status 2001 | | | |
| Employed | 97% | 917 | .51 |
| Unemployed | 3% | 24 | .51 |
| *Economic controls* | | | |
| Household income 2001 | | | |
| Poor | 14% | 150 | 1.07 |
| Lower middle class | 18% | 190 | 1.18 |
| Middle class | 18% | 191 | 1.18 |
| Upper middle class | 24% | 254 | 1.31 |
| Upper class | 26% | 278 | 1.35 |
| Average household income (1997 & 2001) | | | |
| Poor | 15% | 157 | 1.09 |
| Lower middle class | 17% | 185 | 1.16 |
| Middle class | 22% | 232 | 1.27 |
| Upper middle class | 25% | 266 | 1.33 |
| Upper class | 21% | 223 | 1.25 |
| Household wealth 2001 | | | |
| Less than $4,564 | 24% | 257 | 1.31 |
| $4,565-$47,743 | 26% | 274 | 1.34 |
| $47,743 - $153,700 | 25% | 266 | 1.33 |
| More than $153,700 | 25% | 266 | 1.33 |
| *Parent controls* | | | |
| Head's race | | | |
| White | 55% | 567 | 1.54 |
| Black | 45% | 473 | 1.54 |
| Head's gender | | | |
| Male | 69% | 730 | 1.42 |
| Female | 31% | 333 | 1.42 |

## Research Variables

This section provides information on how variables are measured in this study. There are both categorical and continuous variables used in the analysis. Variables are collected from 1997, 1999, 2001, and 2002 depending upon when they were available in the PSID/CDS. Variables are categorized into the following groups: parent controls, child controls, academic controls, psychological controls, and economic controls.

*Parent Controls*

*Head's education level* in the PSID/CDS is a continuous variable (1 to 16), with each number representing a year of completed schooling. In this analysis, the head of household's education level has been recoded into a three level variable: (1) no college, (2) some college, or (3) four years of college. Data are downloaded for 2001.

*Marital status* is measured by asking heads of households, "Are you married, divorced, separated, or have you never been married?" It is recoded as a dichotomous variable: (1) married and (2) not married. Data are downloaded for 2001.

*Employment status* is measured by asking heads of households, "Are you working now, looking for work, retired, keeping house, a student, or other?" In this analysis, employment status has been recoded into a dichotomous variable: (1) employed and (2) not employed. Data are downloaded for 2001.

*Parent engagement* is measured by creating an index summing responses to the following questions: (1) "How often do you encourage your child to read on (his/her) own?" (2) "If your child brought home a report card with grades or progress lower than expected, would you contact his/her teacher or principal?" (3) "If your child brought home a report card with grades or progress lower than expected, would you spend more time helping your child with schoolwork?" and (4) "In the past month, how often did you work on homework with (him/her)?"

*Academic Controls*

*Special education* is measured in the PSID/CDS by asking, "Has (he/she) ever been classified by a school as needing special education?" This is coded as yes or no.

*Applied problem standardized score* will be used as a proxy for math achievement. Applied problem standardized score is measured in the PSID using the Woodcock Johnson (WJ-R), a well-respected measure (Mainieri, 2006). The test is administered by an interviewer and arranged in order of difficulty. The WJ-R has a standardized scoring protocol that measures the child's math abilities in comparison to the national average for his or her age group (Mainieri, 2006). Normed scores will be used in this study. Normed scores are constructed based on children's raw score, or the number of correct items, and children's age (Mainieri, 2006). Data on applied problem standardized score was downloaded from PSID/CDS for 1997 and 2001.

*Psychological Controls*

*Parent aspirations* are measured by asking parents, "In the best of all worlds, how much schooling would you like your child to complete?" Response categories include: (1) eleventh grade or less, (2) graduate from high school, (3) post-high school vocational training, (4) some college, (5) graduate from a two-year college, (6) graduate from a four-year college, (7) master's degree or teaching credential program, or (8) MD, LAW, PHD, or other doctoral degree. Parent aspirations are recoded into a dichotomous variable. The reference group consists of parents who responded by selecting the number 4, 5, 6, 7, or 8. The first time data was collected on parent aspirations in the PSID/CDS was 2002.

*Parent expectations for children attending college* are measured by asking heads of households, "How much schooling do you expect that (CHILD) will complete? Do you think you will?" Response categories include: (1) eleventh grade or less, (2) graduate from high school, (3) post-high school vocational training, (4) some college, (5) graduate from a two-year college, (6) graduate from a four-year college, (7) master's degree, or (8) MD, LAW, PHD, or other doctoral degree. Parent expectations are recoded into a dichotomous variable. The reference group consists of parents who responded by selecting the number 4, 5, 6, 7, or 8. Parent expectations are downloaded for 1997 and 2001.

