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# Assets and Liabilities, Educational Expectations, and Children's College Degree Attainment

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# Assets and Liabilities, Educational Expectations, and Children's College Degree Attainment[1,2]

*This research examines relationships among household assets and liabilities, educational expectations of children and parents, and children's college degree attainment. Special attention is paid to influences of different asset types (financial vs. nonfinancial assets) and liabilities (secured vs. unsecured debt). Results indicate that, after controlling for family income and other parent/child characteristics, financial and nonfinancial assets are positively related to, and unsecured debt is negatively related to, children's college completion. Furthermore, there is evidence that financial assets are positively associated with the education expectations of parents and children. Policy directions are suggested.*

***Key words:*** *educational achievement, educational expectations, assets, liabilities, college completion*

## Context and Research Questions

Educational achievement, especially college completion, is a critical influence on children's future economic and social status (Haveman & Wolfe, 1994; Hertz, 2006; Kane, 2004). Economic returns of a college education have increased steadily over the past several decades, as reflected in growing earning gaps between workers with and without college degrees. For example, in 1975, a full-time worker 18 years and older with a bachelor's degree had 1.5 times greater annual earnings than a worker with only a high school diploma (Day & Newburger, 2002). In 2008, a worker with a bachelor's degree earned about $26,000 more and almost twice as much a worker with a high school diploma (U.S. Census Bureau, 2009). In addition to earning higher wages, college graduates have lower unemployment rates than high school graduates (Bureau of Labor Statistics, 2009) and are more likely to have employer-provided health insurance, pension benefits, better health, and higher quality of life (College Board, 2007).

The many benefits associated with a college education, coupled with the increasing need for a more educated work force, have prompted researchers to focus on children's college education and examine specific factors that support educational achievement, including postsecondary success. Researchers typically focus on parental education, employment, and income (Axinn, Duncan, & Thornton, 1997; Duncan, Brooks, Yeung, & Smith, 1998; Haveman & Wilson, 2007; Kane, 2004). However, the potential link between household assets and educational achievement has received increased attention in the last decade (e.g., Conley, 2001; Nam & Huang, 2008; Orr, 2003; Yeung & Conley, 2008; Williams Shanks, 2007; Zhan, 2006). Scholars suggest that concepts of income and

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assets are related but distinct (Oliver & Shapiro 1995; Sherraden 1991; Wolff 1995), and asset inequality is more skewed than income inequality (Wolff, 2004).

Moreover, household savings and other assets may play a particularly important role in financing children's college education in most families, because current income is usually insufficient to cover the escalating costs of higher education (College Board, 2008). In addition, effects of assets may extend beyond financial resources and affect long-term development of children, e.g., outlook, motivation, cognitive development, and achievement (Sherraden, 1991), including college readiness and success. Given these considerations, it is important to examine savings and assets as independent indicators of household economic status and their potential roles in post-secondary educational success.

Building on an emerging knowledge base, this research examines associations between household assets and liabilities and attainment of a bachelor's degree (referred to as "college completion or graduation" in this article). Also, the research investigates relationships of assets and liabilities to educational expectations of both parents and children, which in turn may be linked to college completion.

This research expands on earlier studies in several ways. First, existing studies focus primarily on the impact of household assets on educational performance such as math and reading scores (e.g., Orr, 2003; Williams Shanks, 2007; Yeung & Conley, 2008; Zhan, 2006) and sometimes, on high school graduation (e.g., Green & White, 1997; Zhan & Sherraden, 2003). In comparison, college education, especially college completion, has received much less attention.

Second, this investigation extends previous analyses by examining possible differential associations of two types of assets (financial vs. nonfinancial assets) as well as two types of liabilities (secured vs. unsecured debt) with college completion. Different asset types may have distinct effects on children's education (Sherraden, 2001; Yeung & Conley, 2008), and negative assets (liabilities) may have complicated relationships with children's education (Gruber, 2001; Nam & Huang, 2008). In order to understand better the relationships between assets and college education, it is worthwhile to pay attention to their different forms and functions.

Third, this research aims to specify earlier theoretical work that suggests that household assets may enhance positive attitudes and expectations, which in turn lead to desirable outcomes (Sherraden, 1991; Shobe & Page-Adams, 2001). Indeed, a few studies find that the associations of assets with educational performance (e.g., math and reading scores) are explained partially through links of assets to parental expectations (Zhan, 2006; Zhan & Sherraden, 2003). But there is no research to date on the relationships among assets and liabilities, education expectations, and college completion. Moreover, the relationship of household assets and liabilities to children's own educational expectations has rarely been examined. Thus, in addition to investigating the direct associations of parental assets and liabilities with children's college education, this study also examines their indirect associations through the educational expectations of both parents and children.

## Previous Scholarship

### Theory

A primary effect of parental assets on children's development is financial. Owning assets increases access to educational resources (such as books, educational software, extracurricular activities, and private schools). Because family income may be used largely to pay for current consumption, lack of assets can limit the availability of educational resources for children (Yeung & Conley, 2008). Furthermore, assets provide economic security and an important cushion during times of economic crisis, thus possibly reducing negative effects on children's education caused by unanticipated income losses. In the long term, assets function as stored resources to help finance children's college. Because current income—along with college aid—may be inadequate to cover higher education costs, assets are a particularly important economic resource for college education.

