

An MDRC Working Paper

**Long-Term Effects of New Hope
on Children's Academic Achievement
and Achievement Motivation**

**Aletha C. Huston
Jessica Thornton Walker
Chantelle J. Dowsett
Amy E. Imes
Angelica Ware**



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Introduction

In this report, we examine effects of the New Hope Project on children's academic achievement and achievement motivation eight years after random assignment (five years after the program ended) by comparing program-group and control-group children. Specifically, experimental impacts on parents' and teacher's ratings of academic skills and children's self-reports of their achievement motivation are presented. (An impact is the difference between the program-group mean and the control-group mean on a given measure. It represents the size of the program's effect.) Because past reports have noted some differences in program effects by gender and age, impacts for the full sample and for subgroups based on gender and age are reported. Subgroups based on parents' initial barriers to employment are also examined because New Hope had the strongest impacts on parent employment and poverty reduction for parents with one barrier compared to those with no barriers or more than one barrier.

We begin with an overview of major findings and continue with a more in-depth examination of impacts on academic achievement and achievement motivation. We discuss trends in these impacts over time, the possible reasons for the observed impacts, and their implications for public policy.

Key Findings

- New Hope youth were more likely than controls to be making normal school progress — that is, parents were less likely to report such indicators of negative progress as poor grades, special education, and grade retention.
- Most impacts on academic achievement observed in earlier waves were no longer evident, indicating a fade-out over time.
- However, New Hope boys did continue to perform better on a standardized test of reading achievement than did control-group boys.
- Positive impacts on several indicators of achievement motivation emerged for the first time in the full sample. Children in the New Hope group reported higher levels of school engagement, expectations for performance in English, and optimism for the future than did control-group children.
- Boys in the program group expressed higher expectations for educational attainment, including completing college, than did those in the control group. By contrast, girls in the program group reported lower educational expectations than did control-group girls.

- Older children (age 13 and above at the eight-year follow up, 5 and older at random assignment) in the program group reported higher expectations for performance in English than the control group; however, expectations did not differ among younger children (less than age 13 at eight years, less than 5 at random assignment).

Achievement, Low-Income Children, and New Hope

Children living in poverty, and particularly those who are also African-American or Latino, are at risk for low levels of school achievement and meager educational attainment. Minority children from low-income families enter school with lower average levels of academic skills than do their more advantaged peers.¹ This gap increases as children grow older and is especially pronounced in later adolescence when children are high-school age. Recent national data highlights the increasing gap in reading and mathematics scores observed between African-American/Hispanic students and white students. These data also show the disproportionately higher amount of grade repetition, suspension, and high-school dropout among African Americans and Hispanics relative to whites.² By the time they reach late adolescence, many of these young people are disconnected youth, without work, schooling, or other connections to mainstream society. Non-experimental research has documented a relation between family poverty during the preschool years and low achievement, but less evidence exists that family income or poverty per se during middle childhood influences achievement once earlier poverty is taken into account.³ Experimental research highlights age-related differences in the effects of poverty-reduction and employment interventions. Experimental tests of policies designed to increase parental employment that offer work supports to reduce poverty show positive effects on later school achievement for children who were preschoolers (younger than age 5) when their parents entered the program, with some negative effects for children in early adolescence (ages 10 to 11 when their parents entered the program) and little to no effect on children of other ages.⁴ By contrast, New Hope, the most comprehensive of these programs, had positive effects two and five years after random assignment for children who were school age (ages 6 to 10) when their parents entered the program as well as for children who were in preschool age at when their parents entered the program.⁵

In this follow-up, eight years after random assignment (and five years after the program ended), most children are adolescents (ages 9 to 19). Given some evidence of negative academic effects of other employment-based policies on youth who were entering adolescence at ran-

¹Rouse, Brooks-Gunn, and McLanahan, 2005.

²KewalRamani, Gilbertson, Fox, and Provasnik, 2007.

³Duncan and Brooks-Gunn, 1997; Votruba-Drzal, 2006.

⁴Morris, Duncan, and Clark-Kaufman, 2005; Morris, Gennetian, and Duncan, 2005.

⁵Huston et al., 2001; Huston et al., 2005.

dom assignment, it is possible that early positive effects might disappear or be reversed. On the other hand, if children were set on a more positive trajectory in early and middle childhood, they might continue that trajectory when they reach middle school and high school.⁶

What Achievement Outcomes Are Important?

Performance on standardized achievement tests is an objective indicator of children's academic skills, but success in school also depends on whether children apply those skills to the tasks that constitute the school agenda. In fact, most of the early intervention studies show declines in impacts on test performance as children get older, but more lasting positive impacts on such indicators of minimal educational attainment as staying in grade, not being in special education, and graduating from high school.⁷ For children from low-income families, these programs appear to counteract the overall tendency toward increasing failure with age.

One can make a case that such minimal attainment raises the odds of being connected rather than disconnected from society as a young adult by increasing the likelihood of labor-force productivity and decreasing the likelihood of being arrested as well as perhaps decreasing early childbearing.⁸ Simply staying in school, even with minimal levels of accomplishment, has positive consequences for later work.⁹ And despite declines in impacts on achievement test performance, the most intensive early intervention programs, Perry Preschool Project and the Abecedarian Study, have had long-term impacts on adult work and earnings.¹⁰ Heckman and other economists have argued that one reason for this pattern may be improvement in "noncognitive" skills (e.g., motivation, tenacity, perseverance, self-discipline, and social skills) as well as cognitive skills that contribute to success.¹¹

Children may be more likely to succeed in school and attain the benchmarks of education (e.g., graduation) partly because of academic competence, but also because of motivation, involvement in school, classroom behavior (e.g., completing tasks, working independently), and willingness to participate in the school agenda. Motivation for educational attainment, beliefs that success is possible, and connection to school are all related to ultimate educational attainment,¹² and they may contribute to grades, passing or failing, positive responses from teachers,

⁶Huston et al., 2005.

⁷Temple and Reynolds, 2007; Barnett, 1995; Campbell et al., 2002.

⁸Temple and Reynolds, 2007; Lochner and Moretti, 2004.

⁹DeLong, Goldin, and Katz, 2003.

¹⁰Karoly, Kilburn, and Cannon, 2005.

¹¹Heckman and Masterov, 2004; Heckman and Rubinstein, 2001; Heckman, 2000.

¹²Sewell, Haller, and Portes, 1969; Sewell, Haller, and Ohlendorf, 1970; Ka and Tienda, 1998; Garg, Kauppi, Lewko, and Urajnik, 2002.

and overall success. Work by Heckman and colleagues suggests that these and other noncognitive skills are related to higher labor-force value and lower rates of illicit activity.¹³

The New Hope Project and Evaluation

The New Hope Project

The New Hope Project offered an innovative and comprehensive approach to reduce poverty, reform welfare, and address the economic self-sufficiency of poor people who can work. The program was based on two principles: (1) that people who are willing to work full time should have the opportunity to do so and (2) that people who work full time should not be poor. New Hope was designed as a demonstration for a combination of work supports that could be replicable as government policy. The program consisted of four components: job search assistance, including referral to a wage-paying community service job when necessary; an earnings supplement to raise low-wage workers' earned income above the poverty line; subsidized health insurance; and subsidized child care. The latter three benefits were offered only to participants who worked 30 or more hours per week, thus it encouraged and supported full-time employment. In addition, project representatives were available to provide supportive advice and referrals for all New Hope participants.

The New Hope Project was conducted in two inner-city areas in Milwaukee. The program had only four eligibility requirements: that applicants live in one of the two targeted service areas, be age 18 or over, be willing and able to work at least 30 hours per week, and have earnings less than 150 percent of the federally defined poverty threshold.

Participants were eligible for the following benefits:

- **Job Access.** Participants who were unemployed or who wanted to change jobs received individualized job search assistance. If participants could not find work in the regular job market after an eight-week job search, they could apply for a community service job (CSJ) in a nonprofit organization. These opportunities were also offered to participants who were between jobs or who were employed but not working the 30-hour minimum. The CSJs paid minimum wage and might be either full-time or part-time.
- **Earnings Supplements.** New Hope offered monthly earnings supplements to participants who worked at least 30 hours per week but whose earnings left their household below 200 percent of the poverty line. CSJ wages and employment were counted toward the 30-hour requirement, and they also

¹³Heckman and Rubinstein, 2001.

qualified a participant for the federal and Wisconsin Earned Income Tax Credits (EITCs). Combined with the EITC, New Hope's earnings supplements raised most participants' annual household income above the federal poverty threshold.¹⁴

- **Health Insurance.** New Hope offered a health insurance plan to participants who worked at least 30 hours per week but were not covered by employers' health insurance or Medicaid. Participants were required to contribute toward the health insurance premium on a sliding scale that took into account their income and household size; New Hope subsidized the remainder.
- **Child Care Assistance.** New Hope offered financial assistance to cover child care expenses for children under age 13 when the participating parent worked at least 30 hours per week. Participants were asked to pay a portion of the cost, based on their income and household size; New Hope covered the remainder. For participants to qualify for New Hope subsidies, the child care had to be provided in state-licensed or county-certified homes or child care centers.
- **Staff Support.** All participants were assigned to project representatives who could provide advice and information about employment (for example, help in finding a job), child care, or other topics. The program's model emphasized respect and helpfulness in staff interactions with participants. Indeed, a key finding from a prior report was that many participants found the support and encouragement that they received from staff to be useful and positive.¹⁵

These benefits and services were offered cafeteria-style. Participants in New Hope could use any number or combination of them, depending on their needs. However, receipt of earnings supplements, health insurance, and childcare assistance were offered only to those meeting the 30-hour work requirement. Eligibility extended for three years after the date a participant entered the program (the date of random assignment). The time limits reflected funding constraints and were not considered integral to the program's design. Rather, most of New

¹⁴Participants' income could be below the poverty line if they worked just 30 hours, but it would rise above the line as their hours increased. The exception was for very large households: Earnings supplements were adjusted upward for household size, up to a maximum of two adults and four children. New Hope's other financial benefits — health insurance and child care — were extended to all eligible household members, regardless of household size. For more detail on how the financial benefits were calibrated, see Appendix C in Brock, Doolittle, Fellerath, and Wiseman (1997). As an example, in 1994, one wage-earner with two children would have received \$68 per month in supplement payments; in 1996, however — given the expansion of the EITC and the fact that supplement payments are paid on top of EITC benefits — this same wage-earner would have received only \$20 per month in supplement payments.

¹⁵Brock, Doolittle, Fellerath, and Wiseman, 1997.

Hope's designers assumed that benefits would need to be available as long as people met the earnings criteria if New Hope were to become ongoing policy.

The New Hope Evaluation

The New Hope evaluation was a random assignment experiment in which 1,362 low-income adults who applied for the program and met the eligibility requirements were randomly assigned to be eligible for services (the program group) or to be in a control group that was not eligible for New Hope but could use any other services in the community. Random assignment of the total New Hope sample began in August 1994 and ended in December 1995.¹⁶

By comparing the outcomes of the two groups over time, it is possible to distinguish the effects specific to New Hope from changes that might have occurred for other reasons. Random assignment ensures that the characteristics, backgrounds, and motivation levels of program and control-group members did not differ systematically at the beginning of the study and that both groups are exposed to the same economic conditions and state or local welfare policies and services during the evaluation period. After random assignment, the only systematic difference between the program group and the control group was that the former had access to New Hope. Therefore, any differences between the adults or children in the two groups can be attributed to the New Hope intervention.

The Child and Family Study

It was expected that the program would affect parents' employment and economic well-being. In addition, because research has suggested the importance of family economic circumstances for parents and children's well-being across a variety of domains, New Hope was also expected to affect family life and children's development. Therefore, to test the program's effects on children and families, all families with at least one child in the age range of 1 through 10 years at random assignment were selected for the Child and Family Study (CFS) ($n=745$).

In-person surveys with parents and children were conducted two, five, and eight years after parents were randomly assigned to the program or control group. The survey measured receipt of non-New Hope services; many economic outcomes (for example, hours of work, hourly wages, and the type of jobs held); family functioning (including parental well-being and parent-child relations); children's participation in child care and out-of-school activities; and children's behavior and development. For school-age children, surveys were mailed to teachers to obtain reports of children's school performance and social behavior (both positive and negative). A three-year intensive ethnographic study of 44 families in both the program and control groups provided rich information about families' experiences.

¹⁶Details of the random assignment process are presented in Bos et al., 1999.

The results of the two-year and five-year evaluations were published in earlier reports.¹⁷ In this paper, we present the eight-year CFS findings. It documents the program's effects on children's social well-being eight years after participants enrolled (that is, five years after parents' eligibility for the program ended).¹⁸

Previous Findings from New Hope

The results of the two- and five-year New Hope evaluations demonstrate that the program achieved its intended direct effects: While the program was ongoing, it increased employment and earnings for participants who were not working full time at baseline and particularly for those who had just one barrier to employment.¹⁹ The program also had indirect effects that transcended the economic sphere. Children in program-group families experienced a range of personal benefits, including higher academic achievement. Previous reports show positive effects on school achievement and educational expectations.²⁰ These impacts on children's academic outcomes generally occurred throughout the age range studied. Across time, many of the statistically significant impacts on children's achievement observed at the two-year evaluation, while New Hope was ongoing, persisted two years after the program ended (at the five-year follow-up), although their size had decreased.

Specifically, there were positive impacts on teacher-rated academic skills both during and after parents participated in the program. At the two-year follow-up, teachers rated program-group children higher than control-group children on overall academic skills, and at five years, they rated boys and older children of both sexes higher. At five years, New Hope children performed better than those in the control group on standardized tests of reading achievement and on parent-reported grades in reading. (Note that standardized tests were not administered at two years). At two years, children in program and control-group families were equally likely to be making "normal school progress" — that is, New Hope did not affect the likelihood of being retained in grade, receiving remedial services, or receiving poor grades. However, at five years, New Hope adolescents ages 13 to 16 (ages 8 to 11 at random assignment and ages 10 to 13 at two years), were less likely than controls to exhibit these signs of negative school progress. At

¹⁷Bos et al., 1999; Bos et al., 1999; Huston et al., 2003.

¹⁸Readers who are primarily interested in New Hope's history, designs, and operations should refer to the comprehensive report on those issues: *Creating New Hope: Implementation of a Program to Reduce Poverty and Reform Welfare* (Brock, Doolittle, Fellerath, and Wiseman, 1997). Prior publications also include *The New Hope Offer: Participants in the New Hope Demonstration Discuss Work, Family, and Self-Sufficiency* (Benoit, 1996); *Who Got New Hope?* (Wiseman, 1997); and *An Early Look at Community Service Jobs in the New Hope Demonstration* (Poglinco, Brash, and Granger, 1998).

¹⁹Bos et al., 1999; Huston et al., 2003.

²⁰Bos et al., 1999; Huston et al., 2003.

two years, there were no statistically significant impacts on optimism for the future. (This measure was not included in the five-year survey.)

There were no overall impacts on children's school engagement (i.e., interest and participation in school) at either two or five years. However, New Hope boys expressed higher expectancies for educational attainment at both time periods and higher levels of school engagement at the five-year assessment.

At both the two- and five-year evaluations, the impacts on boys' achievement and achievement motivation were more pronounced and more consistently positive than were the impacts for girls. Among boys at two and five years, there was a positive impact on teachers' ratings of overall classroom behavior (e.g., negotiating classroom transitions and working independently). Girls did not exhibit a positive impact on classroom behavior at two years. At five years, New Hope girls were rated lower than control-group girls on this measure.

In sum, the results of the two- and five-year surveys indicate that New Hope led to some important improvements in children's academic achievement and achievement-related noncognitive skills. At two and five years, New Hope children scored higher on certain indicators of academic achievement (e.g., standardized tests of reading and teacher-rated academic schools) than did controls. However, there were gender- and age-related differences in how these positive academic effects sustained across time, with only boys and older children (ages 13 to 16 at 5 years, 8 to 11 at random assignment, and ages 10 to 13 at two years) exhibiting academic benefits at five years. New Hope appears also to have counteracted any decline in achievement that children may have experienced as they aged into adolescence. At five years, New Hope children ages 13 to 16 (ages 8 to 11 at random assignment and ages 10 to 13 at two years) exhibited less negative school progress than controls. As for achievement motivation, there were statistically significant impacts on boys' expectations for educational attainment that were maintained across the two- and five-year follow-ups. It was only at five years that positive impacts on school engagement emerged, and these were observed only among boys.

Later in this report we report on children's academic achievement and achievement motivation eight years after random assignment (three years after the five-year follow-up). We discuss how the eight-year findings relate to those at previous waves and discuss the implications of New Hope children's observed achievement trajectories. But first, we provide context for the two- and five-year findings.

Interpreting Gender Differences

The more positive impacts on boys can be interpreted in light of boys' greater risk of academic problems. Scholarly literature has long documented a pronounced gender gap in

achievement among minority children. Minority girls outperform their male counterparts on standard measures of achievement (e.g., grades and standardized test scores); this gap widens as children progress through school.²¹ Within the control group, boys' academic achievement was considerably less positive and more problematic than that of girls. The program impacts brought New Hope boys' scores up to the levels already attained by girls in both the program and the control groups.

There was some evidence that the increased resources available to families benefited boys more than girls. Ethnographic interviews indicated that parents were concerned about boys' vulnerability to gangs and antisocial behavior, and so parents used the additional resources provided by New Hope to purchase goods and opportunities for their boys.²² Program-group boys were more likely to be enrolled in extended daycare and in structured out-of-school activities that provided supervision and learning experiences.

These additional resources may have fostered higher levels of achievement. Research indicates that when quality is equivalent, formal, center-based child care provides more educational opportunities and leads to more advanced cognitive and language development than informal child care does.²³ Similarly, participation in formal after-school programs and extracurricular activities that provide cognitive stimulation and positive adult interactions is associated with academic achievement among low-income children.²⁴ Increased income and/or child care subsidies may facilitate children's enrollment in formal care and participation in organized extracurricular activities (e.g., team sports or music lessons) that provide enriching experiences and supervision while parents are working.

Why New Hope Might Have Lasting Effects

New Hope's designers conceived of the program as a set of work supports that would be in place as long as individuals needed them. Although the demonstration program was not designed to evaluate the effects of time limits, it limited any individual's eligibility to three years because of financial constraints. This eight-year evaluation, conducted five years after the end of eligibility, tests the possibility that the earlier changes endured after families no longer received benefits. Even though New Hope was not intended to demonstrate a time-limited policy, there are several reasons to expect that the three-year period of benefits might have had lasting effects on parents, children, and family life.

²¹Scott, 1987; Mickelson and Greene, 2006.

²²Gibson and Duncan, 2005.

²³NICHD [National Institute of Child Health and Human Development] Early Child Care Research Network, 2004.

²⁴Posner and Vandell, 1999; Mahoney, Lord, and Carryl, 2005; Mahoney, Larson, and Eccles, 2005.

First, if parents gained job experience and confidence in their ability to earn a living, some of the employment and income impacts of New Hope might have continued after benefits were discontinued, particularly because the Earned Income Tax Credit (EITC) continued to be available as an important supplement to parents' earnings and, in fact, increased in value during the period from 1995 to 2004. Evidence from the ethnographic work, for example, suggests that families choose lump-sum refund payments to provide a form of savings and to purchase expensive items (e.g., cars, furniture) or to pay down debt (e.g., mortgage, credit cards). Lump-sum payments from EITCs may have continued to benefit families with sufficient earnings.²⁵ There is evidence from several policy experiments that employment programs offering earnings supplements produced improved achievement among children.²⁶

Advantages that accrued during New Hope's benefit period may lead to an upward spiral in children's development. Initial experiences may change the child's behavior or capabilities; as a result, the child generates different types of input from the environment; that input, in turn, maintains or increases the behavior or skill involved. In this model, treatment-induced changes in the child's behavior "drive" the context, either by eliciting particular reactions from the people around the child or by leading the child to seek out different contexts.²⁷ (For example, we have found some evidence that boys' improved behavior led to parents' reports of greater effectiveness in discipline and management.)²⁸

Finally, the changed contexts brought about by New Hope may have continued after the program ended. Some of the effects on parents' employment, income, and family patterns as well as on activities, childcare, and school may have endured. Young people in program-group families may have continued to participate in structured activities during their non-school hours. These changed contexts brought about by New Hope could have maintained changes in family life and children's behavior. In fact, at the five-year follow-up, two years after benefits had ended, New Hope children were still more likely to be in center-based child care and older children were more likely to participate in some types of structured activities.²⁹

Sample

The CFS sample includes all 745 adult sample members who had one or more children between the ages of 1 year, 0 months, and 10 years, 11 months, at the time of random assign-

²⁵Romich and Weisner, 2000.

²⁶Morris et al., 2001.

²⁷Entwisle, Alexander, and Olson, 1997; Scarr and McCartney, 1983.

²⁸Epps and Huston, 2007.

²⁹Huston et al., 2003; Huston et al., 2005.

ment.³⁰ If a family had more than one child in that age range, two children were identified as “focal children.”³¹ There were 1,140 eligible focal children; a limited amount of information was collected about other children in the family.

A total of 595 families, with 866 focal children between the ages of 9 and 19 responded to the eight-year follow-up survey. These children make up the child outcomes sample. In addition, a mail survey was sent to teachers of children whose parents gave permission; teacher reports were obtained for 540 youth who constitute the teacher survey sample.³²

The parents in the CFS sample were in many respects similar to those in other studies of individuals receiving welfare. When they applied for New Hope, over half were not employed, and about 80 percent were receiving Aid to Families with Dependent Children (AFDC), general assistance, food stamps, and/or Medicaid. The majority had never been married. Slightly over 10 percent were married and were living with their spouse, and almost half had three or more children. Slightly over half were African-American, and over one-quarter were Hispanic.

Addressing Problems of Missing Data

Missing data present problems when attrition is not random and the participants for whom data are missing differ systematically from those with complete data. Differential attrition reduces the ability to generalize findings to the original population. In an experimental study, if the pattern of missingness differs systematically between the program and control group, the validity of experimental findings is called into question because the impacts may be over-estimated or under-estimated.

To determine whether our data might be biased by differential attrition, we examined whether participants surveyed at eight years and participants missing at eight years differed on any baseline characteristics. As shown in Appendix Table A.1, we observed few significant differences: However, two coefficients were statistically significant. Thus, we analyzed all data with two generally accepted ways to correct for the potential biases resulting from missing data as well as analyzing the original data. One method was to weight observations by baseline characteristics. The other was to use multiple imputation procedures to estimate missing observations. (A detailed description of these procedures is presented in Appendix A.) Weighting uses only the information in the baseline variables and does not correct for bias associated with va-

³⁰The CFS sample excludes 67 Asian-American families — most of whom are Southeast Asian refugees — because of language barriers and because many of the measurement instruments are culturally inappropriate for them.

³¹If there were more than two eligible children, the focal children were randomly selected with the restriction that opposite-sex siblings were given preference over same-sex siblings.

³²In some cases, more than one teacher responded for a child. The report presents results for only one teacher per child.

riables not observed at baseline. Multiple imputation estimates missing values using all available data, and by creating multiple data sets, it allows some correction of random error in those estimates in the final analyses performed. In this report, we present findings based on multiple imputation because this procedure uses more information to estimate missing observations and because the baseline variables are not strong predictors of the child variables. The results for the imputed analyses are very similar to those found in the original unweighted and unimputed data. For comparison, the results using unweighted (original) data are displayed in Appendix B.

Data Sources

In-person surveys with parents and children were conducted in the family’s home. The parents provided information about their children’s achievement and social behavior, and children were given several standardized tests and questionnaires.

Teacher reports about children’s academic performance, classroom skills, school progress, and social behavior were obtained by questionnaires mailed to the children’s school. Teachers were told that children and their families were participating in a study but not that families were involved in an evaluation of New Hope, welfare, or poverty-related programs.

All the analyses compared the entire group of children in the CFS sample of New Hope families with children in control-group families — that is, these are “intent-to-treat” effects. For each outcome, differences in impacts were examined for boys and girls, for two age groups, and for African-American and Hispanic youth. Because some of the economic impacts differed for families with different levels of employment at baseline, and with different barriers to employment at baseline, child impacts were examined for these subgroups as well. There were almost no systematic differences for children in families with and without full-time employment at baseline, so those results are not presented.

Measures of Academic Achievement and Achievement Motivation

Standardized achievement test scores. To assess reading and mathematical competencies, children completed three individually administered scales from the Woodcock-Johnson Achievement Battery.³³ Two of these (Letter-Word Identification and Passage Comprehension) measure reading skills; the average of these two is the Broad Reading score. The third, the Applied Problems scale, measures mathematics skills. The Woodcock-Johnson was selected because its normative sample is large and representative and because it includes children from diverse ethnic groups and diverse types of schooling. The standard score for each scale is obtained

³³Woodcock and Johnson, 1990.

by comparing the child's score with norms for his or her chronological age group. The mean standard score for the population as a whole is 100; the standard deviation is 15.

