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ABSTRACT

This study examined transitions into and out of poverty and welfare across 4-year time periods and their implications for math and reading skills and behavior among 10- and 11-year-olds. Analyses of data from the National Longitudinal Survey of Youth-Child Supplement indicate that even with controls for factors that select families into poverty, children who do not experience poverty or welfare over this time period are advantaged relative to children who experience either. Children who are continuously poor but never receive welfare have more favorable outcomes than poor children who receive welfare. Among children experiencing changing economic circumstances, if the family manages to leave poverty, child outcomes are more positive; children whose families fall into poverty experience more negative outcomes than children living consistently above the poverty line. Fluctuations in family economic circumstances are also associated with poorer child outcomes. (Contains 32 references and 6 tables.) (JPB)

Ebbing and Flowing, Learning and Growing:

Transitions in Family Economic Resources and Children's Development

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Abstract

Transitions into and out of poverty and welfare across a four-year time periods and their implications for math and reading skills and behavior are examined among a sample of ten and eleven year-olds. Analyses of the National Longitudinal Survey of Youth-Child Supplement indicate that even with controls for factors that select families into poverty, children who do not experience poverty or welfare over this time period are advantaged relative to children who experience either. Children who are continuously poor but never receive welfare have more favorable outcomes than poor children who receive welfare. Among children experiencing changing economic circumstances, if the family manages to leave poverty, child outcomes are more positive; children whose families fall into poverty experience more negative outcomes than children living consistently above the poverty line. Fluctuations in family economic circumstances are also associated with poorer child outcomes.

Introduction

During the 1970s, the proportion of children living in poverty rose substantially from 14.9 percent in 1970 to 19.5 percent in 1980. Since then, the percentage of children has hovered between 19 and 22 percent; in 1996, one in five children were living in poverty (U.S. Bureau of the Census 1997), a higher proportion than among any other age group. Between 1979 and 1989, the proportion of children on welfare remained steady at between 11 and 12 percent, accounting for more than 7 million children. Welfare rolls rose in the early 1990s, peaking in 1993 at 14 percent (U.S. Department of Health and Human Services 1998). The numbers then declined; by 1996, 11 percent of children were receiving benefits under Aid to Families with Dependent Children (U.S. Current Population Survey 1997). While the welfare system recently has undergone considerable change, with one goal being the reduction of the numbers of people on the welfare rolls, the consequences of poverty and dependency for the well-being of children have received relatively little attention. Greater understanding is needed regarding the effects of transitions into and out of poverty and welfare for children, and of the effects of sustained versus intermittent or short-term poverty and welfare receipt for children, particularly given the as yet unknown consequences of welfare reform for children.

Background

Studies find that welfare receipt is correlated with numerous disadvantages for families and for children (Moore et al. 1995; Zill et al. 1991b). Children in families that received Aid to Families with Dependent Children have been found to be less healthy, more likely to fail in school, and more likely to present serious discipline problems to teachers and parents than non-poor children. In addition, their home environments have been found to be less stimulating and supportive (Zill et al. 1991b). Moreover, children in families that have been longer-term welfare recipients have been found to show less optimal development than children whose families have received welfare for a shorter period (Moore et al. 1995); length of time on welfare has also been negatively correlated with reading scores in young children (Hao 1995).

Researchers also find that poverty is associated with a host of negative outcomes for children. Poor children are more likely to fail in school (Department of Education 1993) and attain low scores on cognitive tests (Brooks-Gunn and Duncan 1997). Poor children are also exposed to greater stress, thereby increasing the risk of mental health problems (McLoyd and Wilson, 1991), yet they are less likely to receive assistance that would help them address psychosocial problems (National Commission on Children 1991). Poor children are also more likely to have physical health problems such as lead poisoning and visual impairment (Starfield 1992), have a higher risk of accidental injury (Klerman and Parker 1990), are less likely to be born to mothers who have obtained adequate prenatal care (Kalmuss and Fennelly 1990), and are more likely to be low birth weight (Department of Health and Human Services 1992). Furthermore, long-term poverty has been associated with particularly negative outcomes (Duncan, Brooks-Gunn and Klebanov 1994), especially for young children experiencing deep poverty (Brooks-Gunn and Duncan 1997).

