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Assets, parental expectations and involvement, and children's educational performance

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Abstract

This study examines the relationships between parental assets with their expectations and involvement of children's education, and children's educational performance measured 2 years later. Through the analysis of the mother–child data set of the National Longitudinal Survey of Youth (NLSY79), results indicate that after controlling for family income and other parent characteristics, parental assets were positively related to children's math and reading scores. Parental assets were also positively associated with their expectations and involvement of school activities. Furthermore, parent expectations partially mediated the relationship between assets and children's educational performance. These findings imply that in order to improve children's education, how to enhance parental assets warrants the consideration of public policy.

Keywords: Assets; Children's educational performance; Parent expectations; Parental involvement

1. Introduction

Educational achievement is one of the most important predictors that may contribute to children's future economic well-being (Haveman & Wolfe, 1994; McLanahan & Sandefur, 1994). As such, in the last several decades, studies have examined the possible impact of parental characteristics, such as family income and parental education, on children's educational outcomes (e.g., Axinn, Duncan, & Thornton, 1997; Duncan, Brooks, Yeung, & Smith, 1998; Duncan, Brooks-Gunn, & Klebanov, 1994).

This research, however, has not paid adequate attention to the impact of parental assets on children's education. For example, most studies on children's well-being have used income as the only measure of parental economic resources. Within the small but now emerging area of

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wealth studies, income and assets are treated as two connected but distinct concepts (Oliver & Shapiro, 1995; Sherraden, 1991; Wolff, 1995). Empirical evidence is also generally supportive of the hypothesis that assets holding has independent effects (Page-Adams & Sherraden, 1997; Scanlon & Page-Adams, 2001). In addition, there are important distinctions between income and wealth when considering basic empirical patterns. For example, wealth inequality is generally more skewed than income inequality (Wolff, 2000). Given these considerations, it is important to examine the impact of parental assets as an independent indicator of household economic status.

Furthermore, theoretical perspectives have suggested that one of the important features of parental assets is that it may possibly first help enhance positive parental attitudes and behaviors, then leading, in turn, to positive intergenerational outcomes (Sherraden, 1991; Shobe & Page-Adams, 2001). Thus, in addition to investigating the direct effects of parental assets, it is also necessary to examine how parental assets affect children's schooling through parent attitudes and parenting practices.

To address these issues, this study aims to investigate the following two major research questions. First, what is the relationship between parent assets and children's educational performance, after controlling for income and other parental characteristics? Second, do parental expectations and involvement mediate the associations between parental assets and children's education?

2. Background: theory and past research

2.1. Theory

A large body of work from an economic deprivation perspective suggests the importance of family economic resources in children's well-being (Becker, 1991, 1993; Becker & Tomes, 1986). Within this perspective, some scholars make a distinction between income and assets in terms of economic resources. For example, Sherraden (1991) highlights the importance of assets as more than a flow of income for current or deferred consumption. Assets are important because they can bring economic security, especially in times of hardship or economic stress. Perhaps more important, assets may provide a stake and position in the society, change the way people think, and expand the array of available opportunities (Oliver & Shapiro, 1995; Sherraden, 1991).

Based on these arguments, assets may directly and indirectly enhance the welfare of offspring, which serves as a theoretical framework for this study. First of all, assets can provide economic security and also are an important cushion during economic crisis, thus possibly reducing negative effects of unanticipated income losses on children. Second, assets accumulation may help improve positive attitudes and behaviors, enhance future orientation, and help people make specific plans with regard to work and family (DiPasquale & Glaeser 1999; Rossi & Weber, 1996; Yadama & Sherraden, 1996). For example, Yadama and Sherraden found that savings and house values had positive links with attitudes and behaviors, such as prudence, efficacy, horizons, and connectedness. These attitude changes then may lead to other positive social, economic, and intergenerational outcomes (Scanlon 2001; Shobe & Page-Adams, 2001). Shobe and Page-Adams (2001) highlighted the independent and mediating role of future orientation. They suggested that assets might help people first shape hopes and plans, which in turn led to positive social and economic outcomes. According to this view, parents with assets may perceive a brighter future for their children than those who do not hold any assets. This may positively affect parenting behaviors and investment and thus affect children's educational attainment.

