

The Relationship of Welfare Receipt to Child Outcomes

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ABSTRACT: Welfare receipt often is correlated negatively with children's cognitive and behavioral outcomes. Yet, virtually all children in households that receive public assistance are poor, prompting the question of whether poor outcomes are an effect of welfare, a spurious relationship between welfare and child outcomes, or a result of welfare selection. Using the NLSY-CS, these possibilities are examined by controlling for poverty and for selection into welfare. Controlling for child and maternal characteristics accounts for the majority of bivariate associations between welfare and outcomes among Black children. Controlling for poverty does little to change the relationship between welfare and outcomes for Black or White children. Controlling for selection into welfare further reduces the relationship between welfare receipt and outcomes among White children and has little discernible effect among Black children.

KEY WORDS: child outcomes, poverty, welfare.

Introduction

Many recent discussions regarding welfare reform have presumed that public assistance has negative effects on recipients. Much of the debate centers on the women who were recipients of Aid to Families

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with Dependent Children (AFDC). There is also concern about the effects of welfare dependency on the development of children in families that receive welfare. While welfare often is found to be correlated negatively with children's cognitive attainment and behavior problems, the relationship between child outcomes and dependence on public assistance is unclear because virtually all children who live in welfare households are poor. However, not all poor children receive welfare assistance. Thus, if negative child outcomes are found to be associated with welfare receipt, the question that arises is whether this is (a) a spurious relationship between welfare and child outcomes resulting from the association of both with poverty, (b) due to measured or unmeasured selection factors that predispose children's mothers to go onto welfare, or (c) truly an effect of welfare receipt or dependency. This paper examines the effects of welfare on children by analyzing first the relationship between welfare dependency and child outcomes. Next, how this relationship is affected by controlling for sociodemographic factors and for duration of poverty is examined. In the final step of the analysis, welfare receipt is purged of selection by using a two-stage selection model. In these selection analyses, receipt of welfare assistance is estimated in an initial probit model, and this measure then is regressed with the variables used in the previous steps on the child outcomes.

Welfare and Child Outcomes

In bivariate analyses, children in families that receive welfare assistance have been found to have significantly poorer outcomes across a variety of domains (Zill, Moore, Smith, Stief, & Coiro, 1991). For example, children in welfare families tended to have lower cognitive scores and poorer behavior ratings than children who were not poor. However, poor children also tended to have poorer outcomes, and children from both poor and welfare families tended to have less supportive home environments than children who were not poor (Zill et al., 1991). Hence, there are a number of possible reasons for the bivariate association between welfare receipt and poorer child outcomes.

One possible explanation is that negative associations between welfare and child outcomes are due, either partially or wholly, to the negative relationship between poverty and child well-being. Living in a low-income family has been shown to be associated negatively with a number of child outcomes. However, poverty seems to affect some

outcomes more adversely than others. Poverty was found to be related more to children's cognitive abilities and academic achievements than to other outcomes, such as mental health, physical health, and behavior (Duncan et al., 1996). Given that children who live in households that receive welfare qualify for benefits by being below official poverty lines, any associations found between welfare and child outcomes must consider the economically deprived environments in which these children live.

Poverty, especially intermittent poverty, is a common experience for children in the United States. One-third of all children spend at least one year below the poverty line. In fact, 72% of African American children live in poverty at some time before they become 18 years old, and 28% are poor for more than ten years (U.S. Department of HHS, 1996).

Measuring poverty over a number of years often is more informative in predicting child outcomes than short-term or cross-sectional measures. The differences between the cognitive abilities of poor and non-poor children were two to three times larger when long-term measures of income were used than when one-year measures of poverty status were used. This finding suggests that the effects of poverty are estimated more accurately when longitudinal measures are used than when short-term measures are used and that long-term poverty has more deleterious effects than brief economic hardship (Korenman, Miller, & Sjaastad, 1995). For example, length of time spent in poverty was related negatively to the cognitive scores of very young children. Poor pre-school children always performed worse than children who spent only part of their lives in poverty, and children who spent only part of their lives in poverty scored lower than never-poor children (Duncan, Brooks-Gunn, & Klebanov, 1994). For the most part then, the results of past research support the premise that long-term poverty has different and usually more deleterious effects on children's outcomes than short-term or intermittent poverty. This statement is true generally for both cognitive and behavioral outcomes. The child's home environment represents one critical pathway through which poverty appears to affect children's development.

A second aspect of poverty that merits attention when examining the effects of poverty on children is the ages during which children live in poverty. The question of whether being poor during the first several years of life is more detrimental to children than being poor in middle childhood or in adolescence is an important one. Many studies that do not ask this question explicitly do in fact address it in part by

focusing on a particular age group. A review of a number of recent studies (Duncan et al., 1996) suggests that the stage in a child's life in which poverty occurs is indeed crucial for certain outcomes. Economic deprivation in early childhood was found to be significantly related to lower educational attainment. Poverty at older ages was not a factor relative to a child's educational attainment. Results from research using data from the National Longitudinal Study of Youth-Child Supplement (NLSY-CS) suggested that early poverty was a predictor of cognitive outcomes of young children, which may contribute to the child's educational attainment. However, relatively recent poverty had no additional effects after controlling for years of poverty at younger ages (Dubow & Ippolito, 1994).

Other studies contradicted these findings. Using data from the PSID, Haveman, Wolfe, and Spaulding (1991) found a negative association between the likelihood of graduating from high school and poverty experienced during adolescence (i.e., children 12 to 15 years old). No such relationship between graduating from high school and poverty at younger ages was found. In a sample of children born to teen mothers in Baltimore, literacy in early adulthood, another measure of academic achievement, was found to be inversely associated with poverty in both early (children 4 to 6 years old) and later (children 15 to 17 years old) stages of childhood (Baydar, Brooks-Gunn, & Furstenburg, 1993).

Brief experiences with poverty appear to have some immediate, short-lived consequences that are different from the effects of persistent economic hardship. For example, short- and long-term poverty have been found to be correlated with different outcomes. Long-term poverty was correlated with higher levels of depression, unhappiness, and anxiety. Short-term current poverty predicted disruptive behaviors but was not related to depression, unhappiness, and anxiety (McLeod & Shanahan, 1993).

Length of time spent in poverty may operate indirectly through other factors to affect the well-being of children. For example, length of time in poverty may impact the child's home environment, which has been found to be correlated with a number of child outcomes. Measures of the quality of the children's home environment were related directly to whether the child lived in a poor household: the longer the child lived in a poor household, the lower the quality of the child's home environment, both in terms of cognitive stimulation and emotional support (Hao, 1995). Moreover, an increase in economic well-being led to greater improvements in home environments for

children who experienced long-term poverty than for other children (Garrett, Ng'andu, & Ferron, 1994). The quality of the home environment, in turn, was related directly to children's reading scores and level of problem behaviors, with children who received less intellectual stimulation and less emotional support doing worse in these two areas than other children (Hao, 1995).

