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Impacts on Children of a Policy to Promote Employment and Reduce Poverty for Low-Income Parents: New Hope After 5 Years

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The impacts of New Hope, a program to increase parent employment and reduce poverty, were measured 5 years after parents were randomly assigned to program or control groups. New Hope had positive effects on children's school achievement, motivation, and social behavior, primarily for boys, across the age range 6–16. In comparison to impacts measured 2 years after program onset, effects on achievement were robust, but effects on social behavior were reduced. The program produced improvements in family income and use of organized child care and activity settings, suggesting possible pathways by which the New Hope package of policies influenced children's behavior.

Keywords: poverty, intervention, longitudinal

Over the past 2 decades, welfare and employment policies for low-income adults have focused increasingly on moving adults out of cash assistance and into the labor force. Most notably, the 1996 federal welfare reforms replaced the federal program providing entitlement to cash assistance for families—Aid to Families With Dependent Children (AFDC)—with a nonentitlement program called Temporary Assistance to Needy Families (TANF). Among the many provisions of this law were requirements that applicants and recipients seek employment and time limits on eligibility for assistance (see M. T. Greenberg et al., 2002, for details of this legislation).

Several related policy changes in the 1990s increased the incentives for employment and the availability of work supports outside the welfare system. The maximum annual benefit of the Earned Income Tax Credit (EITC) program—a refundable tax credit for low-income workers—increased to $3,888 in 2000. Federal funds for child-care subsidies doubled from 1990 to 2001 (Fuller, Kagan, Caspary, & Gauthier, 2002), and eligibility for both child-care assistance and Medicaid were "decoupled" from cash assistance; that is, eligibility was based on income rather than solely on receiving AFDC or TANF.

Although these policies were designed primarily to influence adults' employment and economic "self-sufficiency," an often-cited purpose of most welfare policy is to promote child well-being. Hence, a number of studies have examined the impact of a range of policies on low-income children's well-being and development (see http://www.mdrc.org). A 5-year follow-up to one of

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these—the Child and Family Study of the New Hope Project—is the subject of this article.

New Hope was a random-assignment experiment designed to test the effectiveness of an employment-based antipoverty program with strong work supports for adults living in poverty. A community-initiated policy demonstration in Milwaukee, Wisconsin, New Hope tested the effects of earnings supplements designed to raise total income above the poverty threshold along with two important work supports: extensive child-care assistance and health care subsidies. Eligibility for benefits was contingent on full-time work (30 or more hours a week), and the project offered access to community service jobs for adults who could not find market-based employment. Unlike most programs that have been evaluated, New Hope was not tied to the welfare system but was available to all adults with low incomes. It was designed to reduce family poverty, not just to induce adults to move from welfare to work. The evaluation used a rigorous random-assignment experimental design in which applicants were assigned by lottery to the program group, which was eligible for benefits, or to the control group; both remained eligible for all other services and benefits in the community.

Families with children from 1 to 10 years old constituted the Child and Family Study sample. Two years after families entered the study, the New Hope program led to increased parental employment and income, increased use of center-based child care, and increased participation by children in structured out-of-school activities. Children in New Hope families showed substantially better academic performance, higher levels of positive social behavior, and lower levels of problem behavior in school than did their control group counterparts (Bos et al., 1999; Huston et al., 2001).

Developmental Continuity and Change

In this article, we report the results of an evaluation conducted 5 years after random assignment, when the focal children were ages 6 through 16. Although New Hope was not intended to demonstrate a time-limited program, funds were limited; therefore, benefits ended after 3 years. Hence, our 5-year data provide information about whether the impacts on families and children persisted 2 years after families had left the program.

By examining the long-term effects of the New Hope intervention, we address two general models of developmental change and continuity. The "suntan" model predicts that program effects fade after the completion of the program. As the child reaches new points in development and confronts new experiences and contexts, these influence behavior and gradually dilute the effects of earlier experiences. This model is likely to be true to the extent that new experiences do not maintain effects of earlier ones, or contexts are not consistent over time, as when poor quality elementary schools cause cognitive gains from Head Start to disappear (Currie & Thomas, 2000). For example, the income improvements brought about by New Hope might diminish over time, so the advantage gained from income would also decline.

Other models lead to the prediction that effects will be maintained or may even increase over time through cascading or sleeper effects. Stability might be expected if the experiences during any period of development alter the child's developmental trajectory or her or his ability to adapt to new experience. For example, increased positive social competencies at age 9 may form a basis for more mature positive behaviors in adolescence. Interventions that change children's behavior during one period may also leave them better prepared to adapt to changes in environment. For example, a child who has some academic or social competency advantage at age 9 may be better equipped to make a successful transition to middle school and may be more likely to sustain academic motivation and school engagement during this period in which many children lose interest in school (Eccles, Wigfield, & Schiefele, 1997).

Alternatively, treatment-induced changes in the child's behavior may "drive" the context, either by eliciting reactions from other people or by leading the child to seek out different contexts (Entwisle, Alexander, & Olson, 1997; Scarr & McCartney, 1983). For example, New Hope improved children's academic performance after 2 years of the program; their academic and behavioral skills may have led teachers in subsequent years to perceive them as more skilled and to provide more opportunities for learning.

As children get older, they also have more choice about the environments in which they spend time, a process described as "niche building" (Scarr & McCartney, 1983). At the 2-year follow-up, children in the New Hope program participated in more organized out-of-school programs and activities than did control children; extracurricular activities can provide adult supervision, present opportunities to build skills (e.g., athletics, music), and promote positive social skills (Huston et al., 2001; Mahoney, Larson, & Eccles, 2005).

Processes by Which Policies Affect Children's Behavior

The New Hope evaluation tested a package of benefits that families could use according to their own needs and preferences. The random-assignment design provides a strong test of the overall impact of this package, but it is less suited to determining which of the policy components or combinations of components was responsible for the effects. Our strategy was to examine experimental effects on four intervening processes—employment, income, parenting, and child care—inferring that those affected by the experimental manipulation are the best candidates to account for the effects of the program on children.

Employment and Income

New Hope was designed to have direct effects on parents' employment and income, both of which could, in turn, affect family resources, parents' psychological well-being, and parent–child relationships. Resource models emphasize the value of material and nonmaterial resources that accompany income (e.g., human, social, and cultural capital) (Becker, 1981; Coleman, 1988; Duncan & Brooks-Gunn, 2000; Haveman & Wolfe, 1994; Johnson, 1996), and socialization models stress poverty and income effects on parenting practices, values, and aspirations (Conger & Elder, 1994; McLoyd, 1990, 1998; Mistry, Vandewater, Huston, & McLoyd, 2002).

Both experimental and naturalistic investigations of welfare and employment policy illuminate the roles of employment and income. In two related syntheses of evidence from random-assignment employment and welfare policies, investigators concluded that policies that increased parent employment without

supplements to earnings did not improve overall income because people lost welfare benefits at about the same rate that their earnings increased. Those policies had few effects on young children, positive or negative (Morris, Huston, Duncan, Crosby, & Bos, 2001; Zaslow et al., 2002).

By contrast, policies like New Hope that included earnings supplements in the form of wage supplements or "income disregards" (allowing people to keep part of their welfare grant as their earnings increased) did boost income, and there were positive effects on children's achievement and social behavior as well (Morris et al., 2001; Zaslow et al., 2002). Subsequent analyses pooling the data from many experiments demonstrated that increased income during the preschool years was one positive contributor to children's achievement during the early school years, but increases in income did not affect achievement for children who were school age when their parents entered the experiment (Morris, Duncan, & Rodriguez, 2003). In fact, there is some evidence of negative impacts on children who were adolescents at study onset (Gennetian, Duncan, Knox, Vargas, & Clark-Kauffman, 2002; Morris et al., 2003).

These findings suggest that employment alone does not have consistent effects on younger children but that increases in income are one pathway by which policies increase young children's school performance and positive social behavior. A recent nonexperimental study of low-income families in three U.S. cities found that mothers' entry or exit from employment had no measurable effects on preschool children, but there was some evidence that mothers' entry into employment was associated with improved mental health for young adolescents, and leaving employment was associated with increased adolescent behavior problems (Chase-Lansdale et al., 2003).

Parent Well-Being and Parenting Practices

The nonexperimental literature is replete with findings showing that unemployment and poverty increase parents' psychological distress, which in turn leads to relatively harsh and nonsupportive parenting (e.g., McLoyd, 1998). By contrast, in the many welfare and employment experiments, including New Hope 2 years after random assignment, very few impacts on parenting practices were found (Huston et al., 2001; Morris et al., 2001).