However, despite their similar correlations with numerous negative outcomes, poverty and welfare receipt are not necessarily coterminous. It is quite possible to be poor without being on welfare. Therefore, families can experience poverty and welfare in several different combinations. For example, families can be consistently poor but on and off welfare over time; consistently poor and consistently on welfare; and consistently poor but never on welfare. However, the relative importance of these patterns for the well-being of children has received little attention. This is a particularly important gap because there is no typical welfare spell; under pre-welfare reform conditions, one-third of first-time welfare recipients received aid for only one or two years while another third remained on AFDC for eight or more years (Duncan and Yeung, 1995).

Thus, our goal is to examine the implications for children of transitions into and out of welfare and poverty and of varied durations on welfare or in poverty as potentially distinct and separate patterns. We use a large-scale study of children, the National Longitudinal Survey of Youth-Child Supplement (NLSY-CS). All three child outcomes are measured when the children were ten or eleven years old and represent a range of domains, including math achievement, reading skills and behavior.

We conduct these analyses controlling for a range of confounding influences. It is well-documented that the incidence and duration of welfare and poverty are associated with a number of demographic and other factors. For example, poverty and welfare receipt are more common among minority families, larger families, and families established by less well-educated mothers (Zill et al. 1991a). In addition, mothers on welfare have less work experience and spend fewer years married (Ellwood and Bane 1985; Eggebeen and Lichter 1991; Harris 1997; Hutchens 1981; Moffit 1992; Pavetti 1993). Marital status is strongly associated with economic status, both because male earnings represent a critical component of family income (Bianchi and Spain 1986) and because, in the late 1980s and early 1990s, AFDC payments were generally only available to single parent families (U.S. House of Representatives 1990). Moreover, it is popularly believed that families on welfare differ in other ways, such as in their attitudes and cognitive aptitude. While women who receive AFDC generally indicate interest in employment (Moore et al. 1995), mothers on welfare do seem to hold more traditional family values than other women and obtain lower scores on tests of cognitive attainment than non-recipients (Zill et al. 1991a). Given these numerous differences, it is necessary to examine the effects of income and welfare net of the effects of such factors, to the extent that they can be measured, in assessing the effects of poverty-welfare patterns on children. Otherwise, one might inappropriately attribute to economic transitions the effects of family structure, educational attainment, or cognitive attainment, for example. Hence, we control, in multivariate models, for a set of factors commonly found to be correlated with the incidence and duration of poverty and welfare receipt.

In this study, we first describe children's outcomes as they vary across patterns of income and welfare receipt over a four-year period. We then control for numerous factors correlated with family economic status and children's development to assess whether the poverty-welfare associations are due to background differences. The following research questions guide our

analyses:

1. To what extent are poverty and welfare receipt similar or different influences on children's well-being? Are the effects on children of transitions into and out of poverty and welfare, and the effects of the duration of poverty and welfare, similar or distinct?

2. Is the poverty-welfare trajectory of the family important? That is, do downward mobility and upward mobility have effects that are distinct from the effects of ongoing poverty or dependency or the effects of sustained prosperity?

3. What are the effects of fluctuating economic well-being for children? Other studies have found instability in residence and parental marital status to have negative effects for children (Moore et al. 1994). Do fluctuating economic fortunes also have negative effects on children?

4. To what extent do background differences explain any negative effects of poverty or welfare that are found? That is, if we control for demographic and family factors measured at least four years prior to the outcome that predict poverty or welfare receipt, do these control variables explain the associations found, if any, between family poverty-welfare patterns and children's outcomes?