Parent reports of achievement

Achievement ratings. Parents' overall rating of achievement were obtained from a question asking about their children's general level of achievement, based on their knowledge of their children's school progress over the past year, using a five-point scale (1= "not at all well," 5= "very well"). Using the same five-point scales, parents also evaluated their children's performance in reading and written work over the past year, which were averaged to form a literacy scale, and in mathematics.

School progress. Parents responded "yes" or "no" to a set of three questions about positive school progress over the past year (whether the child had been in a gifted program or received school awards for academic achievements, or awards for other types of achievement) and a set of three questions about negative school progress over the past year (whether the child had been in special education, repeated a grade, or received poor grades).

Teacher reports of achievement

Academic subscale. The teacher survey included the academic subscale of the Social Skills Rating System (SSRS).³⁴ On this 10-item measure, teachers rated children's performance in comparison to others in the same classroom on reading skill, math skill, intellectual functioning, motivation, oral communication, classroom behavior, and parental encouragement, using five-point scales (1= "lowest 10 percent of the class," 5= "highest 10 percent of the class").

Mock report card. A "mock report card" completed by teachers indicated children's current school performance in reading and math, using five-point scales from "below (well below grade level)" to "excellent (well above grade level)." This measure was adapted from one used in the NICHD Study of Early Child Care and Youth Development.³⁵

Classroom behavior scale. Teachers also completed the Classroom Behavior Scale, which contains items concerning children's study skills, conformity to classroom rules and routines, ability to work and complete tasks independently, and ability to make transitions without becoming distracted.³⁶ Teachers rated children using scales from "almost never" to "almost always."

³⁴Gresham and Elliot, 1990.

³⁵This measure can be found at <http://secc.rti.org>.

³⁶Wright and Huston, 1995.

Children's Reports of Achievement Motivation

School engagement. Children indicated their comfort and allegiance with their school, using a five-point scale (1= "not true," 5= "always true").³⁷ In this five-item measure, children endorsed statements such as "you feel like you are a part of you school" and "the teachers at your school treat students fairly."

English and math expectancy. Children reported on their expectations for their performance in math and English, using seven-point scales (1= "not at all well," 7= "very well").³⁸ In each these two three-item measures children answered questions regarding their self-concept of ability, expectations for success, extrinsic and intrinsic utility value, and attainment value.

Educational expectations. Children were asked to indicate how sure they were that they would finish high school, go to college, and finish college, using five-point scales (1= "not at all sure," 5= "very sure").³⁹ These were averaged to form the measure "certainty of educational attainment."

Optimism for the future. Children responded to a six-item question about their hopefulness for their futures.⁴⁰ Children rated their perceived likelihood of later experiencing circumstances such as losing a job, being laid off, or having a child without being married, using a six-point scale (1= "very unlikely," 6= "very likely"). Responses to these items were averaged to create the "optimism for the future" measure.

Multiple Informants

Having multiple sources of data from child, teacher, and parent reports brings strength to the evaluation. Findings have higher validity when based on several sources. A source outside of the family, such as a teacher, or an objective measure, such as a standardized test, makes findings more robust. Therefore, inclusion of four academic informants — standardized achievement test scores, parents, teachers, and children — provides a much clearer picture of children's academic achievement than any one of them would alone.

³⁷Items from ADD Health (<http://www.cpc.unc.edu/projects/addhealth/>).

³⁸Eccles, 1983; Eccles and Wigfield, 1995; adapted from the Self- and Task-Perception Questionnaire.

³⁹Cook et al., 1996.

⁴⁰McLoyd and Jozefowicz, 1996.

Results

Impacts on Achievement and Motivation

In this section, we first report the eight-year impacts on achievement and achievement motivation. Then, in the concluding section of this report, we discuss how these findings relate to those from the two- and five-year follow-ups and the implications of the observed impact trajectories from two through eight years.

The eight-year achievement and motivation impacts based on the multiply imputed data are discussed below and presented in Tables 1-3. In Table 1, impacts for the full sample are shown. Gender- and age-subgroup impacts appear in Tables 2 and 3. Impacts by race/ethnicity are not described here but appear in Appendix Table C1. Impacts by parents' initial barriers to employment are described below and presented in Appendix Table C2. Figures illustrating the extent to which program- and control-group means differ in the full sample and in age and gender subgroups are presented alongside the results.

We report experimental impacts for the full sample when they are statistically significant at a probability of less than 10 percent. Our statistical tests are two-tailed and therefore equivalent to a one-tailed test of significance at a probability of less than five percent. Impacts for gender and age and barrier subgroups are reported when a statistically significant impact also exists in the full sample. They are also reported when the differences between the impacts across subgroups are statistically significant at a probability of less than ten percent (two-tailed).

Academic achievement. Overall, the eight-year results show few statistically significant differences in academic achievement between program- and control-group children (see Table 1). There was a statistically significant impact on negative school progress (see Figure 1). New Hope parents reported fewer instances of the events contained in this index — getting poor grades, being retained, or being in special education. The difference was statistically significant for the total index and for the single item, “gets poor grades,” but not for “grade retention or special education (individual items shown in the tables and figures). Children from New Hope families were also less likely than controls to attend remedial summer school programs (not shown in the tables and figures).

Although there was a tendency for New Hope children to perform better on the Woodcock-Johnson Broad Reading scale (see Figure 2) and for New Hope parents to report that their children performed better in literacy activities (see Figure 3), these differences did not reach conventional levels of statistical significance for the total sample. There were no impacts on the Woodcock-Johnson Applied Problems scale (see Figure 4) or teacher-reported achievement.

Achievement motivation. Overall, youth in the program group rated themselves higher on several indicators of achievement motivation than did those in the control group. There was a strong positive impact on school engagement: Children in the program group exhibited more comfort and allegiance with their schools than did their control-group counterparts (see Figure 5). New Hope children also had higher expectancies for performance in English, and a similar trend for math expectancies that did not reach conventional levels of statistical significance (see Figures 6 and 7). Finally, New Hope children expressed more optimism for the future than did controls (see Figures 8).

Gender differences in impacts. To some degree eight-year impacts on achievement were more positive for boys than girls, as shown in Table 2. With one exception, neither boys nor girls exhibited significant impacts on achievement. Among boys, New Hope youth scored higher on the Woodcock-Johnson Broad Reading test than did controls. Among girls, there was no impact on this measure of achievement. Gender-related program- and control-group differences appear in Figure 9.

Although not significant in the full group, there is a notable and statistically significant gender-differentiated pattern in the impacts on children's self-reports of certainty of educational attainment (see Figure 10). New Hope boys expressed more certainty than controls of high educational attainment. By contrast, New Hope girls had lower expectations for their future educational attainment than did control-group girls.

Age differences in impacts. There were few age-related differences in achievement. Table 3 shows impacts separately for the older (ages 13 and older at eight years and ages 5 to 10 at baseline) and younger children (ages 9 to 12 at eight years and 1 to 4 at baseline). New Hope's impacts on negative school progress are observed among older children but not younger children (see Figure 11). Similarly, the positive impact of New Hope on young people's expectancy for performance in English occurred among older children but not younger children (see Figure 12).

Differences in impacts by parents' initial barriers to employment. Because previous studies of New Hope found differences in impacts according to the number of employment barriers parents faced at random assignment, and because Duncan and colleagues find barrier-group differences in the eight-year impacts on employment and earnings,⁴¹ we report the impacts for these subgroups. Differences in impacts among these groups are not statistically significant. In other words, children whose parents faced multiple barriers to employment prior to New Hope, those whose parents faced one barrier to employment at baseline, and those whose parents faced no barriers to employment at baseline were not different from each other in their academic achievement and achievement motivation. However, there were New Hope children

⁴¹Bos et al., 1999; Huston et al., 2003; Duncan et al., 2008.

whose parents had faced two or more barriers to employment to exhibit less negative school progress, to report feeling more engaged in school, and more optimistic about their futures relative to their control-group counterparts (see Appendix Table C.2).

Summary of Impacts

Overall, impacts indicate that eight years after random assignment New Hope children were more academically motivated and optimistic about their futures than control-group children. Although they were more likely to be making normal school progress, (i.e. less negative school progress) than control-group children, the program had no statistically significant effects on standardized test scores, teachers' ratings of achievement, or parents' impressions of achievement.

Conclusion and Interpretation

Eight years after New Hope began (and five years after it ended), most of the program's effects on academic achievement were no longer statistically significant, yet achievement motivation emerged as a domain where New Hope benefited group children.

On indicators of academic achievement, such as standardized achievement test scores and subject-level academic skills, on which positive effects were previously found, there were no longer significant impacts for the full sample. Notably, boys in New Hope families did continue to perform better on a standardized test of reading than controls. Nonetheless, New Hope does appear to have stemmed an age-related decline in normal school progress. At eight years, children in the program group were less likely to exhibit negative school progress. That is, they had lower rates of special education, grade retention, and poor grades than control-group children. When compared to earlier follow-ups, these effects appear to have increased with time and children's age. At two years no statistically significant impacts were observed on negative school progress. At five years, there were statistically significant impacts on this measure but only among adolescents. At eight years, for the first time, these positive effects on normal school progress were observed in the full sample. It is possible that children's better achievement in earlier grades allowed them to continue satisfying at least the minimum requirements of the schools they attended.

For the first time at eight years, there is evidence that New Hope had positive effects on children's achievement motivation. Prior to eight years, no statistically significant differences were observed between New Hope children and control-group children on most markers of children's achievement motivation (i.e., school engagement, expectancies for success in English or math, or optimism for the future). At eight years, statistically significant positive impacts on children's school engagement, expectations for performance in English, and optimism for the

future were observed in the full sample. The positive effects on New Hope children's expectations for their English performance were particularly pronounced among children ages 13 and older. At eight years, boys continued to exhibit more positive impacts on achievement motivation than did girls. Consistent with findings at two and five years, New Hope boys expressed higher certainty of educational attainment than controls. By contrast, New Hope girls reported lower certainty of educational attainment than did control girls.

Developmental Trends

New Hope's impacts on achievement can be best understood in the context of the overall decline in school performance with age that characterizes children from low-income families. These developmental patterns are illustrated by examining the age trends for the control-group children. Figures 13 and 14 show the average standardized scores on the Woodcock-Johnson reading and math scales for control children of different ages at the five-year and eight-year follow-ups. At age 6, the control-group children performed at approximately the average level for their age group; by middle adolescence, their average scores were about eight standard deviations below the national average for their age group.

Figure 15 shows the average ratings on the negative school progress scale for control children of different ages at the five-, and eight-year follow-ups. With age, more control-group children also demonstrated evidence of "negative school progress," an index composed of parent reports that children received poor grades, had been in special education, and/or had been retained in a grade. Hence, any intervention is best seen as an effort to counteract these declines in school performance with age.

The developmental patterns for the control group show the average patterns of achievement during middle childhood and adolescence for this low-income sample of children, most of whom are African-American or Latino. In a three-year period, the average level of reading performance dropped by about one-third of a standard deviation on a scale that compares performance to the average child of the same age. As shown in Figures 16 and 17, the W scores, which represent absolute levels of competency, show clear leveling-off as children get older — that is, young people are not gaining skills. Not surprisingly, evidence of school failure increases with age, and children's expectancies of school success and engagement in school decline as well. In this context, their expectations to graduate from college appear increasingly unrealistic. All of these indicators show the increasing achievement gap between the youth in this study and average youth in the United States.⁴² This is the backdrop against which New Hope operated.

The long-term effects of the New Hope intervention seem to be concentrated in the area of normal school progress and achievement motivation. In particular, there was some evidence

⁴²KewalRamani, Gilbertson, Fox, and Provasnik, 2007.

that New Hope was especially likely to prevent very low levels of performance rather than increasing the likelihood of very high performance. Across time, the most enduring impact of New Hope occurred for negative school progress. New Hope appears to have counteracted school failure as indicated by our index of negative school progress, and, for boys, it apparently reduced the decline on a standardized test of reading competence.

These effects of New Hope promote normal school progress were accompanied by strong effects on young people's motivation, school engagement, and optimism about the future. For boys, New Hope also led to continuing high expectations of success in school and expectations for future educational attainment. Although the small positive impacts on some indicators of boys' achievement are encouraging, these optimistic estimates of likely college graduation may be unrealistic in light of the average performance, even for the program group. For children living in poverty, who are at high risk of school failure, impacts that stem a decline in achievement or bring up the bottom of the achievement distribution may be especially important if they lead to increased likelihood of staying in school. Youths' higher levels of school engagement may also promote their continued involvement in school. However, the eight-year data do not provide a clear indication of whether our observed impacts translated into lower rates of dropping out or higher rates of graduation. With the majority of children under age 17 and the very eldest children in the sample no older than age 19, high-school graduation is developmentally out-of-phase for most of the sample. The available data are insufficient in numbers to draw conclusion.

Lasting Effects

Why did New Hope have lasting effects? First, it is possible that the early impacts on children's achievement set them on trajectories that were more favorable than those of some control-group children. Advantages that accrued during New Hope's benefit period may have led to an "upward spiral" in children's development. Initial experiences may change the children's behaviors or capabilities; as a result, the children generate different types of input from the environment; that input, in turn, maintains or increases the behavior or skill involved. In this model, treatment-induced changes in the child's behavior "drive" the context, either by eliciting particular reactions from the people around the child or by leading the child to seek out different contexts.⁴³

For example, among boys, early impacts on classroom behavior and academic motivation (expectancies of success and educational attainment) may have led them to take school more seriously and to put more effort into the tasks they confronted in the classroom. Earlier impacts on standardized test scores, academic achievement, and negative school

⁴³Entwisle, Alexander, and Olson, 1997; Scarr and McCartney, 1983.

progress may have bolstered children’s expectancies enough to have kept them “on track.” Alternatively, gains New Hope induced in basic academic skills may have protected them against the kinds of failure represented in our index of negative school progress.

Earlier advantages such as formal child care and structured after-school activities that New Hope children experienced may partially account for the impacts observed at eight-year follow-up. That is, prior experiences in formal child care and structured activities may have had repercussions for achievement and motivation. For example, if formal child care provides some basic pre-academic skills for preschool children, the children may enter school with some academic preparation that improves their academic trajectory. Teachers may perceive such children as being more skilled, may provide more opportunities for learning, or may express higher performance expectations for those children. If children internalize and retain those academic skills and expectations, then, years later, less negative school performance and higher expectancies for educational attainment and subject-performance might be observed. Similarly, earlier participation in organized after-school activities may contribute to children’s academic skills as they progress into the later school years — either through continued involvement in similar activities or because the skills and habits learned are also beneficial in academic settings.

Policy Implications

This report began with a discussion of the academic risks poverty poses for children — especially those from minority racial or ethnic groups. In light of continued positive effects on low-income (and primarily minority) children’s normal school progress and achievement motivation five years after program benefits ended, New Hope highlights some intriguing possibilities for public policy.

Despite the waning of many of New Hope’s prior effects, the effect sizes observed at eight years on many indicators of academic achievement suggest that the program led to socially significant gains. An effect size reflects the difference between the program and control-group effects as a fraction of a standard deviation. Traditionally, effect sizes of 0.20–0.49 are thought of as small but likely important, those of 0.50–0.79 are considered moderate, and those of 0.8 and higher are regarded as large. However, a growing body of researchers contends that effect sizes of between 0.10 and 0.20 can have important societal implications. Effect sizes within this range and larger were observed on eight-year indicators of academic achievement and achievement motivation.

Tables 1–3 show effect sizes for the full sample and the age- and gender-subgroups examined in this report. In the full sample, the effects on negative school progress and several indicators of motivation (i.e., school engagement, English and math expectancies, and

optimism for the future) were “small but socially significant” range. Likewise the impact on children’s Woodcock-Johnson Broad Reading scores, which was not statistically significant, had an effect size within the socially significant range. The gender, age, and barriers-to-employment subgroups tended to exhibit the same pattern of effect sizes, although they were sometimes stronger. For example, boys’ optimism for the future, certainty of educational attainment, and English expectancy had effect sizes between 0.20 and 0.23.

Overall, the findings from New Hope’s Child and Family Study suggest an important link between low-income minority children’s academic development and programs such as New Hope that encourage parents’ full-time employment with basic and flexible supports such as health care and child care and that ensure that parents’ full-time work improves the likelihood that families will no longer be poor. The New Hope program and the experiences it conferred on program-group children caused them to be more motivated to achieve academically and less likely to be failing or falling behind eight years after its initiation (five years after program benefits were withdrawn). In addition to parents’ increased employment, income and earnings, two experiences that may have been particularly salient for children’s academic development were formal, center-based child care and structured after-school activities. Overall, the results suggest the importance of employment supports that support children’s development (i.e., making high quality formal care and structured after school programs available to families) and the importance of making work pay so that parents have opportunities to invest in high quality goods and services that will developmentally benefit their children and families. The combination of increased employment and generous work supports for parents appears to have altered New Hope children’s academic trajectories for the better.

Report Tables and Figures

The New Hope Project

Table 1

Impacts on Achievement, School Progress, and Motivation

| Outcome | Range | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a |
|---------------------------------------------------------|-----------------------------------------------------------------------------|------------------|------------------|------------|---------------------------|-----------------------------|
| Woodcock-Johnson test of achievement^b | | | | | | |
| Broad Reading score | | 93.31 | 91.86 | 1.45 | 0.153 | 0.10 |
| Applied problems | | 94.20 | 94.04 | 0.16 | 0.888 | 0.01 |
| Parent ratings of achievement | | | | | | |
| Overall achievement | 1=not well at all 5=very well | 3.68 | 3.59 | 0.09 | 0.184 | 0.09 |
| Literacy | 1=not well at all 5=very well | 3.69 | 3.60 | 0.10 | 0.150 | 0.09 |
| Math | 1=not well at all 5=very well | 3.66 | 3.58 | 0.08 | 0.303 | 0.07 |
| Positive school progress | 0=no, 1=yes | 0.40 | 0.39 | 0.00 | 0.829 | 0.01 |
| Negative school progress | 0=no, 1=yes | 0.22 | 0.25 | -0.03 * | 0.091 | -0.11 |
| Teacher ratings of achievement^c | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.17 | 3.19 | -0.01 | 0.862 | -0.01 |
| Mock report card (Reading) | 1=below 5=excellent | 2.93 | 2.95 | -0.02 | 0.822 | -0.02 |
| Mock report card (Math) | 1=below 5=excellent | 2.78 | 2.78 | -0.01 | 0.954 | 0.00 |
| Classroom behavior scale | 1=almost never 5=almost always | 3.72 | 3.69 | 0.03 | 0.758 | 0.03 |
| Motivation | | | | | | |
| School engagement | 1=none of the time 6=all of the the time | 3.86 | 3.71 | 0.15 ** | 0.017 | 0.16 |
| English expectancy | 1=not at all well 7=very well | 5.69 | 5.55 | 0.14 * | 0.071 | 0.12 |
| Math expectancy | 1=not at all well 7=very well | 5.27 | 5.14 | 0.13 | 0.133 | 0.10 |
| Certainty of educational attainment | 1=not at all sure 5=very sure | 4.37 | 4.33 | 0.04 | 0.405 | 0.05 |
| Optimism for the future | 1=very unlikely 5=very likely | 4.61 | 4.50 | 0.11 * | 0.054 | 0.13 |
| Sample size | | 1097 | | | | |

SOURCE: Calculations using data from the New Hope eight-year survey.

NOTES: Statistical significance levels are indicated as *** = 1 percent, ** = 5 percent, and * = 10 percent.

These results are based on imputed data.

^aThe effect size is the difference between program- and control-group outcomes as a proportion of the standard deviation of the control group. This standard deviation is always obtained from the full research sample, even if the table shows impacts for subgroups.

^bWoodcock-Johnson scores are age-standardized with a mean of 100 and a standard deviation of 15.

^cTeacher-reported impacts were calculated on a subset of imputed data. That subset included only data for children that had at least one completed teacher survey across the three waves (N=863).

The New Hope Project

Table 2

Impacts on Achievement, School Progress, and Motivation by Gender

| Outcome | Range | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a | P-Value for Difference Between Boys and Girls ^b | |
|---------------------------------------------------------|-----------------------------------------------------------------------|---------------|---------------|------------|------------------------|--------------------------|------------------------------------------------------------|-------------|
| Boys | | | | | | | | |
| Woodcock-Johnson test of achievement^b | | | | | | | | |
| Broad Reading score | | 93.35 | 90.98 | 2.37 * | 0.094 | 0.16 | 0.475 | |
| Applied problems | | 95.28 | 94.13 | 1.15 | 0.499 | 0.09 | 0.336 | |
| Parent ratings of achievement | | | | | | | | |
| Overall achievement | 1=not well at all 5=very well | 3.51 | 3.43 | 0.08 | 0.434 | 0.08 | 0.935 | |
| Literacy | 1=not well at all 5=very well | 3.49 | 3.40 | 0.09 | 0.386 | 0.09 | 0.898 | |
| Math | 1=not well at all 5=very well | 3.53 | 3.46 | 0.06 | 0.554 | 0.06 | 0.980 | |
| Positive school progress | 0=no, 1=yes | 0.38 | 0.35 | 0.03 | 0.372 | 0.08 | 0.306 | |
| Negative school progress | 0=no, 1=yes | 0.27 | 0.30 | -0.03 | 0.328 | -0.09 | 0.907 | |
| Teacher ratings of achievement^d | | | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.07 | 3.02 | 0.04 | 0.737 | 0.05 | 0.519 | |
| Mock report card (Reading) | 1=below 5=excellent | 2.83 | 2.80 | 0.03 | 0.787 | 0.03 | 0.557 | |
| Mock report card (Math) | 1=below 5=excellent | 2.73 | 2.72 | 0.02 | 0.907 | 0.01 | 0.737 | |
| Classroom behavior scale | 1=almost never 5=almost always | 3.54 | 3.55 | -0.01 | 0.953 | -0.01 | 0.835 | |
| Motivation | | | | | | | | |
| School engagement | 1=none of the time 6=all of the the time | 3.81 | 3.70 | 0.12 | 0.142 | 0.13 | 0.662 | |
| English expectancy | 1=not at all well 7=very well | 5.67 | 5.41 | 0.26 ** | 0.024 | 0.22 | 0.122 | |
| Math expectancy | 1=not at all well 7=very well | 5.33 | 5.20 | 0.13 | 0.307 | 0.10 | 0.977 | |
| Certainty of educational attainment | 1=not at all sure 5=very sure | 4.34 | 4.16 | 0.19 ** | 0.012 | 0.23 | 0.003 ††† | |
| Optimism for the future | 1=very unlikely 5=very likely | 4.63 | 4.47 | 0.16 ** | 0.038 | 0.20 | 0.252 | |
| Sample size | 570 | | | | | | | (continued) |

Table 2 (continued)

| Outcome | Range | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a | P-Value for Difference Between Boys and Girls ^b |
|---------------------------------------------------------|-----------------------------------------------------------------------|---------------|---------------|------------|------------------------|--------------------------|------------------------------------------------------------|
| Girls | | | | | | | |
| Woodcock-Johnson test of achievement^c | | | | | | | |
| Broad Reading score | | 93.46 | 92.56 | 0.89 | 0.555 | 0.06 | 0.475 |
| Applied problems | | 93.03 | 93.89 | -0.86 | 0.471 | -0.07 | 0.336 |
| Parent ratings of achievement | | | | | | | |
| Overall achievement | 1=not well at all 5=very well | 3.85 | 3.76 | 0.09 | 0.331 | 0.09 | 0.935 |
| Literacy | 1=not well at all 5=very well | 3.91 | 3.81 | 0.11 | 0.261 | 0.11 | 0.898 |
| Math | 1=not well at all 5=very well | 3.79 | 3.72 | 0.07 | 0.492 | 0.06 | 0.980 |
| Positive school progress | 0=no, 1=yes | 0.42 | 0.44 | -0.02 | 0.575 | -0.05 | 0.306 |
| Negative school progress | 0=no, 1=yes | 0.17 | 0.20 | -0.03 | 0.196 | -0.11 | 0.907 |
| Teacher ratings of achievement^d | | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.29 | 3.35 | -0.07 | 0.537 | -0.07 | 0.519 |
| Mock report card (Reading) | 1=below 5=excellent | 3.02 | 3.09 | -0.07 | 0.568 | -0.07 | 0.557 |
| Mock report card (Math) | 1=below 5=excellent | 2.81 | 2.86 | -0.05 | 0.717 | -0.04 | 0.737 |
| Classroom behavior scale | 1=almost never 5=almost always | 3.89 | 3.86 | 0.03 | 0.777 | 0.03 | 0.835 |
| Motivation | | | | | | | |
| School engagement | 1=none of the time 6=all of the the time | 3.91 | 3.74 | 0.17 * | 0.065 | 0.19 | 0.662 |
| English expectancy | 1=not at all sure 7=very sure | 5.71 | 5.70 | 0.01 | 0.930 | 0.01 | 0.122 |
| Math expectancy | 1=not at all sure 7=very sure | 5.20 | 5.08 | 0.13 | 0.330 | 0.10 | 0.977 |
| Certainty of educational attainment | 1=not at all sure 5=very sure | 4.39 | 4.51 | -0.12 * | 0.089 | -0.15 | 0.003 ††† |
| Optimism for the future | 1=very unlikely 5=very likely | 4.58 | 4.55 | 0.04 | 0.651 | 0.04 | 0.252 |
| Sample size | 531 | | | | | | |

SOURCE: Calculations using data from the New Hope eight-year survey.

