Jnl Soc. Pol., **31**, 2, 207–227 © 2002 Cambridge University Press
DOI: 10.1017/S0047279401006602 Printed in the United Kingdom

Poverty and Welfare Patterns: Implications for Children

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ABSTRACT

In 1996, the US federal government passed welfare reform legislation. The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) altered greatly the circumstances under which families can receive public assistance, limiting receipt to 5 years, requiring work after 24 months, and allowing states to impose sanctions and other requirements such as family caps (Greenberg, 1999). Because many countries reforming their social welfare system look to the USA as one possible model, analyses of the effects of US welfare policy on children are of relevance internationally. We find that the population receiving welfare in the USA is highly diverse and that background differences and early experiences explain most of the associations between welfare and poverty and children's outcomes. After taking account of these background differences, we find that children who experienced stable albeit disadvantaged economic conditions did not have worse outcomes than children who were never poor. Nor were children whose families' economic fortunes improved at higher risk for poor outcomes. However, children in families whose financial circumstances declined or fluctuated were more at risk for behavioural problems and scored lower on reading tests than were children who had never been poor.

INTRODUCTION

In order to provide early insight into the possible implications of welfare reform for children, patterns of welfare receipt and poverty among a sample of US 10 and 11-year-olds are examined in detail across a 4-year time period. Children's mathematics and reading skills and behaviour problems are analysed using data from the National Longitudinal Survey

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This paper was funded by the National Institute of Child Health and Human Development's Family and Child Well-Being Network, Grant No. HD30930-01.

https://doi.org/10.1017/S0047279401006602 Published online by Cambridge University Press

of Youth-Child Supplement. Results indicate that families experiencing poverty or welfare are highly diverse and that early childhood experiences and maternal characteristics are powerful determinants of children's outcomes. After taking account of these background differences, we find that children who experienced stable albeit disadvantaged economic conditions did not have worse outcomes than children who were never poor. Nor were children whose families' economic fortunes improved at higher risk for poor outcomes. However, children in families whose financial circumstances declined were more at risk for behavioural problems and scored lower on reading tests than children who had never been poor, as were children whose situations fluctuated.

Reforming welfare has been an issue for many developed nations. In 1996, the USA Congress passed, and the president signed into law, welfare reform legislation. The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) altered greatly the circumstances under which families can receive public assistance, limiting receipt to 5 years, requiring work after 24 months, and allowing states to impose sanctions and other requirements such as family caps (Greenberg and Savner, 1999; Primus, 1999). Despite differences between US and British social policy, both nations have a growing focus on moving welfare recipients from welfare to work. Indeed, British welfare reform efforts have been influenced by US welfare policy in recent years, with Britain and several other European nations initiating welfare-to-work programmes in the past decade. Because some countries reforming their social welfare system may look to the USA as a model, analyses of the effects of US welfare policy on children are of importance to other nations. It takes time for children to develop and grow, so the implications of welfare reform for children will take time to assess (Zaslow, Tout, Botsko, and Moore, 1998). At present, US welfare reform seems to have had a strong effect on work effort among adults. However, even for adults, the implications for overall economic well-being are far from certain (Wertheimer, 2001). If adults work and leave welfare but not poverty, outcomes may be quite different for children than if adults remain on welfare or if families cycle repeatedly through periods of economic self-sufficiency followed by welfare receipt.

As yet, there is surprisingly little research on the effects of welfare and poverty for the children in low-income families (Yoshikawa, 1999). Several studies of the implications of welfare reform for children are in process; but the full implications will take some years to unfold. In particular, given the unusual strength of the US economy in the past several years, it may take quite some time for the full impact of welfare reform to be understood when the economy is less robust.

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The goal of this study is to examine patterns of welfare receipt and poverty across a 4-year period to explore how children fared. This time frame is similar to the period following the implementation of welfare reform legislation in the USA and the present time. We consider four quite distinct patterns: stable patterns (i.e., stable poverty, stable welfare receipt or stable non-poverty); improving patterns; worsening patterns; and fluctuating patterns. Understanding how children fare in these circumstances will shed light on possible outcomes for children of welfare reform in the new century.