Data

The data for this study come from the National Longitudinal Study of Youth-Child Supplement (NLSY-CS). The NLSY is a large-scale, longitudinal survey of American youth who were 14 to 21 when the study began in 1979. Respondents have been followed annually since then. The sample includes an over-representation of African Americans and Hispanics. The data set contains a wide range of variables including measures of family background, household poverty and public assistance histories, and maternal characteristics. In 1986, when the respondents were aged 21 to 29, the data collection effort expanded to include a Child Supplement that consists of a substantial battery of assessments of the children of the women who had given birth. Since 1986, the children have been re-assessed every two years. We use data from the 1986, 1988, 1990, 1992 and 1994 waves of data for the assessment outcomes and include children who were born between 1975 and 1984 and who were either 10 or 11 years old in one of these waves. For example, children born in 1975 and 1976 were 10 and 11 years old respectively in 1986 when outcomes were assessed for these children. Similarly, children born in 1977 and 1978 were assessed in 1988; children born in 1979 and 1980 were assessed in 1990; children born in 1981 and 1982 were assessed in 1992; and children born in 1983 and 1984 were assessed in 1994. We also use data on poverty and welfare receipt for mothers from the main survey for the four years before the year that outcomes were assessed for their children.

Several aspects of the NLSY Child Supplement make this data base suitable for the present analysis. First, data based on both mother and child are available for a large,

socioeconomically diverse sample. Second, direct assessments are available across multiple domains of child well-being. Third, the longitudinal nature of the data allows for the examination of the effects of transitions into and out of poverty and welfare on children.

Despite the many advantages of the NLSY child data for a longitudinal analysis of the consequences of poverty and welfare transitions, it has are limitations as well. First, the children in the NLSY are not fully representative of all children in their age group because the NLSY is a random sample of women, not of children. The children included in the present study represent a sample of children born to a nationally representative sample of women who were 26 years old or younger at the birth of their children. As of 1994, the children of the NLSY-CS represented approximately the first three-quarters of childbearing for a recent cohort of American women; the sample of children is becomingly increasingly more representative with each subsequent wave of the study. Also, due to the fact that only children of female NLSY respondents are included in the Child Supplement, we can only focus on mother-custody families. Thus, we are not able to account for the role that fathers or father figures may play in the children's cognitive and psychosocial development.

Dependent Variables

The Behavior Problems Index (BPI) is an index of 28 parent-report items concerning children's behaviors (Zill 1991). The items comprising the scale were selected because they occur with at least moderate frequency in the general child population; have a demonstrated ability to discriminate children who have received clinical treatment from those who have not; and represent some of the more common behavior syndromes in young people, namely, anti-social behavior, distractable-hyperactive behavior, anxious/depressed behavior, and peer conflict/withdrawn behavior. The index is customarily scored such that a higher score indicates more behavior problems. However, in order to make the interpretation of Table 1 more comparable to that of the other two outcomes of interest, we reverse-coded the scale so that higher scores indicate more positive behavior, that is, fewer behavior problems.

Two measures of cognitive attainment are examined: mathematics and reading achievement on the Peabody Individual Achievement Test (PIAT). The PIAT is a wide-range measure of academic achievement for children ages five and over, which is widely used in research (Baker et al. 1993). The reading recognition assessment measures the child's word recognition and pronunciation ability. The mathematics assessment includes items that increase in difficulty from simple recognition of numerals to advanced concepts such as geometry and trigonometry. The PIAT mathematics (alpha=0.60 to 0.73) and reading recognition (alpha=0.81 to 0.89) assessments are administered directly to the children by specially trained interviewers and are age standardized.

The standardized mean scores for all three of these measures is 100, with a standard deviation of 15. Mean scores for the study sample are presented in Table 2. The mean BPI score for this sample is 108.1, somewhat higher than the standardized mean. The mean PIAT math

score is 100.5 and the mean PIAT reading recognition score is 103.7.

Independent Variables

Poverty-Welfare Transitions

Our focus here is on the effects of naturally occurring (rather than policy- or program-induced) economic changes for children, specifically income and welfare transitions across the four-year time period prior to the outcome year. All income and transfer data are provided as a part of the regular interview with the mother and refer to the twelve-month time period preceding each interview. In the initial year, families were first categorized as to whether their families had received AFDC payments in the previous year. Among those who had not received payments, families were categorized as either in poverty or not in poverty. For each of the subsequent three years of the period, identical sets of categories were identified, and the transitions of families from survey to survey were noted. Several predominant patterns were coded.