NOTES: Statistical significance levels are indicated as *** = 1 percent, ** = 5 percent, and * = 10 percent.

These results are based on imputed data.

^aThe effect size is the difference between program- and control-group outcomes as a proportion of the standard deviation of the control group. This standard deviation is always obtained from the full research sample, even if the table shows impacts for subgroups.

^bA statistical test was conducted to measure whether impacts differed significantly across the subgroup dimensions featured in this table. Statistical significance levels are indicated as ††† = 1 percent, †† = 5 percent, and † = 10 percent.

^cWoodcock-Johnson scores are age-standardized with a mean of 100 and a standard deviation of 15.

^dTeacher-reported impacts were calculated on a subset of imputed data. That subset included only data for children that had at least one completed teacher survey across the three waves (N=437 boys, 428 girls).

The New Hope Project

Table 3

Impacts on Achievement, School Progress, and Motivation by Child Age

| Outcome | Range | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a | P-Value for Difference Between Age Groups ^b |
|---------------------------------------------------------|-----------------------------------------------------------------------|---------------|---------------|------------|------------------------|--------------------------|--------------------------------------------------------|
| <i>Younger than age 13</i> | | | | | | | |
| Woodcock-Johnson test of achievement^p | | | | | | | |
| Broad Reading score | | 95.97 | 94.92 | 1.04 | 0.506 | 0.07 | 0.817 |
| Applied problems | | 97.54 | 97.64 | -0.10 | 0.948 | -0.01 | 0.950 |
| Parent ratings of achievement | | | | | | | |
| Overall achievement | 1=not well at all 5=very well | 3.81 | 3.67 | 0.13 | 0.156 | 0.14 | 0.435 |
| Literacy | 1=not well at all 5=very well | 3.78 | 3.67 | 0.11 | 0.295 | 0.10 | 0.785 |
| Math | 1=not well at all 5=very well | 3.84 | 3.67 | 0.16 | 0.123 | 0.15 | 0.253 |
| Positive school progress | 0=no, 1=yes | 0.44 | 0.43 | 0.01 | 0.690 | 0.04 | 0.644 |
| Negative school progress | 0=no, 1=yes | 0.19 | 0.20 | -0.01 | 0.761 | -0.02 | 0.277 |
| Teacher ratings of achievement^d | | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.18 | 3.17 | 0.01 | 0.922 | 0.01 | 0.826 |
| Mock report card (Reading) | 1=below 5=excellent | 2.91 | 2.93 | -0.02 | 0.870 | -0.02 | 0.949 |
| Mock report card (Math) | 1=below 5=excellent | 2.85 | 2.77 | 0.08 | 0.575 | 0.07 | 0.474 |
| Classroom behavior scale | 1=almost never 5=almost always | 3.65 | 3.63 | 0.01 | 0.905 | 0.01 | 0.792 |
| Motivation | | | | | | | |
| School engagement | 1=none of the time 6=all of the the time | 4.08 | 3.90 | 0.18 ** | 0.030 | 0.20 | 0.435 |
| English expectancy | 1=not at all sure 7=very sure | 5.70 | 5.72 | -0.01 | 0.902 | -0.01 | 0.061 † |
| Math expectancy | 1=not at all sure 7=very sure | 5.47 | 5.31 | 0.16 | 0.184 | 0.12 | 0.539 |
| Certainty of educational attainment | 1=not at all sure 5=very sure | 4.42 | 4.41 | 0.01 | 0.926 | 0.01 | 0.641 |
| Optimism for the future | 1=very unlikely 5=very likely | 4.56 | 4.50 | 0.07 | 0.447 | 0.08 | 0.466 |
| Sample size | 503 | (continued) | | | | | |

Table 3 (continued)

| Outcome | Range | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a | P-Value for Difference Between Age Groups ^b |
|---------------------------------------------------------|-----------------------------------------------------------------------|---------------|---------------|------------|------------------------|--------------------------|--------------------------------------------------------|
| Age 13 and older | | | | | | | |
| Woodcock-Johnson test of achievement^c | | | | | | | |
| Broad Reading score | | 90.95 | 89.40 | 1.55 | 0.306 | 0.11 | 0.817 |
| Applied problems | | 91.23 | 91.19 | 0.03 | 0.982 | 0.00 | 0.950 |
| Parent ratings of achievement | | | | | | | |
| Overall achievement | 1=not well at all 5=very well | 3.56 | 3.53 | 0.03 | 0.748 | 0.03 | 0.435 |
| Literacy | 1=not well at all 5=very well | 3.61 | 3.55 | 0.07 | 0.487 | 0.07 | 0.785 |
| Math | 1=not well at all 5=very well | 3.51 | 3.52 | -0.01 | 0.943 | -0.01 | 0.253 |
| Positive school progress | 0=no, 1=yes | 0.36 | 0.37 | -0.01 | 0.796 | -0.02 | 0.644 |
| Negative school progress | 0=no, 1=yes | 0.25 | 0.30 | -0.05 * | 0.085 | -0.16 | 0.277 |
| Teacher ratings of achievement^d | | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.17 | 3.20 | -0.02 | 0.828 | -0.02 | 0.826 |
| Mock report card (Reading) | 1=below 5=excellent | 2.95 | 2.96 | -0.01 | 0.935 | -0.01 | 0.949 |
| Mock report card (Math) | 1=below 5=excellent | 2.73 | 2.79 | -0.06 | 0.651 | -0.05 | 0.474 |
| Classroom behavior scale | 1=almost never 5=almost always | 3.79 | 3.73 | 0.06 | 0.623 | 0.06 | 0.792 |
| Motivation | | | | | | | |
| School engagement | 1=none of the time 6=all of the the time | 3.66 | 3.58 | 0.09 | 0.338 | 0.09 | 0.435 |
| English expectancy | 1=not at all sure 7=very sure | 5.69 | 5.40 | 0.29 ** | 0.013 | 0.24 | 0.061 † |
| Math expectancy | 1=not at all sure 7=very sure | 5.08 | 5.02 | 0.06 | 0.656 | 0.04 | 0.539 |
| Certainty of educational attainment | 1=not at all sure 5=very sure | 4.32 | 4.27 | 0.05 | 0.482 | 0.07 | 0.641 |
| Optimism for the future | 1=very unlikely 5=very likely | 4.65 | 4.50 | 0.15 * | 0.051 | 0.19 | 0.466 |
| Sample size | 599 | | | | | | |

SOURCE: Calculations using data from the New Hope eight-year survey.

NOTES: Statistical significance levels are indicated as *** = 1 percent, ** = 5 percent, and * = 10 percent.

These results are based on imputed data.

^aThe effect size is the difference between program- and control-group outcomes as a proportion of the standard deviation of the control group. This standard deviation is always obtained from the full research sample, even if the table shows impacts for subgroups.

^bA statistical test was conducted to measure whether impacts differed significantly across the subgroup dimensions featured in this table. Statistical significance levels are indicated as ††† = 1 percent, †† = 5 percent, and † = 10 percent.

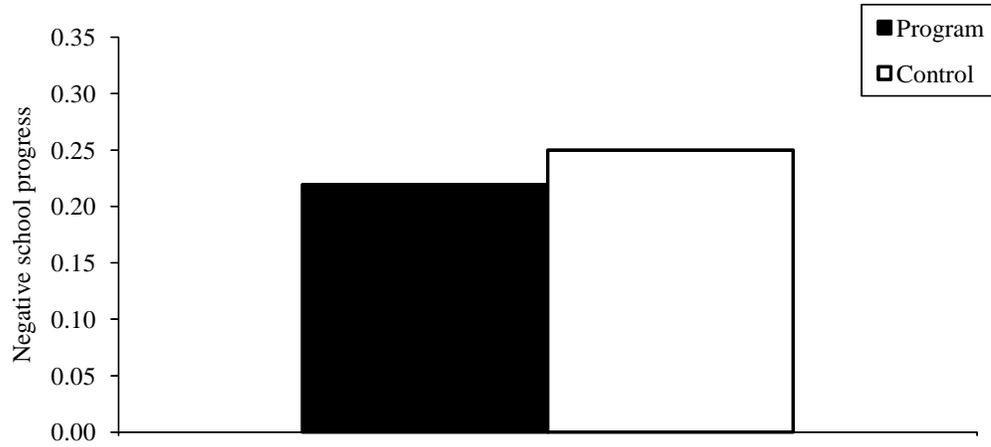
^cWoodcock-Johnson scores are age-standardized with a mean of 100 and a standard deviation of 15.

^dTeacher-reported impacts were calculated on a subset of imputed data. That subset included only data for children that had at least one completed teacher survey across the three waves (N=386 younger, 470 older children).

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Figure 1

**Mean Differences in Program- and Control-Group Achievement:
Negative School Progress**

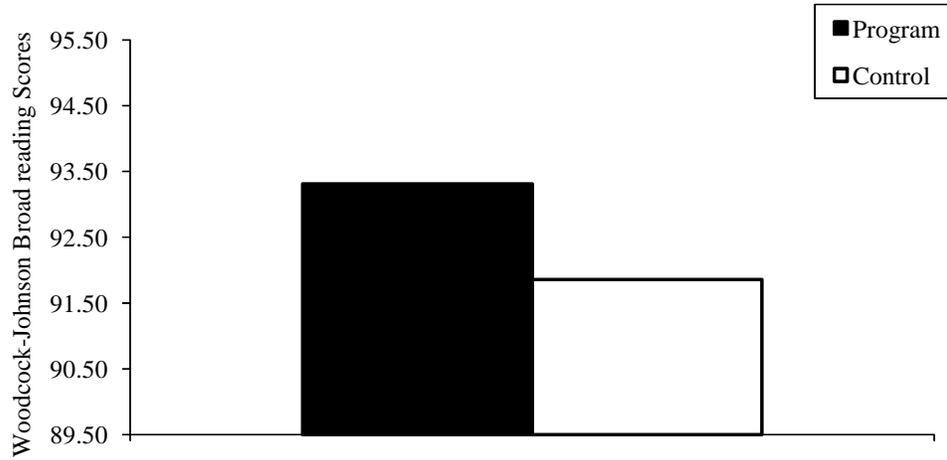


SOURCE: Calculations using the New Hope eight-year survey.

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Figure 2

**Mean Differences in Program- and Control-Group Achievement:
Woodcock Johnson Broad Reading Scores**

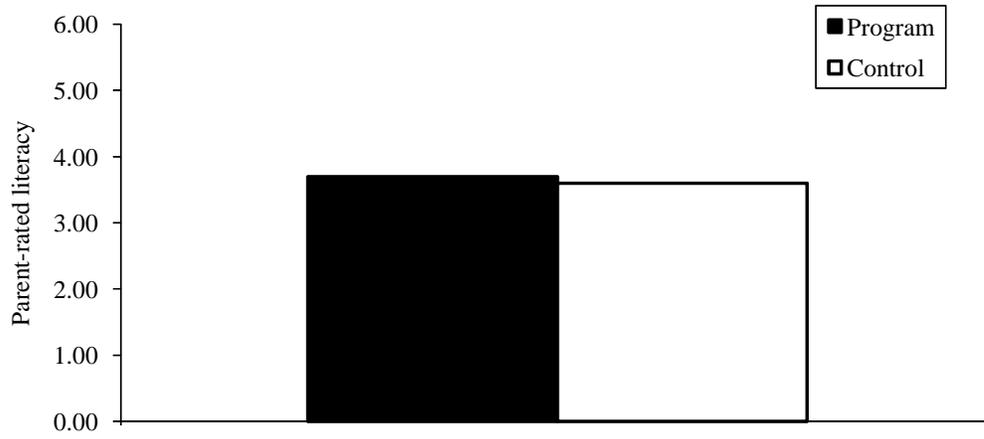


SOURCE: Calculations using the New Hope eight-year survey.

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Figure 3

**Mean Differences in Program- and Control-Group Achievement:
Parent-Rated Literacy**

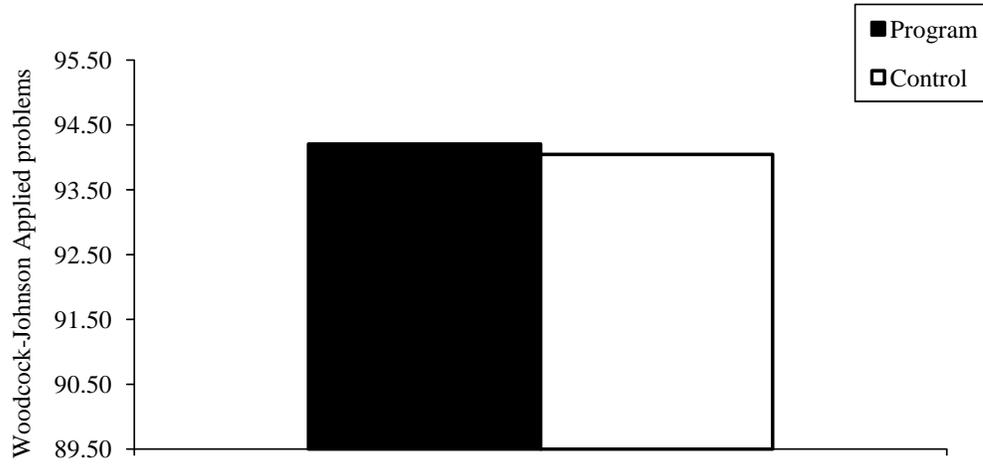


SOURCE: Calculations using the New Hope eight-year survey.

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Figure 4

**Mean Differences in Program- and Control-Group Achievement:
Woodcock-Johnson Applied Problems**

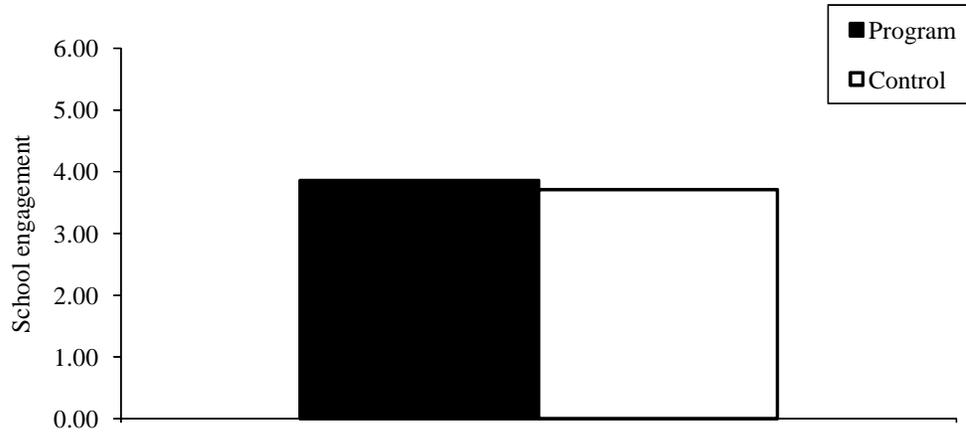


SOURCE: Calculations using the New Hope eight-year survey.

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Figure 5

**Mean Differences in Program- and Control-Group Achievement:
School Engagement**

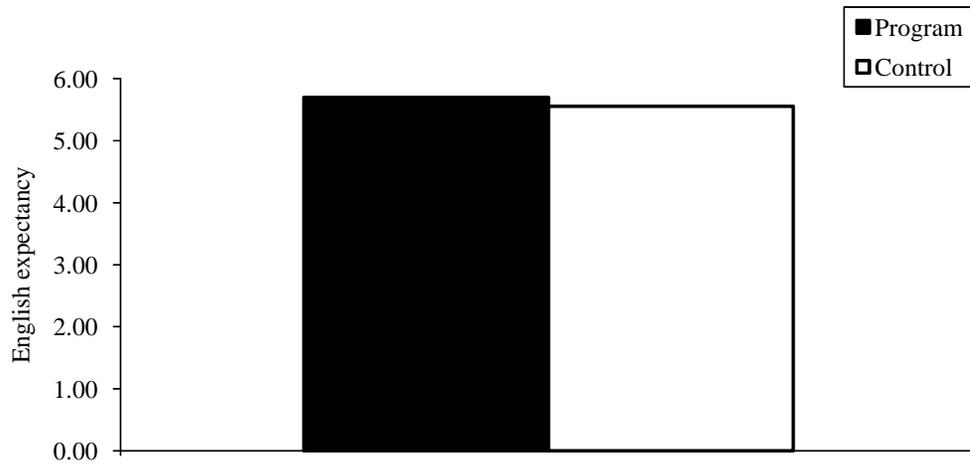


SOURCE: Calculations using the New Hope eight-year survey.

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Figure 6

**Mean Differences in Program- and Control-Group Achievement:
English Expectancy**

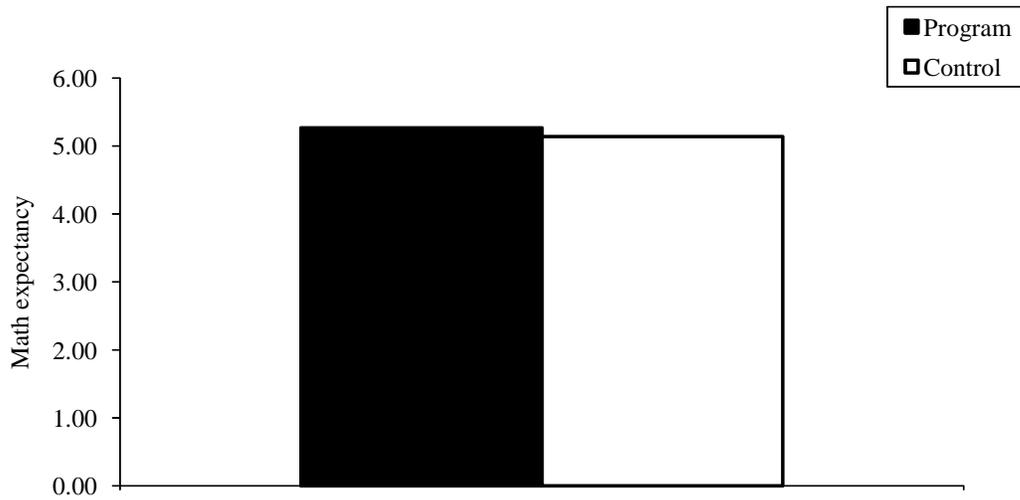


SOURCE: Calculations using the New Hope eight-year survey.

The New Hope Project

Figure 7

**Mean Differences in Program- and Control-Group Achievement:
Math Expectancy**

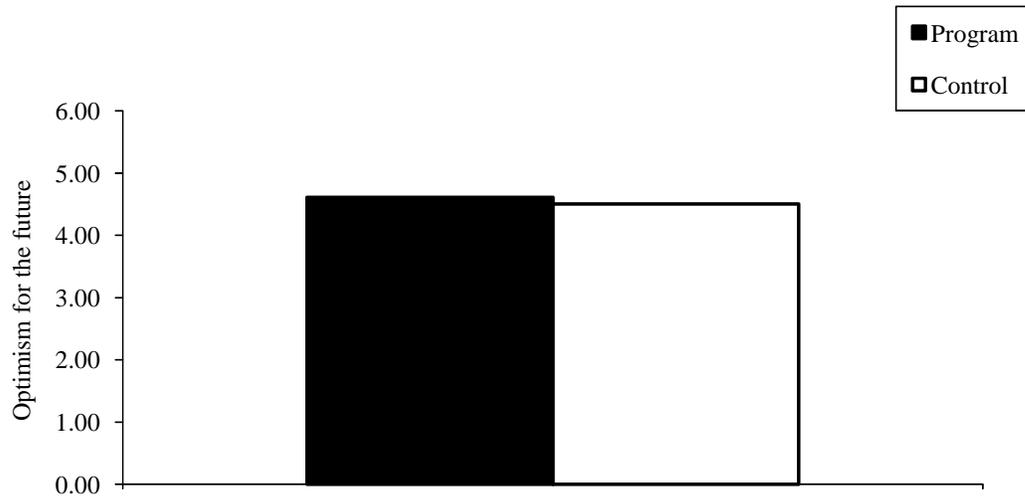


SOURCE: Calculations using the New Hope eight-year survey.

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Figure 8

**Mean Differences in Program- and Control-Group Achievement:
Optimism for the Future**

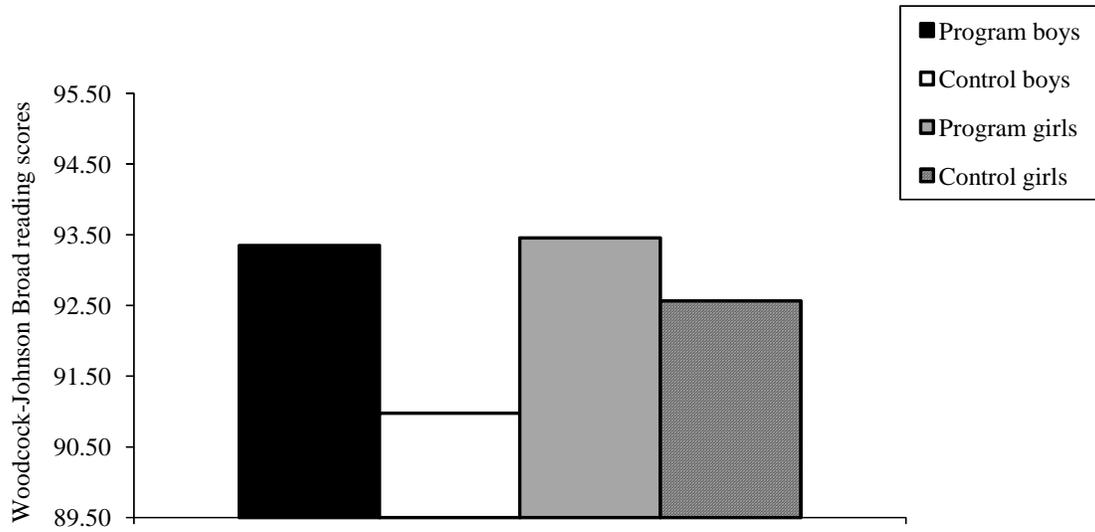


SOURCE: Calculations using the New Hope eight-year survey.

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Figure 9

**Mean Differences in Achievement by Gender:
Woodcock-Johnson Broad Reading Scores**

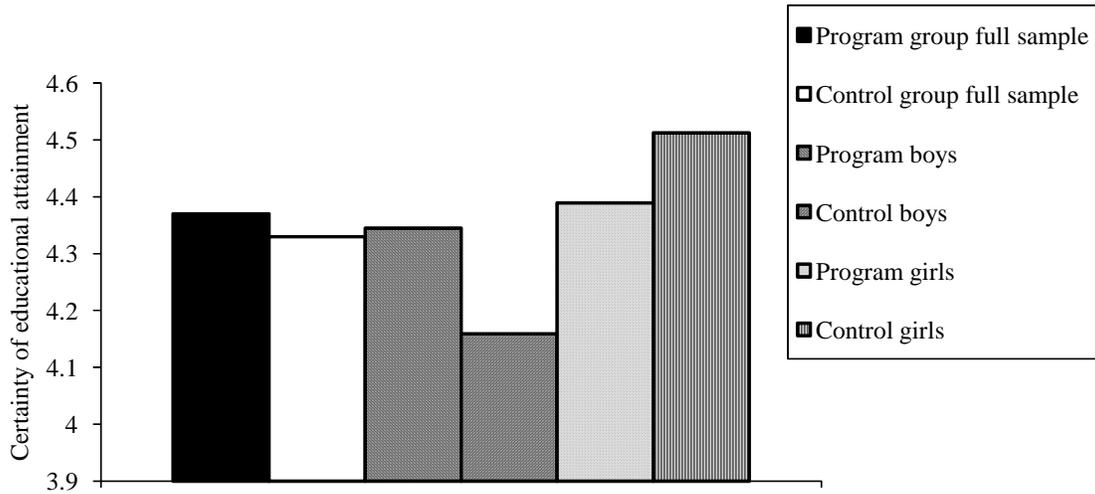


SOURCE: Calculations using the New Hope eight-year survey.