BACKGROUND

In the UK and other European countries, living in poverty is commonly defined as having half of the national median household income. In the USA, living in poverty is defined as having an income that is three times the low cost food budget, a definition that is controversial but which has been consistently tracked over many decades (Citro and Michael, 1995). However, both the UK and the USA have higher rates of poverty among children than other industrialised European nations (Family and Child Well-being Research Network, 1995; Piachaud and Sutherland, 2000). Declining but large proportions of American children are in poverty and/or receive welfare. During the 1970s, the proportion of American children living in poverty rose substantially from 14.9 per cent in 1970 to 19.5 per cent in 1980. Since then, the percentage of poor children in the USA has hovered between 17 and 22 per cent; in 1999, 16.9 per cent of children were living in poverty (US Bureau of the Census, 2000a). Although poverty is defined differently in the USA than in the UK, approximately one-third of children in the UK were living in poverty in 1996 (HM Treasury, 1999).

Between 1979 and 1989, the proportion of US children on welfare remained steady at between 11 and 12 per cent, accounting for more than 7 million children. Welfare rolls rose in the early 1990s, peaking in 1993 with 14 per cent of all children on welfare (US Department of Health and Human Services, 1998). The numbers then declined; by 1998, 8 per cent of US. children were receiving welfare benefits (Primus, 1999). These trends at the societal level are the cumulative results of economic transitions experienced by millions of families and their children during these years. The implications of such changes have recently become a research focus.

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

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Children (AFDC), the cash transfer system replaced in 1996 by Temporary Assistance for Needy Families (TANF), 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 (Zill *et al.*, 1995). In addition, their home environments have been found to be less stimulating and supportive (Zaslow and Eldred, 1998; Zill *et al.*, 1991b). Moreover, children in families that have been longer-term welfare recipients have been found to show less optimal physical, social and cognitive development than children whose families received welfare for a shorter period (Moore *et al.*, 1995; Zill *et al.*, 1991b). Length of time on welfare is also negatively correlated with reading scores in young children (Hao, 1995).

Poverty is also associated with a host of negative outcomes for children. Poor children in the USA are more likely to fail in school (US Department of Education, 1993) and to attain low scores on cognitive tests (Brooks-Gunn and Duncan, 1997). They 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 (US Department of Health and Human Services, 1992). Researchers examining the implications of poverty in Great Britain have found similarly that children whose families had financial difficulties or received free lunch at school were substantially more likely to have an extramarital birth, to be in poor health, to receive public benefits and to have a low income in their early thirties than women from more prosperous families, after taking account of other childhood disadvantages (Hobcraft and Kiernan, 1999). Furthermore, long-term poverty is associated with particularly negative outcomes (Duncan, Brooks-Gunn and Klebanov, 1994), especially among young children in deep poverty (Brooks-Gunn and Duncan, 1997).

Families experience poverty and welfare in several combinations. For example, families can be consistently poor but go on and off welfare over time; be consistently poor and consistently on welfare; or be consistently poor but never on welfare. However, the relative effects of these patterns on the well-being of children has received little attention. This is a particularly striking omission because there is no typical welfare spell; in the

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USA before welfare reform, one-third of first-time welfare recipients received aid for only 1–2 years while another third remained on AFDC for 8 or more years (Duncan and Yeung, 1995).

As Yoshikawa (1999) notes, it is necessary to examine transitions over time within the lives of families and in relation to the outcomes of children. In addition, the ages of children must be considered when analysing the effects of poverty and welfare on well-being. Recent evidence suggests that the effects of poverty might be most acute among young children (Brooks-Gunn and Duncan, 1997). Among teens, having a parent who works instead of staying home and receiving welfare benefits might imply inadequate supervision, since the parent is not at home. On the other hand, it may also have a positive effect by providing a role model of a working adult. However, prior to adolescence, when few children are unsupervised, one might argue that the source of income matters less than the adequacy of income (US Bureau of the Census, 2000b). Hence, prior to the teen years, one might anticipate that poverty has greater negative implications than welfare. To the extent that welfare has more negative implications, we expect these to be explained by the lower educational attainment, lower cognitive attainment, single parent families, and other disadvantages that cause some mothers to end up on welfare.