Another effect of family assets on children's education is more indirect, via attitudes and behaviors. Assets can give people a sense of position and stake in society, can change attitudes, and can expand available opportunities (Oliver & Shapiro, 1995; Sherraden, 1991). Thus, asset accumulation may motivate people to focus on the future and make specific plans with regard to work and family (DiPasquale & Glaeser, 1999; Rossi & Weber, 1996; Yadama & Sherraden, 1996). Parents with assets may perceive and plan a brighter future for their children; this plan, in turn, may positively affect parenting behaviors, expectations for their children's education, and ultimately may affect their children's educational attainment.

Similarly, family assets also may help raise children's educational expectations, thereby increasing their academic effort and achievement. For example, children who know that their families have financial resources to help pay for college may be more likely to have higher educational expectations and greater engagement in academic pursuits (Elliott, 2008; Sherraden, Johnson, Elliott, Porterfield, & Rainford, 2007; Yeung & Conley, 2008), which may lead to higher educational achievements.

Some scholars argue further that assets may affect children's education in different ways depending on the various sources and specific characteristics (Sherraden, 1991; Yeung & Conley, 2008). For example, financial assets, which have a higher degree of liquidity, could help reduce economic hardship during times of economic stress (e.g., a sudden shortfall in income), and can be ready-to-use financial resources for children's education (Nam & Huang, 2008; Yeung & Conley, 2008). Nonfinancial assets (such as home and business ownership) are likely to facilitate borrowing by providing collateral to lenders (Nam & Huang, 2008). Supporting this hypothesis, a study by Cha, Weagley, and Reynolds (2005) indicates that parents with a higher value of home equity borrowed larger amounts of money for their children's higher education. Cha and colleagues also find that parental cash and savings have negative effects on borrowing, probably because as cash and savings increase, parents have less need to borrow for college expenses. Also, some researchers suggest that nonfinancial assets are more likely to have social-psychological returns, because such asset ownership (e.g., a home) may signal higher social status (Yeung & Conley, 2008). Home equity, for instance, is more likely to affect children's education by influencing their developmental and learning environment (e.g., quality of schools and neighborhoods).

Unsecured debt, which is usually incurred when the current consumption of a family exceeds current available income, could have dual effects on financing children's education (Gruber, 2001; Nam & Huang, 2009). Families with debt have access to credit markets, which can provide necessary resources for children's education in times of economic difficulties (Mayer & Jencks, 1989; Sullivan, 2005). In addition, the ability to borrow may reduce the need for children to work at earlier ages, thus increasing their chances of remaining in school (Nam & Huang, 2008). However, families with large debt might find it difficult to secure loans in the future, thus limiting resources for children's college education.

Unlike families with unsecured debts, families with secured debts (e.g., borrowing to purchase an asset such as a home or vehicle) are not necessarily experiencing economic hardships. In addition, obtaining secured debt (e.g., loans on homes or vehicles) often requires certain levels of family income and/or assets. The impact of secured debt is dependent on whether the value of the asset exceeds associated debt and whether families have the economic ability to secure the required payments (Carasso & McKernan, 2008).

**Assets and children's education**

As mentioned above, previous studies focus on the influence of household assets on children's educational performance, as measured with math and reading scores. Research findings consistently have shown a positive association between household wealth, especially financial assets (such as savings accounts, CDs, bonds, stocks, and mutual funds) and children's math scores (Orr, 2003; Yeung & Conley, 2008; Zhan, 2006), whereas the links of household assets to children's reading scores is weaker (Phillips, Brooks-Gunn, Duncan, Klebanov, & Crane, 1998; Williams Shanks, 2007; Yeung & Conley, 2008).

The relationship between household assets and children's high school graduation has also been investigated. Destin (2009) also indicates that children from families with higher net worth are more likely to graduate from high school. Some studies find that home ownership is positively related to the probability of high school graduation (Green & White, 1997; Kane, 1994; Zhan & Sherraden, 2003). However, study findings by Nam and Huang (2008), indicate that liquid assets, instead of home ownership, is positively associated with high school graduation.

Several recent studies (Conley, 2001; Destin, 2009; Elliott, 2008; Morgan & Kim, 2006; Nam & Huang, 2008) indicate that family net worth is positively related to children's college enrollment (Conley, 2001; Elliott, 2008; Destin, 2009; Morgan & Kim, 2006). Morgan and Kim (2006) also report that higher home equity is related to better chances of college enrollment. Nam and Huang (2008) report that only financial assets, but not home ownership, are associated with college attendance. Elliott (2008) finds that home ownership, net worth, and the presence of college savings accounts are all related to college enrollment. With respect to college completion, Nam and Huang (2008) indicate that family income is related to college graduation, while family assets (liquid assets, net worth, and home ownership) are not. In contrast, Conley (2001) reports that higher net worth increases the possibilities of children's college graduation.