Table 1 about here

The most frequent pattern was never being in poverty during any of the four years, shown in the first row of Table 1. (Weighted percents are shown in the fourth column.) Children who were continuously poor (but never on welfare) and children who were continuously on welfare (shown in the second and third rows) represent stable but disadvantaged groups of children. The size of these groups reflects the disadvantaged nature of the NLSY child sample, in which children born to teenage mothers and children of color are disproportionately represented. As Table 1 shows, never-poor children are over-represented in the top quarter of the distributions for both PIAT math and reading scores, while always poor children are under-represented in the top quarter of the two PIAT outcomes; those always on welfare are under-represented in the top quarter of all three outcomes.

Other patterns identify improving and declining economic conditions for families. The improving groups include those families who were poor but not on welfare in the first year and whose economic positions improved sufficiently that the family had left poverty by the final year (row 4) and families who were on welfare in the first year of the time period but by the last year were out of poverty (row 5). Despite their family's improving fortunes, children who left poverty are under-represented in the top quarter for all three outcomes.

Families who slid from above the poverty line at the beginning of the time period to below it by the end of the period (row 6) and those that were not in poverty at the start of the period but had gone onto AFDC by the period's end (row 7) constitute the groups with declining fortunes. Children in both these groups are also under-represented in the top quarter of all three outcomes.

Three other categories were created to cover the remaining patterns found in the sample.

The first two include children in disadvantaged families who either started in poverty (but not on AFDC) and ended up receiving AFDC (row 8) or the reverse; that is, who started out on welfare and had left welfare but not poverty by the end of the four-year period (row 9). A final category captures children whose families experienced fluctuating economic situations; in essence, this group constitutes families with unstable economic situations which cannot be defined as either improving or declining (row 10). The bivariate patterns for these categories are somewhat mixed.

We created a dummy variable to represent each of these poverty-welfare subgroups in multivariate analyses. The reference group was the group of families who were never in poverty and never on welfare during the four years prior to the measurement of the outcomes.

Demographic and Family Variables

All control variables were measured at the beginning of the four-year time period or before. Demographic control variables include race/ethnicity, gender and the birth cohort of the child, specifically, whether they were born in 1975-1976, 1977-1978, 1979-1980, 1981-1982 or 1983-1984, to control for the fact that children in earlier cohorts tended to have younger mothers. A set of variables describing the mother are entered, including the mother's score on the Armed Forces Qualifying Test (AFQT), a test of cognitive attainment given in 1980 to the youth respondents in the NLSY and the mother's educational attainment at the time of the child's birth to control for the mother's own cognitive ability and formal schooling. We also control for the number of the mother's own children living in the household at the beginning of the four-year period as large family size has been linked to poorer cognitive and non-cognitive outcomes for children (Blake 1989). In addition, in analyses of the BPI, we include measures of the mother's own adolescent experience of behavior problems (use marijuana and other illegal drugs, and under-age use of alcohol) which may predict both more frequent economic difficulties as well as greater child behavior problems.

Table 2 presents weighted information on the sample about these characteristics. Seven in ten of the children are white, another 20 percent are black and the rest are Hispanic. The child sample is evenly divided between males and females. Each successive birth cohort contains a greater percentage of children, such that the earliest birth cohort, consisting of children born in 1975 and 1976, contains 7 percent of the sample and the most recent cohort, consisting of children born in 1983 and 1984, contains almost 30 percent of the sample, reflecting the arrival of the cohort of NLSY mothers into their peak childbearing years.

Two-thirds of the children's mothers were married at the time of the child's birth; slightly more than half of the mothers had at least a high school education when their children were born. Half of the mothers reported drinking alcohol before age eighteen or using illegal drugs at any age; half reported no such past behavior. The mean AFQT score among mothers is 38.0; at the beginning of the four year welfare-poverty period under study, there were an average of 2.3 children in the household.

Table 2 about here

Analysis Plan

We examine the association between the poverty-welfare patterns and several measures of child well-being, specifically the Behavior Problems Index (BPI) and the PIAT math and reading recognition tests, through a series of ordinary least squares multivariate regression models. Model 1 for each outcome assesses the associations between the poverty-welfare measures and the measures of well-being without controls and is shown in the first columns of Tables 3-5. Child and mother demographic control variables are entered in sets. Child race/ethnicity, sex and year of birth are entered in Model 2. Model 3 includes the mother's AFQT score, her educational attainment at the time the child was born, the number of the mother's own children in the household and, for the BPI model, the mother's early behavior problems. Maternal problem behavior was scored as a zero to three index, with one point for each of the following: use of marijuana, use of other illegal drugs, and drinking alcohol before turning eighteen.