2.2. Assets and children's education

In the last decade, as more attention has been given to wealth as an aspect of household economic status, some empirical studies have examined the impact of household wealth on children's education. These studies have focused on investigating direct effects of parental assets on children's well-being. For example, Mayer (1997) found that investment income and inherited income explained more variance in children's educational test scores and achievement than did total family income. Studies also reported that children were more likely to graduate from high school if they lived in households where parents were homeowners (Aaronson, 2000; Green & White, 1997; Kane, 1994).

Several recent studies have examined possible independent and distinct effects of assets from income on children's education. For example, Conley (2001) indicated that parental net worth had a strong effect on the postsecondary schooling of children–net of income and other measures of socioeconomic background. Williams (2004) found that, controlling for many other factors, parental wealth (net worth, account ownership and stock/IRA ownership) was positively associated with educational achievement of children. Williams also found that the effects occurred even among very income-poor families. Similarly, Zhan and Sherraden (2003) found that low-income single mothers' assets (home ownership and savings) were positively associated with children's educational attainment. Furthermore, this study found that income was associated with educational achievement when assets were not in the model; however, the relationship between income and children's education disappeared when assets were included.

2.3. Parental expectations and children's education

Parents with higher expectations for their children are more likely to set higher standards for their children's schooling and social functioning than parents with lower expectations. They are also more likely to transmit the values of doing well in school and of getting along well with teachers and peers. Consequently, as conceptualized in some literature (Reynolds & Lee, 1991; Reynolds & Walberg, 1992), parent expectations may be viewed as a dimension of the home environment that directly as well as indirectly influences children's behaviors and achievement.

Empirical literature provides consistent support for the positive relationship between parent expectations or aspirations toward their children and their children's educational achievement (Axinn et al., 1997; Furstenberg & Hughes, 1995; Hanson, McLanahan, & Thomson, 1997; Reynolds & Gill, 1994; Smith, Beaulieu, & Seraphine, 1995). For example, the study by Smith et al. (1995) found that parental expectation of their children's college attendance was a strong and positive predictor of actual subsequent college attendance of their children across urban, suburban, towns, and rural areas. Furstenberg and Hughes (1995) found similar results among African-American teenage mothers and their children.

In most of these studies, parent expectations and aspirations are viewed as independent traits. The influence of parental assets on their expectations and the mediating effects of expectations on the link between parent resources (especially parental assets) and children's well-being have rarely been examined.

2.4. Parental involvement and children's education

Studies have suggested that parental involvement of children's activities may signal the route through which a parent's skills and motivations are transferred to children and should be positively

associated with children's cognitive and other development (Becker, 1993; Hill & O'Neill, 1994). Findings from empirical studies, however, are not consistent. Recent studies indicate that while overall it appears that parent involvement in school was associated with academic outcomes, parent involvement in the home was not (Barnard, 2004; also see a recent meta-analysis by Fan & Chen, 2001). The different operational definitions of parental involvement in these studies may partially contribute to the inconsistent findings (Fan & Chen, 2001).

Several studies have also noted the differential effects of parental expectations and parenting behaviors on children's education. They indicated that parental expectations and attitudes, rather than specific behaviors such as involvement in school activities, better explained children's academic outcomes (Fan & Chen, 2001; Reynolds & Gill, 1994).

2.5. This study

Using a nationally representative sample, this study examines how parental assets of a group of children affect parent expectations and involvement at school and at home, and children's academic achievement measured 2 years later. Through longitudinal data analyses, this study will contribute to the literature by specifying the relationship between parental assets and children's academic outcomes, and by investigating possible mediating effects of parental expectations and involvement on the relationships between parental assets and other parental characteristics with children's educational performance.

3. Data and methods

3.1. Sample

Data were extracted from the mother–child data set of the National Longitudinal Survey of Youth (NLSY79). In 1979, 12,686 individuals between 14 and 22 years of age, including an oversample of minority and economically disadvantaged white youth, comprised of the original NLSY. From 1979 through 1994, respondents were interviewed annually and interviewed biennially thereafter. In 1986 and every 2 years afterwards, a number of assessments were administered to the original female participants and to their biological children. By 2000, 11,205 children were born to the 6283 NLSY female respondents (Center for Human Resources Research, 2001).