Analyses of NLSY-CS data explored the effects on children of various family welfare and poverty patterns on children over a four-year period (Moore, Gleib, Driscoll, & Zaslow, 1998). Although a variety of different income and welfare trajectories were identified as important to children's well-being, children whose families were ever poor or ever on welfare during the four-year period were significantly and substantially disadvantaged compared to children who were never poor and never on welfare (Moore et al., 1998). However, these analyses did not resolve a critical question regarding the relative importance of welfare and poverty.

One way to control for the effects of poverty on outcomes is to restrict comparisons to children raised in households eligible to receive AFDC. Therefore, all the children have experienced poverty. When this method was used to examine intergenerational welfare participation, AFDC participation in the family of origin was correlated significantly with both early childbearing and receipt of AFDC among the children (Gottschalk, 1990).

A second possible explanation for negative associations between welfare receipt and children's outcomes is selection. Specifically, welfare receipt is endogenous in the child outcome model. It is likely that people who opt to go onto welfare are different in important ways from those who do not, including ways that may affect their children's well-being and development. For example, factors that cause parents to experience particular difficulty in obtaining or retaining employment and thus leading to welfare receipt may be the same factors that lead to less supportive and less stimulating parenting. Individual characteristics may include human capital. Single mothers with low education levels and few current and future earnings opportunities were more likely to be on AFDC than other mothers (Blank & Ruggles, 1996; Boisjoly, Harris, & Duncan, 1997). They also may include marital and fertility histories, with never-married mothers being more likely than divorced mothers to go onto welfare and stay on welfare long-term (Bane & Ellwood, 1994) and mothers with a child under the age of three accounting for more than half of all initial entries onto AFDC (Boisjoly, Harris, & Duncan, 1997).

Attitudes toward and knowledge of work and welfare often are named as factors that contribute to mothers being on welfare, or conversely, to lowering the likelihood of applying for public assistance. In a study comparing divorced and never-married welfare recipients, at least 75% of the difference in the propensity of these two groups to go onto welfare was related to the mother's decision-making processes, which were influenced presumably by: (a) their attitudes toward working and receiving welfare; and (b) their knowledge of the work world and of how to apply for welfare (London, 1996).

Often cited exogenous factors that contribute to individual single mothers being on welfare are: (a) the relative generosity of state AFDC benefit levels, and (b) local economic conditions. For some welfare recipients, various neighborhood characteristics may be related to the likelihood of leaving welfare as well. Among Black people, the neighborhood poverty rate and the male unemployment rate are negatively associated with the likelihood of a resident leaving welfare by means of marriage, whereas the male employment rate is positively associated with leaving welfare by this manner. Among White people, the neighborhood poverty rate and the male and female unemployment rates are inversely associated with leaving welfare through increased household earnings (Vartanian, 1997).

Several studies have controlled for welfare selection factors. In a study of teenage males using data from the 1990 and 1992 Current Population Survey (CPS), AFDC receipt was found to be correlated with lower educational attainment, until selection into welfare was controlled. Then, welfare was found to have no negative effects on school enrollment, regardless of race (Chaplin, 1995). A similar study using the NLSY found that welfare had less negative consequences for Black people than for White people (Peters & Mullis, 1995). However, after using two-stage models to control for selection into welfare, the earlier negative effects of welfare on academic outcomes (i.e., achievement test scores and completed schooling) and wages in adulthood disappeared.

A third possible explanation for the association between welfare and poorer child outcomes is that the experience of welfare receipt somehow undermines the development of children, in addition to any effects of poverty and independent of any effects due to selection factors. There are a number of ways that welfare may undermine children's development. Welfare could have negative effects on children if it somehow undermines the morale or motivation of parents to the extent that they are less able or willing to meet their child's develop-

mental needs. For example, the stigma associated with being on welfare or the idleness that is part of non-employment might lead to parental depression, which frequently has been found to predict diminished child development (Zaslow, Moore, Coiro, & Morrison, 1995). Welfare might push the father out of the child's home and even out of the child's life, leading to a single-parent family. Children in single-parent families have been found to be disadvantaged relative to children living with both biological parents (McLanahan & Sandefur, 1995).

If welfare receipt has deleterious effects on youth outcomes, those effects may be conditional depending upon the characteristics of the welfare recipient, such as race or ethnicity or upon the extent of welfare dependency. Studying older children in the PSID, Duncan and Yeung (1995) found welfare to be correlated negatively with the level of completed schooling for White children and Black children. However, the pattern of the relationship differed for the two groups. While educational attainment was found to be lower for White children in families that received any welfare during the youth's teenage years, welfare receipt was associated with lower educational attainment for Black children only when welfare exceeded 40% of average household income. This pattern was found after controlling for the ratio of family income to needs and maternal education. Analyzing data from the NLSY, Santiago (1995) also found that the effects of welfare differed by race or ethnicity. Controlling for household income in the family of origin, Black women who lived in households that received AFDC while they were teenagers were more likely to be highly dependent on welfare than Black women from families without this history of welfare. However, AFDC receipt during the teen years was not associated with later receipt of welfare for White or Latina women.

This study builds upon previous research by analyzing the effects of welfare on child outcomes by controlling first for poverty and then controlling for poverty and selection onto welfare. In this way, it examines the relationship between welfare receipt and children's cognitive ability and behavior net of: (a) the poverty that virtually all children on welfare experience, and (b) the factors that function to select their families into public assistance. If the negative relationship between welfare and the dependent variables is due wholly or mainly to the concurrent poverty that children in welfare recipient families experience, then controlling for short- and long-term poverty would erase this association. If this relationship is a function of poverty and factors that select families into welfare, then controlling for these two sets of factors would render the welfare relationship nonsignificant.

To examine the effects of welfare receipt on children's outcomes, a series of analyses was conducted. *First*, bivariate tabulations were run to confirm the anticipated negative association between welfare receipt and children's outcomes. *Second*, a number of confounding factors were controlled to test whether such variables accounted for the bivariate relationship. *Third*, the association between welfare and children's outcomes was examined, controlling for the duration of poverty that the child's family experienced. Controlling for poverty allowed the researchers to test the hypothesis that the negative association between welfare and child outcomes was related to the negative effects of poverty, particularly prolonged poverty. *Fourth*, endogenous factors that both select parents into welfare and undermine children's development were controlled to test the hypothesis that poorer outcomes found among children in welfare families are a result of parental, family, and contextual characteristics that contribute to families getting on welfare.