*Economic Controls*

*Parent's college account (PCA)* is measured by asking, "Other than what you told me about already, do you (and other caregivers) have money set aside for children to attend college or other future schooling? Include money set aside to cover all expenses/costs related to school and living at school." PCA is a dichotomous variable in the PSID/CDS; parents are asked to respond with yes or no.

*Parent's savings amount* is measured by asking parents in reference to their PCA, "About how much does it amount to right now?" They are asked to select an amount between $10 – $500,000. The parent's savings amount variable is topcoded at $200,000 for the purposes of this analysis; less than one percent are topcoded. After topcoding, the variable was collapsed into a trichotomous variable with the following categories: (1) less than $4,081, (2) $4,081 to $18,272, and (3) more than $18,273. The amounts chosen were based on the cost of college during the 2002/2003 school year (College Board, 2002). One year of four-year public college costs $4,081 while one year at a private four-year college costs $18,273 (College Board, 2002).[3] The median amount saved for college in this study was $10,000.

*Household income* is a continuous variable in the PSID summing total household income from the previous tax year, including all taxable income, transfer income, and Social Security income for anyone in the household. Household income is collected for 1997 and 2001 in this study. Single-year measures of income may not be reliable given yearly fluctuation (Blau, 1999; Mayer, 1997). Income averaged over multiple years provides the best estimate of "permanent income" (Blau, 1999; Mayer, 1997). Therefore, an average household income is calculated using the 1997 and 2001 data. The 1997 income is inflated to 2001 price levels using the Consumer Price Index (CPI). It is then collapsed into a five level variable: (1) less than $18,256 – poor, (2) $18,256 - $33,376 – lower middle class, (3)

[3] These prices do not include room and board.

$33,377 - $53,161 – middle class, (4) $53,162 - $84,016 – upper middle class, and (5) greater than $84,016 – upper class.

*Household wealth* (with home equity) in the PSID is a continuous variable calculating household net worth, summing separate values for a business, checking or savings, real estate, stocks, and other assets, subtracting credit card and other debt. Data are downloaded for 1999 and include main home equity. Household wealth is inflated to 2001 price levels using the CPI. Wealth is collapsed into a four-level variable: (1) less than $4,564 – asset-poor, (2) $4,564 - $47,742, (3) $47743 - $153,700, and (4) more than $253,700. Asset poverty is calculated using the 2001 poverty level. It is equivalent to three months of income at the poverty line (see for e.g., CFED, 2008).

## Data Analysis Plan

In the first stage of the data analysis plan, an extensive review of descriptive data is conducted to identify meaningful relationships between groups. In stage two, regression techniques are used to analyze relationships between dependent and independent variables in the attempt to provide a better understanding of what relationships have statistical significance when different controls are included in a model. In the next section of the data analysis plan, some of the more complicated methods used in the analysis will be discussed.

### *Tests of Association*

Logistic regression is used in this study. Logistic regression is a nonparametric test used to analyze the relationship between a categorical dependent variable and a set of independent variables (Allison, 2001). Prior to running logistic regression, bivariate analysis is conducted using Rao Scott chi-square and student's t-test. Rao Scott chi-square is used because of the complex survey design. The Rao Scott chi-square is generated by SAS when using PROC SURVEYFREQ and the CHISQ option. The Rao Scott chi-square "applies a design effect correction to the Pearson chi-square that computes the design effect correction from proportion estimates instead of null proportions (Baisden, Park, & Hu, 2002-2003, p. 4).[4] Multicollinearity is tested using the SAS syntax, PROC REG with options VIF TOL in SAS. Tests revealed that multicollinearity is not problematic in the models in this study.

### *Study Weights*

Due to the complex survey design of PSID/CDS, weights must be used in order for final results to be representative of the U.S. population (Gouskova, 2001). Weights adjust for possible selection bias. PSID/CDS provides sampling weights (Gouskova, 2001). For analyses involving children's relationships with the heads of households (primary care givers) or family characteristics, as in this study, Gouskova (2001) states that the following PSID/CDS weight must be used – CH02PRWT.

Weights were adjusted by multiplying the weight by (Number of cases/sum of weights). Adjusting weights does not change the relative values of the weights but assures that the mean is one, and the sum of weights equals the number of cases.

[4] There is a known defect with the Rao Scott chi-square that occurs when weights are used (Baisden et al., 2002-2003). To correct for this defect, weights must be normalized (Baisden et al., 2002-2003). As discussed in this section, weights have been normalized in this analysis.

*Missing Variables*

Prior to running the logistic regression model, PCA was analyzed to determine if missing data are missing at random (MAR). According to Little and Ruin (1987), data are MAR when, given the observed data, the missingness mechanism does not depend on the unobserved data. The following variables have more than ten percent missing in this study: (1) math achievement (11 percent) and employment status (11 percent). Since no variable had 20 percent or more missing, multiple imputation can be used to replace missing values (Little & Rubin, 2002). To test for differences between excluded cases and cases included, all missing variables were transformed to a *miss* variable and a regression analysis was run. Differences were nonsignificant.