The study sample included children who were between the ages of 5 and 12 years in 1998 and resided with their mother in survey years 1998 and 2000. Data related to parental assets, expectations and involvement, and other parent characteristics are from survey year 1998, and data on children's academic performance are from year 2000 when these children were between 7 and 14 years old. To meet the assumption of statistical independence, one child was randomly selected from families who had more than one children who met the selection criteria. After listwise deletion of cases with missing data, the final sample included 1370 children.

3.2. Measures

3.2.1. Parental assets

The independent variable, parental assets, was measured as the values of net worth in 1998. Net worth was calculated by subtracting total value of debts (debts of home, business, credit card and others) from total values of assets (assets of home, business, bank accounts, real estate,

stocks, and all other assets). Because the distribution of this variable was quite skewed, the natural log of this measure plus a constant was used in regression models.

3.2.2. Parental expectations and involvement

One possible mediating variable, parental expectations, was measured by the mother's response 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, "Take further training after college". Because the distribution of this variable approached normality with a slight negative skewness (−0.58), it was treated as a continuous variable in the analyses.

Another possible mediating factor, parental involvement, was measured with two variables, parent involvement of school activities and parent supervision of children's homework at home. Parent involvement of school activities was measured by asking children that in the first half of the school year, how many times that either of their parents attended school meeting, spoke to teacher and counselors, attended school events, and volunteered at school. Responses for these questions ranged from 0=Never to 4=Once a week or more. A composite variable was created by adding these items together (scores ranged from 0 to 16, $\alpha=0.66$). Because the distribution of this variable approached normality with a slight positive skewness (0.68), it was treated as a continuous variable in the analyses.

Parent supervision of child's homework at home was measured by asking children that how often their parent(s) checked on whether they had done their homework and how often their parents helped with their homework. Responses ranged from 0=Never to 5=Everyday. A composite variable was created by adding these 2 items together (scores ranged from 0 to 10, $\alpha=0.69$). Because the distribution of this variable approached normality with a slight negative skewness (−0.88), it was treated as a continuous variable in the analyses.

3.2.3. Children's academic performance

The dependent variable in this study, a child's academic performance in 2000, was measured with his/her Peabody Individual Achievement Test (PIAT) math scores and PIAT reading scores. Both PIAT math and reading tests were given to all children between the ages of 5 and 14 in NLSY.

3.2.4. Control variables

Because of their potential influence on the outcome of interest, several demographic, social and economic variables of parents and children are included in the analysis as control variables. The inclusion of these variables will help eliminate omitted variable bias and possible alternative explanations of variance in the dependent variables.

The demographic characteristics of parents in 1998 included mothers' age, race, marital status, educational status, annual work hours, number of children in households, and total family income. Marital status was dummy coded into two groups: those who were married were coded as 1, and those who were not married were coded as 0. Race was dummy coded (White, African-American, and others), and White was the reference group in the regression analyses.

Mother's education in 1998 was 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 education (>12 years of education but <16 years of education), and Bachelor's or above education (≥16 years of education). This variable was dummy coded in multiple regressions, with less than a high school degree being the reference group.

Table 1
Means or percentages for the study variables

Variables	$N = 1370$
	Mean or percentage
Parent characteristics	
Mother's age	38.7
Number of children in households	2.4
Race/ethnicity (mothers)	
White	69%
African-American	25%
Others	6%
Marital status	
Married	67%
Not married	33%
Education (mothers)	
Did not complete high school	8%
Completed high school or GED	42%
Some college education	27%
Completed 4-year degree or more	23%
Mother's annual work hours	1521
Log total household income	10.7
Log net worth	11.9
Child characteristics	
Age	11
Gender	
Male	49%
Female	51%
Mediator variables	
Mothers' expectations (range 1–5)	3.8
Parental involvement of school activities (range 0–16)	6.9
Parental supervision of homework (range 0–10)	7.3
Dependent variables	
PIAT math scores	48
PIAT reading scores	49

Total family income was a continuous variable summing all sources of income from household members. To correct for short-term fluctuations in income that were due to shocks such as unemployment or windfall, total family income was measured with the average total family income over the past 5 years (1994–1998), which is a proxy indicator of "permanent income" (Blau, 1999; Mayer, 1997). Because the distribution of this variable was skewed, the natural log of this measure was used in regression models.