Our goal is to examine the implications for children of transitions into and out of welfare and poverty, as well as long-term poverty and welfare, and fluctuating patterns. We use data from a highly regarded large-scale ongoing study of American children, the National Longitudinal Survey of Youth–Child Supplement (NLSY–CS). Three child outcomes – mathematics achievement, reading skills and social behaviour – are measured when the children were 10–11 years old.

To examine the effects of poverty and welfare patterns per se, we seek to control for the effects of a range of confounding influences, including maternal education, race/ethnicity, family size, maternal work experience, and years married (Eggebeen and Lichter, 1991; Ellwood and Bane, 1985; Harris, 1997; Moffit, 1992; Pavetti, 1993; Zill *et al.*, 1991a). 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 welfare payments have generally only been available to single-parent families (US House of Representatives, 1990). Further, families on welfare may differ in other ways, such as in their attitudes and cognitive aptitude. While women who receive welfare generally indicate interest in employment (Moore *et al.*, 1995), they do seem to hold more traditional family values than other women. Moreover, those who are longer-term recipients score lower on tests of cognitive attainment

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than non-recipients (Zill *et al.*, 1991a). Accordingly, we control for the mother's AFQT score, a measure of cognitive attainment and, in analyses of the child's behaviour problems, we control for maternal substance use during her teen years. Including these controls reduces the risk that we might inappropriately attribute to economic transitions the effects of other factors such as family structure or maternal characteristics such as her cognitive attainment.

In this study, we first describe children's outcomes as they vary across patterns of income and welfare receipt over a 4-year period just prior to the US welfare reform legislation of 1996. We then control for numerous variables 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 similarly associated with children's well-being? Are the associations between transitions into and out 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 being continuously poor or welfare dependent?
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.*, 1995; Moore, Morrison, and Glei, 1995; Moore, Vandivere, and Ehrle, 2000). Do fluctuating economic fortunes also have negative effects on children?
4. To what extent do background differences explain any of the negative effects of poverty or welfare that are found? That is, if we control statistically for demographic and family factors, does this explain the associations found, if any, between family poverty-welfare patterns and children's outcomes?

DATA

The data for this study come from the widely used National Longitudinal Survey of Youth–Child Supplement (NLSY–CS). This is an ongoing large-scale longitudinal survey of American youth that began in 1979. Respondents have been followed annually since then, and this data base is considered one of the major ongoing and timely sources of information regarding the effects of family and economic factors on children's development (Chase-Lansdale *et al.*, 1991). The sample includes an over-representation of African Americans and Hispanics. The data set contains measures of family background, household poverty and public

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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. The Child Supplement consists of a substantial battery of assessments for the children of those who had given birth. Since 1986, all children have been reassessed every two years and data collection is ongoing. This unique study design allows researchers to examine how the development of children is affected by the changing circumstances of their parents' lives.

We use multiple waves (1990, 1992 and 1994) of NLSY-CS data for the assessment outcomes and include more than 1,800 children who were either 10 or 11 years old in one of these waves. We use data on poverty and welfare receipt for families obtained from the parent survey for the 4 years prior to the year that children's outcomes were assessed. That is, we examine in detail the very complex income and poverty patterns experienced by children in the 4 years before child outcomes are measured, over and above earlier experiences and family background factors.

Several aspects of the NLSY Child Supplement make this database suitable for the present analysis. First, data for both mother and child are available for a large, up-to-date, and socio-economically diverse sample. Second, direct child assessments are available across multiple domains of child well-being. Third, the longitudinal nature of the data allows for the examination of the implications of transitions into and out of poverty and welfare on children.