Methods

Approach

The goal of this article is to contribute to the understanding of the effect of welfare receipt on several child outcomes. The focus is on middle childhood, which has received less research attention than early childhood or adolescence. Thus, a sample of children from the NLSY-CS aged nine to fourteen in 1992 who were followed for six years between 1986 and 1991 was selected. Each family's receipt of AFDC and Food Stamps was tracked over this time. Due to the substantial differences found for both the outcome and predictor variables by race at both the univariate and bivariate levels, analyses were conducted separately for non-Hispanic Black families and non-Hispanic White families (hereafter referred to as Black families and White families).

The dependent variables, measured in 1992, are a measure of the level of behavioral problems a child had, as reported by the mother, the Behavior Problems Index (BPI), and two measures of academic achievement, the Peabody Individual Achievement Tests (PIAT). One PIAT is a measure of mathematical ability, and the other is a measure of reading comprehension. Research strongly suggests that children on welfare and poor children in general have more behavior problems and do more poorly in school on average than more advantaged children. Emotional and cognitive development are important predictors of children's future success and well-being. However, how dis-

advantage influences these areas among children in middle childhood is under-researched.

In the multivariate analyses, the initial models controlled for sociodemographic factors. Then, in order to obtain truer measures of the relationship between welfare dependency and children's outcomes, duration of poverty measures for the six years from 1986 to 1991 were added. Duration was measured as never, short-term (i.e., one to two years), and long-term (i.e., three to six years).

The final analysis addressed the issue of selection of children's mothers into welfare. A two-stage selection model was estimated. In the first stage, probit models were used to estimate a measure of welfare purged of selection bias by including factors theorized to play significant roles in selecting women. These models estimated: (a) the probability of *ever* using either AFDC or Food Stamps from 1986 to 1991; and (b) for a second set of analyses, the probability of *long-term* dependence on either AFDC or Food Stamps.

Two types of variables were used in the probit models to predict welfare dependence. Individual maternal level variables captured some of the hypothesized relationships between personal characteristics and the propensity to use public assistance. The mother's age at the birth of her first child and her marital status at the age of the child whose outcomes were being estimated were included for this reason. Whether she lived in the southern United States or in a rural area during the 1986–1991 period¹ also was included. Two other measures were incorporated into this stage of the analysis: (a) a 1979 measure of the woman's attitude toward going on welfare as a means of supporting her family, and (b) whether she scored low on a measure of self-esteem. The Armed Forces Qualifying Test (AFQT), administered in 1980, includes measures of arithmetic reasoning, word knowledge, paragraph comprehension, and numerical reasoning. Scores ranged from 0 to 1050 (Center for Human Resource Research, 1993). The woman's educational attainment and her AFQT score, which were shown to be predictive of the child outcomes analyzed in this study, also were included in the probit model because they also were correlated with welfare receipt.

Exogenous contextual variables, which described the local socioeconomic situation (measured at the county level with the exception of state AFDC benefit levels), also were entered into the probit models. The average unemployment rate over the 1986–1991 period and the average percentage of women who were in the labor force during this time were entered separately. Due to their high correlations with each other, the mean fraction of families in poverty, the mean percentage of births to teens, and the mean percentage of households headed by women over the 1986–1991 period were combined into a single variable. In addition, the maximum state AFDC benefit level for a family of three, averaged over this six-year period for each respondent, was included.

The second stage of the selection analysis consists of OLS regressions on the three child outcome measures. These outcomes were regressed on welfare receipt, net of selection factors, and poverty. The welfare variable in each model can be interpreted as welfare purged of selection as captured by the individual mother variables and exogenous variables in the probit model. The

welfare variable in each model may be interpreted as welfare purged of selection as captured by the individual mother and exogenous variables in the probit model.

To summarize, the association between welfare and child outcomes was assessed sequentially: (a) controlling first for child and mother demographic characteristics; (b) second, controlling for duration of poverty as well; and (c) finally, controlling also for selection onto welfare.

Data

The data for this study were from the National Longitudinal Survey of Youth-Child Supplement (NLSY-CS). The NLSY is an annual, nationally representative survey of youths who were 14 to 21 years old when the study began in 1979. In 1986, data collection was expanded to include a Child Supplement that includes a battery of assessments of the children of the women in the original sample. The outcome variables were from the 1992 wave of data. Measures of income, poverty status, AFDC, and Food Stamp receipt during 1986–1991 were used. The sample consisted of 850 White and 554 African American children who were born between 1978 and 1983, when mothers ranged from age 13 to 24 years old and who were interviewed in 1992. About one-third of the sample consisted of siblings. Because this was a sample of children born to young mothers, it was relatively disadvantaged. Although this is an advantage for this study because cases of poverty and welfare receipt are relatively numerous, it should be kept in mind that the NLSY-CS is not a nationally representative sample of children.

Dependent Variables

Two measures of cognitive attainment and a measure of problem behaviors were the dependent variables for this study. The cognitive measures were the PIAT mathematics assessment and the PIAT reading comprehension assessment. The PIAT tests measure academic achievement of children age five and older. The mathematics assessment begins with recognizing numerals and progresses to advanced concepts in geometry and trigonometry. The reading comprehension test measures a child's ability to derive meaning from sentences that are read silently. The PIAT was standardized on a national sample of children in the late 1960s. Both of these tests have a mean standardized score (by definition) of 100, with a standard deviation of 15, with possible scores ranging from 65 to 135. These highly regarded measures have been used widely (Baker et al. 1993).

The Behavior Problems Index (BPI) is comprised of 28 mother-reported items concerning children's behaviors. The items have been used to define six behavioral subscales: anti-social, anxious/depressed, headstrong, hyperactive, immature dependency, and peer conflict/social withdrawal. A total score also is provided (Baker et al., 1993). As with the PIAT, normed scores have been constructed with a mean of 100 and standard deviation of 15, with possible

scores ranging from 72 to 149. The normed scores are based upon data from the 1981 National Health Interview Survey. The total BPI score is used as the outcome in this analysis. The child outcome measures have been collected biannually, beginning in 1986. In this article, 1992 measures were used as the child outcome measures.

Independent Variables

Demographic and background characteristics of the mother and child variables found to affect children's scores on the outcome measures used in this study were used as control variables in the multivariate portion of the analysis (Moore & Driscoll, 1997). Mother characteristics included her educational attainment, her AFQT score, and her marital and employment history from the birth of the child until 1986, which is the first year in which welfare receipt was measured. Years of education and AFQT score were measures of human capital possessed by the child's mother. Child characteristics included age, sex, and birth order. Also included as proxy indicators of socioeconomic status at the beginning of the period of focus were home and automobile ownership in 1986.