To account for missing values, multiple imputation is used. Multiple imputation uses all the information available, as well as a random component, to fill in missing values. Multiple imputation is recognized as a preferred technique for completing missing data (Little & Rubin, 2002). I used multiple imputation through the Markov Chain Monte Carlo method (Saunders et al., 2006; Schafer & Graham, 2002) to create five independent data sets with no missing data. Five completed data sets were generated, and by utilizing a different random seed at the start of each imputation pass, variance between the data sets more accurately reflects the uncertainty in imputing missing data.

Analyses were then conducted using PROC LOGISTIC. The results were combined or "rolled up" to produce less biased estimations of parametric statistics (Saunders et al., 2006). The beta coefficients were averaged across the data sets to produce one estimate, and the standard error for each beta was calculated from the five error estimates as well as the varability between the estimates (Rubin, 1987). Further, the $R^2$ reported in this study is calculated from averaging the $R^2$s across the five imputed data sets (Saunders et al., 2006).

## Results

Among parents with children 12 to 18 in 2002, 93% aspire for their child to attend college. When the data is disaggregated, aspirations still remain high. Among parents with at- risk children, the vast majority aspire to attend college: 75 percent of poor parents, 85 percent of asset-poor parents, 87 percent of black parents, and 90 percent of children with parents who have a high school degree or less.

*Parent Expectations by Household Income*

In 1997, the expectation gap between poor and upper class parents was 43 points (see Table 2). In 2002, expectations among upper-class parents decreased by three percentage points; however, expectations among the poor decreased by nine percentage points. As a result, the expectation gap grew to 49 points between poor and upper-class parents. There was a 29-point aspiration/expectation gap among the poor. Bivariate analysis indicates that the association between income and parent's college expectations for their child is significant in 1997 (Rao Scott $X^2 = 82.48$, $df = 4$, $p = .00$) and 2002 (Rao Scott $X^2 = 86.11$, $df = 4$, $p = .00$).

Table 2. Differences in parent's college expectations by average household income

| Household income | Expect to attend college in 1997 | | Do not expect to attend college in 1997 | | Expect to attend college in 2002 | | Do not expect to attend college in 2002 | |
|---|---|---|---|---|---|---|---|---|
| | Percent | Number | Percent | Number | Percent | Number | Percent | Number |
| Poor | 55% | 71 | 44% | 57 | 46% | 37 | 54% | 43 |
| Lower middle class | 69% | 113 | 30% | 50 | 70% | 98 | 31% | 43 |
| Middle class | 76% | 169 | 24% | 52 | 68% | 126 | 31% | 58 |
| Upper middle class | 86% | 252 | 14% | 41 | 83% | 249 | 17% | 51 |
| Upper class | 98% | 256 | 2% | 4 | 95% | 341 | 5% | 19 |

Table results rounded to the nearest percent (number); percent and numbers are weighted using PSID, CDS weights

Note: Parent aspirations are not available for 1997 in the PSID/CDS

*Parent Expectations by Household Wealth*

In 1997 the expectation gap between asset-poor and asset-rich parents was 37 percentage points. In 2002, expectations among asset-poor parents rose by nine points while it remained at 94 percent among asset rich parents. The increase in expectations among the asset-poor resulted in a reduction in the expectation gap between the asset-poor and the asset- rich to 28 points.

The aspiration/expectation gap among asset-poor parents in this study was 19 percentage points; among asset-rich parents it was five points in 2002 (see Table 3). The expectation gap between asset-poor parents and asset-rich parents was 37 percentage points. Bivariate analysis indicates that the association between household wealth and parent's college expectations for their child was significant in 1997 (Rao Scott $X^2 = 68.78$, $df = 3$, $p = .00$) and 2002 (Rao Scott $X^2 = 77.89$, $df = 3$, $p = .00$).

Table 3: Differences in parent's college expectations by wealth

| Household wealth | Expect to attend college in 1997 | | Do not expect to attend college in 1997 | | Expect to attend college in 2002 | | Do not expect to attend college in 2002 | |
|---|---|---|---|---|---|---|---|---|
| | Percent | Number | Percent | Number | Percent | Number | Percent | Number |
| Less than $4,564 | 57% | 127 | 42% | 91 | 66% | 124 | 34% | 64 |
| $4,564- $47,743 | 79% | 198 | 21% | 54 | 78% | 186 | 22% | 52 |
| $47,743- $153,700 | 85% | 219 | 15% | 39 | 82% | 229 | 18% | 51 |
| More than $153,700 | 94% | 318 | 6% | 21 | 94% | 335 | 6% | 23 |

Table results rounded to the nearest percent (number); percent and numbers are weighted using PSID, CDS weights; average household income is used (1997 and 2001) to create income groups

*Parent Expectations by Race*

In 1997, the expectation gap between white parents and black parents was 27 percentage points (see Table 4). In 2002, expectations among black parents rose by five points while it remained at 86

percent among white parents. The increase in expectations affected the racial gap in parent expectations, decreasing it to 22 percentage points in 2002.