### Liabilities and children's education

Few studies have investigated relationships between household liabilities, especially secured debt, with children's education. Williams Shanks (2007) finds that children from families with unsecured debt have lower math scores. Similarly, Yeung and Conley (2008) report that unsecured debt (including credit cards, student loans, medical or legal bills, and personal loans) is negatively related to reading and math scores for preschool-aged children and to math scores of school-aged children. Nam and Huang (2008) indicate a more complicated relationship between negative liquid assets (i.e., unsecured debt) and children's educational attainment. They report that children from families where debt exceeds savings (i.e., negative liquid assets) are more likely to graduate from high school compared to those from families with no liquid assets. But children from families with negative liquid assets are no different in terms of college attendance and are less likely to graduate from college. These results indicate that unsecured debt may have short-term positive implications but negative long-term implications for children's education.

### Assets and educational expectations

Several recent studies indicate that when household assets (including savings, net worth, and home ownership) increase, parents expect their children to achieve higher education (Elliott & Wagner, 2008; Zhan & Sherraden, 2003; Zhan, 2006). Net worth and savings accounts are similarly associated with children's educational expectations (Elliott, 2008). Furthermore, there is evidence that such associations between assets and children's math and reading scores are explained in part through educational expectations of parents and children (Elliott, 2008; Zhan & Sherraden, 2003; Zhan, 2006).

### Strategy of this research

This study examines associations between different forms of parental assets and liabilities with educational expectations of both parents and children, and in turn the associations with children's college graduation.

## Data and Measures

Data for this study are drawn from the National Longitudinal Survey of Youth (NLSY79) main file and the NLSY child/young adult data sets. In 1979, 12,686 individuals between 14 and 22 years of age, including an oversample of minority and economically disadvantaged white youth, comprised the original NLSY. From 1979 through 1994, respondents were interviewed annually, then biennially thereafter (Center for Human Resources Research, 2006).

Children of the NLSY79 female respondents have been interviewed biennially since 1986. During the interviews, a variety of assessments was administered that measure cognitive, motor, and social development, the quality of the home environment, schooling, and family-related attitudes, including parent-child relationships. Beginning in 1994, the 15-through 20-year-old adolescent children (referred to by the NLSY as "young adults") of the female respondents have been assessed with a survey that includes questions related to their schooling, labor market experience, education, physical and mental health, relationships, and fertility.

## Sample

The study sample includes children who were 11-14 years old in 1994. This age range is selected for two reasons. First, children need to be at least 23 years old in 2006, since this is normally the youngest age for completing a bachelor's degree. Thus, these children had to be at least 11 years old in 1994. Second, as mentioned above, the NLSY includes different sets of questions for children age 15 or older, but measures of parental expectations are available only for children younger than 15. Thus, the study sample cannot include children who were 15 years or older in 1994. Data related to parental assets, expectations, and other parent characteristics are taken from the mother and child data in survey year 1994, and the measure on children's college graduation is from the young adult data in survey year 2006, when these children were 23 to 26 years old. In this way, a temporal order is established between assets/liabilities and children's later college graduation. After excluding cases that have a missing value for any of the variables in the analysis, the final sample includes 750 children.

## Measures

*Assets and liabilities*. The independent variables are measured as the dollar amount of financial assets, nonfinancial assets, secured debt, and unsecured debt, as calculated in 1994. Financial assets are calculated as total amount of assets in savings accounts, CDs, IRAs or Keoughs, and tax-deferred plans, plus the market value of stocks, bonds, and mutual funds. Nonfinancial assets include vehicle equity, equity in residential and nonresidential property, businesses, and farms. We measure secured debt as the total amount of debt linked to an asset such as a home, business/farm, or vehicle, and define unsecured assets as the amount of money respondents owed to creditors, hospitals, stores, or anyone else. Because distribution of these variables is quite skewed, the natural log of these measures was used in regression models (zero values of these assets and liabilities are recoded as 1, so that the natural log is defined).

*Educational expectations*. Parents' and children's educational expectations are measured in 1994 by their responses to the question—"Looking ahead, how far do you think (your child) will go in school?" Measurements ranged from one: "Leave high school before graduation," to five: "Getting more than 4 years of college." Distributions of these two variables are normal, with a slight negative skewness (-0.32 for parents' expectations and -0.79 for child's expectations), and they are treated as continuous variables in the analyses.

*Children's college graduation*. The dependent variable, whether or not a child completed a bachelor's degree (i.e., 16 or more years of schooling) in 2006 when they were 23-26 years old, is dummy coded (yes=1, no=0).

*Control variables*. Because of their potential influence on the outcome, several demographic, social, and economic variables of parents and children are included as control variables in the analysis. Inclusion of these variables helps rule out omitted variable bias and possible alternative explanations of variance in the dependent variables.

The demographic controls of parents in 1994 include the mother's age, race, marital status, educational status, employment status, number of children in household, and total family income. Marital status is dummy coded into two groups: married mothers (coded 1) and unmarried mothers

(coded 0). Race is dummy coded (white, African American, and Hispanic), where white is the reference group in the regression analyses. Similarly, employment status is measured according to whether mothers were employed (coded 1) or unemployed (coded 0) in 1994.

Mother's education in 1994 is coded as a nominal variable with four categories: less than high school degree (<12 years of education), high school degree (12 years of education), some college (>12 years of education but < 16 years of education), and Bachelor's degree or above (≥16 years of education). This variable is dummy coded in multiple regressions, with less than a high school degree being the reference group.