Child Care and Out-of-School Activities

Child care and extracurricular activities represent another pathway by which welfare and employment policies may affect children's development. Although the New Hope program was not designed specifically to affect children's child-care experiences, the child-care benefit was administered in a way that encouraged the use of center-based child care and other "formal" arrangements for child supervision. During its first 2 years, the New Hope program produced a substantial increase in the use of center-based care and, for older children, participation in such structured out-of-school activities as team sports, lessons, and religious organizations (Huston et al., 2001).

Evidence from nonexperimental studies shows that preschool children who experience center care perform better on cognitive and school readiness measures than children who experience equal amounts of home-based care, even when child-care quality is statistically controlled (Loeb, Fuller, Kagan, & Carrol, 2004; National Institute of Child Health and Human Development [NICHD] Early Child Care Research Network & Duncan, 2003). In the NICHD study, however, early experience in centers was also associated with externalizing behavior problems in child care at age 4 (NICHD Early Child Care Research Network, 2003); there was no relation of center care experience to behavior problems in the Loeb et al. (2004) study. Among low-income children of young mothers, stable center-based child care predicted school readiness and positive social behavior (Yoshikawa, 2001).

The same group of random-assignment experiments used to identify employment and income as processes mediating policy effects was analyzed to test center-based child care as a pathway. Two findings emerged. First, although parents in both treatment and control groups in all studies had potential access to federal child-care subsidies, some policies included additional components ("enhanced child-care assistance") that increased availability and access to subsidies. These programs increased the use of center-based care, whereas programs without enhanced child-care assistance increased the use of home-based care (Crosby, Gennetian, & Huston, 2005). Second, when the data from all studies were pooled, center-based child care during the preschool years was one pathway by which policies led to higher school achievement in the early school years (Gennetian, Crosby, Dowsett, & Huston, 2004). The effects of center-based care on social behavior were few and inconsistent (Crosby, Huston, Dowsett, & Gennetian, 2004).

As children get older, organized activities away from home (e.g., religious and service activities, sports, scouts) provide supervision and opportunities to develop skills and social relationships with peers. Children and adolescents who participate in structured out-of-school activities have higher levels of achievement, school motivation, and social competence than do nonparticipants (Mahoney et al., 2005), and participation can insulate children in low-income families from violent neighborhoods (Rosier & Corsaro, 1993). There are no experimental studies, however, that allow a clear evaluation of the causal relation of such activities to development.

Gender and Age Differences in Program Impacts

Program impacts at the 2-year New Hope evaluation were more positive for boys than for girls. Several other experimental studies have shown slightly more positive impacts on achievement for boys than for girls, including New Chance (Quint, Bos, & Polit, 1997), the Indiana Welfare Reform Experiment (Beecroft, Cahill, & Goodson, 2002), and the Minnesota Family Investment Program (Gennetian & Miller, 2002), but impacts were greater for girls than boys in the Canadian Self Sufficiency Project (Morris & Michalopoulos, 2003). There were no gender differences in the National Evaluation of Welfare to Work (Hamilton et al., 2001).

Previous literature also indicates that programs increasing both income and center-based child care have more positive effects on children who are preschool age at study entry than on older children (e.g., Duncan & Brooks-Gunn, 1997, 2000; Gennetian et al., 2004; Morris et al., 2003). Therefore, we examined program impacts for two age groups—those who were ages 1–5 and those who were ages 6–10 at random assignment—testing the hypothesis that lasting effects will be more likely for the younger age group than for the older one.

Contributions of the Present Study

New Hope was included in the syntheses of welfare and employment experiments discussed above, but it stands out from most of the other experiments for several reasons: The policies being tested were more extensive and "generous"; it was not operated as part of the welfare system; data at two points in time were collected; and the evaluation contained more extensive measures of families and child development, using more sources of data, than did most of the others. It included extensive interviews with parents, interviews and standardized assessments with the children, reports from teachers, and details on family dynamics from an embedded ethnographic study. Hence, it provides an unusual opportunity to test theoretically derived hypotheses about the effects of a promising policy package on family functioning and child development in a true experimental design while also providing information about factors influencing developmental stability and change among children in low-income families. An initial report provided information about basic economic and family impacts (Huston et al., 2003), but in this article, we examine the effects on children in more depth, using longitudinal analyses to address developmental differences and duration of effects.

The principal research questions in the present article were as follows: (a) Are there impacts of New Hope on children's school achievement, motivation, and social behavior 5 years after families entered the study (which was 2 years after benefits ended)? (b) Do impacts at 5 years vary by child gender? (c) Do impacts vary by child age? (d) Do the impacts of the program that were observed 2 years after study entry decline over time or remain robust? and (e) Were there lasting program impacts on family resources, family processes, and children's environments outside the family?

Method

Sample

Participants in the New Hope experiment were recruited over a period beginning in July 1994 and ending in December 1995. The Child and Family Study (CFS) sample included all of the 745 sample members who had one or more children between the ages of 13 months and 10 years 11 months at the time of random assignment. Up to two children in each CFS family were identified as "focal children" to be studied. Interviews were administered to parents and focal children 2 and 5 years after random assignment; at the 5-year follow-up, children were between the ages of 6 and 16. The analyses presented in this article focus on 840 children in 561 families who responded to the 5-year follow-up survey. A mail survey was sent to teachers of children whose parents gave permission. Teacher-reported outcomes are based on the reports on 547 children whose teachers responded to our request.

Using the original 745 families as a base, the response rates were as follows: parents = 75%, children = 72%, and teachers = 63%. The percentages of program (77.1%) and control group (73.5%) members who responded did not differ significantly. A comparison of respondents and nonrespondents indicated significant differences on 3 of 14 baseline characteristics. Compared with nonrespondents, survey respondents were significantly more likely to be female than male, more likely to have ever worked full time prior to random assignment, and more likely to have lived as a child in a household that received AFDC. There were no significant differences on the remaining 11 characteristics, which are described as covariates in the analysis section below. Characteristics of the survey sample measured when parents first applied for New Hope are shown in Table 1.

Table 1
Baseline Characteristics of Parents

Variable	Value
Demographic characteristics	
Gender (%)	
Female	91.4
Male	8.6
Average age (years)	29.4
Race/ethnicity (%)	
African American, non-Hispanic	55.6
Hispanic	28.3
White, non-Hispanic	13.0
Asian/Pacific Islander	0.0
Native American/Alaskan Native	3.0
Marital status (%)	
Never married	61.3
Married, living with spouse	11.1
Married, living apart	10.5
Separated, divorced, or widowed	17.1
Number of children in household (%)	
1	24.1
2	28.7
3 or more	47.2
Age of youngest child (%)	
2 years or under	48.0
3–5 years	30.3
6 years or over	21.7
Labor force status	
Ever employed full time (%)	83.4
Approximate earnings in past 12 months (%)	
None	36.9
$1–999	16.4
$1,000–4,999	23.0
$5,000–9,999	13.2
$10,000–14,999	7.3
$15,000 or above	3.2
Current employment status (%)	
Employed	38.7
Not employed	55.6
Missing	5.7
Among those currently employed	
Average hourly wage ($)	6.35
Average hours worked per week (%)	
1–29	22.4
30 or more	77.6
Public assistance status	
Currently receiving AFDC, GA, food stamps, or Medicaid (%)	
Any type	81.1
AFDC	69.5
GA	0.9
Food stamps	77.4
Medicaid	75.6
Total prior AFDC/GA cash assistance (%)	
None	14.6
Less than 2 years	26.4
2 years or more but less than 5 years	25.9
5 years or more	67.9
Resided as a child in a household receiving AFDC (%)	34.8
Educational status	
Received high school diploma or GED (%)	60.6
Highest grade completed in school (average)	11.2
Currently enrolled in any type of education or training (%)	37.8

Note. $N = 561$. AFDC = Aid for Families With Dependent Children; GA = General Assistance; GED = General Educational Development diploma.

Use of New Hope Benefits and Services

To be eligible for benefits, a sample member had to have worked 30 hours per week in the prior month and have a household income below a specified threshold. Participants could use whichever benefits they needed, so benefit take-up was not expected to be universal. The vast majority (87.6%) of program group members received at least one of the three New Hope financial benefits during their 3-year eligibility period. Almost all (86.5%) of them received at least one earnings supplement, and those receiving an earnings supplement averaged a total of 14.2 months of receipt. Slightly more than half of the program group members used health insurance (55.7%) and/or child-care subsidies (52.1%). Those who used these benefits received health insurance for an average of 11.8 months and child-care subsidies for an average of 14.7 of the 36 months of eligibility.

The average earnings supplement was $125.89 per month, but supplement amounts varied with income and household size. Those with lower incomes and larger families received the most substantial benefits. Among the households that were using New Hope HMO health insurance, the average monthly payment was $278 plus an additional copayment of $30 that was paid by the participant. Average New Hope contributions for employer plans were $85 per month. Child-care benefits totaled $766 per month on average, $699 of which was paid by New Hope.