The aspiration/expectation gap among white parents was 11 percentage points; among black parents, it was 23 percentage points in 2002.

Table 4. Differences in parent's college expectations by race

| Race | Expect to attend college in 1997 | | Do not expect to attend college in 1997 | | Expect to attend college in 2002 | | Do not expect to attend college in 2002 | |
|---|---|---|---|---|---|---|---|---|
| | Percent | Number | Percent | Number | Percent | Number | Percent | Number |
| White | 86% | 735 | 14% | 119 | 86% | 741 | 14% | 117 |
| Black | 59% | 121 | 41% | 85 | 64% | 133 | 35% | 73 |

Table results rounded to the nearest percent (number); percent and numbers are weighted using PSID, CDS weights

Bivariate analysis indicates that the association between race and parent expectations for their child was significant in 1997 (Rao Scott $X^2 = 63.88$, $df = 1$, $p = .00$) and 2002 (Rao Scott $X^2 = 48.47$, $df = 1$, $p = .00$).

*Parent Expectations by Parent's Level of Education*

In 1997, the expectation gap between parents with a high school degree or less and parents with four years or more of college was 24 points (see Table 5). In 2002, expectations among parents with a high school degree or less decreased by one point; for parents with four years of college or more, it rose by four points. This led to a five-point swing in the expectation gap (up to 29 points).

The aspiration/expectation gap among parents with a high school degree or less was 20 percentage points; among parents with four-years of college or more it was five percentage points in 2002. Bivariate analysis indicates that the association between parent level of education and parent college expectations was significant in 1997 (Rao Scott $X^2 = 40.81$, $df = 2$, $p = .00$) and 2002 (Rao Scott $X^2 = 84.91$, $df = 2$, $p = .00$).

Table 5. Differences in parent's college expectations by parent's level of education

| Parent's level of education | Expect to attend college in 1997 | | Do not expect to attend college in 1997 | | Expect to attend college in 2002 | | Do not expect to attend college in 2002 | |
|---|---|---|---|---|---|---|---|---|
| | Percent | Number | Percent | Number | Percent | Number | Percent | Number |
| High school or less | 70% | 329 | 31% | 144 | 69% | 319 | 31% | 143 |
| Some College | 88% | 211 | 12% | 30 | 87% | 215 | 13% | 31 |
| Four-year degree or more | 94% | 301 | 6% | 18 | 98% | 308 | 2% | 7 |

Table results rounded to the nearest percent (number); percent and numbers are weighted using PSID, CDS weights

*Parent Expectations by PCAs*

The descriptive data indicate that in 2002, 99 percent of parents with a PCA aspired for their child to attend college (see Table 6). Ninety-two percent of parents without a PCA aspired for their child

to attend college. The aspiration gap between parents with a PCA and parents without a PCA was seven percentage points.

While the majority of parents without a PCA in 2002 were likely to aspire for their child to attend college, 77 percent expected their child to attend college (see Table 6). The aspiration/expectation gap for parents without a PCA is 15 percentage points. Conversely, the aspirations/expectations gap for parents with a PCA is seven percentage points. Moreover, the binary relationship between parent college expectations and PCAs is statistically significant (Rao Scott $X^2 = 25.41$, $df = 1$, $p = .0001$).

Table 6. Differences in parent's college aspirations and expectations by PCA

| Aspirations & Expectations | Have a PCA in 2002 | | Do not have a PCA in 2002 | |
|---|---|---|---|---|
| | Percent | Number | Percent | Number |
| *Aspirations* | | | | |
| Desire to attend college | 99% | 215 | 92% | 780 |
| Do not desire to attend college | 1% | 3 | 8% | 66 |
| *Expectations* | | | | |
| Expect to attend college | 92% | 201 | 77% | 644 |
| Do not expect to attend college | 8% | 17 | 23% | 197 |

Table results rounded to the nearest percent (number); percent and numbers are weighted using PSID, CDS weights

*Examining the Association between Assets, PCAs and Parent College Expectations*

This section uses logistic regression to take a closer look at the relationship between parent expectations for their child to attend college and parental savings amount. I ask, "Is parent's savings amount associated with a greater likelihood that parent's will expect their child to attend college after controlling for parent, child, academic, psychological, and economic factors?"

Similar to the previous chapter on children's savings, two logistic regression models are constructed, models three and four. Model three does not include PCAs; model four does (see Table 7). Results are reported for model four only, while model three is used for comparison purposes only. PCAs, parent's level of education, special education needs of child, child's math scores, and household income are significant (see Table 7). All significant independent variables in model four fall within the 95 percent confidence interval.