Total family income is a continuous variable summation of all income sources from all household members. To correct for short-term fluctuations in income caused by sudden economic changes such as unemployment or windfall, total family income is measured with the average total family income over the past five years (1990-1994). This can also be thought of as measure of longer-term or "permanent" income. Because the distribution of this variable is skewed, the natural log is used in regression models.

Controls of children's characteristics include his/her gender (female=1, male=0) and years of age in 1994.

## Analyses

In order to examine the associations between assets and liabilities, educational expectations, and children's college graduation, a series of regression models were estimated. The first set of analyses includes logistic regressions to examine associations between assets and liabilities with children's probability of graduating from college. In order to understand how model specifications are different with and without assets and liabilities, Model 1 includes only family income and other control variables, and then assets and liabilities are added to the model. In Model 2 and Model 3, assets or liabilities are entered separately, so that their relative associations with children's college education could be estimated. Finally, both assets and liabilities are included in Model 4 to assess how they together influence college graduation.

The second set of analyses includes several OLS regression models to examine associations between assets and liabilities and parental and child expectations. These associations are estimated using four models, similar to the description above. Each expectation variable was regressed separately on assets and liabilities and control variables.

In the final set of analyses, in order to investigate whether the associations between assets/liabilities and college graduation may be explained in part by the influence of educational expectations, parents and children's expectations are entered into the final model on college graduation (Model 4). If the associations between assets/liabilities and college graduation are reduced or removed after the expectation variables are added, this is evidence that such associations may operate through educational expectations (Baron & Kenny, 1986).

## Results

### Sample characteristics

Of the 750 mothers surveyed in 1994, 66% were White, 17% were Black, and 8% were Hispanic. Their average age was about 34, ranging from 29 to 37, and about 69% were married. On average, each mother had 2.6 children living at home. See Table 1 for weighted demographic and socioeconomic characteristics of parents, and for children's educational achievement.

Table 1 shows that about 17% of the mothers had less than a high school degree, 54% had a high school degree, 23% had some college education, and 6% had a bachelor's degree or more. Approximately two-thirds (68%) were employed in 1994. Table 1 also indicates that the mean household income of the sample over the past 5 years was $46,362 (median was $36,182). The mean household financial assets totaled $17,444, and average nonfinancial assets totaled $36,997. Mean household secured debt and unsecured debt were $37,184 and $2,300, respectively. Further specification finds that about 71% of the families had some types of financial assets, and 89% had some types of nonfinancial assets. In terms of liabilities, 73% had some types of secured debt, and 37% had unsecured debt.

The mean value of mothers' expectations regarding their children's educational achievement in 1994 was 3.5, which is approximately equivalent to expecting their children to have some college education beyond high school. Specifically, about 18% of mothers expected their children to finish high school, 31% expected their children to get some college education, 39% expected them to graduate from college, and 11% expected them to take further education after college graduation. Compared to mother's expectations, children's expectations, on average, were higher (mean value was 3.9, close to expecting themselves to graduate from college, which is coded as 4). About 27% expected themselves to have some college education, 33% expected to graduate college, and 24% expected to continue their education after obtaining a college degree.

Turning to children's educational achievement in 2006, 12% did not finish high school, and 41% were high school graduates. About one-third (28%) attended some type of college, and 19% received a Bachelor's degree.

Table 1. Weighted Sample Characteristics

| Variables | N=750 |
|---|---|
| | Mean (Median) or |
| **Parent Characteristics** | **Percentage** |
| Mother's age | 34 (34) |
| Number of children in household | 2.6 (2.0) |
| Race/ethnicity (Mothers) | |
| White | 66% |
| African-American | 17% |
| Hispanic | 8% |
| Others | 9% |
| Marital status | |
| Married | 69% |
| Not married | 31% |
| Education (Mothers) | |
| Did not complete high school | 17% |
| Completed high school or GED | 54% |
| Some college education | 23% |
| Completed 4-year degree or more | 6% |
| Employment Status | |
| Not employed | 32% |
| Employed | 68% |
| **Parental Economic Resources** | |
| Family income amount | $46,362 ($36,182) |
| Financial assets percent | 71% |
| Financial assets amount | $17,444 ($1,000) |
| Nonfinancial assets percent | 89% |
| Nonfinancial assets amount | $36,997 ($17,300) |
| Secured debt percent | 73% |
| Secured debt amount | $37,184($21,000) |
| Unsecured debt percent | 37% |
| Unsecured debts amount | $2,300 ($0) |
| **Child Characteristics** | |
| Age (1994) | 12.7 (12.8) |
| Age (2006) | 24.4 (24.3) |
| Gender | |
| Male | 49% |
| Female | 51% |
| **Expectations** | |
| Mothers' expectations (range 1-5) | 3.9 (4.0) |
| Children's Expectations (range 1 – 5 ) | 3.5 (4.0) |
| **Children's Education** | |
| Less than high school | 12% |
| High school graduate | 41% |
| College enrollment | 28% |
| College graduation | 19% |

**Assets and liabilities and children's college graduation**

Table 2 reports the logistics regression results on college graduation. After controlling for income and other variables in the model, associations between financial assets and nonfinancial assets and children's college graduation are positive and statistically significant. In other words, children of parents with higher financial or nonfinancial assets are more likely to graduate from college. In addition, the effect size of nonfinancial assets is larger than that of financial assets.