At the time of the 5-year survey, there were no significant program effects on receipt of subsidies for health insurance or child care. Between 85% and 90% of both program and control group members reported having access to health insurance, and about 16% of both groups reported receiving child-care assistance.

Overview of Data Collection

In-person interviews 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. Once parent permission to contact schools was obtained, a questionnaire was mailed to the child's teacher. 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 any poverty-related program. For children in middle school or high school, English and math teachers were surveyed whenever possible. At least one teacher report was received for 548 (65%) of the 847 children whose parents were interviewed. The reasons for missing questionnaires were that (a) the contact with the school failed or teacher did not return questionnaire (n = 187); (b) school ended for the summer, and we were unable to get new school information from the parents in the fall (n = 43); (c) parents refused permission (n = 51); and (d) child was not enrolled in school (n = 16).

Measures

Age-appropriate versions of the children's instruments were used. Some instruments were administered only to children age 9 and older, and a few questions were added for respondents who were 12 and older.

Academic Performance

Standardized achievement test scores. To assess reading and mathematical competencies, children completed four scales from the Woodcock–Johnson Achievement Battery—Revised (Woodcock & Johnson, 1990). Two of these (Letter–Word Identification and Passage Comprehension) measure reading skills; the average of these two constitutes the Broad Reading score. The other two scales (Applied Problems and Calculation) measure mathematics skills; the average of these two is the Broad Math score. The total score is the average of all four scales. The Woodcock–Johnson was selected because its normative sample is large and representative and it includes children from diverse ethnic groups and diverse types of schooling. The standard score for each scale is obtained 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, with a standard deviation of 15; reported reliabilities all exceed .90.

Parent reports. Parents rated their children's overall level of achievement on a 5-point scale ranging from *poor* to *excellent.* From their knowledge of recent report cards, parents evaluated their child's performance in reading, mathematics, and written work on 5-point scales (α = .87).

Parents responded "yes" or "no" to a set of three questions about *positive school experiences* (whether the child had been in a gifted program or received school awards for academic or other types of achievement) and to a set of three questions about *negative school experiences* (whether the child had been in special education, repeated a grade, or received poor grades). For adolescents (age 12+), parents reported whether the child had dropped out of school before graduating.

Teacher ratings of achievement. The teacher survey included the Academic subscale of the Social Skills Rating System (SSRS; Gresham & Elliott, 1990). 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 (α = .97). On a mock report card, teachers indicated children's current school performance on reading, oral language, written language, math, social studies, and science (a measure adapted from the NICHD Study of Early Child Care and Youth Development; http://secc.rti.org; α = .90).

The Classroom Behavior Scale (Wright & Huston, 1995) is a 12-item scale containing 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 (α = .97). The correlations among measures of achievement, shown in Table 2, were all moderate.

Children's Competence Beliefs, Values, and Efficacy

Motivation. Children were asked about their self-concept of ability, expectations for success, utility value, and attainment value for math and English/reading using items adapted from the Self and Task Perception Questionnaire (Eccles & Wigfield, 1995). Sample items include "How good at English are you?" and "How useful is what you learn in math?" Responses were on a 7-point scale ranging from *not at all or a little* to *very.* On the basis of intercorrelations among items, all items pertaining to English were averaged, and all items pertaining to math were averaged, yielding two summary scores.

Efficacy. Children's sense of efficacy was measured using the six-item Children's Hope Scale, adapted from the Hope Scale completed by the parents (Snyder et al., 1996). Each item is rated on a 6-point scale ranging from *none of the time* to *all of the time.* Sample items include "I think I'm doing pretty well" and "Even when others want to quit, I know I can find ways to solve the problem" (α = .81).

School engagement. Children's perceptions of their school environment were assessed with five items (e.g., "You feel close to others at your school," "You feel like you are a part of your school") using a 5-point response scale ranging from *not true at all* to *always true for you* (α = .84). These items were adopted from the Adolescent Heath Survey (http://www.cpc.unc.edu/projects/addhealth/codebooks/wave1).

Expectations for education and occupation. Children ages 9 and over were asked to indicate how sure they were that they would finish high school, go to college, and finish college using 5-point scales (1 = *not at all sure,* 5 = *very sure*) (Cook et al., 1996). Children were also asked about their occupational aspirations and expectations using a set of questions adapted from Cook et al. (1996). They were first asked what job they would really like to have (aspiration), followed by what job they thought they actually would have (expectation). Both responses were coded for

Table 2
Zero-Order Correlations Among Measures of Achievement and Classroom Behavior

Variable	1	2	3	4	5	6	7	8
1. WJ total	—							
2. WJ broad reading	.90	—						
3. Parent report—school achievement	.30	.29	—					
4. Parent report—reading	.37	.41	.68	—				
5. Teacher academic subscale	.46	.43	.34	.37	—			
6. Mock report card	.53	.50	.37	.41	.86	—		
7. Mock report reading/language	.49	.48	.34	.40	.84	.97	—	
8. Classroom behavior	.24	.23	.28	.27	.68	.54	.53	—

Note. WJ = Woodcock–Johnson.

prestige using updated scores developed by Nakeo and Treas (1994). The correlations among measures of motivation are shown in Table 3.

Children's Social Behavior

Positive behavior. The Positive Behavior Scale was developed for the New Chance survey (Quint et al., 1997). A parallel version for teachers contains similar or identical items. Its 25 items include items about compliance/self-control (e.g., "thinks before he/she acts," "usually does what I tell him/her"), social competence and sensitivity (e.g., "gets along well with other children," "shows concern for other people's feelings"), and autonomy (e.g., "tries to do things for him/herself," "is self-reliant"). Each item has a 5-point scale concerning how often the child shows the behavior described, ranging from *never* to *all of the time.* The Positive Behavior Scale was chosen for this study because it was judged by the investigators and community representatives in Milwaukee as appropriate for the populations being studied and because it was standardized on a multiethnic sample of mothers who had low incomes. Items for adolescents were adapted to be age appropriate (α = .91 for parents and α = .96 for teachers).

Problem behavior. The Problem Behavior Scale from the SSRS (Gresham & Elliott, 1990) was administered to both parents and teachers. The measure has two subscales. *Externalizing* problems include aggression and lack of behavior control (α = .81 for parents and α = .92 for teachers). *Internalizing* problems include social withdrawal and excessive fearfulness (α = .61 for parents and α = .78 for teachers).

Social Relationships

Perceived quality of peer relationships and friendships. The Loneliness and Social Dissatisfaction Questionnaire (Asher & Wheeler, 1985; Cassidy & Asher, 1992) measures the child's perceptions of peer relations and friendships. It contains 16 items that loaded on one factor in the standardization sample of 200 children in Grades 3 through 6 (e.g., "It's hard for me to make new friends"). Children aged 6 to 8 answered on a 3-point scale, and those aged 9 to 16 answered on a 5-point scale (1 = *always true,* 5 = *not true at all*) (α = .89). Scores for 6- to 8-year-olds were prorated to be equivalent to those of older children by multiplying each item by 5/3.

Intent attribution. The Intent Attributions and Feelings of Distress Measure (Crick & Dodge, 1996) presents hypothetical vignettes to assess children's intent attributions and feelings of distress when they are in provocation situations. The measure consists of four vignettes and two questions about each. Children's choices reflect their perceptions of the actor in the story as having either "hostile" or "benign" intent. In two of the stories, the provocation is physical (e.g., someone bumps into you); in the other two, it is social (e.g., someone has a party without inviting you) (α = .80). A large body of research shows that hostile attributions on this measure are associated with aggressive behavior; hence, it is used as an indirect indicator of children's aggressive tendencies (Crick & Dodge, 1996). The correlations among measures of social behavior are shown in Table 4.

Employment and income. Administrative records from the state of Wisconsin provided quarterly information about whether the parent was employed, earnings, and welfare receipt. Parents were asked about total income as well as wages and benefits received in their most recent job.