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Figure 10

**Mean Differences in Achievement for the Full Sample and by Gender:
Certainty of Educational Attainment**

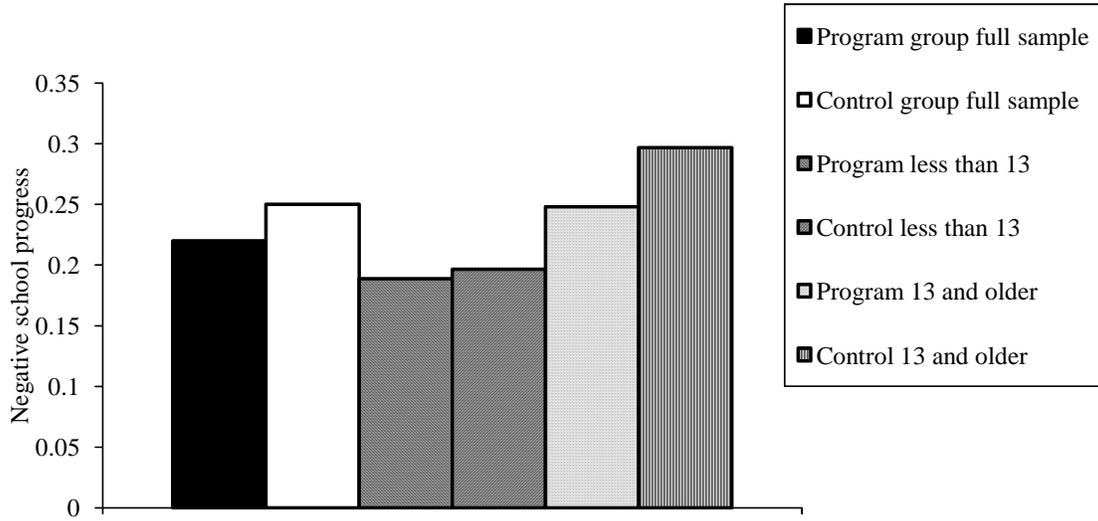


SOURCE: Calculations using the New Hope eight-year survey.

The New Hope Project

Figure 11

Mean Differences in Achievement for the Full Sample and by Age:
Negative School Progress

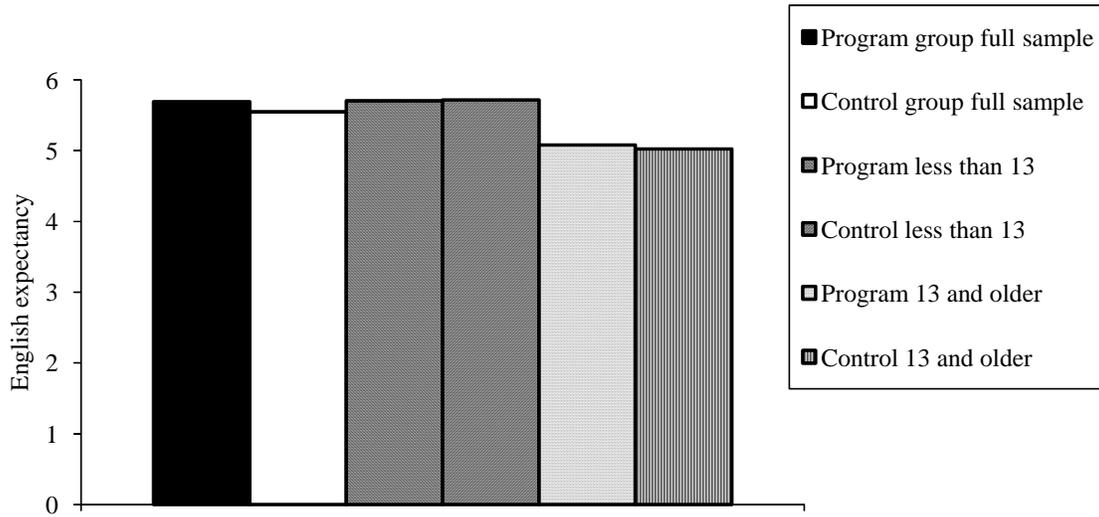


SOURCE: Calculations using the New Hope eight-year survey.

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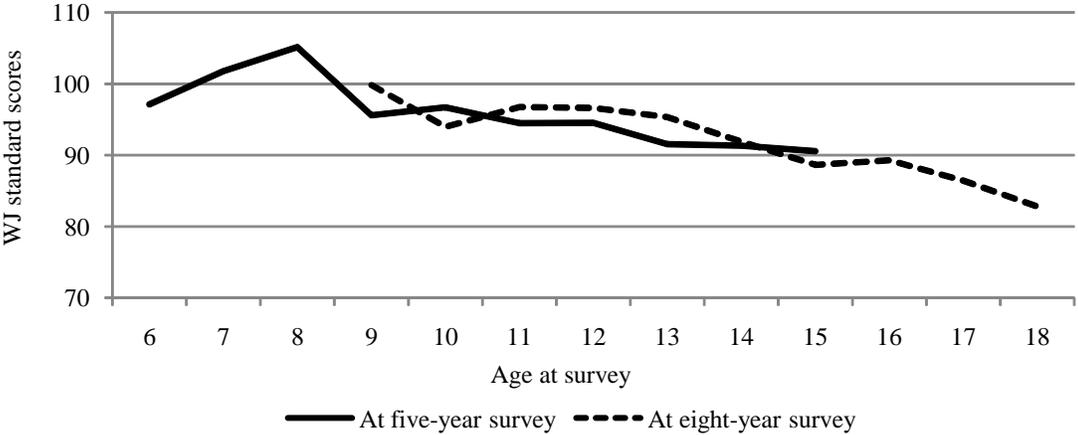
Figure 12

**Mean Differences in Achievement for the Full Sample and by Age:
English Expectancy**



SOURCE: Calculations using the New Hope eight-year survey.

The New Hope Project
Figure 13
Control-Group Reading Scores by Age

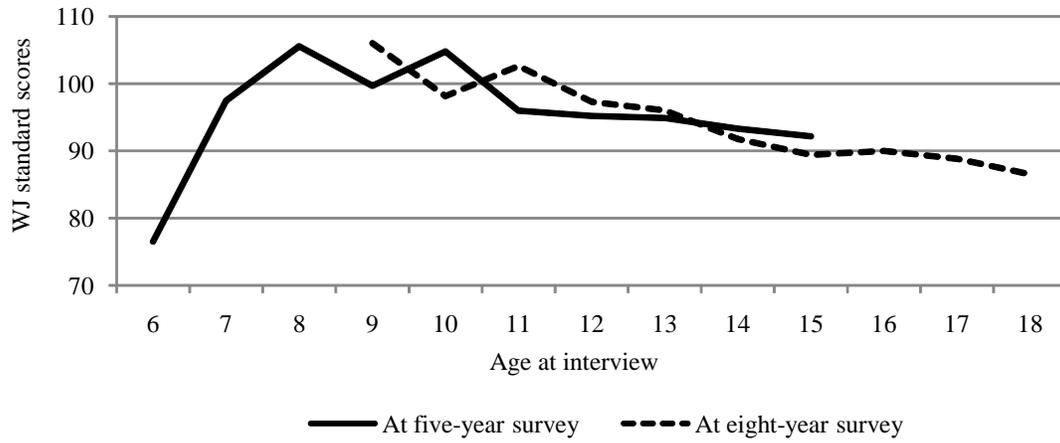


SOURCE: Calculations using the New Hope five- and eight-year surveys.

The New Hope Project

Figure 14

Control-Group Math Scores by Age

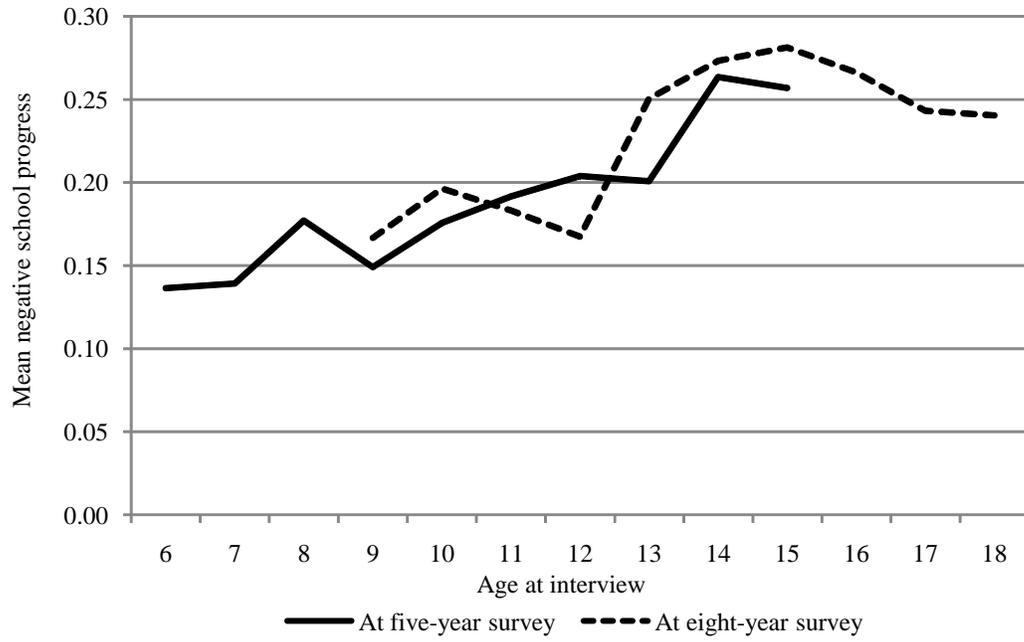


SOURCE: Calculations using the New Hope five- and eight-year surveys.

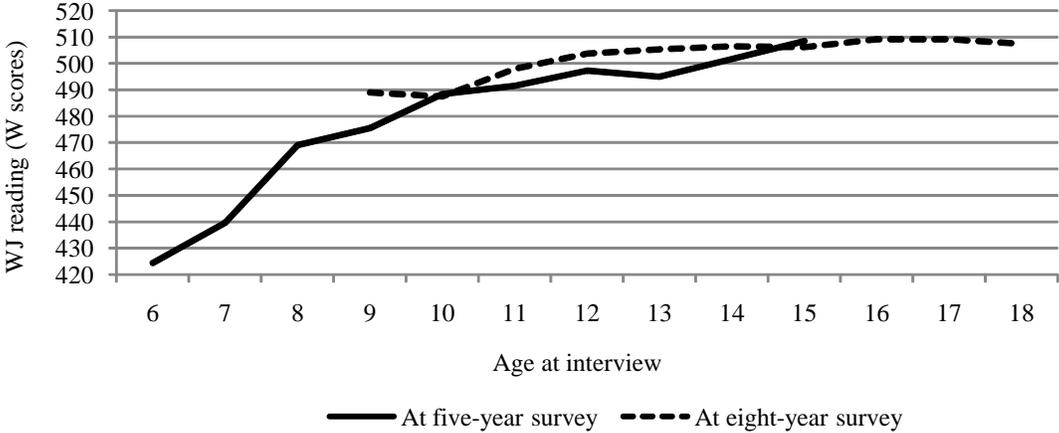
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Figure 15

Control-Group Negative Schools Progress by Age

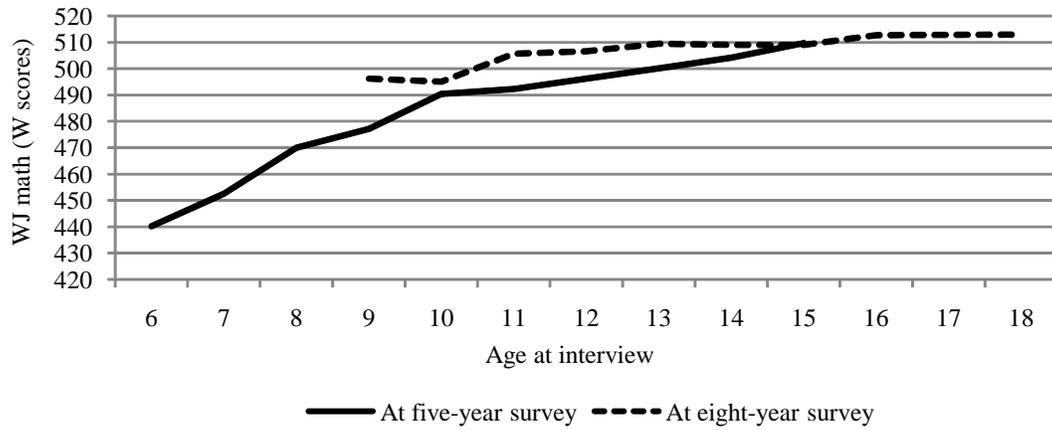


The New Hope Project
Figure 16
Control-Group Reading Scores by Age



SOURCE: Calculations using the New Hope five- and eight-year surveys.

The New Hope Project
Figure 17
Control-Group Math Scores by Age



SOURCE: Calculations using the New Hope five- and eight-year surveys.

Appendix A

Multiple Imputation Procedures

Multiple imputation has become one of the methods of choice for treating missing data (Schafer and Graham, 2002), but it also involves strong assumptions and several decision points. Because this method is relatively new, statisticians differ to some extent about appropriate procedures. On the whole, we followed the recommendations of Raghunathan, Lepkowski, VanHoewyk, and Solenberger (2001).

After eliminating the families with no data in any of the three waves, we included the remaining 691 cases in the imputation data set. (Subsequent analyses indicated virtually no differences in estimates of means or experimental impacts for cases missing one wave of data vs. those missing two waves of data.) For measures that should be missing — for example, measures given only to children age 12 and older — values were set to missing after the imputation.

Data were imputed using a sequential regression multivariate imputation procedure using the IVEware program (version dated 9/11/2006; Raghunathan, Lepkowski, VanHoewyk, and Solenberger, 2001).⁴⁴ A normal linear regression model was used to compute missing data for all continuous variables in the imputation model. Binary variables were imputed using a logistic model, and categorical values were imputed using a polytomous or generalized logistic model. The program imputes missing values in a cyclical manner and overwrites previously drawn values to build interdependence among imputed values and exploit the correlational structure among covariates. All information across waves was used, including three interaction terms: e *child age, e *gender, and e *prior level of earnings at baseline. The imputation model was set to use only those variables that contribute at least 1% of the variance to the prediction of a given missing value.

Ten data sets were created and concatenated. Because children are nested within families, parent-level variables were imputed from a family-level data file ($n=691$) and child-level variables were imputed from a child-level data file ($n=1,091$). After imputation, the relevant family- and child-level variables were merged together to create the final analysis data set `nhmi_040207.sas7bdat`.

When individual components of scales were of interest, the composite variables were not included in the imputation in order to avoid multicollinearity. Therefore, some scales were re-created in the analysis data set. For example, internalizing and externalizing problems are in

⁴⁴IVEware is available as a free download from <http://www.isr.umich.edu/src/smp/ive>.

the analysis data set, but total behavior problems had to be computed as the mean of the two sub-scales for each of the ten data sets.

As a first check on the validity of the imputation process, the means, standard errors, minimum and maximum values of each variable before and after imputation were compared. These are shown in Appendix Table A.2, along with the number of missing observations for each. The minimum and maximums for the original (nonimputed) data show the range of individual scores. The means and standard errors shown for the imputed variables are the averages across the ten data sets; the minimums and maximums are the range of means (not individual scores) for the ten data sets. In almost all cases, the imputed and original means and standard errors are quite similar. The number of missing observations for each variable is shown. For some variables, primarily the teacher reports, the number of missing cases is very high.

References for Appendix A

- Allison, P. 2002. *Missing Data*. Sage University Paper Series on Quantitative Applications in the Social Sciences, 07-136. Thousand Oaks, CA: Sage.
- Raghunathan, T., J. Lepkowski, J. VanHoewyk, and P. Solenberger. 2001. A Multivariate Technique for Multiplying Imputing Missing Values using a Sequence of Regression Models. *Survey Methodology* 27: 85-95.

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Appendix Table A.1
Analysis of Survey Attrition: Logit Estimates

| Parameter | Estimate | Odds Ratio Point Estimate | Standard Error | Wald Chi-Square | P-Value of Chi-Square |
|------------------------------------------|----------|------------------------------|-------------------|--------------------|--------------------------|
| Intercept | 0.3886 | | 0.5707 | 0.4636 | 0.4960 |
| Male | -0.5495 | 0.5770 | 0.3138 | 3.0665 | 0.0799 |
| Reside Northside (NH08 or NH09) | -0.1609 | 0.8510 | 0.3159 | 0.2595 | 0.6105 |
| Age category 25 through 34 | 0.2659 | 1.3050 | 0.2517 | 1.1165 | 0.2907 |
| Black | 0.5352 | 1.7080 | 0.3591 | 2.2212 | 0.1361 |
| Household: children and one adult | -0.0383 | 0.9620 | 0.2700 | 0.0202 | 0.8871 |
| Youngest child is two years or younger | 0.0736 | 1.0760 | 0.2077 | 0.1256 | 0.7230 |
| Zero earnings in past 12 months | 0.1196 | 1.1270 | 0.3131 | 0.1460 | 0.7024 |
| Earnings past 12 month range \$1--\$4999 | -0.3934 | 0.6750 | 0.2644 | 2.2146 | 0.1367 |
| Currently receive any of AFDC/GA/FS/MED | 0.3290 | 1.3900 | 0.2625 | 1.5705 | 0.2101 |
| Currently employed | 0.3993 | 1.4910 | 0.2354 | 2.8780 | 0.0898 |
| Have high school diploma or GED | -0.0203 | 0.9800 | 0.2042 | 0.0099 | 0.9207 |
| Have access to a car | -0.1981 | 0.8200 | 0.1983 | 0.9985 | 0.3177 |
| RA dummy (1 if an experimental) | 0.1301 | 1.1390 | 0.1903 | 0.4673 | 0.4943 |

SOURCES: Calculations using the New Hope MIS data and the eight-year survey.
NOTE: 1 = not missing eight-year Parent Report; 0 = missing.

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Appendix Table A.2
Descriptive Information on child-level file before and after multiple imputation

| Variable | Label | Before Imputation | | | | | After Imputation | | | | | diff |
|----------|------------------------------------------------------------------|-------------------|------|--------|---------|-------|------------------|----------|-----------|----------|----------|--------|
| | | N | Miss | Mean | Std Dev | Min | Max | Estimate | Std Error | Min Mean | Max Mean | |
| CHILD | CHILD A OR B | | 0 | 1.37 | (.48) | 1 | 2 | 1.37 | (.23) | 1.37 | 1.37 | 0.00 |
| E | RA DUMMY (1 IF AN EXPERIMENTAL) | | | | | | | 0.49 | (.25) | 0.49 | 0.49 | 0.49 |
| ZMALE | MALE | | 37 | 0.09 | (.28) | 0.00 | 1.00 | 0.08 | (.28) | 0.08 | 0.09 | (0.00) |
| AGECHILD | childs age at f1 interview date | | 190 | 7.17 | (2.92) | 2 | 13 | 7.07 | (2.97) | 7.06 | 7.08 | (0.10) |
| AGECMOF2 | AGE OF CHILD AT SECOND INTERVIEW (IN MOS) | | 84 | 129.52 | (35.86) | 45 | 281 | 128.50 | (36.02) | 128.42 | 128.62 | (1.01) |
| AGECMOF3 | AGE OF CHILD AT 96 MTH INTERVIEW (IN MOS) | | 5 | 170.84 | (36.13) | 54 | 322 | 170.86 | (36.15) | 170.76 | 170.96 | 0.01 |
| ZNORTH | RESIDE NORTHSIDE (NH08 OR NH09) | | 37 | 0.49 | (.50) | 0.00 | 1.00 | 0.48 | (.50) | 0.48 | 0.49 | (0.00) |
| ZAGE_R | Parent Age at RA Recoded: 1=LT 25, 2=25-34, 3=35+ | | 37 | 1.86 | (.70) | 1.00 | 3.00 | 1.86 | (.70) | 1.85 | 1.87 | (0.01) |
| ZRACE_R | Parent Race/Eth Recoded: 3=Black, 2=Hisp, 1=Other | | 37 | 2.39 | (.75) | 1.00 | 3.00 | 2.39 | (.75) | 2.37 | 2.40 | 0.00 |
| ZPERN_R | Earnings yr prior to RA Recoded: 0=zero, 1=\$1-LT\$5K, 2=GT \$5K | | 37 | 0.87 | (.77) | 0.00 | 2.00 | 0.86 | (.77) | 0.84 | 0.87 | (0.01) |
| ZHCHLD1A | HOUSEHOLD: CHILDREN AND ONE ADULT | | 37 | 0.84 | (.36) | 0.00 | 1.00 | 0.84 | (.36) | 0.84 | 0.85 | 0.00 |
| ZGT2CHLD | THREE OR MORE CHILDREN | | 37 | 0.46 | (.50) | 0.00 | 1.00 | 0.46 | (.50) | 0.46 | 0.47 | (0.00) |
| ZCAGELE2 | YOUNGEST CHILD IS TWO YEARS OR YOUNGER | | 37 | 0.48 | (.50) | 0.00 | 1.00 | 0.49 | (.50) | 0.48 | 0.49 | 0.01 |
| ZXXWRKFT | EVER WORKED FULL-TIME | | 37 | 0.84 | (.37) | 0.00 | 1.00 | 0.84 | (.37) | 0.83 | 0.84 | (0.00) |
| ZBOY | CFS CHILD GENDER, 1=BOY 0=GIRL | | 12 | 0.52 | (.50) | 0 | 1 | 0.52 | (.50) | 0.52 | 0.52 | 0.00 |
| ZRECAID | CURRENTLY RECEIVE ANY OF AFDC/GA/FS/MED | | 37 | 0.82 | (.38) | 0.00 | 1.00 | 0.82 | (.38) | 0.82 | 0.83 | 0.00 |
| ZCURREMP | CURRENTLY EMPLOYED | | 42 | 0.40 | (.49) | 0.00 | 1.00 | 0.39 | (.49) | 0.38 | 0.40 | (0.01) |
| ZHSGED | HAVE HS DIPLOMA OR GED | | 37 | 0.60 | (.49) | 0.00 | 1.00 | 0.60 | (.49) | 0.59 | 0.61 | (0.00) |
| ZCAR | HAVE ACCESS TO A CAR | | 38 | 0.43 | (.50) | 0.00 | 1.00 | 0.43 | (.50) | 0.42 | 0.44 | (0.00) |
| ZAFDCHLD | IN AFDC HOUSEHOLD AS A CHILD | | 82 | 0.48 | (.50) | 0.00 | 1.00 | 0.49 | (.50) | 0.48 | 0.50 | 0.01 |
| MARITAL | Marital Status | | 37 | 1.96 | (1.46) | 1.00 | 6.00 | 1.96 | (1.46) | 1.94 | 1.98 | (0.01) |
| PCTRLF1 | PARENTING CONTROL | | 207 | 2.83 | (1.04) | 1 | 6 | 2.83 | (1.04) | 2.80 | 2.85 | (0.00) |
| PRCONAF2 | CHD Parental control (high=no contrl), F2 | | 287 | 2.23 | (.97) | 1 | 6 | 2.23 | (.97) | 2.20 | 2.26 | 0.01 |
| PRCONAF3 | PA: CH-A/B: MEAN LACK OF CONTROL, F3 | | 191 | 2.21 | (1.02) | 1 | 6 | 2.20 | (1.02) | 2.18 | 2.24 | (0.00) |
| PSTRSF1 | PARENTING STRESS | | 206 | 1.88 | (.76) | 1 | 5 | 1.88 | (.76) | 1.86 | 1.90 | 0.00 |
| PRSTRAF2 | CHD Parenting stress, F2 | | 297 | 1.76 | (.75) | 1 | 5 | 1.76 | (.75) | 1.74 | 1.77 | (0.00) |
| PRSTRAF3 | PA: CH-A/B: MEAN PA STRESS-SPECIFIC CHILD, F3 | | 269 | 1.84 | (.83) | 1 | 5 | 1.84 | (.83) | 1.82 | 1.88 | 0.00 |
| PWARMF1 | PARENTING WARMTH | | 204 | 4.52 | (1.01) | 1.667 | 6 | 4.52 | (1.01) | 4.49 | 4.54 | (0.01) |
| WARMAF2 | CHD Parental warmth (self-report), F2 | | 274 | 4.65 | (1.15) | 1.333 | 6 | 4.64 | (1.15) | 4.61 | 4.66 | (0.00) |
| UTPMNTRR | Utexas: Monitoring score- r | | 535 | 3.63 | (.42) | 1.75 | 4 | 3.63 | (.42) | 3.62 | 3.65 | 0.00 |
| PRMONAF2 | CHD Parental monitoring, F2 | | 289 | 3.20 | (.57) | 1.048 | 4 | 3.20 | (.57) | 3.19 | 3.21 | 0.00 |
| PRMONAF3 | PA: CH-A/B: MEAN GENERAL MONITORING, F3 | | 278 | 4.72 | (.94) | 1 | 6 | 4.72 | (.94) | 4.68 | 4.75 | 0.00 |
| OBSWARM | CFS PARENTING - OBSERVED WARMTH | | 250 | 2.09 | (.69) | 1 | 3 | 2.09 | (.69) | 2.07 | 2.10 | 0.00 |
| OBSWRMF2 | Observed warmth total, W2 | | 342 | 2.37 | (.67) | 1 | 3 | 2.37 | (.67) | 2.36 | 2.39 | 0.00 |
| NPOSREL | PERCEIVED POSITIVE PARENT-CHILD RELATION | | 582 | 4.45 | (.55) | 1.25 | 5 | 4.44 | (.56) | 4.40 | 4.46 | (0.01) |
| POSRELF2 | Positive relations, all ch, w2 | | 267 | 4.42 | (.60) | 1.667 | 5.01 | 4.42 | (.60) | 4.41 | 4.44 | 0.00 |
| POSSCAF3 | YA: MEAN SCORE: PERCIEVED POSITIVE RELATIONS WITH PCD, F3 | | 236 | 4.25 | (.72) | 1 | 5 | 4.26 | (.72) | 4.24 | 4.28 | 0.01 |
| NNEGREL | PERCEIVED NEGATIVE PARENT-CHILD RELATION | | 582 | 2.57 | (.85) | 1.143 | 5 | 2.57 | (.85) | 2.53 | 2.60 | 0.01 |
| NEGREF2 | Negative relations, all ch, w2 | | 268 | 2.54 | (.82) | 1 | 5.01 | 2.54 | (.82) | 2.52 | 2.56 | 0.00 |
| NEGSCAF3 | YA: MEAN SCORE: PERCEIVED NEGATIVE RELATIONS WITH PCD, F3 | | 237 | 2.74 | (.81) | 1 | 5 | 2.74 | (.81) | 2.73 | 2.76 | 0.01 |
| ACPSCAF2 | MEAN SCORE: ACCEPT/INVOLVE SUBSCALE F2 | | 562 | 3.40 | (.46) | 1.222 | 4 | 3.40 | (.47) | 3.39 | 3.42 | 0.00 |
| ACPSCAF3 | YA: MEAN SCORE: PARENTAL ACCEPTANCE/INVOLVEMENT, F3 | | 237 | 3.36 | (.60) | 1 | 4 | 3.36 | (.60) | 3.35 | 3.37 | 0.00 |
| YMONF2 | Youth parental monitor, all ch, w2 | | 564 | 3.18 | (.68) | 1 | 4 | 3.19 | (.68) | 3.17 | 3.21 | 0.01 |
| MONSCAF3 | YA: MEAN SCORE: YOUTH REPORT OF PARENTAL MONITORING, F3 | | 316 | 3.29 | (.77) | 1 | 4 | 3.29 | (.77) | 3.28 | 3.32 | 0.00 |
| PSYSCAF2 | MEAN SCORE: PSYCH AUTONOMY SUBSCALE, F2 | | 562 | 2.46 | (.54) | 1 | 4 | 2.46 | (.55) | 2.43 | 2.49 | 0.00 |
| PSYSCAF3 | YA: MEAN SCORE: PSYCHOLOGICAL AUTONOMY GRANTING, F3 | | 238 | 2.88 | (.78) | 1 | 4 | 2.88 | (.78) | 2.86 | 2.90 | (0.00) |
| PIQ34A | PI: Overall health of child | | 244 | 4.25 | (.93) | 1 | 5 | 4.25 | (.93) | 4.23 | 4.27 | (0.00) |
| EPI22A | PI: WOULD YOU RATE CHILD A/B OVERALL HLTH AS, F3 | | 181 | 4.05 | (.95) | 1 | 5 | 4.05 | (.95) | 4.03 | 4.07 | (0.00) |
| UTPBSTOT | UTexas: TOTAL PBI (P) | | 534 | 3.96 | (.47) | 2.56 | 5 | 3.95 | (.47) | 3.93 | 3.97 | (0.00) |
| PPBSAF2 | Ch:A Polit Pos Beh Scale, F2 | | 274 | 3.85 | (.52) | 2.12 | 5 | 3.85 | (.53) | 3.84 | 3.87 | (0.00) |