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

3.3. Analysis

In order to examine the associations between parental assets and children's academic performance and the possible mediating effects of parental expectations and involvement, a series of OLS regression models were estimated. Following the recommendation of Baron and

Kenny (1986), four assumptions need to be met to establish mediation. First, the independent variable must directly affect the dependent variable. Second, the mediator must affect the dependent variable. Third, after controlling for the mediator, the relationship between independent and dependent variables must be removed or reduced. Finally, the independent variable must directly affect the mediator.

Thus, the following data analyses were proceeded to test these assumptions. First, children's math and reading scores were regressed on control variables and parental assets (to test assumption 1). Second, parental expectations and involvement were entered sequentially into the regression model on the dependent variables that were conducted in the first step (to test assumptions 2 and 3). Third, parental expectations and involvement were regressed on assets and control variables (to test assumption 4). For a variable to mediate the relation between parental assets and children's academic performance, assets must be related to the mediator and to the dependent variables. The mediator must be associated with children's educational performance. Furthermore, when the mediator is added to the model, the associations between assets and children's test scores must be eliminated or reduced significantly.

4. Results

4.1. Sample characteristics

A demographic and socioeconomic profile of parents and children is given in Table 1. Of the 1370 mothers in 1998, 69% were White, and 25% were African-Americans. Their average age was about 39 years old, ranging from 35 to 43 years old. On average they had 2.4 children. About 67% of these mothers were married. Further analysis indicates that among the 33% of the single mothers, about 10% were never-married ones.

Table 1 shows that about 8% of the mothers had a less than high school degree, 42% had a high school degree, 27% had some college education, and 23% had a Bachelor's degree or above education. Their average annual work hours in 1998 were 1521 h. The mean household income of the sample over the past 5 years was $56,766 (median was $41,000). The mean household net worth was $102,018 (median was $43,500). Further analysis indicates that about 16% of the families had negative or zero net worth. About specific asset ownership, about 82% owned cars, 66% owned savings account, 64% had home ownership, 19% had IRAs or Keough plans, and 16% had stocks/bonds/mutual funds.

The mean value of mothers' expectations regarding their children's educational achievement was 3.8, which is approximately equivalent to graduation from college. Specifically, about 12% of mothers expected their children to finish high school, 17% expected their children to get some college education, 52% expected them to graduate from college, and 19% to take further education after college. The average value of parent involvement of school activities was about 6.9, and the average time that parents spent on homework supervision was about 7.3.

Turning to children's characteristics, 51% of them were female children, and their average age was 11 years old. On average, their PIAT math score was about 48, and PIAT reading score was about 49.

4.2. Assets and children's education

Regression models have been executed in which two indicators of children's educational achievements, PIAT math and reading scores, were regressed on the control variables and

Table 2
Unstandardized coefficients from OLS regression models of children's academic performance (parental expectations and involvement not included)

Variables	Math score	Reading score
Mothers' age	0.15	0.28*
Mothers' race/ethnicity		
(White)		
African-American	−4.05**	−4.27**
Other	−1.96	−3.73***
Marital status of parents		
(Not married)		
Married	0.33	0.96
Number of children in household	−0.51	−0.30
Mothers' education		
(Less than high school degree)		
High school graduates	3.24***	3.67***
Some college education	5.96**	6.51**
Bachelor's degree or above	9.04**	9.68**
Mother's work hours	−0.0002	−0.0004
Children's age	4.44**	4.61**
Gender of children		
(Male)		
Female	−0.84	0.93
Log of household income	0.80*	1.10***
Log of parental net worth	1.87**	1.53***
R^2	0.50	0.51
Adjusted R^2	0.49	0.50
F	90.7**	94.5**
N	1370	1370

Categories in parentheses are reference groups.
* $p<.05$.
** $p<.001$.
*** $p<.01$.

parental assets. The results are presented in Table 2. Findings indicate that the two models are statistically significant, and the model explains about 50% of the variance in children's math scores and reading scores. After controlling for income and other variables in the model, the associations between parental net worth and children's academic performance were positive and statistically significant. Children of parents with higher net worth had better math and reading scores. It also seems that net worth had stronger impact than income on children's education. For example, the size of the estimation of net worth for math scores was 1.87 compared to 0.80 for the estimation of income for math scores.