Parenting practices. Measures of parenting included parent reports, child reports, and interviewer ratings. On the basis of factor analyses and conceptual coherence, they were grouped into four composite scores: *effective child management, positive youth–parent relations, negative youth–parent relations,* and *warm and structured parenting.*

Effective child management was a composite based on parent reports of *control,* a five-item scale describing the frequency with which the child ignored or failed to obey the parent; *frequency of discipline,* six items assessing the frequency, in the prior week, with which parents had punished the child by grounding, taking away privileges, and spanking; *parenting stress,* five questions concerning the degree of difficulty that parents experienced interacting with and caring for their children; and *confidence in preventing harm,* a single item, "How confident are you that you will be able to prevent your child from getting into trouble?" *Positive youth–parent relations* was based on three child report measures: high positive

Table 3
Zero-Order Correlations Among Groups Measures of Motivation and Beliefs

Variable	1	2	3	4	5	6
1. English motivation	—					
2. Math motivation	.27	—				
3. Efficacy (hope)	.34	.34	—			
4. School engagement	.26	.27	.43	—		
5. Expectation to complete college	.16	.16	.24	.12	—	
6. Occupational expectation	.03	.07	.10	.05	.08	—

Table 4
Zero-Order Correlations Among Measures of Social Behavior

Variable	1	2	3	4	5	6	7	8	9
1. Positive behavior parent	—								
2. Positive behavior teacher	.24	—							
3. Externalizing—parent	−.48	−.16	—						
4. Externalizing—teacher	−.20	−.66	.22	—					
5. Internalizing—parent	−.31	−.06	.43	.02	—				
6. Internalizing—teacher	−.17	−.54	.16	.28	.16	—			
7. Friendship satisfaction	.11	.09	−.06	.05	−.14	−.20	—		
8. Hostile attribution total	−.11	−.09	.09	−.05	.05	.08	−.15	—	
9. Hostile attribution physical	−.08	−.10	.07	.01	.02	.06	−.13	.76	—

parent–child relations (McLoyd, Jayaratne, Ceballo, & Borquez, 1994), high parental acceptance and involvement from the Authoritative Parenting Scale (Steinberg, Lamborn, Dornbusch, & Darling, 1992), and youth report of parent monitoring (Kerr & Stattin, 2000). Negative youth–parent relations was a composite of child reports on the *negative relations* scale (McLoyd et al., 1994) and children's perceptions of low autonomy on the *psychological autonomy granting* of the Authoritative Parenting Measure (Steinberg et al., 1992). *Warm and structured parenting* was composed of parents' reports of warmth, interviewers' ratings of parental warmth, and parents' reports of the degree to which their family lives were characterized by regular family routines for such activities as children's homework, going to bed on weeknights, and eating dinner together as a family.

Child care and activities. Parents were asked about the number of months during the prior year in which the focal child had been in any *center-based care* (including child-care centers, either before or after school), *home-based care* by an adult, or care by someone 16 years old or younger, and whether the child had ever cared for him- or herself or had ever provided care for siblings. For analysis purposes, care by a minor, self-care, and caring for siblings were grouped as *care unsupervised by an adult.*

Out-of-school activities. Parents reported on children's participation in out-of-school activities during the school year and the summer. Responses for all questions were assessed using a 5-point scale ranging from *never* to *about every day.* Five activities were grouped under the rubric "structured activities" because they afforded opportunities for adult supervision, the acquisition of skills, and socializing with peers: lessons, organized sports, clubs and youth groups, religious classes and events, and recreation or community centers. These five activities were classified as "structured activities" at the 2-year evaluation. Participation in service and volunteer activities and in paid work was also assessed.

More details about all measures can be found in Huston et al. (2003).

Analysis Plan

Because New Hope was a random-assignment experiment, the primary method of evaluating impacts is comparison of program and control groups. We estimated program impacts by regressing (using ordinary least squares) each of our dependent measures on a dummy variable representing the family's experimental status in the program plus the following baseline variables: having a high school diploma or general equivalency diploma; gender of the parent reporting; parental age; race/ethnicity; having a child under the age of 2 years; having more than three children; receipt of welfare in the prior year; receiving AFDC in family of origin; having a car; having ever been employed full time; neighborhood (north side or south side); current employment status; and earnings in the year prior to random assignment. If the impacts were not estimated separately by gender or age, we controlled for the gender and age of the child as well. Although random assignment in a large sample should ensure that the two groups do not differ significantly on background characteristics, these baseline covariates are included in our regressions to increase the precision of the experimental–control contrasts. We analyzed variables separately rather than in multivariate groupings (e.g., Woodcock–Johnson, teacher-reported achievement, and parent-reported achievement) because the different sources of data were available for different numbers of children. Combining them would have resulted in considerable loss of data because of missing observations.

The coefficient on the experimental status variable captures the program impacts. Two-tailed tests with an alpha of .10 were used. This alpha level is equivalent to a one-tailed test at $p < .05$, which is appropriate for the majority of program effects that were predicted but leaves open the possibility of detecting unpredicted effects as well. Differences in program impacts for boys and girls and children of different ages were tested using the HT statistic, which tests the relevant interactions (D. Greenberg, Meyer, & Wiseman, 1993, p. 20). Where these differences were significant, they are reported. We used STATA to estimate Huber–White corrected standard errors (Huber, 1967; White, 1982) to adjust for the fact that the observations for children within the same family are not statistically independent.

The tables contain the regression-adjusted means of the control group, the difference between experimental and control groups, the experimental impacts coefficient and its standard error, and the effect size, which expresses the experimental effect as a fraction of the control group standard deviation. One noteworthy issue is why we estimated our model of program impacts on contextual variables with separate regressions rather than with a mediated structural-equations model. We did so to capitalize to the extent possible on the experimental nature of the data. Randomization occurred with respect to receipt of the bundle of program services. Only by treating each outcome and potential intervening process in a separate experimental–control regression is the purity of the experimental design maintained.

Results

Are There Impacts of New Hope on Children's Development at the 5-Year Follow-Up, and Do These Impacts Differ for Girls and Boys?

Main Effects of Gender

In this section, gender differences in experimental impacts on several outcomes are discussed. Although we found that program impacts were often larger for boys than girls, girls in both program and control groups generally had more favorable scores than did boys. Girls scored significantly higher than boys on the parent and teacher reports of total academic achievement (parent report, $B = -0.38$, $SE = 0.07$, $p < .001$; Academic subscale, $B = -0.23$, $SE = 0.09$, $p < .01$; mock report card, $B = -0.19$, $SE = 0.09$, $p <$

.05) and reading skill (parent report, $B = -0.40$, $SE = 0.07$, $p < .001$; mock report card, $B = -0.17$, $SE = 0.09$, $p < .05$). Gender differences were nonsignificant on the Woodcock–Johnson total score and Broad Math score and were small on the Broad Reading score ($B = -2.21$, $SE = 1.13$, $p < .10$). Girls had higher perceived competence than boys in English ($B = -0.16$, $SE = 0.07$, $p < .05$) and higher expectation to finish college ($B = -0.20$, $SE = 0.10$, $p < .05$), but boys had higher perceived competence in math ($B = 0.17$, $SE = 0.07$, $p < .05$). Girls had slightly higher occupational expectations ($B = -2.79$, $SE = 1.13$, $p < .10$), and there were no gender differences in school engagement. Girls scored higher on positive behavior as rated by parents ($B = -0.10$, $SE = 0.04$, $p < .01$) and teachers ($B = -0.19$, $SE = 0.06$, $p < .01$), and boys scored higher on parent-rated externalizing problems ($B = 0.12$, $SE = 0.05$, $p < .05$). There were no significant main effects of gender on the other social behavior measures.

School Achievement

Overall, New Hope had positive impacts on several indicators of children's achievement in reading and literacy. The experimental impacts on the three independent sources of information about total school achievement and reading/literacy are shown in Table 5. There were no significant effects on any measure of math achievement, so the results are not shown.

Children in the New Hope program group performed better on the Broad Reading score of the Woodcock–Johnson test of achievement than did children in the control group. The impacts on the total achievement score were also positive but just short of statistical significance ($p = .108$). The effect size was modest; the average program group child scored 0.12 of a standard deviation above the average control group child on the combined reading subtests.

New Hope program parents also reported higher reading and literacy skills for their children than did control group parents, but they did not report higher total achievement (see Table 5). There were no overall impacts of the program on parent or teacher reports of positive indicators of school progress (i.e., gifted services and academic or other awards) or negative indicators of school progress (i.e., grade retention, remedial services, poor grades, or dropping out) (means not shown).

There were no overall differences in teachers' ratings of academic skills and behavior of program group and control group children, largely because teacher-rated impacts differed markedly for boys and girls. For teacher reports of both academic skills and classroom behavior, there was a significant interaction of Gender × Treatment ($p < .01$). Teachers rated program group boys significantly higher than control group boys on the SSRS Academic subscale and on the Classroom Behavior Scale (see Table 5). At the same time, teachers rated program girls lower than control girls on both of these measures, although the differences were significant only for classroom skills.

Children's Competency Beliefs and Expectations for Their Futures

There were no overall program effects on children's perceived competency in English and math or perceived efficacy. Program effects on school engagement and educational expectations differed significantly for boys and girls (interaction $p < .10$ for school engagement and $p < .05$ for educational expectations). Boys in the program group had higher educational expectations and more engagement with school than did control group boys, but girls did not (see Table 6). Unlike the findings at the 2-year follow-up, there were no program effects on occupational expectations for either boys or girls.