(continued)

Appendix Table A.2 continued

| Variable | Label | Before Imputation | | | | | After Imputation | | | | |
|----------|-----------------------------------------------------------|-------------------|-------|---------|-------|-------|------------------|-----------|----------|----------|--------|
| | | N Miss | Mean | Std Dev | Min | Max | Estimate | Std Error | Min Mean | Max Mean | Diff |
| PPBSAF3 | PA: CH-A/B: MEAN POS BEHAVR SCL: INCL 25 QUES, F3 | 187 | 3.81 | (.56) | 1.208 | 5 | 3.80 | (.56) | 3.79 | 3.82 | (0.00) |
| NPPBSAF3 | PA: CH-A/B: MEAN NEW POS BEH SCL, F3 | 184 | 3.74 | (.54) | 1.167 | 5 | 3.74 | (.54) | 3.73 | 3.76 | (0.00) |
| UTPEXT1 | Parent rpt of prob behavior:externalizing | 534 | 2.57 | (.73) | 1 | 5 | 2.56 | (.72) | 2.55 | 2.59 | (0.01) |
| PEXTAF2 | Mean:Ch A PROBBEH:externalizing, F2 | 274 | 2.32 | (.71) | 1 | 5 | 2.32 | (.71) | 2.30 | 2.33 | (0.00) |
| PEXTAF3 | PA: CH-A/B: MEAN PROBLEM BEH SCL - EXTERNALIZING, F3 | 187 | 2.35 | (.75) | 1 | 5 | 2.36 | (.75) | 2.34 | 2.38 | 0.01 |
| UTPINT1 | Parent rpt of prob behavior:internalizing | 535 | 2.07 | (.76) | 1 | 5 | 2.06 | (.76) | 2.03 | 2.10 | (0.00) |
| PINTAF2 | Mean:Ch A PROBBEH:internalizing, F2 | 293 | 2.39 | (.63) | 1 | 4.8 | 2.40 | (.63) | 2.38 | 2.41 | 0.01 |
| PINTAF3 | PA: CH-A/B: MEAN PROBLEM BEH SCL - INTERNALIZING, F3 | 184 | 2.34 | (.67) | 1 | 5 | 2.33 | (.67) | 2.32 | 2.34 | (0.00) |
| SASEEF1 | sa ch:ever susp,exp,exc since RA? | 439 | 20.21 | (40.19) | 0 | 100 | 13.69 | (40.59) | 12.75 | 14.99 | (6.53) |
| PIQ110AA | PI:Chd suspend/expelled from schl | 245 | 0.27 | (.44) | 0 | 1 | 0.26 | (.44) | 0.26 | 0.27 | (0.00) |
| epi91a | PI: CHLD A/B EVR SUSPEND/EXCL/EXPEL FROM SCHL, F3 recoded | 154 | 0.35 | (.48) | 0 | 1 | 0.34 | (.47) | 0.33 | 0.35 | (0.01) |
| PIQ110BA | PI:Chd have to go to juvenile crt | 246 | 0.04 | (.20) | 0 | 1 | 0.04 | (.19) | 0.04 | 0.05 | (0.00) |
| epi91b | PI: CHLD A/B EVR GO TO JUVENILE COURT, F3 recoded | 153 | 0.11 | (.32) | 0 | 1 | 0.11 | (.32) | 0.11 | 0.12 | 0.00 |
| PIQ110CA | PI:Chd have drug/alcohol problem | 248 | 0.01 | (.12) | 0 | 1 | 0.02 | (.12) | 0.01 | 0.02 | 0.00 |
| epi91c | PI: CHLD A/B EVR HAVE PRB W/ALC OR DRGS, F3 recoded | 153 | 0.04 | (.20) | 0 | 1 | 0.04 | (.20) | 0.04 | 0.05 | 0.00 |
| PIQ110DA | PI:Chd get into trouble w/police | 246 | 0.04 | (.19) | 0 | 1 | 0.04 | (.19) | 0.03 | 0.04 | 0.00 |
| epi91d | PI: CHLD A/B EVR GET INTO TROUBLE W/POLICE, F3 recoded | 151 | 0.11 | (.32) | 0 | 1 | 0.11 | (.32) | 0.11 | 0.12 | 0.00 |
| epi91e | PI: CHLD A/B EVR DO SOMETHG ILLEGAL GET MONEY, F3 recoded | 154 | 0.04 | (.19) | 0 | 1 | 0.04 | (.19) | 0.03 | 0.04 | (0.00) |
| epi91f | PI: CHLD A/B EVR DROP OUT OF SCHL B4 GRADUATE, F3 recoded | 298 | 0.08 | (.27) | 0 | 1 | 0.10 | (.29) | 0.09 | 0.10 | 0.02 |
| epi91g | PI: CHLD A/B EVR GET PREGNANT/SOME1 ELSE PREG, F3 recoded | 298 | 0.07 | (.25) | 0 | 1 | 0.08 | (.26) | 0.07 | 0.08 | 0.01 |
| TPBSTOT | PBS: Total (T) | 679 | 3.59 | (.65) | 1.667 | 4.92 | 3.59 | (.65) | 3.54 | 3.64 | (0.00) |
| PBSSCAF2 | MEAN SCORE: POSITIVE BEHAVIOR SCALE | 560 | 3.59 | (.69) | 1.68 | 5 | 3.58 | (.69) | 3.54 | 3.60 | (0.02) |
| pbsscaf3 | TS: Mean Score: Positive Behavior Total, F3 | 552 | 3.61 | (.68) | 1.44 | 4.96 | 3.61 | (.68) | 3.58 | 3.66 | 0.01 |
| TPBEXT | SSRS_PB: Externalizing (T) | 679 | 2.12 | (.85) | 1 | 4.833 | 2.12 | (.82) | 2.06 | 2.15 | (0.01) |
| EXTSCAF2 | MEAN SCORE: EXTERNALIZING SUBSCALE | 559 | 2.08 | (.85) | 1 | 4.833 | 2.10 | (.84) | 2.06 | 2.11 | 0.01 |
| extscaf3 | TS: Mean Score: Externalizing, F3 | 551 | 2.06 | (.88) | 1 | 4.833 | 2.06 | (.88) | 2.01 | 2.08 | 0.00 |
| TPBINT | SSRS_PB: Internalizing (T) | 681 | 2.25 | (.60) | 1 | 4.167 | 2.25 | (.62) | 2.21 | 2.29 | (0.00) |
| INNSCAF2 | MEAN SCORE: INTERNALIZING SUBSCALE | 562 | 2.26 | (.68) | 1 | 4.667 | 2.26 | (.66) | 2.21 | 2.29 | 0.00 |
| innscaf3 | TS: Mean Score: Internalizing, F3 | 559 | 2.30 | (.68) | 1 | 4.333 | 2.29 | (.68) | 2.26 | 2.33 | (0.01) |
| TQ14 | Disciplinary action | 678 | 2.64 | (1.42) | 0 | 5 | 2.65 | (1.39) | 2.59 | 2.73 | 0.00 |
| T2Q15 | T2: FREQUEN OF DISCIPLINARY ACTION | 556 | 2.42 | (1.39) | 1 | 5 | 2.45 | (1.34) | 2.41 | 2.52 | 0.02 |
| ECOSCAF2 | MEAN SCORE: EC/FIN STRESS MEASURE | 564 | 2.73 | (1.30) | 1 | 5 | 2.73 | (1.30) | 2.69 | 2.78 | (0.00) |
| ECOSCAF3 | YA: MEAN SCORE: ECONOMIC AND FINANCIAL STRESS MEASURE, F3 | 315 | 2.48 | (1.25) | 1 | 5 | 2.48 | (1.25) | 2.42 | 2.51 | 0.01 |
| FRIEND | 24m friendship scale mean score - all ag | 581 | 4.15 | (.63) | 1.625 | 5 | 4.15 | (.63) | 4.13 | 4.17 | 0.00 |
| FRIENDF2 | MEAN SCORE: LONE/FRIEND SUBSCALE | 270 | 4.15 | (.69) | 1.375 | 5 | 4.15 | (.69) | 4.14 | 4.17 | 0.00 |
| FRSCAF3 | YA: MEAN SCORE: LONLINESS AND DISSATISFACTION, F3 | 235 | 4.17 | (.64) | 1.5 | 5 | 4.16 | (.65) | 4.15 | 4.18 | (0.00) |
| HOPSCAF2 | MEAN SCORE: TOTAL CHILD HOPE | 567 | 4.71 | (.92) | 1.5 | 6 | 4.72 | (.92) | 4.69 | 4.75 | 0.01 |
| HOPSCAF3 | YA: MEAN SCORE: TOTAL HOPE, F3 | 239 | 3.86 | (.77) | 1.333 | 5 | 3.87 | (.78) | 3.86 | 3.89 | 0.00 |
| HOSPHF2 | CH/YTH PHYSCL HOST-INT STORY 1&2 SCORE,W | 273 | 1.19 | (1.31) | 0 | 4 | 1.19 | (1.31) | 1.14 | 1.24 | 0.00 |
| HPHSCLF3 | YI: MEAN SCORE: HOSTILE PHYSICAL INTENT, F3 | 235 | 0.22 | (.24) | 0 | 1 | 0.22 | (.24) | 0.21 | 0.22 | 0.00 |
| HOSSOF2 | CH/YTH SOCIAL HOST-INT STORY 3&4 SCORE,W | 275 | 1.93 | (1.33) | 0 | 4 | 1.93 | (1.33) | 1.88 | 1.97 | 0.00 |
| HSCSCLF3 | YI: MEAN SCORE: HOSTILE SOCIAL INTENT, F3 | 239 | 0.44 | (.31) | 0 | 1 | 0.44 | (.31) | 0.43 | 0.45 | (0.00) |
| YTHSCAF2 | MEAN SCORE: TOTAL DELINQ YOUTH MEAS | 563 | 1.16 | (.26) | 1 | 2.929 | 1.18 | (.29) | 1.17 | 1.19 | 0.02 |
| dqysclf3 | YC: Mean Score: Total Delinquency Items, F3 | 486 | 0.24 | (.30) | 0 | 1.933 | 0.24 | (.30) | 0.23 | 0.25 | 0.00 |
| rrpsclf3 | YC: Mean Score: Romantic Relationship, F3 | 629 | 0.72 | (.26) | 0 | 1 | 0.71 | (.27) | 0.70 | 0.73 | (0.01) |
| bensclf3 | YC: Mean Score: Frequency of Birth Control, F3 | 928 | 1.35 | (.83) | 0 | 4 | 1.41 | (.85) | 1.33 | 1.46 | 0.06 |
| TACAD | SSRS: Academic (T) | 681 | 3.24 | (.96) | 1.1 | 5 | 3.23 | (.96) | 3.16 | 3.27 | (0.01) |
| ACDSCAF2 | MEAN SCORE:SUM /NONMISS ACAD SUBSCALE | 565 | 3.17 | (1.00) | 1 | 5 | 3.18 | (1.01) | 3.10 | 3.23 | 0.00 |
| acdscaf3 | TS: Mean Score: Academic Subscale, F3 | 557 | 3.18 | (.97) | 1 | 5 | 3.18 | (.94) | 3.13 | 3.23 | (0.00) |
| TCSTOT | Classroom Skills: Total | 679 | 3.78 | (.97) | 1 | 5 | 3.79 | (.97) | 3.75 | 3.85 | 0.01 |
| CLASCAF2 | MEAN SCORE:CLASS SKILLS SCALE | 562 | 3.67 | (1.02) | 1 | 5 | 3.65 | (1.02) | 3.59 | 3.70 | (0.02) |
| clascaf3 | TS: Mean Score: Classroom Skills Total, F3 | 554 | 3.71 | (1.01) | 1 | 5 | 3.72 | (1.01) | 3.67 | 3.78 | 0.01 |

(continued)

Appendix Table A.2 continued

| Variable | Label | Before Imputation | | | | | After Imputation | | | | | diff |
|----------|------------------------------------------------------------------------------------------------|-------------------|-------|---------|---------|-------|------------------|----------|-----------|----------|----------|------|
| | | N | Miss | Mean | Std Dev | Min | Max | Estimate | Std Error | Min Mean | Max Mean | |
| tq6a_r | TS: REMEDIAL SERVICES, NEEDS - F1 recoded 1,0 | 709 | 0.34 | (.48) | 0 | 1 | 0.35 | (.48) | 0.32 | 0.37 | 0.01 | |
| t2q6a_r | TS: REMEDIAL SERVICES, NEEDS - F2 recoded 1,0 | 594 | 0.33 | (.47) | 0 | 1 | 0.33 | (.47) | 0.30 | 0.36 | 0.00 | |
| etsq6a_r | TS: REMEDIAL SERVICES, NEEDS - F3 recoded 1,0 | 588 | 0.35 | (.48) | 0 | 1 | 0.35 | (.48) | 0.34 | 0.37 | 0.00 | |
| MRLNGF2 | MEAN:Teach rpt ch/lyth:rding/oral/written | 604 | 2.85 | (1.08) | 1 | 5 | 2.84 | (1.08) | 2.77 | 2.91 | (0.01) | |
| mrlngf3 | TS:Mock report card - reading oral written, F3 | 579 | 2.93 | (1.06) | 1 | 5 | 2.93 | (1.04) | 2.89 | 2.98 | 0.01 | |
| T2Q16D | T2:STUDENT MATH PERFORMANCE | 617 | 2.83 | (1.11) | 1 | 5 | 2.84 | (1.11) | 2.77 | 2.90 | 0.01 | |
| etsq12d | TS: MATH PERFORMANCE-CAT, F3 | 684 | 2.77 | (1.17) | 1 | 5 | 2.77 | (1.12) | 2.72 | 2.86 | 0.00 | |
| T2Q16E | T2:STUDENT SOCIAL STUDIES PERFORMANCE | 673 | 2.92 | (.97) | 1 | 5 | 2.90 | (.97) | 2.85 | 2.99 | (0.02) | |
| etsq12e | TS: SOC STUD PERFORMANCE-CAT, F3 | 697 | 2.87 | (1.06) | 1 | 5 | 2.85 | (1.06) | 2.78 | 2.92 | (0.02) | |
| T2Q16F | T2:STUDENT SCIENCE PERFORMANCE | 670 | 2.90 | (.99) | 1 | 5 | 2.88 | (.98) | 2.83 | 2.95 | (0.02) | |
| etsq12f | TS: SCIENCE PERFORMANCE-CAT, F3 | 711 | 2.80 | (1.05) | 1 | 5 | 2.80 | (1.05) | 2.74 | 2.87 | 0.01 | |
| UTACHMT | School Achievement Level | 447 | 3.97 | (1.11) | 1 | 5 | 3.96 | (1.12) | 3.92 | 3.98 | (0.01) | |
| CAPLITF2 | CHD PAR PERCEPT SCHL WORK LITERACY, F2 | 248 | 3.57 | (1.00) | 1 | 5 | 3.57 | (1.01) | 3.54 | 3.59 | 0.01 | |
| CAPLITF3 | PI: MEAN SCORE: LITERACY- CHILD A/B, F3 | 188 | 3.64 | (1.03) | 1 | 5 | 3.65 | (1.03) | 3.62 | 3.66 | 0.00 | |
| CAPMATF2 | CHD PAR PERCEPT SCHL WORK MATH | 248 | 3.66 | (1.05) | 1 | 5 | 3.66 | (1.06) | 3.64 | 3.68 | 0.00 | |
| EPI124B | PI: A/B - CHILD MATH PERFORMANCE, F3 | 188 | 3.62 | (1.09) | 1 | 5 | 3.62 | (1.09) | 3.61 | 3.63 | (0.00) | |
| SAVSEF1 | sa ch:ever spec ed since RA? | 438 | 15.48 | (36.20) | 0 | 100 | 15.56 | (36.27) | 14.83 | 16.70 | 0.09 | |
| PIQ108BA | PI:Chd in special education | 246 | 0.16 | (.37) | 0 | 1 | 0.15 | (.36) | 0.14 | 0.16 | (0.01) | |
| EPI89BA | PI: 88B RECORD CHILD A/B, F3 | 154 | 0.18 | (.38) | 0 | 1 | 0.17 | (.38) | 0.17 | 0.18 | (0.00) | |
| PIQ108CA | PI:Chd repeat a grade | 245 | 0.16 | (.37) | 0 | 1 | 0.16 | (.37) | 0.15 | 0.16 | (0.00) | |
| EPI89CA | PI: 89C RECORD CHILD A/B, F3 | 154 | 0.20 | (.40) | 0 | 1 | 0.20 | (.40) | 0.19 | 0.21 | (0.00) | |
| PIQ108FA | PI:Chd receive poor school grades | 254 | 0.27 | (.45) | 0 | 1 | 0.28 | (.45) | 0.27 | 0.28 | 0.00 | |
| EPI89FA | PI: 89F RECORD CHILD A/B, F3 | 154 | 0.34 | (.47) | 0 | 1 | 0.34 | (.47) | 0.33 | 0.34 | (0.00) | |
| SPRAGDF2 | PI: SC CHD A IN POS SCHL PROG, F2 | 254 | 0.39 | (.30) | 0 | 1 | 0.39 | (.30) | 0.38 | 0.40 | (0.00) | |
| SPRAGDF3 | PI: MEAN SCORE: POSITIVE SCHOOL PROGRESS-CHILD A/B, F3 | 167 | 0.40 | (.31) | 0 | 1 | 0.40 | (.30) | 0.39 | 0.40 | (0.00) | |
| utwsbrf3 | Mean:WJ Broad Reading stand sc, w3 | 327 | 92.57 | (14.50) | 40 | 149 | 92.58 | (14.53) | 92.18 | 93.17 | 0.01 | |
| WJSS22 | WOODCOCK-JOHNSON STANDARD SCORE1: LETTER- | 324 | 96.27 | (19.58) | 13 | 183 | 96.25 | (19.67) | 95.46 | 97.11 | (0.02) | |
| WJSS23 | WOODCOCK-JOHNSON STANDARD SCORE2: COMPREH | 332 | 98.06 | (16.18) | 48 | 154 | 98.15 | (16.20) | 97.87 | 98.46 | 0.09 | |
| WJSS25 | WOODCOCK-JOHNSON STANDARD SCORE4: PROBLEM | 328 | 97.46 | (17.04) | 12 | 156 | 97.47 | (16.92) | 96.71 | 97.95 | 0.00 | |
| EWJSS25 | 96MO: WJ STANDARD SCORE4: PROBLEMS | 331 | 94.14 | (13.10) | 21 | 141 | 94.12 | (13.14) | 93.85 | 94.43 | (0.02) | |
| WJSS24 | WOODCOCK JOHNSON STANDARD SCORE3: CALCULA | 348 | 89.43 | (19.15) | 19 | 148 | 89.37 | (19.17) | 88.79 | 90.25 | (0.06) | |
| MATSCAF2 | MEAN SCORE: SELFPERCEP MATH | 269 | 5.81 | (1.05) | 1 | 7 | 5.80 | (1.04) | 5.77 | 5.83 | (0.01) | |
| MTHSCAF3 | YA: MEAN SCORE: MATH EXPECTANCY, F3 | 313 | 5.20 | (1.32) | 1 | 7 | 5.20 | (1.31) | 5.15 | 5.24 | 0.00 | |
| ENGSCAF2 | MEAN SCORE: SELFPERCEP ENG | 269 | 5.82 | (1.04) | 1.125 | 7 | 5.82 | (1.04) | 5.80 | 5.85 | 0.00 | |
| ENGSCAF3 | YA: MEAN SCORE: ENGLISH EXPECTANCY, F3 | 314 | 5.62 | (1.16) | 1 | 7 | 5.62 | (1.16) | 5.59 | 5.65 | 0.00 | |
| ENVSCAF2 | MEAN SCORE: SCHOOL ENVIRONMENT SCALE, F2 | 563 | 3.98 | (.95) | 1 | 5 | 3.98 | (.95) | 3.95 | 4.01 | 0.00 | |
| ENVSCAF3 | YA: MEAN SCORE: SCHOOL ENVIRONMENTAL SCALE, F3 | 245 | 3.79 | (.93) | 1 | 5 | 3.79 | (.93) | 3.76 | 3.81 | (0.00) | |
| YWORKF2 | UTexas Youth Work Att, F2 | 562 | 4.27 | (.65) | 1.25 | 5 | 4.26 | (.66) | 4.24 | 4.28 | (0.00) | |
| WRKSCAF3 | YA: MEAN SCORE: ATTITUDES ABOUT WORK, F3 | 315 | 3.27 | (.47) | 1 | 4 | 3.27 | (.47) | 3.26 | 3.28 | 0.01 | |
| OASPHSC | own ed aspir:completing hs | 810 | 4.33 | (1.05) | 1 | 5 | 4.32 | (1.06) | 4.28 | 4.36 | (0.01) | |
| YIQ45A | How sure you will finish high school | 557 | 4.61 | (.79) | 1 | 5 | 4.61 | (.79) | 4.59 | 4.63 | 0.00 | |
| | SOURCE: New Hope MSU client-tracking data base and New Hope two, five, and eight year surveys. | 230 | 4.61 | (.76) | 1 | 5 | 4.61 | (.75) | 4.59 | 4.62 | (0.00) | |
| | | 810 | 4.07 | (1.17) | 1 | 5 | 4.06 | (1.19) | 4.00 | 4.12 | (0.02) | |
| YIQ45B | How sure you will go to college | 557 | 4.34 | (.98) | 1 | 5 | 4.34 | (.98) | 4.27 | 4.37 | (0.01) | |
| EYIQ47B | YI: HOW SURE GO COLLEGE, F3 | 231 | 4.25 | (1.00) | 1 | 5 | 4.24 | (1.01) | 4.22 | 4.26 | (0.00) | |
| OASPLC | own ed aspir:completing college | 810 | 3.86 | (1.31) | 1 | 5 | 3.84 | (1.34) | 3.78 | 3.92 | (0.02) | |
| YIQ45C | How sure you will finish college | 557 | 4.19 | (1.10) | 1 | 5 | 4.19 | (1.10) | 4.13 | 4.21 | (0.00) | |
| EYIQ47C | YI: HOW SURE FINISH COLLEGE, F3 | 230 | 4.19 | (1.07) | 1 | 5 | 4.20 | (1.07) | 4.18 | 4.21 | 0.01 | |
| OCPREXP | OCCUPATIONAL EXPECTATION: PRESTIGE SCORE | 649 | 56.47 | (17.17) | 16.78 | 86.05 | 56.45 | (17.35) | 55.61 | 57.26 | (0.02) | |
| EXSEIF2 | COMBINED CHILD AND YOUTH EXPECTATION - S | 420 | 64.42 | (20.18) | 23 | 97 | 64.18 | (20.28) | 63.58 | 64.73 | (0.24) | |
| EYO382C | EYO: EYI Q38 Total Based SEI | 322 | 65.26 | (20.24) | 23 | 97 | 65.33 | (20.29) | 64.18 | 66.41 | 0.08 | |
| OPTSCAF3 | YA: MEAN SCORE: OPTIMISM FOR FUTURE, F3 | 315 | 4.55 | (.78) | 2 | 6 | 4.56 | (.78) | 4.53 | 4.58 | 0.00 | |