LIMITATIONS

Despite the many advantages of the NLSY Child Supplement for a longitudinal analysis of poverty and welfare transitions, it has 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. Second, 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. Third, more recent

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data might be desirable; however, as yet, data for the last several years have not been released.

This sample may provide a harbinger of how contemporary children will be affected by the 1996 welfare reform law. It has been approximately 4 years since welfare reform was implemented in the USA, a time span comparable to the one that we examine here in detail. Thus, although the results presented here are from a time period prior to the most recent US reforms, they contribute to a small but growing body of research on the implications of welfare reform. There are no experimental studies of the impact of the US welfare reform legislation on children and (as far as we know) no such experimental studies in Great Britain; therefore, it is necessary to glean information from other data sources, including non-experimental studies such as the NLSY, to estimate the implications of the most recent welfare reforms for children. In addition, these analyses may illuminate the potential implications of welfare-to-work policies for children in other Western developed nations.

DEPENDENT VARIABLES

Social behaviour

The Behavior Problems Index (BPI) is an index of 28 parent-report items concerning children's behaviours (Zill, 1991c). The items comprising the BPI scale represent some of the more common behaviour syndromes in young people, namely, anti-social behaviour, distractible-hyperactive behaviour, anxious/depressed behaviour, and peer conflict/withdrawn behaviour. The BPI was reverse-coded so that higher scores indicate more positive behaviour, that is, fewer behaviour problems.

Mathematics and reading achievement

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 aged 5 and over, and is frequently 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 and reading recognition assessments are administered directly to the children by specially trained interviewers and are age standardised.

The standardised mean score for each of these measures, presented in Appendix Table 1, is 100, with a standard deviation of 15. The mean BPI score for this sample is 92.6; this implies that the children have more

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behaviour problems than found in a standardised sample. The mean PIAT mathematics score is 101.0 and the mean PIAT reading recognition score is 103.9, slightly better than the standardised mean.

INDEPENDENT VARIABLES

Poverty-welfare transitions

All income and welfare information are provided as a part of the regular annual interview with the mother and refer to the 12-month time period preceding each interview. In the initial year, families were first categorised as to whether their families had received welfare payments in the previous year. Among those who had not received payments, families were categorised as either in poverty or not in poverty. For each of the subsequent 3 years of the period, identical categories were used, and the transitions of families from one survey to the next survey were noted. Three predominant patterns were coded: stable, improving and declining. Sub-patterns within these overall categories were also identified. The sample distributions are included in Appendix Table 1 and the standardised mean behaviour, mathematics, and reading scores for children falling in these income categories are presented in Table 1.

TABLE 1. *Average child outcomes scores by welfare-poverty experience, before and after controlling for demographic and family background influences*[a]

	Mean Scores			Predicted Scores (with controls)		
	Behaviour[b]	Math	Reading	Behaviour	Math	Reading
Welfare-Poverty Category						
Stable Patterns						
Never Poor (reference group)	93.5	103.7	107.3	92.7	104.7	107.9
Always Poor, Never Welfare	91.3	95.7***	102.2*	91.6	104.0	104.8
Always Welfare	88.5***	92.6***	95.0***	92.8	103.5	105.2
Improving Patterns						
Poor to Not Poor	92.2	101.6	104.1*	93.5	104.9	107.5
Welfare to Not Poor	89.4*	96.0***	98.6***	93.0	104.0	105.7
Declining Patterns						
Not Poor to Poor	91.1	99.7**	101.1***	91.4	102.7	103.7**
Not Poor to Welfare	84.1***	94.6***	92.8***	86.7**	102.0	99.5***
Other Patterns						
Poor to Welfare	94.0	95.8**	99.4**	89.9	104.3	107.4
Welfare to Poor	94.1	91.4***	91.2***	98.7*	101.6	100.6**
Fluctuating	89.4***	98.4***	100.4***	91.0	104.2	105.4*

*p≤ .05 **p≤ .01 ***p≤ .001

[a] Predicted child outcome scores were calculated after controlling for demographic and family background variables, assuming all categorical variables are assigned to the reference group (see Appendix Table 2) and continuous variables are assigned to the mean based on the sample. Scores for each variable were calculated by assigning that variable to the designated value and holding all other variables constant.