Welfare and Poverty Variables

The measure of welfare dependence used in this analysis combined both AFDC receipt and Food Stamp receipt.³ Receipt of both forms of assistance was measured for the six years from 1986 to 1991. Reported receipt of either benefit during any of these years was scored as one point. Thus, the value of this variable ranged from zero (i.e., no receipt of AFDC or Food Stamps) to twelve (i.e., receipt of both AFDC and Food Stamps each year). Welfare dependence was coded two ways. The first variant compared children whose families *ever* received either Food Stamps or AFDC during the 1986–1991 period to those children whose families never received either form of public assistance. The second version compared children who scored five or more points out of a possible twelve on the welfare variable to children who scored fewer than five points. This was a measure of *long-term* receipt. Separate variables were created for Black children and White children, thus four welfare dependence factors resulted: any dependence for White children, any dependence for Black children, long-term dependence for White children, and long-term dependence for Black children.

Results

Descriptive Results

Sample characteristics. Table 1 presents background characteristics for the sample by race. The average age was slightly older than eleven years. White children were more likely to be a first-born child than Black children. White children came from families with fewer

TABLE 1
Comparison of Demographic, Poverty and Welfare Variables by Race

	White	Black
Age of child	11.1	11.3
Birth order of child	1.5	1.7
Mother's education	12.1	12.0
Mother's AFQT	703.6	474.8
Mother's age at first birth	20.2	18.8
Number of times received AFDC and/or Food Stamps		
0	67.8%	34.7%
1-4	18.6	21.8
5+	13.6	43.5
Number of years below poverty line		
0	44.9	25.9
1-2	35.1	23.8
3+	20.0	50.3

siblings, and, therefore, a higher proportion of them was the oldest. Black and White mothers both averaged twelve years of education. The average AFQT scores among Black mothers' were lower than the average AFQT scores of White mothers. White mothers' mean AFQT scores fell at about the 68th percentile, and Black mothers' scores were at the 47th percentile on this composite measure of math reasoning and ability and word knowledge and reading comprehension. White mothers were twenty years old on average at the birth of their first child, and the average age at first birth among Black mothers was nineteen.

Given the disadvantaged nature of the sample, the incidence of poverty was high. Yet, as Table 1 shows, Black and White children had very different experiences with regard to public assistance and poverty. More than two-thirds (68%) of White children never received either Food Stamps or AFDC between 1986 and 1991, and only about one-third (35%) of Black children lived in households that never received either of these benefits. Black children were long-term recipients of welfare at more than three times the rate of White children. The differences in time spent in poverty between Black children and White children during this period were equally stark. One in five White children spent three or more years from 1986 to 1991 below the poverty line, and the ratio for Black children was more than twice that rate. In fact, only one-quarter of Black children were never poor during this period.

Bivariate Results

Table 2 presents mean scores on the PIAT math and reading tests and the Behavior Problem Index for Black children and for White children. The top panel shows scores differentiated by the family's welfare history between 1986 and 1991. The bottom panel presents scores by duration of poverty experienced by the family during the same period.

As Table 2 shows, children who had experienced welfare had worse outcomes than children never on welfare. Similarly, those who experienced long-term receipt did worse than other children. Long-term poverty was associated significantly at the bivariate level with lower scores on the PIAT math and reading comprehension tests and worse scores on the Behavior Problems Index for both Black children and White children.

Among White children, those who had never experienced any welfare receipt or long-term receipt and those who did not experience long-term poverty had mean PIAT scores above the normed mean for these measures. More disadvantaged children averaged scores below the mean. Although never-poor and short-term poor Black children and those who had experienced any or long-term welfare receipt scored slightly below the mean on PIAT math and reading tests, long-term poor children and those who experienced welfare scored consistently lower, roughly one-half standard deviation below the mean of 100. The mean BPI scores of children in all categories were above the normed mean of 100, which indicates a high level of behavior problems. Nevertheless, children with histories of welfare had consistently higher BPI scores than those without such histories.

Multivariate Results

Welfare and socioeconomic background. Tables 3 and 4 present the results of OLS regressions of welfare on the three child outcome measures net of family and demographic control variables. Table 3 shows the coefficients for ever having received welfare, either AFDC or Food Stamps, during the six years between 1986 and 1991. Table 4 presents the coefficients for long-term welfare receipt.

Overall, controlling for measured socioeconomic factors reduced the differences in outcomes between children who had experienced welfare, either any receipt or long-term receipt, and other children that were seen in Table 2. The patterns differed by race. Welfare receipt

TABLE 2

Mean Child Scores on PIAT Math and Reading Tests and Behavior Problem Index by Duration of Welfare and Poverty for Children 9-14 in 1992 by Race

	White			Black		
	Math	Reading	BPI ^a	Math	Reading	BPI ^a
Welfare receipt:						
Ever on welfare						
No	104.5***	105.4***	105.7***	98.1***	99.8***	106.4***
Yes	98.0	98.4	111.2	92.5	93.0	110.1
Long-term welfare ^b						
No	103.4***	104.0***	106.4***	96.5***	98.2***	107.0***
Yes	95.7	97.6	114.4	91.8	91.7	111.1
Years in poverty:						
0	103.5***c	105.3***c	106.1***c	95.7***c	96.0***c	107.6
1-2 (short-term)	102.9	102.9	107.2	97.6	99.2	107.9
3+ (long-term)	98.5	98.4	111.0	92.2	93.1	109.8

*p≤.05 **p≤.01 ***p≤.001

^ahigher BPI scores indicate more behavior problems.

^bReceipt of Food Stamps and/or AFDC in any year between 1986-1991 equals one point. Scores of five or more points were defined as long-term welfare receipt (possible scores range from 0 to 12 points).

^cLong-term poverty is significantly different than both no poverty and short-term poverty.

still was associated with poorer cognitive and behavior outcomes for White children, but welfare receipt was associated only with poorer reading scores for Black children. This outcome suggests that factors, such as children's gender, age, birth order, and the mother's level of human capital, accounted for the bivariate differences in the math scores and BPI scores of Black children.

Welfare and Poverty

The results of the next set of models are shown in Tables 5 and 6. These models control for duration of poverty and sociodemographic variables. There were several noteworthy patterns. First, the addition of poverty controls did not change the correlation between welfare receipt and child outcomes substantively. Thus, being in a family that ever received welfare continued to be associated significantly and negatively with reading scores for both Black children and White children and with math scores and problem behaviors of White children. Long-term welfare receipt continued to be related to worse math and behavior scores for White children and lower reading scores for Black children. In fact, the welfare coefficients for Black children's reading

TABLE 3
 OLS Regressions of PIAT Math, Reading, and BPI Scores:
 Ever on Welfare by Race