Social Behavior

Parents of children in New Hope families rated them higher on positive social behavior than did parents of control children, but there were no program effects on parent ratings of problem behaviors (see Table 7). The impacts on teacher reports of social behavior differed by gender (interaction for positive behavior, $p < .05$; for internalizing problems, $p < .10$). Overall, there were positive impacts for boys and negative impacts for girls. Teachers rated New Hope boys significantly higher on positive social behavior than they did control boys. They rated New Hope girls significantly higher than controls on internalizing problems (see Table 7).

Children's own reports of hostile attributions about peer provocations also differed by experimental treatment and gender (interaction, $p < .10$). Boys in New Hope families were significantly less likely than control boys to perceive hostile intent in vignettes about peer physical or social actions; there was no program effect for girls (see Table 7).

Further Tests of Gender Differences in Impacts

A subgroup of the children in this study were siblings, and because we chose opposite-sex siblings when possible, many of the boys and girls in the study were brother and sister. We conducted follow-up within-family analyses on this subsample to ensure that the gender differences in program impacts were not an artifact of chance differences in family circumstances of girls and boys. Because children in the same family were always in the same experimental treatment, we could not do experimental–control comparisons within families. Instead, we analyzed gender differences within families. Given the pattern of experimental and control means for the whole sample, we expected that in New Hope families, brothers' and sisters' scores would not be significantly different from one another. In control families, we expected brothers and sisters to differ.

On the whole, the sibling comparisons supported the findings for the total sample. Gender differences were significant in the control group but not the program group on the Academic subscale of the SSRS (program, $B = 0.08$, $SE = 0.14$, *ns;* control, $B = -0.41$, $SE = 0.15$, $p < .05$), the classroom skills measure (program, $B = 0.12$, $SE = 0.18$, *ns;* control, $B = -0.51$, $SE = 0.15$, $p < .01$), expectation to complete college (program, $B = -0.07$, $SE = 0.18$, *ns;* control, $B = -0.47$, $SE = 0.16$, $p < .001$), the Positive Behavior Scale (program, $B = 0.10$, $SE = 0.11$, *ns;* control, $B = -0.35$, $SE = 0.11$, $p < .01$), and hostile responses on the intent attribution measure (program, $B = 0.25$, $SE = 0.25$, *ns;* control, $B = 0.76$, $SE = 0.25$, $p < .01$). For school engagement and the teacher-rated externalizing, the direction of the coefficients in the control and program groups was consistent with the overall impact findings: school engagement (program, $B = 0.12$, $SE =$

Table 5
Impacts on Achievement and Classroom Behavior

Outcome	Boys				Girls				Both genders			
	Control group *M*	*B*	*SE*	Effect size[a]	Control group *M*	*B*	*SE*	Effect size[a]	Control group *M*	*B*	*SE*	Effect size[a]
All ages												
Woodcock–Johnson test of achievement[b]												
Total standard score	94.12	1.68	1.58	0.11	94.21	2.04	1.38	0.14	94.23	1.72	1.07	0.12
Broad reading score	94.85	2.88	1.78	0.18	96.94	1.78	1.58	0.11	96.01	2.05	1.21*	0.12
Parent ratings of achievement												
Overall achievement	3.56	0.01	0.11	−0.01	3.92	0.03	0.10	0.03	3.73	0.03	0.07	0.01
Reading	3.28	0.27	0.12**	0.23	3.69	0.19	0.11	0.16	3.47	0.24	0.08***	0.21
Teacher ratings of achievement												
SSRS Academic subscale	2.92	0.30	0.14**	0.30	3.36	−0.17	0.12	−0.17	3.15	0.06	0.09	0.06
Mock report card—total	2.75	0.08	0.14	0.08	2.96	0.02	0.14	0.02	2.86	0.04	0.09	0.04
Mock report card—reading	2.70	0.14	0.14	0.13	2.91	0.05	0.15	0.04	2.81	0.09	0.10	0.08
Classroom behavior (Classroom Behavior Scale)	3.34	0.31	0.14**	0.30	3.97	−0.28	0.12**	−0.27	3.66	0.02	0.09	0.02
Ages 6–10 years												
Woodcock–Johnson test of achievement[b]												
Total standard score	97.75	1.57	2.11	0.11	98.77	2.41	2.07	0.16	98.25	1.87	1.48	0.13
Broad reading score	97.75	2.49	2.17	0.15	100.28	2.90	1.95	0.18	99.14	2.16	1.45*	0.13
Parent ratings of achievement												
Overall achievement	3.92	−0.13	0.13	−0.12	4.07	−0.07	0.15	−0.07	3.99	−0.11	0.10	−0.10
Reading	3.44	0.21	0.15	0.18	3.72	0.08	0.17	0.07	3.58	0.13	0.11	0.11
Teacher ratings of achievement												
SSRS Academic subscale	3.08	0.16	0.18	0.16	3.52	−0.21	0.18	−0.21	3.30	−0.05	0.12	−0.05
Mock report card—total	2.93	−0.01	0.17	−0.01	3.11	−0.14	0.19	−0.14	3.02	−0.07	0.12	−0.07
Mock report card—reading	2.82	0.03	0.18	0.03	3.08	−0.15	0.21	−0.14	2.95	−0.05	0.13	−0.05
Classroom Behavior Scale	3.36	0.35	0.16**	0.34	4.09	−0.31	0.19*	−0.30	3.72	0.00	0.12	0.00
Ages 11–16 years												
Woodcock–Johnson test of achievement[b]												
Total standard score	88.83	2.65	2.70	0.18	89.86	0.76	1.94	0.05	89.43	1.55	1.53	0.10
Broad reading score	90.51	4.23	3.55	0.26	94.05	−0.54	2.55	−0.03	92.41	1.62	2.00	0.10
Parent ratings of achievement												
Overall achievement	3.09	0.20	0.18	0.19	3.76	0.14	0.16	0.13	3.45	0.13	0.11	0.12
Reading	3.13	0.23	0.17	0.19	3.67	0.25	0.16	0.21	3.39	0.26	0.11**	0.23
Teacher ratings of achievement												
SSRS Academic subscale	2.66	0.57	0.23**	0.57	3.18	−0.06	0.19	−0.06	2.96	0.19	0.15	0.19
Mock report card—total	2.35	0.38	0.28	0.39	2.75	0.25	0.23	0.26	2.59	0.27	0.16*	0.28
Mock report card—reading	2.43	0.49	0.24**	0.45	2.69	0.31	0.23	0.28	2.61	0.32	0.16**	0.30
Classroom Behavior Scale	3.32	0.26	0.27	0.26	3.82	−0.15	0.18	−0.15	3.58	0.06	0.15	0.06

Note. SSRS = Social Skills Rating System.
[a] The 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 entire research sample, even if the table shows impacts for subgroups.
[b] Woodcock–Johnson scores are age standardized with a mean of 100 and a standard deviation of 15.
* $p < .10$. ** $p < .05$. *** $p < .01$. All p values were two-tailed.

Table 6
Impacts on Motivation and Beliefs

Competency beliefs outcome	Boys				Girls				Both genders			
	Control group *M*	*B*	*SE*	Effect size[a]	Control group *M*	*B*	*SE*	Effect size[a]	Control group *M*	*B*	*SE*	Effect size[a]
All ages												
Child's self-perceived ability												
English	5.70	0.10	0.11	0.10	5.93	−0.08	0.10	−0.08	5.80	0.03	0.08	0.03
Math	5.95	−0.10	0.10	−0.10	5.71	−0.01	0.11	−0.01	5.83	−0.06	0.08	−0.05
School engagement	3.86	0.23	0.12*	0.25	4.00	−0.07	0.12	−0.08	3.93	0.09	0.08	0.10
Expectation to complete college	3.89	0.43	0.14***	0.38	4.30	−0.07	0.15	−0.06	4.06	0.25	0.10**	0.22
Occupational expectation	62.22	1.37	2.18	0.07	65.75	0.61	2.45	0.03	64.02	0.88	1.60	0.04
Ages 6–10 years												
Child's self-perceived ability												
English	5.78	0.02	0.15	0.02	6.05	−0.18	0.15	−0.17	5.90	−0.06	0.11	−0.06
Math	6.12	−0.06	0.12	−0.06	5.93	0.00	0.14	0.00	6.04	−0.03	0.09	−0.03
School engagement	4.09	0.27	0.20	0.28	4.51	−0.38	0.33	−0.40	4.26	0.01	0.17	0.01
Expectation to complete college	4.29	0.21	0.24	0.19	4.35	0.06	0.33	0.05	4.32	0.15	0.19	0.14
Occupational expectation	60.77	3.23	2.89	0.16	63.08	2.05	4.02	0.10	61.99	2.39	2.24	0.12
Ages 11–16 years												
Child's self-perceived ability												
English	5.65	0.12	0.17	0.12	5.81	0.00	0.14	0.00	5.71	0.11	0.11	0.10
Math	5.68	−0.08	0.17	−0.07	5.41	0.05	0.17	0.04	5.54	−0.01	0.12	−0.01
School engagement	3.68	0.37	0.17**	0.39	3.82	0.07	0.14	0.08	3.76	0.21	0.10**	0.22
Expectation to complete college	3.72	0.47	0.17***	0.43	4.23	−0.04	0.18	−0.04	3.95	0.28	0.13**	0.26
Occupational expectation	63.08	1.01	3.38	0.05	67.67	0.16	3.51	0.01	65.63	0.16	2.43	0.01

[a] The 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 entire research sample, even if the table shows impacts for subgroups.
* $p < .10$. ** $p < .05$. *** $p < .01$. All p values were two-tailed.