[b] BPI scores were coded so that higher scores indicate better behaviour, as rated by the child's mother.

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Stable patterns. The most frequent pattern was never being in poverty during any of the 4 years. Children who were continuously poor (but never on welfare) and children who were continuously on welfare represent stable but disadvantaged groups of children. On average, children who never experience poverty have higher PIAT mathematics and reading scores than any other category. On the other hand, children who have always been poor and those always on welfare have lower mean PIAT scores than children who were never poor. Children always on welfare have lower (i.e., less favourable) behaviour scores, though not the lowest of any group.

Improving patterns. The improving groups include children in families that were either on welfare or poor but not on welfare in the first year and whose financial positions improved sufficiently that the family had left poverty by the final year. Their behaviour scores are generally comparable to the other groups, while their mean PIAT scores fall between those of children who were never poor and those who were consistently poor and/or on welfare.

Declining patterns. The groups with declining fortunes include children in families that slid from above the poverty line at the beginning of the time period to below it by the end of the period, and those in families that were not in poverty at the start of the period but had gone onto welfare by the period's end. The mean PIAT scores of children in both these groups also fall between the most consistently advantaged and most consistently disadvantaged categories of children. Children whose families were above the poverty line but then went on welfare have the lowest (worst) behaviour scores of all groups.

Other patterns. Three other categories were created to describe the remaining patterns found in the sample. The first two include children in disadvantaged families that either started in poverty (but not on welfare) and ended up receiving welfare or the reverse; that is, they started out on welfare and left welfare but not poverty by the end of the 4-year period. A final category includes children whose families experienced fluctuating economic situations; in essence, this group contains children in families with unstable economic situations that cannot be defined as either improving or declining. Outcomes for children in these categories are mixed.

Demographic and family variables

To account for confounding influences, we add controls for a variety of demographic and family background variables, all of which were measured at the beginning of the 4-year time period or before. Demo-

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graphic variables include race/ethnicity, gender, and the birth cohort of the child, specifically, whether the child was born in 1979–80, 1981–82 or 1983–84, to control for the fact that children in earlier cohorts tended to have younger mothers. 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 are also used as control variables. To account for the mothers' experiences prior to the focal 4-year time period, we hold constant the proportion of years that mothers worked and the proportion of years the mothers were married between the child's birth and the test period. In addition, in analyses of child behaviour, we control for the mother's own adolescent use of marijuana and other illegal drugs and under-age use of alcohol, which may predict both more frequent economic difficulties as well as greater child behaviour problems. Past substance use by mothers was scored from 0 to 3, with one point for each of the following: use of marijuana, use of other illegal drugs and drinking alcohol before turning 18.

Family variables control for the proportion of time the child's family spent in poverty from the child's year of birth until the test period, as well as the percentage of time the family received welfare during that time period. We also control for the number of the mother's own children living in the household at the beginning of the 4-year period, because large family size has been linked to poorer cognitive and non-cognitive outcomes for children (Blake, 1989).

Appendix Table 1 presents information on the sample for child, maternal and family background characteristics, weighted to represent the relevant US national population. Just over seven in ten of the children are White; another 18 per cent are Black; 9 per cent are Hispanic. The child sample is evenly divided between males and females. Each successive birth cohort contains a larger percentage of children, reflecting the movement of the cohort of NLSY mothers into their peak childbearing years. On average, children's mothers were married during two-thirds of the years between their child's birth and the study period. Mothers reported having ever worked during 44 per cent of the years during this period; 6 in 10 mothers had at least a high school education when their children were born. Half of the mothers reported drinking alcohol before age 18 or using illegal drugs at any age. At the beginning of the 4-year welfare-poverty period under study, there were an average of 2.3 children in the household. Children spent an average of one-quarter of their lives prior to the study period in poverty and their families received AFDC for approximately one-fifth of this time period.