Appendix Table A.2 continued

| Variable | Label | Before Imputation | | | | | After Imputation | | | | |
|-----------|---------------------------------------------------------------------------------------|-------------------|------|---------|-------|-----|------------------|-----------|----------|----------|--------|
| | | Miss | Mean | Std Dev | Min | Max | Estimate | Std Error | Min Mean | Max Mean | diff |
| FBINDF2 | UTexas Ind Future Beliefs | 559 | 3.95 | (.55) | 1.333 | 5 | 3.95 | (.55) | 3.92 | 3.97 | (0.00) |
| FBCOMF2 | UTexas COM Future Beliefs | 559 | 4.56 | (.47) | 2 | 5 | 4.56 | (.47) | 4.54 | 4.58 | 0.00 |
| mn_math | MPS Mean math std test score | 639 | 2.00 | (.86) | 1 | 4 | 2.00 | (.84) | 1.93 | 2.07 | (0.00) |
| mn_lang | MPS Mean language std test score | 643 | 2.26 | (.90) | 1 | 4 | 2.26 | (.91) | 2.23 | 2.37 | (0.00) |
| mn_read | MPS Mean reading std test score | 640 | 2.52 | (.88) | 1 | 4 | 2.52 | (.89) | 2.48 | 2.61 | (0.00) |
| ever_ret | Ever Retained flag - from MPS school data | 408 | 0.24 | (.42) | 0 | 1 | 0.23 | (.42) | 0.21 | 0.25 | (0.00) |
| P120AF1 | CORRECTED-PST YR TAKE LESSONS-F1 | 539 | 2.26 | (1.40) | 1 | 5 | 2.27 | (1.41) | 2.21 | 2.35 | 0.01 |
| PLESSNF2 | PA: CH-A/B MEAN FREQ TAKE LESSONS NOT SPORTS F2 - PAST YEAR (SCHL+SUMR) | 260 | 1.96 | (1.11) | 1 | 5 | 1.96 | (1.11) | 1.92 | 1.98 | 0.00 |
| EPAQ5A | PA: CH-A/B TAKE LESSONS NOT SPORTS, F3 | 184 | 2.06 | (1.35) | 1 | 5 | 2.05 | (1.34) | 2.03 | 2.08 | (0.01) |
| P120BF1 | CORRECTED-PLAY SPORT SPRT LSSNS- F1 | 539 | 2.25 | (1.42) | 1 | 5 | 2.26 | (1.42) | 2.23 | 2.28 | 0.01 |
| PCOACHF2 | PA: CH-A/B MEAN FREQ PLAYS ORGANIZED SPORTS F2 - PAST YEAR (SCHL+SUMR) | 260 | 2.18 | (1.29) | 1 | 5 | 2.17 | (1.28) | 2.13 | 2.20 | (0.01) |
| EPAQ5B | PA: CH-A/B SPORT/LESSONS W/COACH/INSTRC, F3 | 183 | 2.52 | (1.48) | 1 | 5 | 2.50 | (1.48) | 2.48 | 2.52 | (0.01) |
| P120EF1 | CORRECTED-PST YR:CLUBS/YOUTH GROUPS-F1 | 540 | 1.94 | (1.29) | 1 | 5 | 1.95 | (1.29) | 1.89 | 2.05 | 0.01 |
| PCLUBSF2 | PA: CH-A/B MEAN FREQ GOES TO CLUB/ YTH GRP/ CHURCH GRP F2 - PAST YEAR (SCHL+SUMR) | 260 | 2.23 | (1.29) | 1 | 5 | 2.23 | (1.28) | 2.20 | 2.27 | 0.00 |
| EPAQ5C | PA: CH-A/B CLUB/YTH GRP/CHURCH GRP, F3 | 183 | 2.27 | (1.41) | 1 | 5 | 2.26 | (1.41) | 2.24 | 2.29 | (0.01) |
| P120DF1 | CORRECTED-PST YR:SUNDAY SCHOOL-F1 | 540 | 2.76 | (1.36) | 1 | 5 | 2.76 | (1.38) | 2.72 | 2.80 | (0.01) |
| PSUNDYF2 | PA: CH-A/B MEAN FREQ GOES TO SUNDAY SCHL/ REL SERVICES F2 - PAST YEAR (SCHL+SUMR) | 261 | 2.75 | (1.31) | 1 | 5 | 2.74 | (1.30) | 2.70 | 2.78 | (0.01) |
| EPAQ5D | PA: CH-A/B SUN SCHL/REL SERVICES, F3 | 184 | 2.56 | (1.33) | 1 | 5 | 2.55 | (1.33) | 2.52 | 2.57 | (0.01) |
| P120FF1 | CORRECTED-PST YR REC CENTERS-F1 | 540 | 2.28 | (1.43) | 1 | 5 | 2.29 | (1.43) | 2.23 | 2.36 | 0.01 |
| PRECF2 | PA: CH-A/B MEAN FREQ GOES TO REC/COMM CTRS W/ADLT SUPERVIS F2 - PAST YEAR (SCHL+SUMR) | 260 | 2.37 | (1.43) | 1 | 5 | 2.37 | (1.42) | 2.33 | 2.40 | (0.00) |
| EPAQ5E | PA: CH-A/B REC/COMM CTRS W/ADLT SUPERVIS, F3 | 187 | 2.40 | (1.43) | 1 | 5 | 2.40 | (1.43) | 2.37 | 2.45 | 0.00 |
| PA2Q4F | Child go to program to help w/school/hw | 269 | 2.27 | (1.53) | 1 | 5 | 2.26 | (1.53) | 2.23 | 2.30 | (0.01) |
| EPAQ5F | PA: CH-A/B PRG HELP W/HW OUT SCHL TIME, F3 | 188 | 2.34 | (1.49) | 1 | 5 | 2.34 | (1.49) | 2.31 | 2.39 | 0.00 |
| EPAQ5I | PA: CH-A/B SCHOOL CLUBS/ORGS, F3 | 189 | 1.69 | (1.13) | 1 | 5 | 1.68 | (1.12) | 1.66 | 1.71 | (0.01) |
| EPAQ5J | PA: CH-A/B BAND/CHOIR/ORCH/CHORUS ANYWHERE, F3 | 190 | 1.86 | (1.30) | 1 | 5 | 1.84 | (1.30) | 1.82 | 1.89 | (0.01) |
| PVOLSVF2 | PA: CH-A/B MEAN FREQ VOLUNTEER SVS F2 - PAST YEAR (SCHL+SUMR) | 262 | 1.61 | (.96) | 1 | 5 | 1.60 | (.96) | 1.58 | 1.62 | (0.01) |
| EPAQ5P | PA: CH-A/B SERVICE/VOLUNTEER ACTIVITIES, F3 | 189 | 1.85 | (1.15) | 1 | 5 | 1.85 | (1.14) | 1.83 | 1.87 | (0.00) |
| PA2Q7F | Summer, child to to summer school | 292 | 2.19 | (1.66) | 1 | 5 | 2.17 | (1.67) | 2.13 | 2.22 | (0.02) |
| EPAQ6A | PA: CH-A/B GO TO SUMMER SCHOOL, F3 | 194 | 1.65 | (1.34) | 1 | 5 | 1.64 | (1.34) | 1.62 | 1.66 | (0.01) |
| EPAQ5G | PA: CH-A/B BABYSIT SIBL/REL/NGHD KIDS, F3 | 189 | 2.11 | (1.31) | 1 | 5 | 2.11 | (1.31) | 2.08 | 2.14 | 0.00 |
| pchoof1_r | PA: CH-A/B CHORES - CLEAN HOUSE/MOW GRASS F1 - REVERSE CODED | 538 | 3.33 | (.90) | 1 | 5 | 3.34 | (.90) | 3.32 | 3.38 | 0.01 |
| EPAQ5H | PA: CH-A/B CHORES - CLEAN HOUSE/MOW GRASS, F3 | 185 | 3.96 | (1.25) | 1 | 5 | 3.95 | (1.25) | 3.92 | 3.97 | (0.00) |
| PWORKF2 | PA: CH-A/B MEAN FREQ WORK FOR PAY OUTSIDE HOME F2 - PAST YEAR (SCHL+SUMR) | 264 | 1.40 | (.88) | 1 | 5 | 1.39 | (.89) | 1.36 | 1.42 | (0.01) |
| PHANGF2 | PA: CH-A/B MEAN FREQ HANG OUT W/FRIENDS NO ADULT) F2 - PAST YEAR (SCHL+SUMR) | 262 | 2.89 | (1.47) | 1 | 5 | 2.90 | (1.47) | 2.88 | 2.92 | 0.01 |
| EPAQ5O | PA: CH-A/B HANG OUT W/FRIENDS W/O ADULT, F3 | 190 | 3.16 | (1.45) | 1 | 5 | 3.16 | (1.46) | 3.15 | 3.19 | 0.00 |
| PAPACF2 | MEAN:Parent aprvl ch/yth activities, F2 | 279 | 2.82 | (1.17) | 1 | 5 | 2.82 | (1.16) | 2.78 | 2.87 | 0.00 |
| APASCLF3 | PI: MEAN SCORE: APPROVED STRUCTURED ACTIVITIES SCHL YR- CHILD A/B,F3 | 277 | 4.11 | (.82) | 1 | 5 | 4.11 | (.81) | 4.09 | 4.12 | 0.00 |
| OLESSENF2 | YA: MEAN FREQ TAKE LESSONS NOT SPORTS F2 - PAST YEAR (SCHL+SUMR) | 555 | 2.04 | (1.11) | 1 | 5 | 2.04 | (1.12) | 1.99 | 2.06 | (0.01) |
| EYIQ1 | YI: TAKE LESSONS NOT SPORTS, F3 | 313 | 2.39 | (1.51) | 1 | 5 | 2.41 | (1.51) | 2.36 | 2.47 | 0.01 |
| OCOACHF2 | YA: MEAN FREQ PLAYS ORGANIZED SPORTS F2 - PAST YEAR (SCHL+SUMR) | 555 | 2.49 | (1.37) | 1 | 5 | 2.47 | (1.36) | 2.41 | 2.51 | (0.02) |
| EYIQ2 | YI: SPORT/LESSONS W/COACH/INSTRC, F3 | 313 | 2.71 | (1.62) | 1 | 5 | 2.70 | (1.63) | 2.64 | 2.74 | (0.02) |
| OSUNDYF2 | YA: MEAN FREQ GOES TO SUNDAY SCHL/ REL SERVICES F2 - PAST YEAR (SCHL+SUMR) | 555 | 2.94 | (1.28) | 1 | 5 | 2.89 | (1.28) | 2.86 | 2.94 | (0.04) |
| EYIQ4 | YI: SUN SCHL/REL SERVICES, F3 | 313 | 2.42 | (1.40) | 1 | 5 | 2.43 | (1.41) | 2.40 | 2.47 | 0.01 |
| OCLUBSF2 | YA: MEAN FREQ GOES TO CLUB/ YTH GRP/ CHURCH GRP F2 - PAST YEAR (SCHL+SUMR) | 555 | 2.09 | (1.22) | 1 | 5 | 2.06 | (1.23) | 2.01 | 2.09 | (0.03) |
| EYIQ3 | YI: CLUB/YTH GRP/CHURCH GRP, F3 | 313 | 2.13 | (1.44) | 1 | 5 | 2.12 | (1.45) | 2.10 | 2.17 | (0.00) |
| ORECF2 | YA: MEAN FREQ GOES TO REC/COMM CTRS W/ADLT SUPERVIS F2 - PAST YEAR (SCHL+SUMR) | 555 | 2.36 | (1.41) | 1 | 5 | 2.32 | (1.40) | 2.26 | 2.36 | (0.04) |
| EYIQ5 | YI: REC/COMM CTRS W/ADLT SUPERVIS, F3 | 314 | 2.39 | (1.46) | 1 | 5 | 2.39 | (1.45) | 2.33 | 2.44 | (0.00) |
| EYIQ6 | Schl Yr Program help w/school/homework | 556 | 2.06 | (1.51) | 1 | 5 | 2.04 | (1.51) | 1.97 | 2.11 | (0.01) |
| EYIQ6 | YI: PRG HELP W/HW OUT SCHL TIME, F3 | 316 | 2.23 | (1.54) | 1 | 5 | 2.24 | (1.54) | 2.21 | 2.26 | 0.01 |
| EYIQ10 | YI: LEAD ACT IE STDT GOVT/DBAT/DRAMA, F3 | 314 | 1.73 | (1.24) | 1 | 5 | 1.72 | (1.24) | 1.70 | 1.75 | (0.01) |
| EYIQ11 | YI: MUSICAL ACT IE BAND/CHOIR/ORCH, F3 | 314 | 2.05 | (1.47) | 1 | 5 | 2.06 | (1.47) | 2.04 | 2.10 | 0.01 |
| OVOLSVF2 | YA: MEAN FREQ VOLUNTEER SVS F2 - PAST YEAR (SCHL+SUMR) | 788 | 1.73 | (1.11) | 1 | 5 | 1.72 | (1.12) | 1.68 | 1.80 | (0.01) |

Appendix Table A.2 continued

| Variable | Label | Before Imputation | | | | | After Imputation | | | | |
|----------|-----------------------------------------------------------------------------|-------------------|-------|---------|------|--------|------------------|-----------|----------|----------|--------|
| | | Miss | Mean | Std Dev | Min | Max | Estimate | Std Error | Min Mean | Max Mean | diff |
| EYIQ16 | YI: SERVICE/VOLUNTEER ACTIVITIES, F3 | 315 | 1.95 | (1.32) | 1 | 5 | 1.95 | (1.32) | 1.92 | 2.00 | (0.01) |
| YIQ28 | Summer school/program help w/school | 560 | 2.12 | (1.68) | 1 | 5 | 2.08 | (1.68) | 2.05 | 2.11 | (0.04) |
| EYIQ17 | YI: GO TO SUMMER SCHOOL, F3 | 313 | 1.74 | (1.50) | 1 | 5 | 1.72 | (1.50) | 1.66 | 1.79 | (0.01) |
| OHANGF2 | YA: MEAN FREQ HANG OUT W/FRIENDS NO ADULT) F2 - PAST YEAR (SCHL+SUMR) | 556 | 3.76 | (1.47) | 1 | 5 | 3.72 | (1.47) | 3.70 | 3.75 | (0.04) |
| EYIQ15 | YI: HANG OUT W/FRIENDS W/O ADULT, F3 | 316 | 3.90 | (1.43) | 1 | 5 | 3.92 | (1.43) | 3.88 | 3.96 | 0.02 |
| ACTSCAF2 | MEAN SCORE: ACT FRIENDS MEASURE | 566 | 3.33 | (.76) | 1 | 5 | 3.33 | (.76) | 3.31 | 3.35 | 0.00 |
| ACTSCAF3 | YA: MEAN SCORE: ACTIVITIES OF FRIENDS, F3 | 313 | 3.27 | (.87) | 1 | 5 | 3.27 | (.87) | 3.24 | 3.30 | 0.00 |
| UTOBSIT | UTexas: OC Freq Babysitting(1-4) | 809 | 2.29 | (1.19) | 1 | 4 | 2.28 | (1.19) | 2.24 | 2.31 | (0.01) |
| EYIQ9 | YI: BABYSIT SIBL/REL/NGHD KIDS, F3 | 313 | 2.77 | (1.49) | 1 | 5 | 2.74 | (1.48) | 2.72 | 2.77 | (0.02) |
| EYIQ22 | YI: REGULAR RESP CARE OTH CHLD HH, F3 | 313 | 0.51 | (.50) | 0 | 1 | 0.50 | (.50) | 0.49 | 0.52 | (0.01) |
| UTOCHORR | UTexas: OC total wk freq of chores - R | 809 | 2.38 | (.62) | 1 | 4 | 2.38 | (.62) | 2.34 | 2.42 | (0.00) |
| EYIQ8 | YI: CHORES - CLEAN HOUSE/MOW GRASS, F3 | 313 | 4.38 | (.97) | 1 | 5 | 4.36 | (.98) | 4.31 | 4.39 | (0.02) |
| yiql4_r | Schl Yr Work for pay away from home; recoded 0/1 | 793 | 0.36 | (.48) | 0 | 1 | 0.36 | (.48) | 0.34 | 0.39 | 0.00 |
| EYIQ33 | YI: LST SCHL YR WRK NOT PARENTS/HH, F3 | 231 | 0.29 | (.45) | 0 | 1 | 0.29 | (.45) | 0.27 | 0.30 | 0.00 |
| yiql35_r | Summer work for pay away from home; recoded 0/1 | 789 | 0.37 | (.48) | 0 | 1 | 0.38 | (.48) | 0.35 | 0.40 | 0.01 |
| EYIQ28 | YI: LST SUMM, PAID WORK BY NOT PAR/HH, F3 | 229 | 0.34 | (.48) | 0 | 1 | 0.35 | (.47) | 0.33 | 0.36 | 0.00 |
| CHMINFFE | exp:mos in inf/home-based care, f1 | 187 | 8.86 | (9.45) | 0 | 24 | 8.73 | (9.46) | 8.53 | 8.84 | (0.13) |
| AMOHMEF2 | months in home-based care whole year5 | 281 | 5.43 | (5.25) | 0 | 12 | 5.49 | (5.24) | 5.41 | 5.60 | 0.06 |
| CHMFORFE | exp:mos in formal care, f1 | 187 | 7.59 | (9.40) | 0 | 24 | 7.72 | (9.44) | 7.54 | 7.86 | 0.13 |
| AMOFRMF2 | mos in formal care in whole year5 | 293 | 3.11 | (4.59) | 0 | 12 | 3.06 | (4.61) | 2.97 | 3.14 | (0.05) |
| AMOUSPF2 | months in unsupervised care whole year5 | 277 | 2.89 | (4.60) | 0 | 12 | 2.85 | (4.60) | 2.76 | 2.91 | (0.04) |
| C91 | HOW OFTEN STRESSED | 107 | 2.75 | (.98) | 1.00 | 4.00 | 2.76 | (.98) | 2.73 | 2.78 | 0.01 |
| PIQ161 | PI: Felt stressed in past month | 130 | 2.49 | (.90) | 1.00 | 5.00 | 2.49 | (.90) | 2.45 | 2.51 | 0.01 |
| EPI149 | PI: HOW OFTEN STRESSED, F3 | 96 | 2.59 | (.92) | 1.00 | 4.00 | 2.59 | (.91) | 2.57 | 2.60 | (0.00) |
| P15 | HAVE ENOUGH TIME | 117 | 2.62 | (1.23) | 1.00 | 5.00 | 2.62 | (1.23) | 2.59 | 2.64 | 0.00 |
| PIQ184 | PI: Feeling rushed | 135 | 3.29 | (1.07) | 1.00 | 5.00 | 3.29 | (1.07) | 3.27 | 3.32 | 0.00 |
| EPI159 | PI: HOW OFTEN RUSHED, F3 | 97 | 3.34 | (1.09) | 1.00 | 5.00 | 3.33 | (1.10) | 3.29 | 3.36 | (0.01) |
| SLIVF1 | Recoded P sat. w/ standard of living, 24mths | 194 | 3.60 | (1.02) | 1.00 | 5.00 | 3.60 | (1.02) | 3.56 | 3.66 | 0.00 |
| SLIVF2 | FEELINGS ABOUT STANDARD OF LIVING AT 60 | 132 | 3.77 | (1.04) | 1.00 | 5.00 | 3.77 | (1.03) | 3.76 | 3.80 | 0.00 |
| EPI163 | PI: OVERALL STANDARD OF LIVING,F3 | 101 | 3.57 | (1.17) | 1.00 | 5.00 | 3.57 | (1.17) | 3.54 | 3.60 | (0.01) |
| JBQUALF1 | MEAN SCORE: JOB BENEFITS, F1 run | 107 | 0.39 | (.40) | 0.00 | 1.00 | 0.39 | (.40) | 0.38 | 0.40 | (0.01) |
| JBQUALF2 | REF JOB QUALITY SCALE 60 MOS, F2 | 205 | 0.65 | (.40) | 0.00 | 1.00 | 0.64 | (.41) | 0.62 | 0.65 | (0.01) |
| JBQUALF3 | PI: MEAN SCORE: BENEFITS, F3 | 235 | 0.64 | (.39) | 0.00 | 1.00 | 0.59 | (.40) | 0.57 | 0.61 | (0.05) |
| PIQ71 | PI: Had to juggle many responsibilities | 206 | 2.68 | (1.03) | 1.00 | 4.00 | 2.70 | (1.03) | 2.65 | 2.74 | 0.03 |
| EPI57 | PI: HW OFT PULLED APART FR JUGGLING ALL RESP, F3 | 238 | 2.63 | (.95) | 1.00 | 4.00 | 2.66 | (.95) | 2.64 | 2.68 | 0.03 |
| PCESDF1 | pcg measure of depression cesd | 119 | 16.91 | (11.36) | 0.00 | 54.00 | 17.03 | (11.27) | 16.75 | 17.36 | 0.12 |
| PCESDF2 | SUM: Feelings of depression, F2 | 139 | 15.10 | (10.76) | 0.00 | 52.00 | 15.28 | (10.84) | 14.96 | 15.59 | 0.18 |
| PCESDF3 | PA: SUM Feelings of depression, F3 | 98 | 17.41 | (11.22) | 0.00 | 56.00 | 17.34 | (11.16) | 17.00 | 17.55 | (0.07) |
| PHOPEF1 | pcg state hope scale | 123 | 2.90 | (.55) | 1.00 | 4.00 | 2.89 | (.55) | 2.89 | 2.90 | (0.00) |
| HOPESCF2 | Hope State Scale, F2 | 143 | 3.02 | (.54) | 1.00 | 4.00 | 3.01 | (.54) | 3.00 | 3.03 | (0.00) |
| HOPESCF3 | PA: MEAN PSYCHOLOGICAL WELL-BEING: HOPE, F3 | 98 | 2.93 | (.59) | 1.00 | 4.00 | 2.93 | (.58) | 2.92 | 2.94 | 0.00 |
| HHINCMF1 | PI: Total Family Income F1 - past month 12 | 200 | 19772 | 10348 | 0 | 84000 | 19902 | 10331 | 19720 | 20182 | 130 |
| HHINCMF2 | 1999 total gross income of family, F2 | 176 | 21914 | 16447 | 0 | 100000 | 21211 | 16476 | 20743 | 21616 | -703 |
| HHINCF3 | HOUSEHOLD INCOME FROM 8 YR SURVEY WITH MEANS IMPUTED FOR THOSE GIVING RANGE | 152 | 26617 | 21325 | 0 | 145000 | 26698 | 21714 | 26191 | 27221 | 81 |
| TERNSY12 | TOTAL ERN+EITC+SUP YEARS 1-2 | 0 | 8943 | 6861 | 0 | 43641 | 8943 | 47073545 | 8943 | 8943 | 0 |
| TERNSY35 | TOTAL ERN+EITC+SUP YEARS 3-5 | 0 | 12114 | 8495 | 0 | 37605 | 12114 | 72157263 | 12114 | 12114 | 0 |
| TERNSY68 | TOTAL ERN+EITC+SUP YEARS 6-8 | 0 | 13326 | 11088 | 0 | 48058 | 13326 | 1.E+08 | 13326 | 13326 | 0 |
| TQEMPY12 | TOTAL QTRS EMP YEAR 1-2 | 0 | 2.87 | (1.29) | 0.00 | 4.00 | 2.87 | (1.67) | 2.87 | 2.87 | 0.00 |
| TQEMPY35 | TOTAL QTRS EMP YEAR 3-5 | 0 | 2.96 | (1.36) | 0.00 | 4.00 | 2.96 | (1.84) | 2.96 | 2.96 | 0.00 |
| TQEMPY68 | TOTAL QTRS EMP YEAR 6-8 | 0 | 2.66 | (1.56) | 0.00 | 4.00 | 2.66 | (2.43) | 2.66 | 2.66 | 0.00 |
| LASTWAGE | | 223 | 7.34 | (3.29) | 1.12 | 60.00 | 7.33 | (3.26) | 7.16 | 7.41 | (0.01) |
| JBWAGEF2 | HOURLY WAGE OF REF JOB 60 MOS, F2 | 205 | 9.59 | (4.04) | 0.08 | 50.00 | 9.63 | (4.31) | 9.52 | 9.74 | 0.04 |