Parents with children ages 12 to 18 who have a PCA are almost twice as likely to expect their child to attend college as parents who do not have a PCA (*odds ratio*=1.84, $p$=.04). However, there is no practical change in the adjusted r-square when PCAs are added to the model. Moreover, for each level of education a parent has attained (high school or less, some college, or four years of college or more), they are twice as likely to expect their child to attend college (*odds ratio*=2.10, $p$=.000). Parents with children who have been classified as needing special education are 24 percent less likely to expect their children to attend college (*odds ratio*=.24, $p$=.00). For every one-point increase in children's math scores, parents are four percent more likely to expect their child to attend college (*odds ratio*=1.04, $p$=.01). For each unit increase in income (poor, lower middle class, middle class, upper middle class, and upper class), parents are 53 percent more likely to expect that their child will attend college (*odds ratio*=1.53, $p$=.00).

Table 7. Logistic regression model predicting parent expectations for children's college education with and without PCAs (N=1071)

| Controls | Model One (without PCAs) | | | Model Two (with PCAs) | | |
|---|---|---|---|---|---|---|
| | *b* | *SE* | p-value | *b* | *SE* | p-value |
| *Intercept* | -5.52 | 1.09 | .00 | -4.76 | 1.09 | .00 |
| *Parent controls* | | | | | | |
| Race | .20 | .25 | .42 | .29 | .27 | .28 |
| Employment | .55 | .72 | .45 | .54 | .71 | .45 |
| Marital status | .12 | .24 | .62 | .10 | .25 | .69 |
| Head's education | .79 | .16 | .00 | .78 | .16 | .00 |
| Parent engagement | .01 | .03 | .64 | .00 | .03 | .97 |
| *Academic controls* | | | | | | |
| Special education | -1.43 | .26 | .00 | -1.43 | .25 | .00 |
| Math std. score | .04 | .01 | .00 | .04 | .01 | .01 |
| *Economic controls* | | | | | | |
| Household income | .43 | .11 | .00 | .41 | .11 | .00 |
| Household wealth | -.02 | .10 | .85 | -.06 | .10 | .56 |
| PCAs | ----- | ---- | ------ | .61 | .29 | .04 |
| *Average adjusted $R^2$* | .39 | | | .39 | | |
| *Average $R^2$ change* | ----- | | | .00 | | |
| Likelihood ratio | 328.53* | | | 323.80* | | |
| df | 9 | | | 10 | | |

Analysis is weighted using PSID, CDS weights; *p<.000
Note: PCAs are an abbreviation for parent's college accounts

*Who is Saving for their Child's Education?*

Among parents, 20 percent report having savings set aside for their child's education. The median amount saved for college is $10,000, more than enough to pay for two years at community college – about $3,470 – or even two years at the typical public, four-year college – cost about $8,162 (College Board, 2002). However, it falls well short of the amount needed to pay for a private, four-year college in 2002 – about $18,273 (College Board, 2002). Among parents who have savings for their child's education, 48 percent have less than $4081, 29 percent have between $4081 and $18,272, and 23 percent have $18,273 or more.

*Differences in Parent Savings Amount by Income*

The savings gap between poor parents and upper-class parents who have more than $18,273 saved for college is 12 percentage points. Bivariate analysis indicates that the association between parent's savings amount and income is significant (Rao Scott $X^2 = 89.15$, $df = 8$, $p = .00$).

Table 8. Differences in parent's savings amount by average household income

| Household income | Parent's Savings Amount (less than $4,081) | | Parent's Savings Amount ($4,081 - $18,272) | | Parent's Savings Amount (more than $18,273) | |
|---|---|---|---|---|---|---|
| | Percent | Number | Percent | Number | Percent | Number |
| Poor | 97% | 76 | 1% | 1 | 1% | 1 |
| Lower middle class | 99% | 160 | <1% | 0 | 1% | 2 |
| Middle class | 95% | 195 | 5% | 9 | 1% | 2 |
| Upper middle class | 89% | 287 | 10% | 31 | 2% | 6 |
| Upper class | 80% | 241 | 7% | 21 | 13% | 39 |

Table results rounded to the nearest percent (number); percent and numbers are weighted using PSID/CDS weights

*Differences in Parent's Savings Amount by Wealth*

The savings gap between asset-poor parents and asset-rich parents who have more than $18,273 is 11 percentage points. Bivariate analysis indicates that the association between parent's savings amount and household wealth is significant (Rao Scott $X^2 = 79.04$, $df = 6$, $p = .00$).