	White			Black		
	Math	Reading	BPI	Math	Reading	BPI
<i>Child characteristics</i>						
Male	1.20	-1.51	3.13**	0.48	-4.15***	3.46**
Age	-0.85**	-1.28***	0.47	-0.64*	-0.99***	-0.25
Birth order	-1.33*	-2.38***	-0.13	-1.42*	-2.17***	-0.40
<i>Mother characteristics</i>						
Education	0.46	0.34	-0.48	0.07	0.68	-0.87*
AFQT	0.01***	0.02***	0.00	0.02***	0.02***	-0.00
<i>Birth -> 1985</i>						
Never married	0.11	0.89	0.45	1.36	1.19	-0.07
Always married (Married some)*	2.29*	1.82	-2.45	1.49	0.65	-1.42
Never worked	-1.07	0.28	0.27	-1.91	0.69	1.08
Worked some (Always worked)*	1.39	1.15	0.39	-0.07	0.48	-1.57
<i>1986 variables</i>						
Owned home	1.42	0.80	-0.59	-2.18	-2.12	-0.39
Owned car	0.01	1.80	0.91	1.03	0.61	2.86*
<i>1986-1991 variables</i>						
Never married	1.45	1.46	-2.85	0.68	0.53	-0.88
Always married (Married some)*	-2.96**	-2.48*	-1.63	-0.18	-0.05	-1.22
Never worked	-0.91	1.70	1.08	-0.70	-1.99	1.48
Always worked (Worked some)	-2.27*	-1.32	-0.34	-0.57	-0.43	1.04
<i>1992 variables</i>						
Ever on welfare	-4.85***	-4.98***	4.32**	-1.95	-3.21***	2.54
Intercept	99.42***	103.09***	106.62***	92.81***	95.11***	121.58***
adj. R ²	0.15	0.19	0.05	0.15	0.20	0.04

*p≤.05 **p≤.01 ***p≤.001

Note: *Reference group

scores were more negative after the addition of poverty controls than before. Second, net of welfare receipt, poverty almost never was significantly related to the outcome measures.

Selection into Welfare

Table 7 provides results from the probit selection models estimating the likelihood of welfare receipt. Each equation included variables

TABLE 4
 OLS Regressions of PIAT Math, Reading, and BPI Scores:
 Long-Term Welfare by Race

	White			Black		
	Math	Reading	BPI	Math	Reading	BPI
<i>Child characteristics</i>						
Male	1.20	-1.43	3.15**	0.47	-4.17***	3.42**
Age	-0.83**	-1.27***	0.42	-0.65*	-0.93**	-0.30
Birth order	-1.35*	-2.41***	-0.18	-1.50**	-2.18***	-0.39
<i>Mother characteristics</i>						
Education	0.54	0.40	-0.61	0.05	0.63	-0.81
AFQT	0.01***	0.02***	0.02	0.02***	0.02***	-0.00
<i>Birth -> 1985</i>						
Never married	0.40	1.25	-0.36	1.45	1.39	-0.19
Always married (Married some) ^a	2.56*	2.20	-2.60*	1.58	1.05	-1.82
Never worked	-1.17	-0.06	-0.08	-1.95	1.00	0.65
Worked some (Always worked) ^a	1.12	0.87	0.59	-0.16	0.45	-1.62
<i>1986 variables</i>						
Owned home	1.90	1.36	-0.84	-2.03	-2.12	-0.27
Owned car	0.64	2.64	0.65	1.20	0.62	2.85*
<i>1986-1991 variables</i>						
Never married	1.75	1.54	-3.28	0.67	0.94	-1.26
Always married (Married some) ^a	-2.40*	-1.66	-1.75	0.16	0.26	-1.45
Never worked	-0.79	1.62	0.68	-0.73	-1.73	1.22
Always worked (Worked some) ^a	-1.73	-0.68	-0.68	-0.14	-0.20	0.90
<i>1992 variables</i>						
Long-term welfare	-4.19**	-2.59	6.25***	-0.70	-3.08*	2.80
Intercept	95.65***	98.66***	109.63***	91.64***	93.31***	122.54***
adj. R ²	0.14	0.17	0.05	0.15	0.20	0.04

*p≤.05 **p≤.01 ***p≤.001

Note: ^aReference group

that theoretically predict welfare receipt but not child well-being which are statistically significant. Separate Inverse Mills Ratios (IMRs) were estimated for: (a) Black children and White children, (b) for any receipt, and (c) for long-term receipt. IMRs are hazard instruments derived from the probit equations which take into account selection into welfare.

TABLE 5

OLS Regressions of PIAT Math, Reading, and BPI Scores: Ever on Welfare, Short-Term Poverty, and Long-Term Poverty by Race

	White			Black		
	Math	Reading	BPI	Math	Reading	BPI
<i>Child characteristics</i>						
Male	1.20	-1.49	3.13**	0.51	-4.04***	3.48**
Age	-0.85**	-1.25***	0.47	0.64*	-0.98***	-0.24
Birth order	-1.35*	-2.31***	-0.14	-1.44*	-2.25***	-0.41
<i>Mother characteristics</i>						
Education	0.46	0.35	-0.48	0.08	0.72*	-0.87*
AFQT	0.01***	0.02***	0.00	0.02***	0.02***	-0.00
<i>Birth -> 1985</i>						
Never married	-0.10	0.85	0.45	1.41	1.36	-0.03
Always married (Married some) ^a	2.32*	2.00	-2.41	1.52	0.76	-1.36
Never worked	-1.09	0.34	0.26	-1.88	0.83	1.26
Worked some (Always worked) ^a	1.40	1.23	0.42	-0.06	0.56	-1.43
<i>1986 variables</i>						
Owned home	1.45	0.78	-0.57	-2.16	-2.06	-0.42
Owned car	0.05	1.75	0.95	1.03	0.59	2.75*
<i>1986-1991 variables</i>						
Never married	1.43	1.43	-2.87	0.62	0.35	-0.81
Always married (Married some) ^a	-2.90**	-2.96*	-1.63	-0.15	0.30	-1.22
Never worked	-0.96	1.71	1.03	-0.69	-1.97	1.53
Always worked (Worked some) ^a	-2.24*	-1.66	-0.36	-0.46	-0.07	1.13
<i>1992 variables</i>						
Ever on welfare	-4.94***	-4.50***	4.30**	-2.15	-3.83**	2.54
Short-term poverty	-0.08	-1.87	-0.30	0.39	1.51	1.11
Long-term poverty	0.39	-1.94	0.12	0.62	2.09	0.30
Intercept	99.32***	104.03***	106.61***	92.32***	93.38***	120.97***
adj. R ²	0.15	0.19	0.04	0.15	0.20	0.04

*p≤.05 **p≤.01 ***p≤.001

Note: ^aReference group

A number of variables were related in similar fashion to the likelihood of welfare receipt for Black children and for White children. For both groups, being married at the time of the child's birth signifi-

TABLE 6

OLS Regressions of PIAT Math, Reading, and BPI Scores: Long-Term Welfare, Short-Term Poverty, and Long-Term Poverty by Race