Appendix Table A.2 continued

| Variable | Label | Before Imputation | | | | | After Imputation | | | | | |
|----------|------------------------------------------------|-------------------|------|-------|---------|------|------------------|----------|-----------|----------|----------|--------|
| | | N | Miss | Mean | Std Dev | Min | Max | Estimate | Std Error | Min Mean | Max Mean | diff |
| WAGEF3 | HOURLY WAGE YR 8 | 194 | | 11.48 | (6.33) | 0.51 | 70.00 | 11.28 | (6.29) | 11.12 | 11.49 | (0.19) |
| TWWY12 | TOTAL AFDC/W2 YEARS 1-2 | 0 | 2630 | 2344 | | 0 | 13743 | 2630 | 5496192 | 2630 | 2630 | 0 |
| TWWY35 | TOTAL AFDC/W2 YEARS 3-5 | 0 | 752 | 1452 | | 0 | 7502 | 752 | 2107485 | 752 | 752 | 0 |
| TWWY68 | TOTAL AFDC/W2 YEARS 6-8 | 0 | 1364 | 3318 | | 0 | 21351 | 1364 | 11008448 | 1364 | 1364 | 0 |
| TFSY12 | TOTAL FOOD STAMPS YEARS 1-2 | 0 | 1912 | 1467 | | 0 | 7425 | 1912 | 2153392 | 1912 | 1912 | 0 |
| TFSY35 | TOTAL FOOD STAMPS YEARS 3-5 | 0 | 1161 | 1375 | | 0 | 6378 | 1161 | 1891304 | 1161 | 1161 | 0 |
| TFSY68 | TOTAL FOOD STAMPS YEARS 6-8 | 0 | 3249 | 4562 | | 0 | 24814 | 3249 | 20814245 | 3249 | 3249 | 0 |
| UTMTHSF1 | UTexas: material hardship | 194 | | 1.27 | (1.36) | 0.00 | 6.00 | 1.28 | (1.34) | 1.24 | 1.33 | 0.01 |
| HARDSHF2 | MATERIAL HARDSHIP SCALE AT 60 MOS, F2 | 134 | | 0.18 | (.23) | 0.00 | 1.00 | 0.18 | (.23) | 0.17 | 0.18 | (0.00) |
| HARDSHF3 | PI: MEAN SCORE: MATERIAL HARDSHIP, F3 | 100 | | 0.17 | (.22) | 0.00 | 1.00 | 0.17 | (.22) | 0.17 | 0.17 | (0.00) |
| UTFDISF1 | UTexas: food insufficiency | 194 | | 1.72 | (.70) | 1.00 | 4.00 | 1.73 | (.70) | 1.69 | 1.77 | 0.01 |
| UTFINSF2 | UT food insufficiency, F2 | 135 | | 1.57 | (.75) | 1.00 | 4.00 | 1.57 | (.75) | 1.56 | 1.60 | (0.00) |
| EPI166 | PI: PRIOR MONTH - ENOUGH FOOD?, F3 | 97 | | 3.46 | (.75) | 1.00 | 4.00 | 3.46 | (.75) | 3.44 | 3.48 | 0.00 |
| UTFINSF1 | UTexas: financial strain | 194 | | 2.47 | (.95) | 1.00 | 4.00 | 2.46 | (.94) | 2.44 | 2.52 | (0.00) |
| UTFINWF1 | UTexas: financial worries | 194 | | 2.93 | (1.24) | 1.00 | 5.00 | 2.95 | (1.24) | 2.91 | 2.99 | 0.02 |
| WRYTOTF2 | TOTAL FINANCIAL WORRY INDEX 60 MOS, F2 | 133 | | 2.52 | (1.21) | 1.00 | 5.00 | 2.53 | (1.21) | 2.50 | 2.56 | 0.01 |
| WRYTOTF3 | PI: MEAN SCORE: FINANCIAL WORRY, F3 | 95 | | 2.48 | (1.16) | 1.00 | 5.00 | 2.48 | (1.16) | 2.45 | 2.52 | 0.00 |
| FWBINDF2 | FINANCIAL WELLBEING INDEX 60 MOS, F2 | 136 | | 16.31 | (4.77) | 5.00 | 25.00 | 16.30 | (4.78) | 16.13 | 16.44 | (0.01) |
| LASTHRS | | 223 | | 37.17 | (10.65) | 2.00 | 87.23 | 37.14 | (10.67) | 36.73 | 37.63 | (0.03) |
| PIQ66 | PI: # of hours/week usually work at this | 191 | | 37.27 | (9.72) | 4.00 | 80.00 | 37.14 | (9.75) | 36.65 | 37.73 | (0.13) |
| EPI54 | PI: AVERAGE HOURS/WEEK WORKED, F3 | 187 | | 37.44 | (12.18) | 0.00 | 98.00 | 37.59 | (12.17) | 37.14 | 38.05 | 0.15 |
| UTRGRF1 | UTexas: regularity of routine | 341 | | 4.90 | (1.60) | 3.00 | 9.00 | 4.92 | (1.61) | 4.85 | 5.01 | 0.02 |
| FAMROTF2 | Reg of family routines, F2 | 170 | | 3.81 | (.75) | 1.00 | 5.00 | 3.81 | (.75) | 3.78 | 3.84 | (0.00) |
| FAMROTF3 | PA: MEAN: REG OF FAMILY ROUTINES, F3 | 155 | | 3.57 | (.77) | 1.00 | 5.00 | 3.57 | (.77) | 3.54 | 3.60 | 0.00 |
| PIQ26 | PI: R overall health | 132 | | 3.45 | (1.12) | 1.00 | 5.00 | 3.43 | (1.12) | 3.41 | 3.46 | (0.02) |
| EPI15 | PI: HLTH SC - RELATIVE TO OTH PPLE YOUR AGE,F3 | 95 | | 3.21 | (1.14) | 1.00 | 5.00 | 3.21 | (1.14) | 3.19 | 3.23 | (0.00) |

SOURCE: New Hope MIS client-tracking data base and New Hope two, five, and eight-year surveys.

Appendix B

Results Using Unweighted, Unimputed (Original) Data

The New Hope Project
Appendix Table B.1
Impacts on Achievement, School Progress, and Motivation for Full Sample,
Unweighted Data

| Outcome | Range | Program Group | Control Group | Difference | P-Value | Effect Size ^a |
|---------------------------------------------------------|-----------------------------------------------------------------------------|------------------|------------------|------------|---------|-----------------------------|
| Woodcock-Johnson test of achievement^b | | | | | | |
| Broad Reading score | | 93.42 | 91.74 | 1.68 | 0.144 | 0.11 |
| Applied problems | | 94.30 | 93.99 | 0.31 | 0.749 | 0.02 |
| Parent ratings of achievement | | | | | | |
| Overall achievement | 1=not well at all 5=very well | 3.84 | 3.76 | 0.08 | 0.283 | 0.07 |
| Literacy | 1=not well at all 5=very well | 3.70 | 3.59 | 0.11 | 0.113 | 0.11 |
| Math | 1=not well at all 5=very well | 3.68 | 3.58 | 0.10 | 0.204 | 0.09 |
| Positive school progress | 0=no, 1=yes | 0.40 | 0.40 | 0.01 | 0.769 | 0.02 |
| Negative school progress | 0=no, 1=yes | 0.22 | 0.26 | -0.04 * | 0.056 | -0.13 |
| Teacher ratings of achievement | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.19 | 3.18 | 0.01 | 0.908 | 0.01 |
| Mock report card (Reading) | 1=below 5=excellent | 2.92 | 2.95 | -0.03 | 0.773 | -0.03 |
| Mock report card (Math) | 1=below 5=excellent | 2.75 | 2.79 | -0.05 | 0.704 | -0.04 |
| Classroom behavior scale | 1=almost never 5=almost always | 3.72 | 3.71 | 0.01 | 0.922 | 0.01 |
| Motivation | | | | | | |
| School engagement | 1=none of the time 6=all of the the time | 3.88 | 3.70 | 0.18 *** | 0.005 | 0.19 |
| English expectancy | 1=not at all sure 7=very sure | 5.70 | 5.54 | 0.16 * | 0.051 | 0.14 |
| Math expectancy | 1=not at all sure 7=very sure | 5.29 | 5.13 | 0.16 * | 0.090 | 0.12 |
| Certainty of educational attainment | 1=not at all sure 5=very sure | 4.37 | 4.33 | 0.04 | 0.419 | 0.05 |
| Optimism for the future | 1=very unlikely 5=very likely | 4.62 | 4.49 | 0.13 ** | 0.026 | 0.17 |
| Sample size (teacher report) | 539 | | | | | |
| Sample size (parent report) | 926 | | | | | |
| Sample size (child report) | 866 | | | | | |

SOURCE: Calculations using weighted data from the New Hope eight-year survey.

NOTES: Statistical significance levels are indicated as *** = 1 percent, ** = 5 percent, and * = 10 percent.

Actual sample sizes for individual measures may vary as a result of missing data.

^aThe effect size is the difference between program- and control-group outcomes as a proportion of the standard deviation of the outcomes for the control group. This standard deviation is always obtained from the full research sample, even if the table shows impacts for subgroups.

^bWoodcock-Johnson scores are age-standardized with a mean of 100 and a standard deviation of 15.

**The New Hope Project
Appendix Table B.2**

Impacts on Achievement, School Progress, and Motivation by Child Gender, Unweighted Data

| Outcome | Range | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a | P-Value for Difference Between Boys and Girls ^b |
|---------------------------------------------------------|-----------------------------------------------------------------------------|------------------|------------------|------------|---------------------------|-----------------------------|---------------------------------------------------------------------|
| Boys | | | | | | | |
| Woodcock-Johnson test of achievement^b | | | | | | | |
| Broad reading score | | 93.43 | 90.53 | 2.90 * | 0.075 | 0.19 | 0.442 |
| Applied problems | | 96.19 | 94.38 | 1.81 | 0.252 | 0.14 | 0.140 |
| Parent ratings of achievement | | | | | | | |
| Overall achievement | 1=not well at all 5=very well | 3.62 | 3.53 | 0.09 | 0.389 | 0.08 | 0.830 |
| Literacy | 1=not well at all 5=very well | 3.45 | 3.35 | 0.10 | 0.347 | 0.10 | 0.900 |
| Math | 1=not well at all 5=very well | 3.52 | 3.44 | 0.09 | 0.425 | 0.08 | 0.932 |
| Positive school progress (parent) | 0=no; 1=yes | 0.38 | 0.35 | 0.03 | 0.362 | 0.08 | 0.349 |
| Negative school progress (parent) | 0=no; 1=yes | 0.28 | 0.31 | -0.03 | 0.333 | -0.10 | 0.743 |
| Teacher ratings of achievement | | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.02 | 2.94 | 0.08 | 0.466 | 0.09 | 0.395 |
| Mock report card (Reading) | 1=below 5=excellent | 2.76 | 2.75 | 0.01 | 0.928 | 0.01 | 0.624 |
| Mock report card (Math) | 1=below 5=excellent | 2.68 | 2.73 | -0.05 | 0.750 | -0.05 | 0.988 |
| Classroom behavior scale | 1=almost never 5=almost always | 3.43 | 3.44 | -0.01 | 0.934 | -0.01 | 0.882 |
| Motivation | | | | | | | |
| School engagement | 1=none of the time 6=all of the the time | 3.82 | 3.69 | 0.13 | 0.127 | 0.14 | 0.516 |
| English expectancy | 1=not at all sure 7=very sure | 5.68 | 5.34 | 0.34 *** | 0.006 | 0.29 | 0.039 †† |
| Math expectancy | 1=not at all sure 7=very sure | 5.36 | 5.24 | 0.12 | 0.369 | 0.09 | 0.751 |
| Motivation | | | | | | | |
| Certainty of educational attainment | 1=not at all sure 5=very sure | 4.33 | 4.11 | 0.22 *** | 0.007 | 0.27 | 0.000 ††† |
| Optimism for the future | 1=very unlikely 5=very likely | 4.64 | 4.44 | 0.20 ** | 0.018 | 0.26 | 0.159 |
| Sample size (teacher report) | 265 | | | | | | |
| Sample size (parent report) | 472 | | | | | | |
| Sample size (child report) | 436 | | | | | | |

(continued)

Appendix Table B.2 (continued)

| Outcome | Range | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a | P-Value for Difference Between Boys and Girls ^b |
|---------------------------------------------------------|-----------------------------------------------------------------------------|---------------|---------------|------------|------------------------|--------------------------|------------------------------------------------------------|
| Girls | | | | | | | |
| Woodcock-Johnson test of achievement^b | | | | | | | |
| Broad reading score | | 93.75 | 92.59 | 1.17 | 0.453 | 0.08 | 0.442 |
| Applied problems | | 92.44 | 93.59 | -1.15 | 0.342 | -0.09 | 0.140 |
| Parent ratings of achievement | | | | | | | |
| Overall achievement | 1=not well at all 5=very well | 4.06 | 4.00 | 0.06 | 0.572 | 0.05 | 0.830 |
| Literacy | 1=not well at all 5=very well | 3.96 | 3.84 | 0.11 | 0.231 | 0.11 | 0.900 |
| Math | 1=not well at all 5=very well | 3.82 | 3.74 | 0.07 | 0.470 | 0.07 | 0.932 |
| Positive school progress | 0=no; 1=yes | 0.43 | 0.44 | -0.01 | 0.671 | -0.04 | 0.349 |
| Negative school progress | 0=no; 1=yes | 0.16 | 0.21 | -0.04 * | 0.095 | -0.14 | 0.743 |
| Teacher ratings of achievement | | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.36 | 3.42 | -0.06 | 0.623 | -0.07 | 0.395 |
| Mock report card (Reading) | 1=below 5=excellent | 3.07 | 3.15 | -0.08 | 0.567 | -0.08 | 0.624 |
| Mock report card (Math) | 1=below 5=excellent | 2.82 | 2.87 | -0.05 | 0.786 | -0.04 | 0.988 |
| Classroom behavior scale | 1=almost never 5=almost always | 3.98 | 3.97 | 0.02 | 0.897 | 0.01 | 0.882 |
| Motivation | | | | | | | |
| School engagement | 1=none of the time 6=all of the the time | 3.93 | 3.72 | 0.21 ** | 0.022 | 0.22 | 0.516 |
| English expectancy | 1=not at all sure 7=very sure | 5.73 | 5.74 | -0.01 | 0.937 | -0.01 | 0.039 †† |
| Math expectancy | 1=not at all sure 7=very sure | 5.20 | 5.02 | 0.18 | 0.179 | 0.14 | 0.751 |
| Certainty of educational attainment | 1=not at all sure 7=very sure | 4.40 | 4.56 | -0.16 ** | 0.016 | -0.19 | 0.000 ††† |
| Optimism for the future | 1=very unlikely 5=very likely | 4.59 | 4.55 | 0.04 | 0.610 | 0.05 | 0.159 |
| Sample size (teacher report) | 274 | | | | | | |
| Sample size (parent report) | 454 | | | | | | |
| Sample size (child report) | 430 | | | | | | |

SOURCE: Calculations using imputed data from the New Hope eight-year survey.

NOTES: Statistical significance levels are indicated as *** = 1 percent, ** = 5 percent, and * = 10 percent.

Actual sample sizes for individual measures may vary as a result of missing data.

^aThe effect size is the difference between program- and control-group outcomes as a proportion of the standard deviation of the outcomes for the control group. This standard deviation is always obtained from the full research sample, even if the table shows impacts for subgroups.

^bWoodcock-Johnson scores are age-standardized with a mean of 100 and a standard deviation of 15.

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Appendix Table B.3

Impacts on Achievement, School Progress, and Motivation by Child Age - Unweighted Data

| Outcome | Range | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a | P-Value for Difference Between Age Groups ^b |
|---------------------------------------------------------|-----------------------------------------------------------------------------|---------------|---------------|------------|------------------------|--------------------------|--------------------------------------------------------|
| Younger than age 13 | | | | | | | |
| Woodcock-Johnson test of achievement^d | | | | | | | |
| Broad Reading score | | 96.83 | 96.51 | 0.32 | 0.826 | 0.02 | 0.305 |
| Applied problems | | 98.88 | 99.68 | -0.80 | 0.587 | -0.06 | 0.422 |
| Parent ratings of achievement | | | | | | | |
| Overall achievement | 1=not well at all 5=very well | 3.99 | 3.86 | 0.13 | 0.229 | 0.12 | 0.611 |
| Literacy | 1=not well at all 5=very well | 3.81 | 3.68 | 0.14 | 0.195 | 0.13 | 0.916 |
| Math | 1=not well at all 5=very well | 3.89 | 3.70 | 0.19 * | 0.069 | 0.18 | 0.222 |
| Positive school progress | 0=no; 1=yes | 0.45 | 0.44 | 0.02 | 0.518 | 0.06 | 0.870 |
| Negative school progress | 0=no; 1=yes | 0.19 | 0.20 | -0.01 | 0.655 | -0.04 | 0.191 |
| Teacher ratings of achievement | | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.26 | 3.17 | 0.09 | 0.437 | 0.10 | 0.738 |
| Mock report card (Reading) | 1=below 5=excellent | 2.93 | 2.97 | -0.04 | 0.776 | -0.04 | 0.777 |
| Mock report card (Math) | 1=below | 2.91 | 2.80 | 0.11 | 0.516 | 0.09 | 0.149 |
| Classroom behavior scale | 1=almost never 5=almost always | 3.67 | 3.60 | 0.06 | 0.592 | 0.06 | 0.886 |
| Motivation | | | | | | | |
| School engagement | 1=none of the time 6=all of the time | 4.18 | 3.92 | 0.26 *** | 0.008 | 0.27 | 0.264 |
| English expectancy | 1=not at all sure 7=very sure | 5.76 | 5.74 | 0.02 | 0.891 | 0.01 | 0.039 †† |
| Motivation | | | | | | | |
| Math expectancy | 1=not at all sure 7=very sure | | | | | | |
| Certainty of educational attainment | 1=not at all sure 5=very sure | 4.44 | 4.41 | 0.03 | 0.620 | 0.04 | 0.784 |
| Optimism for the future | 1=very unlikely 5=very likely | 4.55 | 4.49 | 0.07 | 0.451 | 0.09 | 0.263 |
| Sample size (teacher report) | 264 | | | | | | |
| Sample size (parent report) | 380 | | | | | | |
| Sample size (child report) | 364 | | | | | | |

(continued)

Appendix Table B.3 (continued)

| Outcome | Range | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a | P-Value for Difference Between Age Groups ^b |
|---------------------------------------------------------|-----------------------------------------------------------------------------|---------------|---------------|------------|------------------------|--------------------------|--------------------------------------------------------|
| 13 & older | | | | | | | |
| Woodcock-Johnson test of achievement^b | | | | | | | |
| Broad Reading score | | 90.63 | 87.92 | 2.72 | 0.133 | 0.18 | 0.305 |
| Applied problems | | 90.39 | 89.59 | 0.81 | 0.548 | 0.06 | 0.422 |
| Parent ratings of achievement | | | | | | | |
| Overall achievement | 1=not well at all 5=very well | 3.75 | 3.70 | 0.05 | 0.644 | 0.05 | 0.611 |
| Literacy | 1=not well at all 5=very well | 3.66 | 3.54 | 0.12 | 0.231 | 0.12 | 0.916 |
| Math | 1=not well at all 5=very well | 3.52 | 3.52 | 0.00 | 0.970 | 0.00 | 0.222 |
| Positive school progress (parent) | 0=no; 1=yes | 0.38 | 0.37 | 0.01 | 0.691 | 0.04 | 0.870 |
| Negative school progress (parent) | 0=no; 1=yes | 0.25 | 0.31 | -0.07 ** | 0.030 | -0.21 | 0.191 |
| Teacher ratings of achievement | | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.21 | 3.18 | 0.03 | 0.817 | 0.03 | 0.738 |
| Mock report card (Reading) | 1=below 5=excellent | 2.98 | 2.96 | 0.02 | 0.906 | 0.02 | 0.777 |
| Mock report card (Math) | 1=below 5=excellent | 2.55 | 2.84 | -0.29 | 0.186 | -0.24 | 0.149 |
| Teacher ratings of achievement | | | | | | | |
| Classroom behavior scale | 1=almost never 5=almost always | 3.87 | 3.78 | 0.09 | 0.504 | 0.09 | 0.886 |
| Motivation | | | | | | | |
| School engagement | 1=none of the time 6=all of the time | 3.63 | 3.52 | 0.11 | 0.240 | 0.11 | 0.264 |
| English expectancy | 1=not at all sure 7=very sure | 5.71 | 5.35 | 0.36 *** | 0.002 | 0.31 | 0.039 †† |
| Math expectancy | 1=not at all sure 7=very sure | 5.09 | 4.92 | 0.17 | 0.217 | 0.13 | 0.790 |
| Certainty of educational attainment | 1=not at all sure 7=very sure | 4.32 | 4.25 | 0.07 | 0.456 | 0.08 | 0.784 |
| Optimism for the future | 1=very unlikely 5=very likely | 4.70 | 4.50 | 0.20 ** | 0.012 | 0.26 | 0.263 |
| Sample size (teacher report) | 252 | | | | | | |
| Sample size (parent report) | 484 | | | | | | |
| Sample size (child report) | 445 | | | | | | |

SOURCE: Calculations using imputed data from the New Hope eight-year survey.

NOTES: Statistical significance levels are indicated as *** = 1 percent, ** = 5 percent, and * = 10 percent. Actual sample sizes for individual measures may vary as a result of missing data.

^aThe effect size is the difference between program- and control-group outcomes as a proportion of the standard deviation of the outcomes for the control group. This standard deviation is always obtained from the full research sample, even if the table shows impacts for subgroups.

^bWoodcock-Johnson scores are age-standardized with a mean of 100 and a standard deviation of 15.