Table 9. Differences in parent's savings amount by wealth

| Household wealth | Parent's Savings Amount (less than $4,081) | | Parent's Savings Amount ($4,081 - $18,272) | | Parent's Savings Amount (more than $18,273) | |
|---|---|---|---|---|---|---|
| | Number | Percent | Percent | Number | Percent | Number |
| Less than $4,564 | 99% | 187 | 1% | 2 | <1% | 0 |
| $4,564- $47,743 | 95% | 229 | 5% | 11 | <1% | 1 |
| $47,743- $153,700 | 89% | 253 | 9% | 25 | 2% | 5 |
| More than $153,700 | 81% | 290 | 7% | 25 | 12% | 44 |

Table results rounded to the nearest percent (number); percent and numbers are weighted using PSID/CDS weights

*Differences in Parent's Savings Amount by Race*

The savings gap between white parents and black parents with more than $18,273 saved is a modest four percentage points. However, black parents are four percentage points ahead of white parents who have college savings at the levels of $4,081 - $18,272. Bivariate analysis indicates that the association between parent's savings amount and race is significant (Rao Scott $X^2 = 9.17$, $df = 2$, $p = .01$).

Table 10. Differences in parent's savings amount by race

| Race | Parent's Savings Amount (less than $4,081) | | Parent's Savings Amount ($4,081 - $18,272) | | Parent's Savings Amount (more than $18,273) | |
|---|---|---|---|---|---|---|
| | Percent | Number | Percent | Number | Percent | Number |
| White | 89% | 759 | 5% | 44 | 6% | 48 |
| Black | 89% | 175 | 9% | 18 | 2% | 3 |

Table results rounded to the nearest percent (number); percent and numbers are weighted using PSID, CDS weights

*Differences in Parent's Savings Amount by Parent's Level of Education*

The savings gap between parents with high school or less and parents who have four years of college or more (with savings more than $18,273) is nine percentage points. Bivariate analysis indicates that the association between children's savings amount and race is significant (Rao Scott $X^2 = 23.77$, $df = 4$, $p = .00$).

Table 11. Differences in parent's savings amount by parent's level of education

| Parent's level of education | Parent's Savings Amount (less than $4,081) | | Parent's Savings Amount ($4,081 - $18,272) | | Parent's Savings Amount (more than $18,273) | |
|---|---|---|---|---|---|---|
| | Percent | Number | Percent | Number | Percent | Number |
| High school or less | 94% | 438 | 5% | 22 | 1% | 7 |
| Some College | 90% | 223 | 5% | 13 | 4% | 11 |
| Four-year degree or more | 81% | 256 | 9% | 27 | 10% | 32 |

Table results rounded to the nearest percent (number); percent and numbers are weighted using PSID, CDS weights

*Predicting Parent College Expectations including Parent's Savings Amount*

Model three predicts parent expectations for their child to attend college with parent's savings amount (see Table 12). The model accounts for 39 percent of variance in parent college expectations among parents with children 12 to 18. The model indicates that parent's savings amount does not have a significant relationship with parent expectations when controlling for parent, child, academic, psychology, and economic variables (see Table 12).

In model four, both parent's savings amount and PCAs are included (see Table 12). Model fourteen accounts for 40 percent of variance in parent college expectations among children ages 12 to 18. There is a modest increase of one percent in the average adjusted $R^2$. When children's savings amount and PCAs are included, both are significant (see Table 12). However, parent's savings amount has an odds ratio of 1.0, suggesting that it has no practical influence on children's expectations for attending college.

Table 12. Logistic regression model predicting parent expectations for children's college education including parent savings amount and PCAs (N=538)

| Controls | Model Three (amount saved only) | | | Model Four (amount saved and PCAs) | | |
|---|---|---|---|---|---|---|
| | *B* | *SE* | p-value | *b* | *SE* | p-value |
| *Intercept* | -14.71 | 1.93 | .00 | -14.95 | 1.60 | .00 |
| *Parent controls* | | | | | | |
| Race | .20 | .27 | .46 | .29 | .27 | .29 |
| Employment | .53 | .82 | .52 | .58 | .67 | .39 |
| Marital status | .07 | .26 | .79 | .06 | .25 | .81 |
| Head's education | .77 | .16 | .00 | .81 | .16 | .00 |
| Parent engagement | .01 | .03 | .67 | -.00 | .03 | .90 |
| *Academic controls* | | | | | | |
| Special education | -1.39 | .26 | .00 | -1.36 | .27 | .00 |
| Math std. score | .05 | .01 | .00 | .04 | .01 | .00 |
| *Economic controls* | | | | | | |
| Household income | .45 | .11 | .00 | .44 | .11 | .00 |
| Household wealth | -.05 | .02 | .88 | -.07 | .11 | .53 |
| Parent's savings amount | -.00 | .00 | .38 | -.00 | .00 | .04 |
| PCAs | ------ | ---- | ----- | .83 | .33 | .01 |
| *Adjusted $R^2$* | .39 | | | .40 | | |
| *$R^2$ change* | ------ | | | .01 | | |
| Likelihood ratio | 303.798* | | | 335.94* | | |
| df | 10 | | | 11 | | |

Analysis is weighted using PSID, CDS weights; *p<.000

## Discussion and Conclusion

Among parents with a PCA, aspirations and expectations appear to be closely integrated, with 99 percent of them desiring to see their children attend college and 92 percent expecting that they will attend college. However, among parents without a PCA, there appears to be less integration between aspirations and expectations. There is a 15 percentage point gap between aspirations and expectations. In either case, the overwhelming majority of parents desire for their child to attend college.