0.13, *ns;* control, $B = -0.12$, $SE = 0.14$, *ns*), externalizing (program, $B = -0.18$, $SE = 0.14$, *ns;* control, $B = 0.20$, $SE = 0.14$, *ns*). There were no apparent patterns for internalizing (program, $B = -0.09$, $SE = 0.11$, *ns;* control, $B = -0.02$, $SE = 0.11$, *ns*).

Are Impacts Greater for Younger Children?

Impacts were tested for two age groups: children who were 1–5 and 6–10 years old at study entry (and were 6–10 and 11–16 at the follow-up); within each group, impacts on boys and girls were examined separately. The results for achievement are shown in Table 5 and for social behavior in Table 7. There was an interaction of Treatment × Age for only one variable, the mock report card measure of reading ($p < .10$). (Most of the motivation measures were administered only to children age 9 and older, so the number of cases in the younger age group was low; therefore, age differences are not tested.) Although the impacts did not differ by age for most outcomes, there was some tendency for positive impacts to be greater among the older than among the younger children.

Did Impacts of the Program Decline Over Time, Remain Robust, or Increase?

For those variables that were measured at both the 2- and 5-year assessments, we present two types of comparisons. In Table 8, the effect sizes for the total samples measured at each time period are shown; these data include children who were measured at one time period but are missing data for the other. Children are missing data for a range of reasons, but it is noteworthy that the youngest children in the sample are excluded from the teacher reports because they were not in school at the 2-year follow-up.

We also conducted longitudinal analyses for children with data at both time periods. The analyses were identical to the impact analyses at a single time period except that each child had two scores—one for each time period. The effect sizes in Table 8 represent the longitudinal sample. Time and interactions of Time × Treatment and Time × Treatment × Gender (along with the other required two-way interactions) were added to the model. The Huber–White correction for clustering in STATA adjusts the standard errors for nonindependent observations from siblings.

For 6 of the 11 dependent variables, there were significant impacts of treatment or interactions of treatment with gender

Table 7
Impacts on Social Behavior

Outcome	Boys				Girls				Both genders			
	Control group *M*	*B*	*SE*	Effect size[a]	Control group *M*	*B*	*SE*	Effect size[a]	Control group *M*	*B*	*SE*	Effect size[a]
All ages												
Positive Behavior Scale												
Parent report	3.77	0.07	0.06	0.13	3.87	0.08	0.06	0.15	3.81	0.08	0.04*	0.15
Teacher report	3.42	0.17	0.09*	0.24	3.77	−0.18	0.08**	−0.26	3.59	0.01	0.06	0.01
Problem Behavior Scale												
Externalizing—parent	2.41	−0.09	0.25	−0.12	2.28	−0.04	0.07	−0.06	2.36	−0.09	0.06	−0.13
Externalizing—teacher	2.14	−0.04	0.74	−0.04	1.97	0.16	0.11	0.18	2.06	0.04	0.08	0.05
Internalizing—parent	2.40	−0.04	0.56	−0.10	2.39	−0.03	0.07	−0.05	2.40	−0.03	0.05	−0.05
Internalizing—teacher	2.28	−0.05	0.56	−0.07	2.18	0.16	0.09*	0.24	2.24	0.03	0.06	0.05
Social relationships												
Peer relationships—child	4.09	0.06	0.07	0.09	4.18	−0.03	0.07	−0.04	4.14	0.02	0.05	0.02
Hostile intent total—child	3.50	−0.50	0.21**	−0.25	2.95	−0.01	0.20	0.00	3.22	−0.24	0.15	−0.12
Hostile intent physical	1.47	−0.35	0.14**	−0.26	1.08	−0.02	0.13	−0.02	1.27	−0.18	0.10*	−0.13
Ages 6–10 years												
Positive Behavior Scale												
Parent report	3.81	0.09	0.08	0.17	3.92	0.01	0.08	0.02	3.87	0.03	0.06	0.07
Teacher report	3.51	0.13	0.12	0.18	3.91	−0.25	0.14	−0.37	3.70	−0.05	0.08	−0.08
Problem Behavior Scale												
Externalizing—parent	2.37	−0.10	0.10	−0.14	2.17	−0.04	0.09	−0.06	2.28	−0.07	0.07	−0.10
Externalizing—teacher	2.16	−0.04	0.13	−0.05	1.96	0.11	0.16	0.12	2.07	0.01	0.10	0.01
Internalizing—parent	2.35	−0.01	0.09	−0.02	2.31	0.02	0.08	0.03	2.34	−0.01	0.06	−0.02
Internalizing—teacher	2.17	0.00	0.11	0.01	2.10	0.19	0.15	0.28	2.15	0.07	0.09	0.10
Social relationships												
Peer relationships—child	4.17	−0.07	0.09	−0.10	4.14	0.01	0.11	0.01	4.17	−0.05	0.07	−0.08
Hostile intent total—child	3.36	−0.38	0.27	−0.19	2.93	−0.02	0.32	−0.01	3.14	−0.17	0.21	−0.08
Hostile intent physical	1.39	−0.24	0.17	−0.18	1.28	−0.34	0.20*	−0.26	1.31	−0.22	0.13*	−0.17
Ages 11–16 years												
Positive Behavior Scale												
Parent report	3.69	0.07	0.08	0.13	3.81	0.16	0.07**	0.30	3.75	0.12	0.06**	0.23
Teacher report	3.26	0.27	0.17	0.39	3.63	−0.07	0.12	−0.11	3.46	0.10	0.09	0.14
Problem Behavior Scale												
Externalizing—parent	2.52	−0.13	0.11	−0.18	2.36	0.01	0.11	0.01	2.46	−0.09	0.08	−0.13
Externalizing—teacher	2.11	−0.04	0.18	−0.04	1.97	0.20	0.16	0.23	2.06	0.03	0.11	0.04
Internalizing—parent	2.52	−0.18	0.10*	−0.28	2.47	−0.06	0.11	−0.09	2.49	−0.11	0.07	−0.17
Internalizing—teacher	2.47	−0.18	0.15	−0.26	2.26	0.14	0.11	0.21	2.37	−0.03	0.09	−0.04
Social relationships												
Peer relationships—child	4.00	0.25	0.11**	0.36	4.19	0.01	0.11	0.01	4.11	0.09	0.07	0.14
Hostile intent total—child	3.72	−0.67	0.32**	−0.33	3.05	−0.10	0.29	−0.05	3.31	−0.26	0.21	−0.13
Hostile intent physical	1.65	−0.56	0.21***	−0.43	0.92	0.25	0.18	0.19	1.24	−0.08	0.14	−0.06

[a] The 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 entire research sample, even if the table shows impacts for subgroups.
* $p < .10$. ** $p < .05$. *** $p < .01$. All p values were two-tailed.

that were not modified by time period, showing that treatment *impacts* did not differ over time. There were significant main effects of treatment for occupational expectations ($B = 8.81$, $SE = 1.32$, $p < .10$) and significant Treatment × Gender interactions on teacher-rated achievement ($B = 0.31$, $SE = 0.15$, $p < .05$), expectation to attend college ($B = 0.72$, $SE = 0.21$, $p < .001$), teacher-rated positive behavior ($B = 0.26$, $SE = 0.10$, $p < .001$), parent-rated externalizing ($B = -0.26$, $SE = 0.10$, $p < .05$), teacher-rated externalizing ($B = -0.49$, $SE = 0.13$, $p < .001$), and teacher-rated internalizing ($B = -0.24$, $SE = 0.10$, $p < .05$). The two-way interaction of Treatment × Gender was also significant for classroom skills ($B = 0.49$, $SE = 0.15$, $p < .001$) and expectation to complete college ($B = 0.72$, $SE = 0.21$, $p < .001$), but these two were modified by time.