Results

Table 3 provides results for the Behavior Problems Index; Table 4 presents results for the PIAT Mathematics test; and Table 5 depicts the results for the PIAT Reading Recognition test.

To preview our findings, we see that, before controlling for other factors, children who never experienced poverty or welfare during the period of interest have significantly better cognitive outcomes than children from all other categories and that these children also have better behavioral outcomes than many other children. Controlling for child demographic characteristics tends to ameliorate the cognitive outcome differences more than the behavioral outcome differences between the reference group and the other groups. A similar pattern can be seen when mother and household characteristics are controlled.

Behavior Problems Index. Children who were continually on welfare and those whose families' fortunes worsened so that they fell into poverty or welfare had poorer behavioral outcomes than never-poor children (Table 3). Similarly, those whose families' economic situations fluctuated had worse behavior. Those whose families left welfare and rose above the poverty line also had worse behavior, but the addition of child or mother variables reduces this association to borderline significance (Models 2 and 3). Past maternal problem behavior is particularly strongly associated with higher BPI scores of children but does not alter the poverty-welfare subgroups patterns. Thus, in the final model, scores remain higher (worse) for children whose families continuously received welfare, experienced worsening conditions, and who experienced fluctuating circumstances.

Table 3 about here

PIAT Math. Never-poor children have significantly higher math scores than children of all other groups; the mean scores of those always on welfare, those always poor, and those who moved off welfare but remained poor are particularly low (Model 1 of Table 4). Controlling for children's characteristics does not change the patterns across the groups, but does lead to declines in the gaps between never-poor children and other children (Model 2).

Net of child and mother controls, children whose families leave poverty are indistinguishable from never-poor children. Maternal characteristics appear to explain the lower scores of children whose families slide from poverty onto welfare. The difference in math scores between never-poor children and all other groups, while smaller, remain at least marginally significant.

Table 5 about here

PIAT Reading Recognition. The pattern for reading recognition scores is very similar to that for math scores; children in all groups whose families were ever poor or ever on welfare during the four years prior to being administered this test have significantly lower scores than those of children whose families were never poor during this period (Model 1 of Table 5). As was the case for math scores, children whose families exited poverty during this period are most similar to those who were never poor. Those who were continually on welfare, those who left welfare but remained poor, and those whose families slid from above the poverty line to reliance on AFDC have the lowest mean reading scores.

Controlling for child characteristics does little to alter the general pattern (Model 2), however, the addition of maternal characteristics results in some significant changes (Model 3) and noticeably increases the R^2 of the model from 0.11 to 0.18. Net of the mother's characteristics, the reading scores of always poor children do not differ from those of never-poor children. However, those who lived in families that continuously relied on AFDC still do worse than the never poor. Children whose families' economic fortunes improved during the time period are not significantly different from never-poor children. Those whose situations worsened have significantly lower reading recognition scores, particularly those who families ended up receiving AFDC.

Discussion

We initiated these analyses in order to address several important questions about the effects of poverty and welfare on children. We followed the transitions in and out of poverty and welfare among children born between 1975 and 1984 for the four years before they were 10 or 11 years old. This allows us to examine children's outcomes at ages 10 and 11, net of various child and mother characteristics. Table 6 provides a summary of the associations between the poverty-welfare transition groups and the three outcomes, net of the full set of controls. We conducted these analyses to address four questions regarding the implications of poverty and welfare for children.

Table 6 about here

Our first question was whether welfare and poverty have similar or different influences on children's development. The answer to this initial question is somewhat mixed, but the preponderance of evidence suggests that welfare is associated with more negative child outcomes than poverty alone. First, children who were always on welfare have much worse outcomes than never-poor children, whereas continually poor children do not differ from never-poor children, net of the control variables. Furthermore, among children whose situations improved, those who rose from poverty appear to have no lingering negative effects of having been poor, while those who were once on welfare appear to be somewhat hampered by that experience, even after leaving poverty. The third piece of evidence comes from children who experienced declining circumstances; children who fell into welfare have negative outcomes than those who became poor but did not go onto welfare. These differences may reflect the deeper poverty experienced by children in welfare families, unmeasured differences not accounted for by control variables, or characteristics of the welfare system or family experiences within the system.