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Appendix Table B.4
Eight-Year Impacts on Achievement and School Progress
by Number of Potential Parental Barriers to Employment, Unweighted Data^a

| Outcome | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a | P-Value for Difference Across Barrier Groups ^b |
|---------------------------------------------------------|---------------|---------------|------------|------------------------|--------------------------|-----------------------------------------------------------|
| <u>No potential barriers</u> | | | | | | |
| Woodcock-Johnson test of achievement^b | | | | | | |
| Broad Reading score | 94.87 | 93.78 | 1.09 | 0.702 | 0.08 | 0.968 |
| Applied problems | 94.23 | 96.81 | -2.58 | 0.165 | -0.20 | 0.317 |
| Parent ratings of achievement | | | | | | |
| Overall achievement | 3.91 | 3.91 | 0.00 | 0.986 | 0.00 | 0.673 |
| Literacy | 3.87 | 3.63 | 0.23 | 0.089 | 0.23 | 0.082 † |
| Math | 3.71 | 3.67 | 0.04 ** | 0.801 | 0.03 | 0.374 |
| Positive school progress | 0.40 | 0.44 | -0.04 ** | 0.305 | -0.14 | 0.174 |
| Negative school progress | 0.20 | 0.24 | -0.04 ** | 0.275 | -0.14 | 0.684 |
| Teacher ratings of achievement | | | | | | |
| SSRS academic subscale | 3.22 | 3.24 | -0.02 ** | 0.937 | -0.02 | 0.833 |
| Mock report card (Reading) | 3.11 | 3.04 | 0.07 * | 0.735 | 0.07 | 0.961 |
| Mock report card (Math) | 2.85 | 2.76 | 0.08 * | 0.760 | 0.07 | 0.546 |
| Classroom behavior scale | 3.77 | 3.81 | -0.04 ** | 0.817 | -0.04 | 0.252 |
| Motivation | | | | | | |
| School engagement | 3.79 | 3.73 | 0.06 * | 0.673 | 0.07 | 0.481 |
| English expectancy | 5.82 | 5.57 | 0.25 | 0.115 | 0.21 | 0.970 |
| Math expectancy | 5.08 | 5.15 | -0.07 * | 0.742 | -0.05 | 0.338 |
| Certainty of educational attainment | 4.54 | 4.35 | 0.18 | 0.207 | 0.23 | 0.513 |
| Optimism for the future | 4.75 | 4.58 | 0.17 | 0.151 | 0.22 | 0.799 |
| Sample size (test results) | 187 | | | | | |
| Sample size (parent report) | 218 | | | | | |
| Sample size (child report) | 198 | | | | | |

(continued)

Appendix Table B.4 (continued)

| Outcome | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a | P-Value for Difference Across Barrier Groups ^b |
|---------------------------------------------------------|---------------|---------------|------------|------------------------|--------------------------|-----------------------------------------------------------|
| One potential barrier | | | | | | |
| Woodcock-Johnson test of achievement^b | | | | | | |
| Broad Reading score | 94.00 | 92.15 | 1.85 | 0.344 | 0.13 | 0.968 |
| Applied problems | 94.88 | 93.67 | 1.21 | 0.476 | 0.09 | 0.317 |
| Parent ratings of achievement | | | | | | |
| Overall achievement | 3.89 | 3.79 | 0.10 | 0.395 | 0.09 | 0.673 |
| Literacy | 3.62 | 3.70 | -0.07 * | 0.519 | -0.07 | 0.082 † |
| Math | 3.61 | 3.64 | -0.03 ** | 0.815 | -0.03 | 0.374 |
| Positive school progress | 0.40 | 0.40 | 0.00 *** | 0.985 | 0.00 | 0.174 |
| Negative school progress | 0.21 | 0.26 | -0.05 ** | 0.145 | -0.16 | 0.684 |
| Teacher ratings of achievement | | | | | | |
| SSRS academic subscale | 3.42 | 3.28 | 0.14 | 0.335 | 0.14 | 0.833 |
| Mock report card (Reading) | 3.06 | 3.05 | 0.01 *** | 0.968 | 0.01 | 0.961 |
| Mock report card (Math) | 3.02 | 2.89 | 0.13 | 0.550 | 0.12 | 0.546 |
| Classroom behavior scale | 3.81 | 3.83 | -0.02 ** | 0.898 | -0.02 | 0.252 |
| Motivation | | | | | | |
| School engagement | 3.85 | 3.69 | 0.17 | 0.134 | 0.18 | 0.481 |
| English expectancy | 5.70 | 5.50 | 0.20 | 0.150 | 0.17 | 0.970 |
| Math expectancy | 5.24 | 5.21 | 0.03 ** | 0.839 | 0.02 | 0.338 |
| Certainty of educational attainment | 4.35 | 4.31 | 0.04 ** | 0.603 | 0.05 | 0.513 |
| Optimism for the future | 4.64 | 4.51 | 0.13 | 0.135 | 0.17 | 0.799 |
| Sample size (test results) | 298 | | | | | |
| Sample size (parent report) | 363 | | | | | |
| Sample size (child report) | 334 | | | | | |

(continued)

Appendix Table B.4 (continued)

| Outcome | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a | P-Value for Difference Across Barrier Groups ^b |
|---------------------------------------------------------|---------------|---------------|------------|------------------------|--------------------------|-----------------------------------------------------------|
| Two potential barriers or more | | | | | | |
| Woodcock-Johnson test of achievement^b | | | | | | |
| Broad Reading score | 91.39 | 90.13 | 1.26 | 0.561 | 0.09 | 0.968 |
| Applied problems | 92.89 | 93.14 | -0.25 | 0.889 | -0.02 | 0.317 |
| Parent ratings of achievement | | | | | | |
| Overall achievement | 3.79 | 3.61 | 0.18 | 0.224 | 0.16 | 0.673 |
| Literacy | 3.73 | 3.45 | 0.28 ** | 0.048 | 0.27 | 0.082 † |
| Math | 3.73 | 3.50 | 0.23 | 0.110 | 0.21 | 0.374 |
| Positive school progress | 0.42 | 0.35 | 0.07 * | 0.114 | 0.22 | 0.174 |
| Negative school progress | 0.22 | 0.31 | -0.09 ** | 0.031 | -0.28 | 0.684 |
| Teacher ratings of achievement | | | | | | |
| SSRS academic subscale | 3.05 | 2.97 | 0.09 | 0.569 | 0.09 | 0.833 |
| Mock report card (Reading) | 2.75 | 2.75 | 0.00 | 0.999 | 0.00 | 0.961 |
| Mock report card (Math) | 2.51 | 2.71 | -0.21 | 0.386 | -0.18 | 0.546 |
| Classroom behavior scale | 3.72 | 3.42 | 0.31 * | 0.064 | 0.30 | 0.252 |
| Motivation | | | | | | |
| School engagement | 3.98 | 3.70 | 0.28 ** | 0.015 | 0.30 | 0.481 |
| English expectancy | 5.73 | 5.52 | 0.21 | 0.170 | 0.18 | 0.970 |
| Math expectancy | 5.43 | 5.13 | 0.30 * | 0.083 | 0.23 | 0.338 |
| Certainty of educational attainment | 4.29 | 4.31 | -0.02 | 0.838 | -0.03 | 0.513 |
| Optimism for the future | 4.59 | 4.36 | 0.23 ** | 0.040 | 0.29 | 0.799 |
| Sample size (test results) | 248 | | | | | |
| Sample size (parent report) | 289 | | | | | |
| Sample size (child report) | 268 | | | | | |

SOURCE: Calculations using data from the New Hope eight-year survey.

NOTES: Statistical significance levels are indicated as *** = 1 percent, ** = 5 percent, and * = 10 percent.

Actual sample sizes for individual measures may vary as a result of missing data.

^aThe effect size is the difference between program- and control-group outcomes as a proportion of the standard deviation of the outcomes for both groups combined. This standard deviation is always obtained from the full research sample, even if the table shows impacts for subgroups.

^bWoodcock-Johnson scores are age-standardized with a mean of 100 and a standard deviation of 15.

^cA statistical test was conducted to measure whether impacts differed significantly across the subgroup dimensions featured in this table. Statistical significance levels are indicated as ††† = 1 percent, †† = 5 percent, and † = 10 percent.

^dThese results are based on unweighted data.

Appendix C

**Impacts on Achievement by Ethnicity,
Ethnicity by Gender, and
Initial Barriers to Employment Subgroups**

The New Hope Project

Appendix Table C.1

Impacts on Achievement, School Progress, and Motivation by Ethnicity

| Outcome | Range | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a | P-Value for Difference Between Ethnic Groups ^b |
|---------------------------------------------------------|-----------------------------------------------------------------------------|---------------|---------------|------------|------------------------|--------------------------|-----------------------------------------------------------|
| <u>African-American</u> | | | | | | | |
| Woodcock-Johnson test of achievement^c | | | | | | | |
| Broad Reading score | | 92.63 | 91.76 | 0.87 | 0.544 | 0.06 | 0.718 |
| Applied problems | | 93.23 | 93.41 | -0.18 | 0.896 | -0.01 | 0.931 |
| Parent ratings of achievement | | | | | | | |
| Overall achievement | 1=not well at all 5=very well | 3.66 | 3.59 | 0.07 | 0.409 | 0.07 | 0.532 |
| Literacy | 1=not well at all 5=very well | 3.66 | 3.59 | 0.07 | 0.423 | 0.07 | 0.552 |
| Math | 1=not well at all 5=very well | 3.65 | 3.59 | 0.07 | 0.471 | 0.06 | 0.589 |
| Positive school progress | 0=no; 1=yes | 0.42 | 0.40 | 0.01 | 0.644 | 0.04 | 0.626 |
| Negative school progress | 0=no; 1=yes | 0.23 | 0.26 | -0.03 | 0.201 | -0.11 | 0.680 |
| Teacher ratings of achievement | | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.17 | 3.22 | -0.04 | 0.726 | -0.04 | 0.940 |
| Mock report card (reading) | 1=below 5=excellent | 2.90 | 2.93 | -0.03 | 0.833 | -0.02 | 0.739 |
| Mock report card (math) | 1=below 5=excellent | 2.76 | 2.75 | 0.01 | 0.952 | 0.01 | 0.772 |
| Classroom behavior scale | 1=almost never 5=almost always | 3.67 | 3.70 | -0.04 | 0.752 | -0.04 | 0.662 |
| Motivation | | | | | | | |
| School engagement | 1=none of the time 6=all of the the time | 3.87 | 3.71 | 0.16 * | 0.060 | 0.17 | 0.440 |
| English expectancy | 1=not at all sure 7=very sure | 5.76 | 5.62 | 0.14 | 0.265 | 0.11 | 0.934 |
| Math expectancy | 1=not at all sure 7=very sure | 5.33 | 5.25 | 0.08 | 0.492 | 0.06 | 0.938 |
| Certainty of educational attainment | 1=not at all sure 5=very sure | 4.44 | 4.37 | 0.07 | 0.286 | 0.09 | 0.573 |
| Optimism for the future | 1=very unlikely 5=very likely | 4.60 | 4.49 | 0.11 | 0.189 | 0.13 | 0.775 |
| Sample size | 615 | | | | | | |

(continued)

Appendix Table C.1 (continued)

| Outcome | Range | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^a | P-Value for Difference Between Ethnic Group ^b |
|---------------------------------------------------------|-----------------------------------------------------------------------------|---------------|---------------|------------|------------------------|--------------------------|----------------------------------------------------------|
| Hispanic | | | | | | | |
| Woodcock-Johnson test of achievement^c | | | | | | | |
| Broad reading score | | 93.96 | 92.23 | 1.73 | 0.365 | 0.12 | 0.718 |
| Applied problems | | 94.25 | 94.65 | -0.40 | 0.852 | -0.03 | 0.931 |
| Parent ratings of achievement | | | | | | | |
| Overall achievement | 1=not well at all 5=very well | 3.76 | 3.60 | 0.16 | 0.186 | 0.17 | 0.532 |
| Literacy | 1=not well at all 5=very well | 3.83 | 3.66 | 0.17 | 0.204 | 0.17 | 0.552 |
| Math | 1=not well at all 5=very well | 3.70 | 3.54 | 0.16 | 0.264 | 0.15 | 0.589 |
| Positive school progress | 0=no, 1=yes | 0.39 | 0.40 | -0.01 | 0.774 | -0.04 | 0.626 |
| Negative school progress | 0=no, 1=yes | 0.18 | 0.19 | -0.02 | 0.667 | -0.05 | 0.680 |
| Teacher ratings of achievement | | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.16 | 3.19 | -0.027 | 0.87 | -0.03 | 0.940 |
| Mock report card (reading) | 1=below 5=excellent | 2.93 | 3.02 | -0.097 | 0.59 | -0.09 | 0.739 |
| Mock report card (math) | 1=below 5=excellent | 2.75 | 2.81 | -0.058 | 0.76 | -0.05 | 0.772 |
| Classroom behavior scale | 1=almost never 5=almost always | 3.77 | 3.71 | 0.058 | 0.75 | 0.06 | 0.662 |
| Motivation | | | | | | | |
| School engagement | 1=none of the time 6=all of the the time | 3.83 | 3.78 | 0.05 | 0.709 | 0.05 | 0.440 |
| English expectancy | 1=not at all sure 7=very sure | 5.65 | 5.50 | 0.15 | 0.283 | 0.13 | 0.934 |
| Math expectancy | 1=not at all sure 7=very sure | 5.06 | 4.97 | 0.10 | 0.594 | 0.07 | 0.938 |
| Certainty of educational attainment | 1=not at all sure 5=very sure | 4.31 | 4.30 | 0.01 | 0.938 | 0.01 | 0.573 |
| Optimism for the future | 1=very unlikely 5=very likely | 4.62 | 4.55 | 0.07 | 0.517 | 0.09 | 0.775 |
| Sample size | 334 | | | | | | |

(continued)

Appendix Table C.1 (continued)

SOURCE: Calculations using data from the New Hope eight-year survey.

NOTES: Statistical significance levels are indicated as *** = 1 percent, ** = 5 percent, and * = 10 percent.

These results are based on imputed data.

^aThe effect size is the difference between program-and control group-outcomes as a proportion of the standard deviation of the control group. This standard deviation is always obtained from the full research sample, even if the table shows impacts for subgroups.

^bA statistical test was conducted to measure whether impacts differed significantly across the subgroup dimensions featured in this table. Statistical significance levels are indicated as ††† = 1 percent, †† = 5 percent, and † = 10 percent.

^cWoodcock-Johnson scores are age-standardized with a mean of 100 and a standard deviation of 15.

^dTeacher-reported impacts were calculated on a subset of imputed data. That subset included only data for children that had at least 1 completed teacher survey across the three waves (n=484 African-American children, 258 Hispanic children).

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The New Hope Project
Appendix Table C.2
Eight-Year Impacts on Achievement and School Progress,
by Number of Potential Parental Barriers to Employment, Imputed Data^a

| Outcome | Range | Program Group | Control Group | Difference | P-Value for Difference | Effect Size ^b | P-Value for Difference Across Barrier Groups ^c |
|---------------------------------------------------------|------------------------------------------------------------------------|---------------|---------------|------------|------------------------|--------------------------|-----------------------------------------------------------|
| No potential barriers | | | | | | | |
| Woodcock Johnson test of achievement^d | | | | | | | |
| Broad reading score | | 94.55 | 93.23 | 1.32 | 0.574 | 0.09 | 0.893 |
| Applied problems | | 94.21 | 95.83 | -1.62 | 0.360 | -0.12 | 0.601 |
| Parent ratings of achievement | | | | | | | |
| Overall Achievement | 1=not well at all 5=very well | 3.73 | 3.66 | 0.07 | 0.578 | 0.08 | 0.286 |
| Literacy | 1=not well at all 5=very well | 3.80 | 3.64 | 0.16 | 0.221 | 0.15 | 0.191 |
| Math | 1=not well at all 5=very well | 3.66 | 3.67 | -0.01 | 0.950 | -0.01 | 0.418 |
| Positive school progress | 0=no; 1=yes | 0.40 | 0.43 | -0.03 | 0.438 | -0.11 | 0.482 |
| Negative school progress | 0=no; 1=yes | 0.21 | 0.23 | -0.01 | 0.746 | -0.04 | 0.533 |
| Teacher ratings of achievement^e | | | | | | | |
| SSRS academic subscale | 1= lowest 10 percent of the class 5=highest 10 percent of the class | 3.20 | 3.18 | 0.02 | 0.904 | 0.02 | 0.885 |
| Mock report card (reading) | 1=below 5=excellent | 3.04 | 2.96 | 0.08 | 0.671 | 0.07 | 0.890 |
| Mock report card - math | 1=below 5=excellent | 2.80 | 2.73 | 0.07 | 0.718 | 0.06 | 0.896 |
| Classroom behavior scale | 1=almost never 5=almost always | 3.74 | 3.74 | 0.00 | 0.979 | 0.00 | 0.760 |
| Motivation | | | | | | | |
| School engagement | 1=none of the time 6=all of the the time | 3.78 | 3.74 | 0.04 | 0.787 | 0.04 | 0.530 |
| English expectancy | 1=not at all sure 7=very sure | 5.77 | 5.57 | 0.20 | 0.189 | 0.17 | 0.927 |
| Math expectancy | 1=not at all sure 7=very sure | 5.13 | 5.17 | -0.04 | 0.845 | -0.03 | 0.484 |
| Certainty of educational attainment | 1=not at all sure 7=very sure | 4.50 | 4.34 | 0.16 | 0.159 | 0.20 | 0.512 |
| Optimism for the future | 1=very unlikely 5=very likely | 4.69 | 4.57 | 0.13 | 0.280 | 0.16 | 0.871 |
| Sample size | 268 | | | | | | |

(continued)

Appendix Table C.2 (continued)

| Outcome | Range | Program Group | Control Group | Difference | P-Value Difference | Effect Size ^b | P-Value for Difference Across Barrier Groups ^c |
|---------------------------------------------------------|-----------------------------------------------------------------------------|---------------|---------------|------------|--------------------|--------------------------|-----------------------------------------------------------|
| One potential barrier | | | | | | | |
| Woodcock-Johnson test of achievement^p | | | | | | | |
| Broad Reading score | | 93.73 | 91.90 | 1.82 | 0.278 | 0.12 | 0.893 |
| Applied problems | | 94.56 | 93.84 | 0.72 | 0.674 | 0.05 | 0.601 |
| Parent ratings of achievement | | | | | | | |
| Overall achievement | 1=not well at all 5=very well | 3.62 | 3.66 | -0.04 | 0.722 | -0.04 | 0.286 |
| Literacy | 1=not well at all 5=very well | 3.63 | 3.69 | -0.06 | 0.589 | -0.06 | 0.191 |
| Math | 1=not well at all 5=very well | 3.62 | 3.63 | -0.01 | 0.912 | -0.01 | 0.418 |
| Positive school progress | 0=no; 1=yes | 0.41 | 0.40 | 0.01 | 0.877 | 0.02 | 0.482 |
| Negative school progress | 0=no; 1=yes | 0.21 | 0.25 | -0.05 | 0.130 | -0.15 | 0.533 |
| Teacher ratings of achievement^e | | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.31 | 3.25 | 0.06 | 0.603 | 0.07 | 0.885 |
| Mock report card (reading) | 1=below 5=excellent | 3.01 | 3.02 | -0.01 | 0.951 | -0.01 | 0.890 |
| Mock report card (math) | 1=below 5=excellent | 2.90 | 2.86 | 0.04 | 0.778 | 0.04 | 0.896 |
| Classroom behavior scale | 1=almost never 5=almost always | 3.78 | 3.77 | 0.00 | 0.978 | 0.00 | 0.760 |
| Motivation | | | | | | | |
| School engagement | 1=none of the time 6=all of the the time | 3.84 | 3.70 | 0.14 | 0.209 | 0.15 | 0.530 |
| English expectancy | 1=not at all sure 7=very sure | 5.71 | 5.49 | 0.22 * | 0.102 | 0.18 | 0.927 |
| Math expectancy | 1=not at all sure 7=very sure | 5.25 | 5.18 | 0.07 | 0.638 | 0.05 | 0.484 |
| Certainty of educational attainment | 1=not at all sure 7=very sure | 4.35 | 4.32 | 0.04 | 0.657 | 0.04 | 0.512 |
| Optimism for the future | 1=very unlikely 5=very likely | 4.62 | 4.51 | 0.10 | 0.256 | 0.13 | 0.871 |
| Sample size | 432 | | | | | | |

(continued)

Appendix Table C.2 (continued)

| Outcome | Range | Program Group | Control Group | Difference | P-Value Difference | Effect Size ^d | P-Value for Difference Across Barrier Groups ^e |
|---------------------------------------------------------|-----------------------------------------------------------------------------|---------------|---------------|------------|--------------------|--------------------------|-----------------------------------------------------------|
| Two potential barriers or more | | | | | | | |
| Woodcock-Johnson test of achievement^p | | | | | | | |
| Broad Reading score | | 91.49 | 90.87 | 0.61 | 0.749 | 0.04 | 0.893 |
| Applied problems | | 93.46 | 93.16 | 0.30 | 0.866 | 0.02 | 0.601 |
| Parent ratings of achievement | | | | | | | |
| Overall achievement | 1=not well at all; 5=very well | 3.74 | 3.52 | 0.22 * | 0.09 | 0.23 | 0.286 |
| Literacy | 1=not well at all; 5=very well | 3.74 | 3.51 | 0.24 * | 0.085 | 0.23 | 0.191 |
| Math | 1=not well at all; 5=very well | 3.74 | 3.53 | 0.21 | 0.134 | 0.19 | 0.418 |
| Positive school progress | 0=no; 1=yes | 0.41 | 0.37 | 0.04 | 0.350 | 0.12 | 0.482 |
| Negative school progress | 0=no; 1=yes | 0.21 | 0.28 | -0.07 ** | 0.046 | -0.23 | 0.533 |
| Teacher ratings of achievement^e | | | | | | | |
| SSRS academic subscale | 1=lowest 10 percent of the class 5=highest 10 percent of the class | 3.06 | 3.09 | -0.03 | 0.837 | -0.03 | 0.885 |
| Mock report card (reading) | 1=below 5=excellent | 2.81 | 2.84 | -0.03 | 0.825 | -0.03 | 0.890 |
| Mock report card (math) | 1=below 5=excellent | 2.67 | 2.72 | -0.05 | 0.794 | -0.04 | 0.896 |
| Classroom behavior scale | 1=almost never 5=almost always | 3.71 | 3.57 | 0.15 | 0.345 | 0.14 | 0.760 |
| Motivation | | | | | | | |
| School engagement | 1=none of the time 6=all of the the time | 3.96 | 3.73 | 0.23 ** | 0.044 | 0.24 | 0.530 |
| English expectancy | 1=not at all sure 7=very sure | 5.70 | 5.56 | 0.14 | 0.326 | 0.12 | 0.927 |
| Math expectancy | 1=not at all sure 7=very sure | 5.42 | 5.15 | 0.28 | 0.141 | 0.21 | 0.484 |
| Certainty of educational attainment | 1=not at all sure 7=very sure | 4.31 | 4.31 | -0.01 | 0.950 | -0.01 | 0.512 |
| Optimism for the future | 1=very unlikely 5=very likely | 4.59 | 4.42 | 0.17 * | 0.094 | 0.22 | 0.871 |
| Sample size | 336 | | | | | | |

(continued)

Appendix Table C.2 (continued)

SOURCE: Calculations using data from the New Hope eight-year survey.

NOTES: Statistical significance levels are indicated as *** = 1 percent, ** = 5 percent, and * = 10 percent.

These results are based on imputed data.

^a61 children were missing baseline information that was used to determine parental barrier status. Thus, the sample for these results draws from 1036 children.

^bThe effect size is the difference between program-and control-group outcomes as a proportion of the standard deviation of the control group. This standard deviation is always obtained from the full research sample, even if the table shows impacts for subgroups.

^cA statistical test was conducted to measure whether impacts differed significantly across the subgroup dimensions featured in this table. Statistical significance levels are indicated as ††† = 1 percent, †† = 5 percent, and † = 10 percent.

^dWoodcock-Johnson scores are age-standardized with a mean of 100 and a standard deviation of 15.

^eTeacher-reported impacts were calculated on a subset of imputed data. That subset included only data for children that had at least one completed teacher survey across the three waves (No barriers group N = 220; one barrier group N = 344; two or more barriers group N = 277).

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About MDRC

MDRC is a nonprofit, nonpartisan social policy research organization dedicated to learning what works to improve the well-being of low-income people. Through its research and the active communication of its findings, MDRC seeks to enhance the effectiveness of social and education policies and programs.

Founded in 1974 and located in New York City and Oakland, California, MDRC is best known for mounting rigorous, large-scale, real-world tests of new and existing policies and programs. Its projects are a mix of demonstrations (field tests of promising new program approaches) and evaluations of ongoing government and community initiatives. MDRC's staff bring an unusual combination of research and organizational experience to their work, providing expertise on the latest in qualitative and quantitative methods and on program design, development, implementation, and management. MDRC seeks to learn not just whether a program is effective but also how and why the program's effects occur. In addition, it tries to place each project's findings in the broader context of related research — in order to build knowledge about what works across the social and education policy fields. MDRC's findings, lessons, and best practices are proactively shared with a broad audience in the policy and practitioner community as well as with the general public and the media.

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- Improving Public Education
- Promoting Successful Transitions to Adulthood
- Supporting Low-Wage Workers and Communities
- Overcoming Barriers to Employment

Working in almost every state, all of the nation's largest cities, and Canada and the United Kingdom, MDRC conducts its projects in partnership with national, state, and local governments, public school systems, community organizations, and numerous private philanthropies.