Table 2. Unstandardized Coefficients and Odds Ratio from Logistic Regression Models of Children's College Graduation: Assets and Liabilities

| Variables | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| Mothers' age | 0.01 (1.01) | -0.03 (0.97) | 0.003(1.0) | -0.04(0.96) |
| Mothers' race/ethnicity (White) | | | | |
| African American | -0.42 (0.66) | -0.20 (0.81) | -0.37(0.69) | 0.18 (1.19) |
| Hispanic | -0.79* (0.46) | -0.57(0.57) | -0.79(0.45)* | -0.61(0.54)+ |
| Marital status of parents (Not married) | | | | |
| Married | 0.36 (1.44) | -0.07(0.93) | 0.29(1.33) | -0.24(0.78) |
| Number of children in household | -0.14 (0.87) | -0.07(0.94) | -0.14(0.87) | |
| Mothers' education (Less than high school degree) | | | | |
| High school graduates | 0.92 (2.52)* | 0.63(1.87) | 0.88(2.43)+ | 0.64(1.89) |
| Some college education | 1.39(4.01)** | 0.99(2.69)* | 1.33(3.76)** | 1.00(2.72)* |
| Bachelor's degree or above | 2.21(9.10)*** | 1.93(6.94)** | 2.24(9.35)*** | 2.01(7.43)*** |
| Mother's employment status (Not employed) | | | | |
| Employed | 0.12(1.13) | -0.08(0.92) | 0.12(1.13) | 0.03(1.03) |
| Children's age | 0.15(1.15) | 0.19 (1.21)+ | 0.14(1.15) | 0.19(1.21) + |
| Gender of children (Male) | | | | |
| Female | 0.39(1.49)+ | 0.34(1.41) | 0.39(1.49)+ | 0.39(1.47)+ |
| Log of household income | 0.33(1.39)* | 0.02(1.03) | 0.26(1.30) + | 0.02(1.02) |
| Log of financial assets | | 0.10(1.10)** | | 0.10(1.11)** |
| Log of nonfinancial assets | | 0.37(1.45)*** | | 0.42(1.52)*** |
| Log of secured debt | | | 0.06(1.06)+ | -0.03(0.97) |
| Log of unsecured debt | | | -0.05(0.95)* | -0.05(0.95)* |
| $X^2$ | 73.3 | 129.9 | 78.5 | 136.3 |
| *df* | 12 | 14 | 14 | 16 |
| *N* | 750 | 750 | 750 | 750 |

Note. Categories in parentheses are reference groups.
+ p<.10
* p<.05
** p<.01
*** p<.001

With respect to liabilities, after controlling for income and other variables, secured debt is positively and significantly related to college graduation ($p<.10$), while the relationship between unsecured debt and children's college graduation is negative and statistically significant. Therefore, children of parents with higher amounts of secured debt are more likely to graduate college, but those from families with higher unsecured debt are less likely to graduate from college. It is worth noting that after assets and liabilities were included in the model (Model 4), the connection between secured debt and college graduation is not statistically significant. Therefore, the association of secured debt to college graduation is explained in part through assets.

Family income is positively related to children's college graduation before assets/liabilities are included in the model. After assets are added (Model 3), family income is no longer related to college graduation, and after controlling for debt, the coefficient size of family income is reduced. These results suggest that the association of family income with children's college graduation is reduced to irrelevance by the statistical influences of assets and liabilities, especially assets.

Among control variables, mother's education (particularly their college education) is positively related to children's college graduation, even after controlling for family income and assets/liabilities. Compared to children of mothers without a high school degree, children whose mothers have higher education, especially those with a Bachelor's degree, are more apt to graduate from college. Hispanic children are less likely to graduate from college than their white counterparts before assets are added to the model. When assets alone are added to the regression (Model 2), this relationship becomes non-significant. Thus, it seems that household assets may play a role in the different college graduation rates between white and Hispanic children.

**Expectations and children's college graduation**

Results from Table 3 show the relationship between parents' expectations and children's expectations and college graduation.

Children's educational expectations are positively related to the probability of their college graduation (Model 2). In other words, children with higher expectations for educational achievement are more likely to graduate from college. Mother's expectations are also positively related to children's college graduation (Model 3). The size of the coefficients indicate that parents' expectations have a stronger relationship with college graduation than do children's expectations.

After expectations variables are entered, the connections between financial assets and liabilities and college graduation does not change. The association between nonfinancial assets and college graduation drops slightly, indicating that a small portion of this association may operate through educational expectations of children and their parents.