On three dependent variables, Treatment × Gender × Time interactions were significant, indicating that for these behaviors, the pattern of impacts for boys and girls changed over time. The three-way interaction of Treatment × Gender × Time was significant for classroom skills ($B = 0.40$, $SE = 0.24$, $p < .10$),

Table 8
Comparisons of Effect Sizes for Achievement, Motivation, and Social Behavior for Variables Measured at 2- and 5-Year Follow-Ups

	Boys				Girls				Both genders			
	2-year		5-year		2-year		5-year		2-year		5-year	
Variable	All cases[a]	Long sample[b]	All cases	Long sample	All cases	Long sample	All cases	Long sample	All cases	Long sample	All cases	Long sample
Overall achievement—parent	0.09	0.08	−0.01	0.11	0.05	0.08	0.03	0.11	0.09	0.08	0.01	0.08
SSRS Academic subscale	0.33**	0.31	0.30**	0.45**	0.12	−0.05	−0.17	−0.05	0.25**	0.16	0.06	0.15
Classroom Behavior Scale	0.38**	0.46*	0.30**	0.36*	−0.02	−0.01	−0.27**	−0.22	0.15	0.12	0.02	0.03
Expectation to complete college	0.46**	0.46*	0.38***	0.49***	0.01	−0.06	−0.06	0.18	0.23*	0.21	0.22**	0.37
Occupational expectation	0.24*	0.35**	0.07	0.15	0.05	0.19	0.03	0.04	0.19*	0.31	0.04	0.06***
Positive behavior—parent	0.22*	0.23*	0.13	0.29**	−0.17	−0.16	0.15	0.14	0.03	0.00	0.15*	0.21**
Positive behavior—teacher	0.50**	0.64***	0.24*	0.37*	0.05	−0.14	−0.26**	−0.22	0.25**	0.16	0.01	0.04
Externalizing—parent	−0.19	−0.23*	−0.12	−0.14	0.15	0.09	−0.06	0.03	−0.02	−0.07	−0.13	−0.09
Externalizing—teacher	−0.51**	−0.63***	−0.04	−0.12	0.27*	0.34**	0.18	0.43**	−0.10	−0.08	0.05	0.12
Internalizing—parent	−0.17	−0.09	−0.10	−0.07	0.12	0.18	−0.05	0.07	−0.02	0.01	−0.05	−0.05
Internalizing—teacher	−0.22	−0.33	−0.07	−0.10	0.07	0.25	0.24*	0.22	−0.10	−0.05	0.05	0.04

Note. Long. = longitudinal; SSRS = Social Skills Rating System.
[a] Includes all cases at each time period, so they represent slightly different sets of children at the two time periods. Sample sizes were as follows: parent ratings (boys = 424; girls = 401; full sample = 825); teacher ratings (boys = 254; girls = 275; full sample = 529); child report (boys = 424; girls = 401; full sample = 825).
[b] Represents children assessed at both time periods. Sample sizes were as follows: parent ratings (boys = 270; girls = 259; full sample = 529); teacher ratings (boys = 115; girls = 130; full sample = 245); child report (boys = 154; girls = 153; full sample = 307).
* $p < .10$. ** $p < .05$. *** $p < .01$. All p values were two-tailed.

expectation to complete college ($B = -0.65$, $SE = 0.37$, $p < .10$), and teacher-rated externalizing problems ($B = 0.41$, $SE = 0.22$, $p < .10$). There were no significant interactions of Treatment × Time, and there were no treatment effects on the remaining two dependent variables: parent-reported achievement and parent-reported positive social behavior.

Both the longitudinal analyses and the comparison of all children at the two time periods suggest that the positive impacts of New Hope on boys' achievement, classroom behavior, and educational expectations remained robust over time; the effect sizes at the two age periods are similar, and the experimental impacts were not moderated by time in the longitudinal analyses. The impacts on girls' teacher-rated achievement and social behavior were considerably more negative at 5 years than at 2 years. By contrast, impacts for both genders on parent-rated positive behavior were slightly though not significantly higher at 5 years, largely because of changes in the positive direction for girls.

Program Impacts on Children's Environments

One way of understanding why or how New Hope affected children's achievement is to examine its impacts on their families and on their everyday experiences (more details of these analyses can be found in Huston et al., 2003). New Hope was intended to increase parent employment and family income, so we examine the patterns of effects over the 5-year period.

Employment

New Hope increased parent employment, as measured by the number of quarters employed, during the first 2 years of the program, but the differences diminished to nonsignificant levels during the last 3 years. The program group worked an average of 3.0 quarters per year during the first 2 years, as compared with 2.6 and 2.7 quarters for the control group (Year 1, $p < .001$, effect size [ES] = 0.27; Year 2, $p < .01$, ES = 0.18). The differences were nonsignificant in the last 3 years of the program (Year 3 program = 3.0, control = 2.9; Year 4 program = 2.9, control = 2.8; Year 5 program = 2.9, control = 2.8).

Even though there were no differences in the amount of employment by the 5-year follow-up, there was some evidence that New Hope participants had more stable jobs paying higher wages. Among the parents who worked in the 1st year (the great majority), a larger proportion of the program group stayed employed for more than 12 consecutive quarters (43.4% program vs. 36.5% control, $p < .05$, ES = 0.14). Program group members were also slightly more likely to have wages that exceeded $11 per hour (26.6% vs. 20.0%, $p < .10$, ES = 0.16).

Income

Total income includes earnings, EITC benefits, the New Hope supplement, welfare, and food stamps. New Hope increased average annual income during the entire follow-up period by about 7%, or $883 ($14,039 for the program group, compared with $13,156 for the control group). Most of the impacts occurred during Years 1 through 3, while the program was still in effect. The impacts in Years 4 and 5 remained positive but were not statistically significant (see Huston et al., 2003, for more detail).

Poverty rates are calculated by comparing annual income for each family with the poverty line appropriate for that family's size. Because this measure of poverty is based on income calculated from administrative records and does not include other sources of household income, it is not directly comparable to the official poverty rate, but it provides one benchmark to compare treatment and control families' economic well-being. Over the entire period, 52.7% of the program group had incomes below the poverty line, compared with 66.3% of the control group ($p < .05$, ES = 0.20).

Parenting

There were relatively few impacts on parenting. For the sample as a whole, there were no significant impacts on any of the four aggregate measures of parenting—effective child management, warm and structured parenting, positive parent–child relations, and negative parent–child relations—nor were there significant interactions of program with gender. For older children (11–16 years old), however, program parents reported higher levels of effective child management (program = 3.90, control = 3.77, $p < .05$).

Child Care

By contrast, there were large and consistent program impacts on the types of child care experienced by the children in the survey sample families during the prior year, even though the New Hope child care benefit had ended and most children were in school. Children from program group families spent significantly more months in center-based care (program = 3.7, control = 2.6, $p < .01$, ES = 0.23) and before and after school programs (program = 2.2, control = 2.0, $p < .10$, ES = 0.15). The difference in center care was most pronounced for younger children (ages 6–10: program = 4.7, control = 3.3, $p < .01$, ES = 0.50), and the impacts on girls in this age group were significantly greater than impacts for boys (girls: program = 5.3, control = 3.0, $p < .01$, ES = 0.30; boys: program = 4.2, control = 3.5, *ns*, ES = 0.15).

Program children spent significantly fewer months in home-based care (program = 4.9, control = 6.1, $p < .01$, ES = −0.24), particularly in their own homes, than did children from control group families. Among older children (11–16 years old), program group children also spent fewer months in unsupervised care (program = 3.4, control = 4.3, $p < .10$, ES = −0.20). There were no systematic gender differences in home-based or unsupervised care impacts.

Structured Activities

Program group parents reported that their children engaged in significantly more religious classes and events (program = 2.9, control = 2.7, $p < .05$, ES = 0.18) and more service and volunteer activities (program = 1.67, control = 1.49, $p < .01$, ES = 0.18) than did control group children. For adolescents (13 and older), New Hope led to higher levels of participation in a composite score for structured activities, including lessons, organized sports, clubs and youth groups, religious activities, and community centers (program = 2.6, control = 2.3, $p < .05$, ES = 0.32).