In testing the relationship between parent expectations and PCA, when controlling for all independent variables, the following variables are significant: PCAs, parent's level of education, special education needs, children's math scores, and household income. I find that parents of children ages 12 to 18 who have a PCA are almost twice as likely to expect their children to attend college as parents who do not have a PCA.

In contrast to previous findings (Zhan, 2006; Zhan & Sherraden, 2003), in this study, household wealth is not statistically associated with parent expectations for children to attend college. One reason for the different findings might be that Zhan in 2003 and 2006 used a sample of mothers and children from the NLSY data set. By contrast, the sample in this study consists of both mothers and

fathers as heads. Moreover, some researchers have questioned the applicability of previous studies which rely on NLSY data. For example, in a discussion of these studies, Yeung and Conley (2008) have said, "Despite their rich information on child development, NSLY data over represent children of relatively young mothers in early years and have considerable missing data on family wealth" (2008, p. 306). However, more research is needed.

In examining the role that college savings amount has on expectations, I find that twenty percent of parents report having savings set aside for their child's education in a conventional bank account. Using data from 2007, Romeny and Dean (2007) find that a slightly higher number of parents (31 percent) have savings in similar types of accounts. The median amount saved for college in this study was $10,000. When PCAs are not included in the model predicting parent college expectations, parent's savings amount is not significant. When PCAs are included, both parent's savings amount and PCAs are significant. Parent's savings amount is not practically significant, however. Parent's savings amount has an odds ratio of 1.0. It appears that the amount saved is not as important to the formation of positive college expectations as simply having an account.

In this study, the average grade was ninth grade. This might be too far from the child's college years to discern the impact of savings amount on parent expectations. However, as 2002 is the only year with data on parent savings for college in the PSID/CDS, we could not examine whether amount saved matters more in later years. Future researchers might want to examine whether savings amount becomes more important the closer parents are to having to actually pay for college. While much more research is needed, PCAs show promise as a way to increase parent expectations for their child to attend college.

## References

ACSFA. (2002). Empty promises: The myth of college access in America. Retrieved February, 11, 2006, from http://varolifamily.com/PDFs/E/empty-promises.pdf

Allison, P. D. (2001). *Logistic regression using the SAS system: Theory and application*. Cary: NC: SAS Publishing, BBU Press.

Axinn, W., & Arland, T. (1992). The influence of parental resources on the timing of the transition to marriage. *Social Science Research, 21*, 261-284.

Axinn, W., Duncan, G., & Thornton, A. (1997). The effects of parents' income, wealth, and attitudes on children's completed schooling and self-esteem. In G. Duncan & J. Brooks-Gunn (Eds.), *Consequences of growing up poor* (pp. 518-540). New York: NY: Russell Sage Foundation.

Baisden, K. L., Park, M., & Hu, P. (2002-2003). The enigma of survey data analysis: Comparison of SAS survey procedures and SUDAAN procedures (Publication. Retrieved March 29, 2008, from SAS Institute Inc.: http://www2.sas.com/proceedings/sugi31/194-31.pdf

Blau, D. M. (1999). The effect of income on child development. *The Review of Economics and Statistics, 81*(2), 261-276.

CFED. (2008). *Guide to the 2007-2008 assets and opportunity scorecard*. Washington, DC.

College Board. (2002). Trends in college pricing (Publication. Retrieved March 29, 2008, from The College Board: http://www.collegeboard.com/press/cost02/html/CBTrendsPricing02.pdf

Conley, D. (2001). Capital for college: parental assets and postsecondary schooling. *Sociology of Education, 74*(1), 59-72.

Fan, X., & Chen, M. (2001). Parental involvement and students academic achievement: A meta-analysis. *Educational Psychology Review, 13*(1), 1-22.

Gouskova, E. (2001). The 2002 PSID child development supplement (CDS-II) weights (Publication. Retrieved March 22, 2008, from Survey Research Center of the Institute for Social Research, University of Michigan: http://psidonline.isr.umich.edu/CDS/questionnaires/cdsiiweights.pdf

Haveman, R., & Wolfe, B. (1994). *Succeeding generations: On the effects of investment in children*. New York: Russell Sage Foundation

Hertz, T. (2006). *Understanding mobility in America*. Washington, DC: Center for American Progress.

Hofferth, S., Davis-Kean, P. E., Davis, J., & Finkelstein, J. (1997). *The child development supplement to the Panel Study of Income Dynamics: 1997 user guide*: Ann Arbor: Survey Research Center, Institute for Social Research, University of Michigan.

Hossler, D., & Stage, F. K. (1992). Family and high school experience influences on the postsecondary educational plans of ninth-grade students. *American Educational Research Journal, 29*(2), 425-451.