The second research question concerned the importance of the poverty-welfare trajectory, i.e., the effects of upward and downward mobility versus ongoing poverty, dependency, or prosperity. The poverty-welfare trajectory of the family does seem to have distinctive effects on children's outcomes. While children whose families' economic fortunes improved have outcomes which, for the most part, are either indistinguishable from those of never-poor children or only marginally so, children whose families slid from above the poverty line into poverty and particularly those who ended up on welfare have some of the worst outcomes of any subgroup. Thus, improving circumstances are associated with more positive outcomes, whereas deteriorating situations are associated with less positive children's outcomes.

Our third research question focused on the effects of fluctuating family incomes for children. We find that instability, in terms of poverty and welfare receipt, is associated with negative outcomes; children in the fluctuating category do worse than never-poor children across all outcomes. Indeed, over a longer time period, it appears that many of these children have experienced considerable fluctuation. For example, analyses (not shown) of the children whose families fell from above poverty in the first year of the four-year period onto welfare, 79 percent had also been on welfare sometime in the four years previous to the first year of the focus period. Thus, these children appear to also have experienced fluctuating circumstances, which may help to account for their poor outcomes. Children in this category may also be suffering from their own or their families' dashed hopes -- having risen from welfare to a life above the poverty line, they subsequently find themselves once again dependent on public assistance. Also, this finding about the effects of instability mirrors other research that has shown that instability in other areas (for example, in parents' marital status [Wu and Martinson 1993] and child care arrangements over time [Howes 1988 and Howes and Stewart 1987]) is problematic for children.

Our fourth research question focused on the issue of selectivity. When a set of demographic maternal and child control variables were added, many of the cross-sectional

associations reported in Table 1 declined. However, as is apparent from the discussion above, the pattern of poverty-welfare differences remained despite the addition of control variables. It is important to consider the possibility that there are additional variables, not included in the NLSY-CS, that might more accurately and precisely reflect selectivity. Based on the control variables we included here, we conclude that the consequences of poverty and welfare for children in Table 6 do not simply reflect the characteristics of people who end up on welfare and in poverty.

The answers we have obtained to the questions we pose both provide additional information and lend themselves to new questions to be addressed by future research efforts. More detailed information on how changes in families' economic fortunes, including the source of income (wages versus welfare), affect children's cognitive attainments and behavior is needed to further our understanding of how deprivation and dependency, transitions into and out of these states, and the duration of poverty and welfare affect children in a post-welfare reform era.

Table 1. Percentages of Children in the Top (Best) Quarter[a] of Outcome Distributions[b]

Welfare-Poverty Situation	BPI[c]	PIAT Math	PIAT Reading
Stable Situation			
Never Poor, Never Welfare	25.4	32.7	32.9
N	1328	1299	1305
Always Poor, Never Welfare	27.4	12.5	21.8
N	99	103	102
Always Welfare	18.9	12.7	12.5
N	304	306	309
Improving Situation			
Poor to Not Poor	21.0	16.5	23.5
N	131	134	141
Welfare to Not Poor	15.9	19.6	16.1
N	128	133	132
Worsening Situation			
Not Poor to Poor	21.7	22.6	18.8
N	110	116	115
Not Poor to Welfare	15.1	22.8	11.9
N	93	93	93
Other Situation			
Poor to Welfare	28.7	16.2	28.6
N	66	64	63
Welfare to Poor	30.1	6.3	3.8
N	69	67	68
Fluctuating	19.3	19.7	22.3
N	482	485	492
Total N	2810	2797	2820

[a]Because breaks could not coincide precisely with 25.0%, the top BPI quarter equals 24.7%, the top PIAT Math quarter equals 24.3%, and the top PIAT Reading quarter equals 24.8%