Discussion

In this article, we examined the long-term effects on children and families of a package of policies designed to reduce poverty

and provide work supports to low-income adults. These data provide information about whether the impacts on families and children endured or declined after families' eligibility for benefits ended. Five years after parents entered the New Hope program (and 2 years after benefits ended), many of the effects of the New Hope program on their children's achievement, motivation, and social behavior remained. Children in New Hope families performed better than those in control families on academic achievement—particularly reading—as measured by three independent sources: standardized test scores, parent reports, and teacher reports. Although the absolute effects are not large, they are sufficient to be socially important, given the long time period between the program and the measured outcomes. For example, the long-term gains in achievement on the Woodcock–Johnson test were 1.5 to 3.0 points, about one third the size of the gains of 5 to 7 points at age 12 produced by the Abecedarian program, a very intensive and expensive early intervention program (Ramey et al., 2000).

Gender Differences in Impacts

At the 2-year follow-up, the program had more positive impacts on boys than on girls, and this gender difference in impacts was sustained or increased after 5 years. The differences occurred primarily in school-related measures—teachers' ratings of academic achievement, classroom study skills, and positive social behavior, which includes compliance, sensitivity to others, and autonomy. Parents agreed with teachers that New Hope boys displayed more positive social behavior than did control boys, and the boys themselves expressed higher expectations for future educational attainment, higher levels of school engagement, and less hostile attributions for hypothetical provocations by peers, an indirect index of aggressive behavior. In short, data from teachers, parents, and self-reports converge, showing positive impacts for boys.

The picture for girls is less encouraging. Although New Hope girls' Woodcock–Johnson test scores and parent reports of achievement were both slightly better than those of controls, the hints of negative impacts on teacher-rated behavior at 2 years became more pronounced at the 5-year follow-up. New Hope parents rated their daughters' positive behavior more favorably than did control parents, but teachers rated program girls lower on classroom study skills, lower on positive social behavior, and higher on internalizing behavior problems.

The reasons for these gender differences continue to be elusive. We examined several possibilities. There was no support for the ideas that New Hope girls became more independent or assertive as a result of their parents' involvement in the world of work, or that they assumed more responsibility for household or child-care tasks than control girls did (Bos et al., 1999; Huston et al., 2003). Ethnographic data suggest that parents may have allocated more resources to their sons than to their daughters because they worried about sons becoming delinquent (Gibson & Weisner, 2002). We have no direct information about expenditure of resources, but there was some indirect support for this idea at the 2-year follow-up: Boys in New Hope families were more likely than girls to be in after school programs. The reasons for the negative impacts on girls remain unclear, but the findings are nevertheless of concern; problematic behavior at school could result in lower educational attainment for girls.

Developmental Differences

We found no support for the prediction that impacts on achievement would be more positive for children who were in their preschool years (age 5 or younger) than for those who were school age (6 through 10 years old) when their parents entered the New Hope program. If anything, the positive impacts on achievement and social behavior were more pronounced for older children, especially older boys—a finding that is particularly notable because those children were in early to middle adolescence at the 5-year follow-up. The fact that positive impacts endured across the years from middle childhood to adolescence suggests that they may have lasting consequences for later development as children move through adolescence into adulthood.

Why did New Hope produce impacts on achievement for older children when the other studies included in the Morris et al. (2003) synthesis did not? The New Hope program may have affected the circumstances surrounding school-age children more than most of the other welfare and employment programs did. It provided more extensive and intensive earnings supplements and work supports than did most of the other programs evaluated. The evaluation methods were also different. Most of the significant impacts of New Hope occurred for reading, literacy, and academic motivation but not for math or total achievement. Several of the other studies measured only total achievement or school readiness, and most had only one, or at most two, sources of information.

Developmental Continuity and Change

The data from two time points provide information about the robustness and durability of program impacts. Both longitudinal analyses and comparison of effect sizes at the two time periods indicate that program impacts on boys' achievement, classroom behavior, and educational expectations were robust; the effect sizes at both time periods were similar, and the longitudinal analysis did not indicate significant changes in most of the experimental impacts over time. The size of the impacts on social and problem behavior, however, declined over time (or, in the case of girls, became more negative).

Given the fact that the intervention ended 2 years before the last data collection point, the sustained effects on achievement are noteworthy. Earlier in this article, we proposed mechanisms that could underlie developmental continuity; they are not mutually exclusive. First, the intervention may alter the trajectory of behavior, which may alter the course of development and lead to changes in the child's future environments. The better school performance that children demonstrated at the 2-year evaluation could have led to experiences of success, positive attitudes about school, and positive perceptions by teachers that were self-perpetuating. The treatment-induced changes in children's behavior may also have affected home and school environments, either by eliciting particular reactions from the people around them or by leading the children to seek out different activities, settings, and peers. For example, New Hope children and adolescents participated in more structured extracurricular activities; some of this participation probably occurred at the children's own initiative.

Second, continuity of contexts could have contributed to continuity of behavior, given that the impacts of New Hope on family economic resources, child care, and outside activities continued to

some degree after the program ended. These contexts may have provided continuing support for children's achievement and, to a lesser degree, positive social behavior.

Pathways

How and why did New Hope lead to some lasting gains for children? An experimental design allows one to infer that the treatment caused the child outcomes, but it is less informative about which aspects of the program were most important. The most likely pathways are those that are affected by the experimental treatment. We considered four potential pathways: parents' employment, family resources, parenting practices, and child-care/out-of-school activities. The program produced small increases in parents' employment and families' material resources. Although the impacts on employment and income faded after Year 3, New Hope participants had more stable employment, lower rates of poverty, and higher wages at the 5-year point. Stable employment and modestly higher income may have contributed both to resources for children and to parents' psychological well-being.

Parents' employment and family income are likely to affect children's everyday experiences at home and away from home. Our evidence favors out-of-home explanations for New Hope impacts. As with virtually all other experimental tests of employment and welfare policies, we found very little evidence for program impacts on parenting and parent–child relationships as reported by parents or by children.

By contrast, New Hope had strong impacts on children's experiences outside the family, in center-based child care and out-of-school activities, over the entire 5-year period. Even though New Hope child-care subsidies ended after 3 years, parents continued to use more center-based and after school child care; control group children were more likely to be unsupervised and to be cared for by a minor during the summer. Ethnographic data demonstrate that New Hope families had more stable child-care arrangements than did control group families (Lowe, Weisner, Geis, & Huston, 2005). Stable center-based child care and after school programs have been shown repeatedly to contribute to children's academic performance and, if they are of high quality, to the development of social skills (see Shonkoff & Phillips, 2000).

New Hope children at all ages participated in religious and service activities more than controls, suggesting that parents used religious and other community organizations as positive environments for their children. These experiences may have contributed to children's social skills and to their motivation and interest in school. Children in New Hope families had higher expectations to attend and complete college. It is noteworthy that the impacts of New Hope on positive social behavior were slightly more consistent and lasting than were the impacts on problem behavior. The experiences generated by participation in New Hope appear to have contributed to positive youth development, which may reflect the prosocial orientation provided by religious and service activities.

It seems most likely that multiple pathways of influence differed across families. New Hope offered a "cafeteria" of supports, including a wage supplement, access to community service jobs, and subsidies for child care and health insurance that parents could use according to the needs of their families. These concrete supports were delivered by a system that included a project representative, who provided information and help in finding employment and child care, as well as workshops on practical topics and informal get-togethers with other enrollees. The range of benefits offered by New Hope appeared to enhance the overall ability of some program group families to sustain their family's daily routine in the face of the multiple problems that working-poor parents so often face (Weisner, Gibson, Lowe, & Romich, 2002).

Whatever the reasons, the combination of circumstances brought about by the policies tested in New Hope led to lasting improvements in school performance and social behavior, particularly for boys. Successful interventions for children in this high-risk population are rare. Their family incomes were low; most were ethnic minorities, and most families were headed by single mothers. If the experiences provided through New Hope changed young boys' trajectories toward better school performance, more competent social behavior, and less aggression, the chances of school completion and socially competent adult development are increased. The annual cost of approximately $5,300 per family (not per child) is not trivial, but the benefits for children and, indirectly, for the society in which they live are also far from trivial.

Implications for Policy and Future Research

The results of this evaluation suggest that the policies tested in New Hope may be beneficial to large parts of the population who have low incomes but are able to work. There are limitations, of course. The program was initiated with broad community, business, and government support in Wisconsin, a state with a strong tradition of social programs and an aggressive system to move welfare recipients into employment after 1996. With low rates of unemployment in the late 1990s, jobs were relatively easy to find. Although programs offering some types of similar benefits in other northern states and two Canadian provinces had positive effects on children's achievement and behavior (Gennetian & Miller, 2002; Morris & Michalopoulos, 2003), we cannot be sure how well the effects would replicate in different economic and policy climates or in different regions of the United States. The promising results of the demonstration in Wisconsin, along with positive impacts of other similar policy demonstrations, suggest that wider replication of the New Hope policy package would be worth testing and might lead to important developmental benefits for children in low-income families with working parents.

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