	White			Black		
	Math	Reading	BPI	Math	Reading	BPI
<i>Child characteristics</i>						
Male	1.21	-1.41	3.16**	0.47	-4.07***	3.44**
Age	-0.83**	-1.24***	0.42	-0.65*	-0.92**	-0.29
Birth order	-1.34*	-2.29***	-0.18	-1.51**	-2.26***	-0.41
<i>Mother characteristics</i>						
Education	0.54	0.41	-0.61	0.05	0.66	-0.80
AFQT	0.01***	0.02***	0.00	0.02***	0.02***	-0.01
<i>Birth -> 1985</i>						
Never married	0.42	1.12	-0.36	1.45	1.57	-0.13
Always married (Married some)*	2.64*	2.36*	-2.63*	1.60	1.20	-1.75
Never worked	-1.14	0.07	-0.09	-1.91	1.17	0.84
Worked some (Always worked)*	1.17	1.02	0.57	-0.12	0.52	-1.46
<i>1986 variables</i>						
Owned home	1.92	1.24	-0.85	-2.03	-2.06	-0.29
Owned car	0.66	2.42	0.63	1.17	0.61	2.74*
<i>1986-1991 variables</i>						
Never married	1.73	1.49	3.26	0.69	0.84	-1.20
Always married (Married some)*	-2.52	-2.47*	-1.72	0.16	0.38	-1.43
Never worked	-0.83	1.68	0.72	-0.72	-1.68	1.27
Always worked (Worked some)*	-1.84	-1.25	-0.64	-0.12	0.16	1.06
<i>1992 variables</i>						
Long-term welfare	-4.39**	-2.07	6.34***	-0.67	-3.52**	2.87
Short-term poverty	-0.78	-2.43*	0.34	-0.30	1.32	1.35
Long-term poverty	-0.15	-3.00	0.01	0.07	1.80	0.50
Intercept	95.99***	100.62***	109.54***	91.48***	91.50***	121.69***
adj. R ²	0.14	0.18	0.05	0.14	0.20	0.04

*p≤.05 **p≤.01 ***p≤.001

Note: °Reference group

cantly lowered the likelihood of being on welfare. Also for both groups, the negative association between welfare receipt and the age of the mother at the birth of her first child was roughly comparable. AFQT scores also had similar effects for both races, with women in each group scoring more than half a standard deviation above the mean for their race group being less likely to experience welfare receipt. Completing high school also lowered the likelihood of public assistance in each group.

However, there were some striking differences between Black and White women. A positive attitude toward welfare³ and low self-esteem were correlated with higher likelihood of welfare receipt for White but not for Black women. Living in the South was correlated with lower likelihood of being on welfare for White but not Black women.

Within race groups, differences also existed between the factors that predicted the likelihood of ever being on welfare and the likelihood of being on long-term welfare. For White women, a positive attitude toward welfare and low self-esteem were stronger predictors of long-term welfare reliance than of any welfare receipt. Living in the South and scoring high on the AFQT both lowered the likelihood of long-term welfare receipt to a greater extent than they affected the likelihood of ever being on welfare. Although being a high school graduate lowered the likelihood of ever going on welfare for White women, it played no role in the likelihood of long-term receipt, net of other factors in the model.

There were also differences distinguishing any receipt from long-term welfare receipt among Black women. Although the mother's age at the birth of her first child was related inversely to the likelihood of ever receiving welfare, it was not related to the likelihood of long-term welfare receipt. The likelihood ratios for both education and AFQT scores were smaller in the long-term welfare receipt model, suggesting that they played a less powerful role than in predicting any welfare receipt. Furthermore, two of the exogenous variables were significant only in the model predicting any welfare: (a) the percentage of women in the work force; and (b) the variable that combined rates of poverty and female heads of households and the percentage of births to teens.

Welfare (net of selection) and Poverty

The final set of OLS models, shown in Tables 8 and 9, replaced recorded receipt of welfare with the Inverse Mills Ratio, which is wel-

TABLE 7

Probit Models for Ever on Welfare and Long-Term Welfare Receipt by Race

	Ever on welfare		Long-term welfare	
	White	Black	White	Black
<i>Mother characteristics</i>				
Mother's education	-0.013	-0.025	-0.006	-0.003
Married at child's birth	-0.637***	-0.628***	-0.671***	-0.642***
Positive attitude towards welfare	0.474***	0.208	0.559***	0.235
Age at first birth	-0.069**	-0.114***	-0.075*	-0.056
Low self-esteem	0.395***	0.124	0.532***	0.183
Lived in the South	-0.381*	-0.225	-0.788**	-0.416
Lived in rural area	0.217	-0.226	0.271	0.158
High school graduate	-0.357**	-0.474**	-0.262	-0.328*
High AFQT score	-0.540***	-0.623***	-0.726***	-0.395*
<i>Exogenous characteristics</i>				
Unemployment rate	0.063	0.049	0.012	0.057
% women in work force	0.008	-0.086***	-0.011	-0.025
Combination variable ^a	0.024	0.048*	0.010	0.028
Maximum state AFDC benefit level	0.000	0.000	0.001	-0.001
Intercept	0.633	7.320***	0.387	1.626
Log Likelihood	-380.094***	-261.238***	-218.637***	-263.707***

*p≤.05 **p≤.01 ***p≤.001

Note: ^aCombination of % of households in poverty, % of births to teens, % of households that are female-headed.

fare purged of selection, estimated from the first stage of the two-stage selection method (i.e., the probit models shown in Table 7). Comparing the welfare and poverty coefficients in Tables 8 (i.e., any welfare receipt) and 9 (i.e., long-term welfare receipt) to those in Tables 5 and 6 revealed the effect of controlling for selection onto welfare. (See Table 10 for a comparison of just the welfare and poverty coefficients across all models by race.)

Among White families, controlling for selection reduced the magnitude of significant welfare coefficients by anywhere from 45% (i.e., long-term receipt and BPI scores) to 63% (i.e., long-term receipt and

PIAT math scores). The average decrease was 55%. The significance levels of the welfare coefficients also dropped. However, with one exception, controlling for selection onto welfare did not have an effect on the statistical significance or magnitude of the poverty coefficients. Among Black families, controlling for selection into welfare did not change the significant negative welfare coefficients in the PIAT reading models, but it did result in the emergence of a significant welfare coefficient in one BPI model.

These results suggest that the poorer outcomes of children who lived in households with a history of receiving public assistance were due to a variety of factors and that these factors differed for Black children and White children. Among White children, welfare selection factors, both measured and unmeasured, appeared to account for much but never all of the negative association between ever receiving welfare and the outcomes. For Black children, purging welfare of selection factors did not affect the welfare coefficient in either the math or reading score models. Once background variables, such as mother's human capital and work and marital histories, were held constant (i.e., variables first entered in the models presented in Tables 3 and 4), there was virtually no change in the association between ever being on welfare and measures of Black children's cognitive abilities. However, the welfare coefficient in the BPI model became significant. Welfare purged of selection was correlated with more behavior problems among Black children than among White children.