[b]weighted

[c]BPI is reverse-coded so that the top quarter of the distribution of scores represents children with lower levels of behavior problems

Table 2. Sample Distributions and Mean BPI, PIAT Math and PIAT Reading Scores

	% of sample	Mean Scores BPI	PIAT Math	PIAT Reading
Welfare-Poverty Category				
Never Poor	57.9	106.8	103.4	107.0
Always Poor	2.6	109.0	94.5	99.8
Always Welfare	6.9	112.6	92.5	95.2
Poor to Not Poor	4.7	108.4	100.7	104.0
Welfare to Not Poor	3.7	111.5	96.4	100.3
Not Poor to Poor	3.9	110.6	99.0	101.4
Not Poor to Welfare	2.4	114.3	95.6	96.4
Poor to Welfare	1.4	109.2	96.0	98.9
Welfare to Poor	1.6	106.9	91.7	93.3
Fluctuating	15.0	110.8	97.7	100.7
Race/Ethnicity				
Black	20.6	109.2	98.0	94.2
Hispanic	7.9	108.0	100.0	96.2
White	70.5	107.8	105.9	102.9
Sex				
Male	50.8	109.5	102.5	100.7
Female	49.2	106.6	104.9	100.2
Birth Cohort				
Born 1975-1976	7.4	110.0	103.3	98.0
Born 1977-1978	13.3	111.3	102.6	98.7
Born 1979-1980	22.2	108.1	102.8	99.2
Born 1981-1982	27.6	107.4	104.4	101.3
Born 1983-1984	29.5	106.8	104.4	102.0
Mother & Household Characteristics				
Mother married at child's birth	66.2	107.3	97.0	105.3
Mother unmarried at child's birth	33.8	109.6	102.2	100.6
Mother had H.S. educ or more at child's birth	57.3	106.8	102.9	106.1
Mother had less than H.S. educ at child's birth	42.7	109.9	97.1	100.4
No maternal behavior problems	50.2	106.7	---	---
One or more maternal behavior problems	49.8	109.4	---	---
Mean/correlation with maternal AFQT score	38.0	-0.10	0.41	0.38
Mean/correlation with number of children in	2.3	0.00	-0.10	-0.17
Mean scores		108.1	100.5	103.7

Table 3. OLS Regression Models of BPI Scores

Variables	Model 1	Model 2	Model 3
Welfare-Poverty Situation			
Stable Situation			
Never Poor (ref.)	---	---	---
Always Poor, Never Welfare	2.22	3.00	1.82
Always Welfare	5.75***	6.07***	4.20***
Improving Situation			
Poor to Not Poor	1.58	1.36	0.21
Welfare to Not Poor	4.71**	4.68**	3.10
Worsening Situation			
Not Poor to Poor	3.78**	3.98**	2.94*
Not Poor to Welfare	7.46***	7.38***	6.01***
Other Situation			
Poor to Welfare	2.42	2.73	1.20
Welfare to Poor	0.05	0.77	-2.31
Fluctuating	3.99***	3.95***	2.72***
Race/Ethnicity			
Black		-0.98	-1.92**
Hispanic		-0.73	-1.58
White (ref.)		---	---
Male		2.80***	2.84***
Birth Cohort			
Born 1975-1976		1.47	1.01
Born 1977-1978		3.20***	2.62**
Born 1979-1980		0.94	-0.63
Born 1981-1982		0.17	-0.05
Born 1983-1984 (ref.)		---	---
Mother & Household Characteristcs			
Mother's AFQT			-0.04**
Mother's problem behavior index			1.63***
Mother married at child's birth			-0.99
Mother's education at child's birth			-0.16
No. of children in household			0.34
Intercept	106.81***	104.83***	108.14***
adjusted R^2	0.02	0.03	0.05
N	2,809	2,809	2621