Table 3. Unstandardized Coefficients and Odds Ratio from Logistic Regression Models of Children's College Graduation: Expectations

| Variables | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| Mothers' age | -0.04(0.96) | -0.04(0.96) | -0.05(0.95) |
| Mothers' race/ethnicity | | | |
| (White) | | | |
| African American | 0.18 (1.19) | 0.25(1.29) | 0.19(1.21) |
| Hispanic | -0.61(0.54)+ | -0.62(0.54)+ | -0.65(0.52) + |
| Marital status of parents | | | |
| (Not married) | | | |
| Married | -0.24(0.78) | -0.25(0.79) | -0.31(0.74) |
| Number of children in household | -0.09(0.91) | -0.08(0.93) | -0.04(0.96) |
| Mothers' education | | | |
| (Less than high school degree) | | | |
| High school graduates | 0.64(1.89) | 0.57(1.76) | 0.38(1.46) |
| Some college education | 1.00(2.72)* | 0.80(2.23) | 0.43(1.46) |
| Bachelor's degree or above | 2.01(7.43)*** | 1.82(6.18)** | 1.45(4.25)* |
| Mother's employment status | | | |
| (Not employed) | | | |
| Employed | 0.03(1.03) | 0.06(1.06) | 0.06(1.07) |
| Children's age | 0.19(1.21) + | 0.20(1.22) | 0.23(1.25)* |
| Gender of children | | | |
| (Male) | | | |
| Female | 0.39(1.47)+ | 0.29(1.34) | 0.25(1.28) |
| Log of household income | 0.02(1.02) | 0.02(1.02) | -0.01(0.99) |
| Log of financial assets | 0.10(1.11)** | 0.10(1.10)* | 0.10(1.10)* |
| Log of nonfinancial assets | 0.42(1.52)*** | 0.41(1.51)*** | 0.41(1.51)*** |
| Log of secured debt | -0.03(0.97) | -0.03(0.97) | -0.03(0.97) |
| Log of unsecured debt | -0.05(0.95)* | -0.05(0.95)+ | -0.05(0.95)* |
| Children's educational expectations | | 0.43(1.54)** | 0.24(1.27) |
| Parents' educational expectations | | | 0.64(1.89)*** |
| $X^2$ | 136.3 | 145.2 | 159.9 |
| *df* | 16 | 17 | 18 |
| *N* | 750 | 750 | 750 |

Note. Categories in parentheses are reference groups.
+ p<.10
* p<.05
** p<.01
*** p<.001

**Assets and liabilities and education expectations**

Two sets of OLS regressions are conducted in order to examine how assets and liabilities are associated with parent or child educational expectations. Similar to the analyses on college graduation, differences in model specification with and without assets and liabilities are estimated. Thus, for each of the two analyses (Tables 4 & 5), Model 1 includes only family income and other control variables, Model 2 & 3 add assets and liabilities separately, and Model 4 estimates associations of assets and liabilities with expectations in the same model.

Results from Table 4 indicate that among the four measures of assets/liabilities, only financial assets is positively related to parents' expectations. Turning to control variables, parents with higher education and those who have female children have higher expectations. Married parents have higher expectations than unmarried parents, but after assets are added to the model, parents' marital status is not associated with their expectations, suggesting that assets statistically explain the difference in parental expectations between married and non-married mothers. The more children living in the household, the lower the mothers' expectations.

Results on children's expectations are reported in Table 5. Financial assets are positively related to children's expectations, and secured debt may also have a positive association ($p<.10$). Similar to the findings on parents' expectations, mothers' education is also strongly linked to their children's educational expectations, and female children have higher expectations, even after controlling for family economic resources and parent characteristics. Again, the more children living in the household, the lower the children's expectations. Interestingly, the discrepancies in educational expectations between White and Black children are correlated with household assets. After the assets variables are added to the model, differences between White and Black expectations become statistically insignificant.

Table 4. Unstandardized Coefficients from OLS Regression Models of Parents' Expectations: Assets and Liabilities

| Variables | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| Mothers' age | 0.01 | 0.01 | 0.01 | 0.01 |
| Mothers' race/ethnicity (White) | | | | |
| African American | -0.04 | 0.02 | -0.01 | 0.03 |
| Hispanic | -0.02 | 0.02 | -0.01 | 0.02 |
| Marital status of parents (Not married) | | | | |
| Married | 0.19** | 0.12 | 0.16* | 0.11 |
| Number of children in household | -0.08** | -0.08** | -0.08** | -0.07** |
| Mothers' education (Less than high school degree) | | | | |
| High school graduates | 0.47*** | 0.44*** | 0.46*** | 0.44*** |
| Some college education | 0.98*** | 0.92*** | 0.96*** | 0.92*** |
| Bachelor's degree or above | 1.05*** | 0.99*** | 1.03*** | 0.98*** |
| Mother's employment status (Not employed) | | | | |
| Employed | 0.03 | 0.01 | 0.01 | -0.01 |
| Children's age | -0.05+ | -0.05+ | -0.05+ | -0.05+ |
| Gender of children (Male) | | | | |
| Female | 0.15* | 0.15* | 0.14* | 0.15* |
| Log of household income | 0.03 | 0.02 | 0.02 | 0.01 |
| Log of financial assets | | 0.02* | | 0.02* |
| Log of nonfinancial assets | | 0.01 | | 0.01 |
| Log of secured debt | | | 0.01 | 0.01 |
| Log of unsecured debt | | | -0.001 | -0.001 |
| $R^2$ | 0.21 | 0.22 | 0.22 | 0.22 |
| $F$ | 16.55*** | 14.77*** | 14.4*** | 12.93*** |
| $N$ | 750 | 750 | 750 | 750 |