For White children, the relationships between the various outcomes and long-term welfare receipt were less uniformly negative than those of any welfare receipt when selection into this particular group was taken into account. Most notably, purging welfare of selection erased the negative association between welfare and math scores. For the cognitive measures of White children, the comparison of long-term experience with welfare to no or brief welfare experience appeared to be less important than the comparison between children with any welfare experience and no welfare experience. This pattern suggests that the factors that selected mothers into the population of long-term recipients were more harmful to their children's cognitive development than the experience of long-term welfare receipt itself.

Controlling for selection into long-term welfare receipt did not change the relationship between welfare receipt and the outcomes measured for Black children. Reading comprehension scores continued to be related negatively to long-term welfare as they also were to any welfare receipt. Another pattern that was true for both any and

TABLE 8

OLS Regressions of PIAT Math, Reading, and BPI Scores: Selection into Ever on Welfare, Short-Term Poverty, and Long-Term Poverty by Race

	White			Black		
	Math	Reading	BPI	Math	Reading	BPI
<i>Child characteristics</i>						
Male	1.66	-0.98	2.64*	0.55	-1.45	2.96*
Age	-0.92**	-1.28***	0.65	-0.12	-0.41	0.18
Birth order	-1.28*	-2.14***	-0.06	0.66	-2.33**	0.55
<i>Mother characteristics</i>						
Education	0.58	0.49	-0.48	0.39	0.04	0.26
AFQT	0.02***	0.02***	-0.00	0.02***	0.03***	-0.00
<i>Birth -> 1985</i>						
Never married	-0.21	1.64	0.94	-0.06	-0.17	4.67*
Always married (Married some) ^a	3.29**	2.74*	-2.73*	0.42	0.09	0.56
Never worked	-0.96	0.46	0.18	0.54	0.13	6.97*
Worked some (Always worked) ^a	1.90	1.56	-0.17	-0.43	-2.09	5.97*
<i>1986 variables</i>						
Owned home	1.82	1.18	-1.18	-0.22	-0.82	0.49
Owned car	-0.27	1.10	0.46	-1.88	1.27	-0.39
<i>1986-1991 variables</i>						
Never married	1.95	1.21	-2.35	-3.20	0.29	-0.66
Always married (Married some) ^a	-3.08**	-2.90*	-1.67	-2.72	0.06	-0.03
Never worked	-1.50	0.90	1.51	-1.58	-2.51	-2.18
Always worked (Worked some) ^a	-2.02	-1.42	-0.72	1.03	0.22	1.44
<i>1992 variables</i>						
Long-term welfare	-2.35***	-1.72*	1.93*	-0.41	-3.74***	2.55*
Short-term poverty	-0.03	-1.80	-0.51	-2.18	1.15	-2.81
Long-term poverty	-0.33	-2.79	0.58	-3.66*	0.71	1.26
Intercept	93.47***	98.22***	108.36***	97.38***	93.85***	97.58***
adj. R ²	0.15	0.19	0.04	0.09	0.20	0.04

*p≤.05 **p≤.01 ***p≤.001

Note: ^aReference group

long-term welfare receipt among Black children was the consistent negative association between long-term poverty and math scores.

TABLE 9

OLS Regressions of PIAT Math, Reading, and BPI Scores: Selection into Long-Term Welfare, Short-Term Poverty, and Long-Term Poverty by Race

	White			Black		
	Math	Reading	BPI	Math	Reading	BPI
<i>Child characteristics</i>						
Male	1.64	-0.98	2.58*	0.55	-1.46	2.91
Age	-0.88**	-1.24***	0.62	-0.12	-0.33	0.08
Birth order	1.20*	-2.07***	-0.16	-0.63	-2.07**	0.46
<i>Mother characteristics</i>						
Education	0.56	0.45	-0.56	-0.39	0.02	0.31
AFQT	0.02***	0.02***	0.00	0.02***	0.03***	-0.00
<i>Birth -> 1985</i>						
Never married	0.32	2.08	0.54	-0.02	0.57	4.13
Always married (Married some)*	3.30*	2.69*	-2.95*	0.48	0.09	0.85
Never worked	-1.01	0.31	-0.14	0.65	-0.07	7.72**
Worked some (Always worked)*	1.74	1.41	-0.13	-0.36	-2.10	6.31*
<i>1986 variables</i>						
Owned home	2.22*	1.49	-1.32	-0.33	-1.01	0.15
Owned car	0.10	1.43	0.38	-1.77	1.99	-0.62
<i>1986-1991 variables</i>						
Never married	1.90	1.05	-2.44	-2.94	1.19	-0.45
Always married (Married some)*	-2.69*	-2.46*	-1.53	-2.74	0.34	-0.45
Never worked	-1.65	0.71	1.48	-1.46	-2.40	-1.77
Always worked (Worked some)*	-1.67	-1.13	-0.88	1.02	0.44	0.98
<i>1992 variables</i>						
Long-term welfare	-1.61	-0.40	3.48**	-0.78	-3.56**	0.45
Short-term poverty	-0.50	-2.05	0.06	-2.16	1.27	-2.82
Long-term poverty	-0.74	-3.38*	0.20	-3.37*	1.22	2.15
Intercept	93.81***	98.00***	109.93***	96.86***	91.65***	97.38***
adj. R ²	0.14	0.18	0.05	0.09	0.19	0.03

*p≤.05 **p≤.01 ***p≤.001

Note: *Reference group

TABLE 10
Summary of Regression Coefficients for Welfare and Poverty

	White			Black		
	Welfare only	Welfare & poverty	Selection into Welfare	Welfare only	Welfare & poverty	Selection into welfare
<i>Any welfare receipt</i>						
PIAT-Math						
Welfare	-4.85***	-4.94***	-2.35***	-1.95	-2.15	-0.41
Short-term poverty	—	-0.08	-0.32	—	0.39	-2.18
Long-term poverty	—	0.39	-0.33	—	0.62	-3.66*
PIAT Reading						
Welfare	-4.98***	-4.50***	-1.72*	-3.21***	-3.83**	-3.74***
Short-term poverty	—	-1.87	-1.80	—	1.51	1.15
Long-term poverty	—	1.94	-2.79	—	2.09	0.71
BPI						
Welfare	4.32***	4.30**	1.93*	2.54	2.54	2.55*
Short-term poverty	—	-0.30	-0.51	—	1.11	-2.81
Long-term poverty	—	0.12	0.58	—	0.30	1.26
<i>Long-term welfare receipt</i>						
PIAT Math						
Welfare	-4.19**	-4.39**	-1.61	-0.70	-0.67	-0.78
Short-term poverty	—	-0.78	-0.50	—	-0.30	-2.16
Long-term poverty	—	0.15	0.74	—	0.07	-3.37*
PIAT Reading						
Welfare	-2.59	-2.07	-0.40	-3.08*	-3.52**	-3.56***
Short-term poverty	—	-2.43*	-2.05	—	1.32	1.27
Long-term poverty	—	-3.00	-3.38*	—	1.80	1.22
BPI						
Welfare	6.25***	6.34***	3.48**	2.80	2.87	0.45
Short-term poverty	—	0.34	0.06	—	1.35	-2.82
Long-term poverty	—	0.01	0.20	—	0.50	2.15