$^{+}p \leq 0.10$ *p≤.05 **p≤.01 ***p≤.001

Table 4. OLS Regression Models of PIAT Math Scores

Variables	Model 1	Model 2	Model 3
Welfare-Poverty Situation			
Stable Situation			
Never Poor (ref.)	---	---	---
Always Poor	-8.91***	-6.48**	-2.86
Always Welfare	-10.93***	-7.87***	-4.18***
Improving Situation			
Poor to Not Poor	-2.71*	-1.88	-0.47
Welfare to Not Poor	-7.08***	-5.48***	-3.03*
Worsening Situation			
Not Poor to Poor	-4.49***	-3.74**	-2.34
Not Poor to Welfare	-7.82***	-5.77***	-3.33*
Other Situation			
Poor to Welfare	-7.49***	-4.77***	-0.93
Welfare to Poor	-11.76***	-8.63***	-5.14*
Fluctuating	-5.71***	-4.09***	-1.66*
Race/Ethnicity			
Black		-6.20***	-2.55***
Hispanic		-5.95***	-2.86**
White (ref.)		---	---
Male		0.39	0.17
Birth Cohort			
Born 1975-1976		-1.35	-1.86
Born 1977-1978		-1.69	-1.81*
Born 1979-1980		-1.99**	-3.34***
Born 1981-1982		-0.56	-0.84
Born 1983-1984 (ref.)		---	---
Mother & Household Characteristics			
Mother's AFQT			0.16***
Mother married at child's birth			0.31
Mother's education at child's birth			-0.15
No. of children in household			-1.01***
Intercept	103.44***	105.15***	101.19***
adjusted R^2	0.08	0.11	0.19
N	2,796	2,796	2,635

$^{+}p \leq 0.10$ $^{*}p \leq .05$ $^{**}p \leq .01$ $^{***}p \leq .001$

Table 5. OLS Regression Models of PIAT Reading Recognition Scores

Variables	Model 1	Model 2	Model 3
Welfare-Poverty Situation			
Stable Situation			
Never Poor (ref.)	---	---	---
Always Poor	-7.25***	-5.43**	-0.68
Always Welfare	-11.78***	-9.28***	-3.80***
Improving Situation			
Poor to Not Poor	-2.96*	-2.17	-0.12
Welfare to Not Poor	-6.75***	-5.29***	-2.36
Worsening Situation			
Not Poor to Poor	-5.65***	-5.23***	-3.33*
Not Poor to Welfare	-10.66***	-9.03***	-6.05***
Other Situation			
Poor to Welfare	-8.11***	-5.94**	-1.38
Welfare to Poor	-13.70***	-11.59***	-6.41**
Fluctuating	-6.35***	-5.01***	-2.13**
Race/Ethnicity			
Black		-5.52***	-2.08**
Hispanic		-4.88***	-1.28
White (ref.)		---	---
Male		-2.42***	-2.62***
Birth Cohort			
Born 1975-1976		1.40	0.66
Born 1977-1978		-0.25	-0.45
Born 1979-1980		-0.69	-1.54
Born 1981-1982		-0.09	-0.10
Born 1983-1984 (ref.)		---	---
Mother & Household Characteristics			
Mother's AFQT			0.16***
Mother married at child's birth			0.36
Mother's education at child's birth			-0.06
No. of children in household			-2.12***
Intercept	107.02***	109.22***	106.21***
adjusted R^2	0.08	0.11	0.18
N	2,793	2,793	2,636

$^{+}p \leq 0.10$ $^{*}p \leq .05$ $^{**}p \leq .01$ $^{***}p \leq .001$

Table 6. Summary of Welfare-Poverty Categories for BPI, PIAT Math and PIAT Reading Coefficients from Model 3: Controlling for Demographic and Background Factors

Welfare-Poverty Category	BPI	PIAT Math	PIAT Reading
Stable Situation			
Never Poor	--	--	--
Always Poor	1.82	-2.86	-0.68
Always Welfare	4.20***	-4.18***	-3.80***
Improving Situation			
Poor to Not Poor	0.21	-0.47	-0.12
Welfare to Not Poor	3.1	-3.03*	-2.36
Worsening Situation			
Not Poor to Poor	2.94*	-2.34	-3.33*
Not Poor to Welfare	6.01***	-3.33*	-6.05***
Other Situation			
Poor to Welfare	1.2	-0.93	-1.38
Welfare to Poor	-2.31	-5.14*	-6.41**
Fluctuating	2.72***	-1.66*	-2.13**

*p≤.05 **p≤.01 ***p≤.001

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