Among the control variables, household income was positively related to children's academic performance. Mothers' educational status also had a statistically significant link with children's academic performance. Compared to children of mothers who did not have a high school degree, the children whose mothers had higher education, especially those with a Bachelor's degree, had much higher math and reading scores. After controlling for other factors, African-American children were found to have lower math and reading scorers than their White counterparts. Mothers' work hours was not related to children's academic performance.

Table 3
(a) Unstandardized coefficients from OLS Regression Models of Children's Math Scores (parental expectations and involvement included)

Variables	Math score		
	Model I	Model II	Model III
Mothers' age	0.15	0.15	0.14
Mothers' race/ethnicity			
(White)			
African-American	−4.05*	−4.28*	−4.09*
Other	−1.96	−1.67	−1.59
Marital status of parents			
(Not married)			
Married	0.33	0.03	0.36
Number of children in household	−0.51	−0.31	−0.34
Mothers' education			
(Less than high school degree)			
High school graduates	3.24**	1.99	1.99
Some college education	5.96*	3.78**	3.77**
Bachelor's degree or above	9.04*	6.50*	6.51*
Mother's work hours	−0.0002	−0.0003	−0.0003
Children's age	4.44*	4.41*	4.35*
Gender of children			
(Male)			
Female	−0.84	−1.46***	−1.47***
Log of household income	0.80***	0.53***	0.43***
Log of parental net worth	1.87*	1.36***	1.36***
Mothers expectations		2.79*	2.79*
Parental involvement at school			0.13
Parental supervision of homework			0.20
R^2	0.50	0.52	0.52
Adjusted R^2	0.49	0.51	0.51
F	90.7*	92.8*	79.52*
N	1370	1370	1370

(b) Unstandardized coefficients from OLS Regression Models of Children's Reading Scores (parental expectations and involvement included)

Variables	Reading score		
	Model I	Model II	Model III
Mothers' age	0.28***	0.28***	0.26***
Mothers' race/ethnicity			
(White)			
African-American	−4.27*	−4.51*	−4.19*
Other	−3.73**	−3.56**	−3.27***
Marital status of parents			
(Not married)			
Married	0.96	0.62	0.83
Number of children in household	−0.30	−0.16	−0.15
Mothers' education			
(Less than high school degree)			
High school graduates	3.67**	2.24***	2.23***
Some college education	6.51*	3.83**	3.79**
Bachelor's degree or above	9.68*	6.50*	6.65*

(continued on next page)

Table 3 (*continued*)

(b) Unstandardized coefficients from OLS Regression Models of Children's Reading Scores (parental expectations and involvement included)

Variables	Math score		
	Model I	Model II	Model III
Mother's work hours	−0.0004	−0.00005	−0.0006
Children's age	4.61*	4.56*	4.49*
Gender of children			
(Male)			
Female	0.93	0.21	0.12
Log of household income	1.10**	0.75***	0.73***
Log of parental net worth	1.53**	1.08***	1.07***
Mothers expectations		3.24*	3.24*
Parental involvement at school			0.10
Parental supervision of homework			0.23***
R^2	0.51	0.54	0.54
Adjusted R^2	0.50	0.53	0.53
F	94.5*	100.1*	85.61*
N	1370	1370	1370

Categories in parentheses are reference groups.
* $p<.001$.
** $p<.01$.
*** $p<.05$.

4.3. Parental expectations and involvement and children's education

In order to examine possible associations between parental expectations and involvement and children's outcomes, mothers' expectations and parental involvement with their children were added sequentially to the regression models on math and reading scores. Results are presented in Table 3a (results of regression models on math scores) and b (results of regression models on reading scores). For each dependent variable, model I shows the relationship of parental assets to children's outcomes, excluding their expectations and involvement in the model. Model II estimates the same relationship, including parental expectations, and Model III included both parent expectations and involvement. The estimates of all three models include the same set of control variables.