*p≤.05 **p≤.01 ***p≤.001

Discussion

The research and policy worlds are concerned about the effects of poverty and welfare on children and how evolving welfare experimentation will affect children's well-being. The results presented in this article augment the body of literature that can be used to answer researchers' and policymakers' questions about these important issues. These analyses allow for relatively unbiased description of the

extent to which welfare receipt is related to children's cognitive attainment and behavior. They do not just control for the effects of poverty, but they also remove factors that increase the likelihood that a child's family receives public assistance from the relationship between welfare and child outcomes.

Ever being on welfare (even after controlling for sociodemographic factors, poverty, and selection onto welfare) is associated with worse outcomes for all three dependent variables for White children and two of three outcomes for Black children than never being on welfare (see the top panel of Table 10). The apparent negative effects of long-term welfare receipt are less ubiquitous. The less consistently negative associations between long-term welfare and child outcomes that remain after purging welfare of selection implies that, net of maternal characteristics and history and children's own characteristics, the consequences of ever being on welfare are greater than remaining on welfare for an extended period of time, once welfare receipt has begun.

Purging welfare of selection decreases the association between welfare and negative outcomes for White children but not for Black children. Thus selection factors appear to be better predictors of White children's development, as measured in this study, than of Black children's development. This pattern suggests that, for White children, the negative bivariate associations between welfare and the outcome variables have two sources: (a) welfare itself, and (b) the measured and unmeasured factors that select children's families onto welfare. Alternatively, the source of the negative effects of welfare among Black children, where they exist (reading comprehension scores), appear to be found in welfare receipt itself. Otherwise, the negative bivariate correlations appear to be due to child characteristics and maternal attributes, such as human capital and recent maternal marital and work histories.

Therefore, the factors that predispose mothers to ever rely on welfare play a significant role in White children's cognitive and behavioral outcomes, and there appears to be a residual and important negative effect of welfare receipt itself on some outcomes. Why this is so is not clear. Part or all of the answer may be found in the probit models. Undoubtedly, unmeasured selection factors that affect the associations between welfare and child outcomes remain. Examination of these models suggests that maternal characteristics are more important welfare selection factors than the variables used to measure the economic and social environments for both any welfare and long-term welfare receipt. This may reflect failure to perfectly control for

unmeasured heterogeneity. It is likely that additional variables or variables measured differently but not available in this data set (i.e., such as measures at the census tract or neighborhood level) could improve the description of the economic environmental factors that select people onto welfare. Therefore, a caveat must be kept in mind. The probit models are only as good as the predictive ability of the variables included in the estimation of welfare receipt. To the extent that these variables accurately and comprehensively account for an individual's propensity to be on welfare, the model is robust.

Alternatively, it is possible that some aspect of being in the welfare system negatively affects some children in some ways, even after controlling for both poverty and the factors that predispose their mothers to apply for and receive AFDC, Food Stamps, or both. Thus, the differences in outcomes between children who ever experience welfare and those who never do may be due to the experience of welfare receipt itself, such as: (a) stigma; (b) a negative effect on maternal motivation, depression, or self-esteem; or (c) the factors that lead families to be on welfare.

Among Black children, purging welfare of selection factors does not affect the negative relationship between welfare and reading comprehension scores. The possible explanations for this result are similar to those proffered for White children. It may reflect an inability to control for all of the individual factors, environmental factors, or both that select children's parents to go onto welfare. Alternately, it may be interpreted as meaning that welfare receipt has a direct and negative effect on Black children in middle childhood, an effect that emerges as lower reading comprehension. For the other outcomes, aspects of the child's family environment (i.e., mother's human capital, the extent of her labor force participation, the period of time she was married, and the child's birth order) appear to account for the bivariate patterns seen for Black children.

These results do not lend themselves easily to policy prescriptions. It seems safe to recommend that, in order to protect or even enhance the well-being of children living in households that receive public assistance, policies should focus on the personal and contextual factors that result in welfare receipt in the first place. These factors hinder mothers' ability to find and keep employment at wages high enough to support their families. Evidently, they also impede children's cognitive development and lead to relatively high levels of problem behaviors. Programs and policies that successfully focus on school retention and delaying age at first birth among teens do not focus directly on ameliorating welfare's effects on young children, but they do address

several of the selection factors found to be related to the likelihood of receiving welfare. Such improvements can improve the lives of the next generation of children, but they are too late to help currently disadvantaged children.

These children are caught in this country's massive welfare experiment. Given that these analyses were performed on a sample of children who lived under the old system of welfare, an appropriate question to ask is what understanding can the results offer regarding the situations of children under the new welfare rules that have been put into place since President Clinton signed the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996. Whether or not this experiment succeeds and for whom, it can be assumed that under the 1996 legislation children who remain on welfare or go on welfare in the future under the new, stricter rules will constitute an even more disadvantaged group than the sample used in this study and than the pre-1996 population of children on AFDC. If, in the future, these analyses were to be replicated on young recipients of Temporary Aid to Needy Families (TANF, the replacement for AFDC), the negative relationships between welfare and child outcomes are predicted to be greater because the parents of these children were least able to enter the work force under new programs which already have resulted in a significant reduction of the welfare rolls in a robust economy. Devising interventions to improve these children's futures will require a detailed understanding of which aspects in their lives are the most significant causes of poor outcomes.

For now, these current analyses permit some insight into the nature of these factors. Future research efforts would benefit from more detailed data on the socioeconomic environments in which poor children live at the neighborhood level, if possible, to assess the degree to which factors directly affect child outcomes or operate through selection onto welfare. Similar analyses which include more information about family dynamics and parent-child relationships could test the parallel hypothesis of whether factors, such as domestic abuse or maternal depression, function as selection factors and directly affect the development of young children.

Notes

1. Respondents who reported living in the South or in a rural area for four or more of the six years between 1986 and 1991 were counted as living in the South or in a rural area.

2. In preliminary analyses, Food Stamp receipt and AFDC receipt were entered as separate variables in the regressions. However, they were highly correlated. Thus, a combination variable that included both Food Stamp receipt and AFDC receipt was created.
3. Respondents were asked if they were likely to go onto welfare to support their families if necessary.

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