Note. Categories in parentheses are reference groups.
+ p <.10* p<.05
** p<.01
*** p<.001

Table 5. Unstandardized Coefficients from OLS Regression Models of Children's Expectations: Assets and Liabilities

| Variables | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| Mothers' age | -0.02 | -0.02 | -0.02 | -0.02 |
| Mothers' race/ethnicity (White) | | | | |
| African American | -0.23** | -0.14 | -0.21* | -0.15 |
| Hispanics | -0.09 | -0.05 | -0.09 | -0.05 |
| Marital status of parents (Not married) | | | | |
| Married | 0.11 | 0.003 | 0.07 | |
| Number of children in household | -0.07* | -0.06+ | -0.06+ | -0.06+ |
| Mothers' education (Less than high school degree) | | | | |
| High school graduates | 0.26** | 0.21** | 0.25* | 0.21* |
| Some college education | 0.62*** | 0.54*** | 0.60*** | 0.53*** |
| Bachelor's degree or above | 0.68*** | 0.58*** | 0.67*** | 0.59*** |
| Mother's employment status (Not employed) | | | | |
| Employed | 0.06 | 0.003 | 0.04 | 0.01 |
| Children's age | -0.05 | -0.05 | -0.05 | -0.05 |
| Gender of children (Male) | | | | |
| Female | 0.23*** | 0.24*** | 0.24*** | 0.24*** |
| Log of household income | 0.001 | -0.02 | -0.01 | -0.02 |
| Log of financial assets | | 0.03* | | 0.03* |
| Log of nonfinancial assets | | 0.02 | | 0.02 |
| Log of secured debts | | | 0.02+ | 0.01 |
| Log of unsecured debts | | | -0.01 | -0.01 |
| $R^2$ | 7.01*** | 6.9*** | 6.23*** | 6.1*** |
| *F* | 0.10 | 0.12 | 0.11 | 0.12 |
| *N* | 750 | 750 | 750 | 750 |

Note. Categories in parentheses are reference groups.
+ p <.10
* p<.05
** p<.01
*** p<.001

## Discussion and Implications

This research examines the relationship between parental assets and children's college graduation, with special attention to different types of assets (financial vs. nonfinancial assets) and liabilities (secured vs. unsecured debt), and also pays attention to the expectations of both parents and children. Results and conclusions are highly suggestive and may have important policy implications.

However, first we acknowledge a major caveat. This is not experimental research, and thus there is no way to fully rule out alternative explanations. The most likely alternative explanation is that there could be unobserved factors (e.g., parental capacities, motivation, or parenting skills) that explain increased assets, expectations, and college completion. In that event, the results reported here would be spurious. On the other hand, this research uses a well-regarded longitudinal data set, so we are comfortable with data quality. In addition, there is temporal order in the analyses; in this research, assets/liabilities and expectations (measured in 1994) precede college graduation (measured in 2006). Temporal order is an important, though not sufficient, step in causal reasoning.

Of course, similar critiques can and should be made regarding all non-experimental social research (which comprises over 99% of the total). Experiments on questions such as this are rare because they are: (1) very difficult to design and implement, (2) take years to accomplish, and (3) cost millions of dollars. We certainly prefer experiments—and indeed we are now conducting a major one on exactly these questions—but in the meantime, very good longitudinal data and thoughtful analyses can be informative.

Findings in this research indicate that, controlling for many other variables, greater parental assets, both financial and nonfinancial, are associated with an increase in the probability of a child completing college. These results are consistent with Conley's (2001) study, which finds that net worth is positively linked to children's college graduation. However, these results differ from the analysis of Nam and Huang (2008), which reports that net worth, liquid assets, and home ownership are not predictors of children's college graduation. The different findings might be related to the use of two different samples. In the present research, the sample includes children 11-14 years old, while Nam and Huang's (2008)'s study consists of children 15-17 years old. In addition, the current research sample includes higher proportions of black and Hispanic children, and thus, findings may be more informative for these populations.

Consistent with findings from previous studies (Nam & Huang, 2008; Yeung & Conley, 2008), results from this research indicate that unsecured debt is associated with decreased chances of children's college graduation. The presence of unsecured debt may suggest that a family is experiencing economic difficulties that are not fully observed in this research, but nonetheless limit long-term educational opportunity. Unsecured debt may also limit a household's ability to obtain additional loans in the future (Nam & Huang, 2008).

In contrast, secured debt is positively related to children's college graduation, but only before assets are included (Model 3). After asset variables are controlled, this relationship is no longer statistically significant. Apparently, the positive influence of secured debt may occur only when a family has the economic capacity to service the debt (e.g., as in a home mortgage), and when the value of assets exceeds associated debt.

As general conclusions regarding assets, the presence of both financial and nonfinancial assets provide greater and available resources for college education, and may reduce the need for the student to work for income during college, thus increasing time to study and increasing "persistence" (continued full enrollment), which are strongly related to completion.

Regarding liabilities, unsecured debt may suggest a lower level of financial functioning, while the presence of secured debt suggests a higher level of financial functioning, and both of these apparently matter for college completion. Unsecured debt is detrimental, and secured debt is positive.