Results show that the relationship between mothers' expectations and children's academic performance was positive and statistically significant. Higher maternal expectations for educational achievement were associated with higher math and reading scores. After adding parental expectations in the model, net worth was still related to children's performance, but the size of the estimate for math scores declines from 1.87 to 1.36 (about 27%), and the size of the estimate for reading scores dropped from 1.53 to 1.08 (about 30%). This indicates that about one-third of the relation between parental assets and children's education is accounted for by the impact of expectations on children's educational performance. After expectations were entered, the associations between education, income and children's scores also dropped, suggesting expectations may also be a mediator of the relations between income, education and children's academic performance.

Model III in Table 3 shows that parental involvement of school activities was not related to children's academic performance. Parental supervisions of children's homework at home was

related to children's reading score, but not significantly related to their math score. Adding the two variables on parental involvement into the models resulted in little or no reduction of coefficients for assets or for expectations, indicating that the relation between assets or expectations and children's academic performance was not mediated by parental involvement.

4.4. Assets and parental expectations and involvement

In order to examine the relationship between parental assets and their expectations and involvement of children's education, mothers' expectations, parental involvement of school activities, and parental supervision of homework at home was each regressed on control variables and net worth. The results are presented in Table 4. The model on expectations is statistically significant and explains about 20% of variance in the dependent variable. Parental assets was positively related to expectations—those who had higher net worth also had higher expectations of their children's education, confirming that expectations is a mediator on the relationship between assets and children's educational performance.

Several control variables, including household income, parental marital status, and mothers' education, number of children in households, and children's gender, were also related to expectations. Specifically, household income was positively related to mothers' expectations.

Table 4
Unstandardized coefficients from OLS regression models of parental expectations and involvement

Variables	Expectations	Parental involvement at school	Parental supervision of homework
Mothers' age	−0.004	−0.09*	−0.01
Mothers' race/ethnicity			
(White)			
African-American	0.11	0.63	0.97
Other	−0.11	0.59	0.18
Marital status of parents			
(Not married)			
Married	0.13*	0.69**	0.51**
Number of children in household	−0.08**	−0.09	−0.11
Mothers' education			
(Less than high school degree)			
High school graduates	0.44***	0.64	0.17
Some college education	0.76***	0.77	0.13
Bachelor's degree or above	0.93***	1.14*	0.08
Mother's work hours	−0.00003	−0.0003**	−0.00002
Children's age	0.01	−0.08	−0.15***
Gender of children			
(Male)			
Female	0.22***	−0.16	0.02
Log of household income	0.11***	0.05	0.14
Log of parental net worth	0.19***	0.33*	0.19
R^2	0.23	0.05	0.04
Adjusted R^2	0.22	0.04	0.03
F	27.72***	4.09***	4.10***
N	1370	1370	1370

Categories in parentheses are reference groups.
* $p<.05$.
** $p<.01$.
*** $p<.001$.

Compared to those without a high school degree, mothers who were high school graduates had higher expectations, and mothers with postsecondary education (especially those with a bachelor's degree) had even higher expectations of their children's educational achievement. Married mothers had higher expectations than non-married mothers. The more children living in the household, the lower mothers' expectations are. Finally, mothers of female children tended to have higher expectations.

Table 4 shows that parental assets were also positively related to parental involvement of school activities, but not related to parental homework supervision at home. Among the control variables, education was positively related to parental involvement at school-mothers who had a Bachelor's degree were more likely to get involved than who had less than a high school degree. Compared to non-married parents, married parents were more involved in children's activities at school and also spent more time supervising children's homework at home.

5. Discussions

The findings of this research are consistent with previous studies demonstrating that parental assets are positively related to children's educational performance, after controlling for income and other parent characteristics (e.g., Conley, 2001; Williams, 2004; Zhan & Sherraden, 2003). This provides some evidence that income and assets are connected but different concepts. Therefore, in studies of children's education or other child well-being, including measures of parental assets may contribute new information in addition to the data on household income. Models that seek to explain the impact of economic resources on family outcomes may be underspecified if they include income but not assets.

In addition, the results also show that assets of parents were positively associated with their expectations and involvement of school activities. This may serve as tentative evidence that assets have positive attitudinal and behavioral effects (Yadama & Sherraden, 1996). Especially, parental assets were strongly associated with their expectations. Parent expectations of their children's success in life are not only an expression of their perception of the world around them but also an expression of their assessment of their ability to supervise and invest in the future of their children. Thus, the positive link between parental assets and expectations indicates that assets may change the way people view the world and perhaps also the way world responds to them.