Kahneman, D., & Tversky, A. (1979). Prospect theory: an analysis of decision under risk. *Econometrica, 47*(2), 263-292.

Katona, G. (1975). *Psychological economics*. New York, NY: Elsevier.

King, T., & Bannon, E. (2002). At what costs?: The price that working students pay for a college education. Retrieved February, 11, 2006, from http://www.pirg.org/highered/atwhatcost4_16_02.pdf

Lea, S. E. G., Tarpy, R. M., & Webley, P. (1987). *The individual in the economy*. Cambridge, MA: Cambridge University Press.

Little, R. J. A., & Rubin, D. B. (2002). *Statistical analysis with missing data* (2nd ed.). New York, NY: John Wiley & Sons.

Little, R. J. A., & Ruin, D. B. (1987). *Statistical analysis with missing data*. Wiley, NY.

Mainieri, T. (2006). *The panel study of income dynamics child development supplement: User guide for CDS-II*. Retrieved November 10, 2006, from http://psidonline.isr.umich.edu/CDS/cdsii_userGd.pdf.

Maital, S., & Maital, S. L. (1994). Is the future what it used to be? A behavioral theory of the decline of saving in the West. *Journal of Socio-Economics, 23*(1/2), 1-32.

Marjoribanks, K. (1984). Ethnicity, family environment and adolescents' aspirations: A follow-up study. *Journal of Educational Research, 77*(3), 166-171.

Mayer, S. (1997). *What money can't buy: family income and children's life chances.* Cambridge: Harvard University Press.

National Assessment of Educational Progress. (2005). *The Nation's report card mathematics*. Washington, D.C.: U.S. Department of Education, Institute of Education Sciences.

Oliver, M. L., & Shapiro, T. M. (1995). *Black Wealth/White Wealth : A New Perspective on Racial Inequality*. New York: Routledge.

Orr, A. J. (2003). Black-white differences in achievement: The importance of wealth. *Sociology of Education, 76*(October), 281-304.

Phillips, M., Brooks-Gunn, J., Duncan, G. J., Klebanov, P., & Crane, J. (1998). Family background, parenting practices, and the black-white test score gap. In C. Jencks & M.

Phillips (Eds.), *The black-white test score gap*. Washington, DC: Brookings Institutions Press.

Reynnolds, A. J., & Gill, S. (1994). The role of parental perspectives in the school adjustment of inner-city black children. *Journal of Youth and Adolescence, 23*(6), 671-694.

Reynolds, J. R., & Pemberton, J. (2001). Rising college expectations among youth in the United States: A comparison of the 1979 and 1997 NLSY. *The Journal Of Human Resources, 36*(4), 703-726.

Romeny, L., & Dean, A. (2007). *The state of college savings: Parents resigned to decades of debt*. Washington, DC: The College Savings Foundation.

Rubin, D. B. (1987). *Multiple imputation for nonresponse in surveys*. New York, NY: John Wiley & Sons.

Saunders, J., Morrow-Howell, N., Spitznagel, E., Dore, P., Proctor, E. K., & Pescario, R. (2006). Imputing missing data: A comparison of methods for social work researchers. *Social Work Research, 30*(1), 19-31.

Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods, 7*(147-177).

Seyfried, S., F, & Chung, I.-J. (2002). Parent involvement as parental monitoring of student motivation and parent expectations: Predicting later achievement among African American and European American middle school age students. *Social Work with Multicultural Youth, 11*(1/2), 109-131.

Shapiro, T. M. (2004). *The hidden cost of being African American: How wealth perpetuates inequalities*. New York, NY: Oxford University Press.

Thaler, R. H. (1985). Mental accounting and consumer choice. *Marketing Science, 4*(3), 199-214.

Topel, R. (1993). What have we learned from empirical studies of unemployment and turnover? *American Economic Review, 83*(2), 110-115.

Williams, T. R. (2004). The impact of household wealth on child development. Washington University, Center for Social Development.

Wilson, W. J. (1987). *The truly disadvantaged: The inner city, the underclass, and public policy*. Chicago: University of Chicago Press.

Winnett, A., & Lewis, A. (1995). Household accounts, mental accounts, and savings behavior: Some old economics rediscovered? *Journal of Economic Psychology, 16*(1995), 431-448.

Yadama, G., & Sherraden, M. (1996). Effects of assets on attitudes and behaviors: Advance test of a social policy proposal. *Social Work Research, 20*(1), 3-11.

Yeung, J., & Conley, D. (2008). Black - white achievement gap and family wealth. *Child Development, 79*(2), 303-324.

Zhan, M. (2006). Assets, parental expectations and involvement, and children's educational performance. *Children and Youth Services Review, 28*(8), 961-975.

Zhan, M., & Sherraden, M. (2003). Assets, expectations, and children's educational achievement in female-headed households. *Social Service Review, 77*(2), 191-211.