However, it is perhaps more informative that, when assets are added to the analysis, the role of liabilities is greatly reduced. Both financial and non-financial assets matter more statistically. The policy implications would be to focus first on household asset accumulation, and not as much on liabilities, as a strategy for post-secondary success.

It is worth noting that family income is positively related to children's education; but after assets are included in the regression models, the association is no longer statistically significant. In other words, the statistical result from this study is that income does not matter, while assets do matter, for college completion. This stark result may raise questions about a large body of scholarship on inequality and educational outcomes that incorporates income but not assets in theory and analyses.

This research also investigates the way different types of assets and liabilities are related to parents' and children's educational expectations. Results indicate that more financial assets and nonfinancial assets are linked to higher education expectations of both parents and children. After financial assets are controlled, however, nonfinancial assets are no longer related to expectations. Thus, the associations between nonfinancial assets and educational expectations work statistically through financial assets, perhaps because financial assets are more readily converted into cash.

Similarly, more secured debt is related to higher children's educational expectations. However, after assets measures are included in the model, the connection between secured debt and children's expectations is no longer significant.

These results as a whole suggest that some asset types have important non-monetary or attitudinal associations with education, which is consistent with previous studies (Conley, 2001; Zhan & Sherraden, 2003; Zhan, 2006). However, except for financial assets, there is little evidence that these associations work through parents' or children's expectations. One conclusion is that financial assets in households should be promoted as a strategy for post-secondary success.

Another conclusion is that other factors matter for expectations, and in this regard, mother's education is overwhelmingly important for educational expectations of both parents and children. In the long term, education of parents is the best investment not only in their own well-being, but also the future education and well-being of their children.

Thus, it is not savings and assets alone that matter—far from it. However, because saving and asset building has straightforward and doable policy implications, this is a strategy that should not be ignored.

Two main policy implications can be drawn from these findings. First, this study finds that unsecured debt is negatively related to the probability of children graduating from college. However, unsecured debt has been readily available to low-income households (Sullivan, 2005), and the amounts of unsecured debt (such as credit card debts and student loans) have escalated among low- and moderate-income families (Garcia, 2008). Debt burdens, measured with debt-to-income ratios and payments past due, are greater among low-income families than more affluent households (Carasso & McKernan, 2008). Mounting unsecured debt can cause great financial distress for families and limit children's opportunities to complete college, particularly in the situation of an economic downturn (as the US and world are experiencing at this writing). Public policies and strategies should be developed to help reduce unsecured debt among low- and moderate-income families. Policy strategies might include: (1) tighter standards on credit card availability and greater transparency in credit card fees; (2) strengthening regulation of predatory financial institutions (such as payday loans and check cashing outlets), and (3) making it easier for low-income families to access banks and other mainstream financial institutions.

Second, with the rising cost of college education, it is increasingly difficult for families to finance their children's college education solely with current family income. As a consequence, most families rely on accumulated assets (especially savings) and/or take out educational loans. Low-income families are especially sensitive to rising costs of college (McPherson & Schapiro, 1998). Therefore, it will be helpful for public policy to facilitate family saving for children's education. For example, federal and state policies are in place that allow tax-free savings for college expenses in the form of 529 College Savings Plans. But because low-income families pay lower taxes, they benefit less from tax savings that come from these plans (Dynarski, 2004).

However, the 529 plan structure lends itself to innovation and more inclusive and progressive features. Examples of desirable plan features include public oversight and expression of policy goals, outreach to low- and moderate-income families, centralized accounting and record keeping for greater efficiency and data monitoring, economies of scale, low deposit minimums, low-cost investment options, and matching savings deposits for low-to moderate-income residents (Clancy, Mason, & Lo, 2008; Clancy & Sherraden, 2003; Clancy, Cramer, & Parrish, 2005; Clancy & Parrish, 2006; Sherraden, 2009). For example, at least 11 states now have some kind of matching program for low- and moderate-income 529 savers. Also, creative partnerships between state 529 plans and other educational initiatives are possible, such as 529 plan partnerships with Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) in four states (Clancy & Miller, 2009). This is a very dynamic policy process. Successful strategies in some states are copied by others. Overall, 529 plans can be viewed as "public good" with considerable potential—a platform that is present in all 50 states that can be built upon for more inclusive and progressive savings.

Evidence in this paper suggests that both of these policy directions—decreasing unsecured debt, and increasing household saving and assets, possibly using State College Savings Plans—may be desirable for post-secondary success. But some may ask if these are proper concerns for public policy.

In thinking about this, we might keep in mind that federal policy has, in the past year, invested trillions of dollars in decreasing and guaranteeing debt of troubled financial institutions, and, over several decades, has invested trillions in tax benefits for 401(k)s and other defined contribution savings plans, which benefit the upper half of the income distribution. Thus, federal policy is already

heavily in the business of reducing debt and subsidizing saving, though not evenly across the economy. In this context, a compelling argument can be made that it would be more fair—and on these grounds better public policy—to include everyone in these benefits. Moreover, if reducing debt and increasing saving for low- and moderate-income families may, in addition, alter educational expectations and have positive payoffs in post-secondary degree attainment, this would be a sensible public investment.

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