Furthermore, after controlling for expectations, this study found that the relationship between parental assets and children's education remained statistically significant, but the coefficients of assets were moderately reduced. This indicates that parental expectations partially mediate the associations of assets and children's educational performance. This result supports the hypothesis that assets may first help enhance future orientation, then in turn improve other social and economic outcomes (Sherraden, 1991; Shobe & Page-Adams, 2001).

Since numerous studies have found positive impact of parental expectations or involvement on their children's educational achievement, the positive associations between assets and expectations and involvement at school are also important in a very practical sense. In addition, the results of this study also tentatively suggest that the relationship between mothers' assets and children's educational outcomes operates partially through expectations. This may provide some insight into the mechanisms that transmit the effects of parental assets on children's well-being.

Compared to parent expectations, the links between parental assets and parental involvement were weaker. Assets was related to parental involvement at school, but not related to parent

supervision of homework. The association between parental involvement and children's academic performance was also weaker. For example, parental involvement was not related to math or reading scores, and parent supervision of homework was only related to children's reading scores. These findings are somewhat consistent with previous studies indicating parental expectations and attitudes, compared to specific behaviors such as involvement in school activities, had stronger impact on children's education (Fan & Chen, 2001; Reynolds & Gill, 1994). These results may be also partly due to measurement limitations on parental involvement, which was reported by students rather than by independent observation. While some studies indicate that student ratings possibly are the most appropriate ratings on parental involvement (e.g., Keith, 1991), one study found that student ratings of parent involvement in school were not consistent with parent or teacher ratings (Reynolds, 1992).

Some findings on control variables are worth mentioning. First, after controlling for parent economic status, mother's education was positively related to their expectations and child's educational performance, and this link was partially through mother's expectations. Mother's education was also related to parental involvement at school. Consistent with previous studies (e.g., Duncan, Brooks-Gunn & Klebanov, 1994), these findings underscore the importance of intergenerational impact of mothers' education in children's outcomes.

Second, mothers' work hours had no impact on child's educational performance and were negatively related to their involvement of school activities. It is possible that mothers working more hours may have less time to involve in child's school activities. Previous studies also indicated that the impact of maternal employment on children's education depended on the nature and quality of their work (e.g., Parcel & Menaghan, 1997). Further research in this area can help understand how mother's work affects parenting practice and children's outcomes. Finally, after controlling for income, assets and other parent characteristics, African-American children still had lower math and reading scores than white children. The mechanisms that may help explain their lower educational performance merit further investigations.

These analyses are subject to several limitations. First of all, while causal ordering was established between parental assets and their expectations and involvement and child's educational performance, possible alternative explanations exist. For example, asset accumulation could result from a wide range of personal, family, and community characteristics. All these factors could independently affect children's education and parenting practices. It is not possible to control for all these factors in regression analyses.

Secondly, as discussed earlier, this study has some measurement limitations. Parental expectations was reported by mothers, and parental involvement was reported by children. Reliance on mother or child reports for these variables suggests the possibility that unmeasured biases were introduced. Mothers, for example, might overestimate their expectations due to social desirability.

Finally, these analyses are also limited in the way that they investigate mediating factors through which assets affects children's education. It is possible that there are additional mechanisms, for example, parental money investment, that mediate the relationship between assets and children's education. Further studies using data with these variables available can help explore these relationships. Further research also needs to continue investigating possible pathways through which parental expectations affect children's well-being.

Despite such caveats, the findings of positive relationships between assets with parental expectations and involvement and children's educational outcomes lend support for policies that promote asset accumulation as a strategy to improve educational status of children. In addition to approaches of income supplementation and human capital development, efforts to enhance the

educational outcomes and other well-being of children should perhaps also focus on helping families to build economic assets. As one of such strategies, for example, Individual Development Accounts (IDAs) have been designed to promote asset accumulation for low-income families. IDAs are special savings account, and account holders receive matching funds as they save for specified purposes including first-home purchase, small business start-up, and going to college (either for themselves or for their children). While the number of participants of IDAs is relatively small, over 40 states now have an IDA program of some type. If these or similar asset-building programs can go to large scale, they may have the potential to help families build assets, enhance parental future orientation, and improve children's well-being.

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