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ANALYSIS PLAN

We examine the association between the poverty-welfare patterns and the three measures of child well-being, specifically the Behaviour Problems Index (BPI) and the PIAT mathematics and reading recognition tests, controlling for confounding factors with weighted data (see the predicted scores in Table 1 and the models in Appendix Table 2). The mean variables presented in Table 1 depicting the associations between the poverty-welfare measures and the measures of well-being without controls were introduced above. We now present findings when the child, mother and family demographic variables are included in the models and contrast them with child outcome findings before the controls were added.

RESULTS

Behaviour Problems Index. Before taking account of maternal and family characteristics, we find that children who were continually on welfare, those who left welfare, those whose families slipped from above poverty to welfare receipt and those with fluctuating situations had lower (worse) BPI scores than never-poor children (see the mean scores in Table 1). However, when demographic factors, maternal attributes and family economic history are held constant in Table 1, only children whose families fell from above the poverty line to reliance on welfare continued to have lower scores than children who were never poor. On the other hand, children whose families moved off welfare but remained poor averaged better BPI scores than children in any other group (see the predicted scores in Table 1). Thus, past welfare and poverty, along with other past experiences, appear to account for most of the associations between more recent poverty and welfare patterns and behaviour.

Indeed, a number of control variables predict children's behaviour problems (see Appendix Table 2). For example, mothers described boys as having more behaviour problems. Also, maternal cognitive attainment is associated with better behaviour on the part of her children, while past maternal substance use has the opposite effect. Prior welfare receipt is associated with lower scores on the Behaviour Problems Index. Evidently, with the exception of children who experienced a recent drop onto welfare and those who left welfare but remained poor, early experience with public assistance is more predictive of children's behaviour problems than more recent experiences.

PIAT mathematics. Before introducing controls, children who never experience poverty have significantly higher math scores than children in

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all other groups, except poor children in families that escape poverty (see mean scores in Table 1). The mean scores of those always on welfare, those who fell from above poverty onto welfare, and those who moved off welfare but remained poor are particularly low relative to never-poor children. However, as can be seen by the predicted scores in Table 1, which were calculated using controls, none of the groups differs significantly from the reference group.

Thus, the differences between children who were never poor and others appear to be due to maternal factors and earlier experiences with poverty and welfare (see Appendix Table 2). Of these factors, maternal AFQT score is associated with higher PIAT mathematics scores; whereas maternal education, over and above the AFQT score, is associated with lower mathematics scores. Each additional child in the family is associated with lower mathematics test scores, and both Black and Hispanic children obtain lower scores. Children who spent more of their early years on welfare have lower mathematics scores; a similar though weaker association is seen for length of time spent in poverty and mathematics scores. Children whose mothers were married for a longer period of the time between birth and the focal time period have lower mathematics scores than those whose mothers were married for a smaller proportion of this time, over and above other factors, and children born to younger mothers also have lower mathematics scores.

PIAT reading recognition. The initial pattern for reading recognition scores is similar to that for mathematics scores; children in all groups whose families were ever poor or ever on welfare during the 4-year focal period have significantly lower scores than those of children whose families were never poor during this period (see mean scores in Table 1). As is the case for mathematics scores, children whose families moved from below to above the poverty line 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 welfare have the lowest reading scores on average.

When we control for maternal and demographic characteristics and family background in Table 1, the reading scores of children in families that were continuously poor or continuously on welfare do not differ from those of the never poor. The same is true for children whose families' economic fortunes improved during the test period. However, those whose situations worsened still have significantly lower reading recognition scores, particularly those whose families were not in poverty, but who ended up receiving welfare and those who left welfare but remained poor.

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Other demographic and family factors are predictors of reading scores (see Appendix Table 2). For example, maternal AFQT scores are positively correlated with the children's reading scores, while each additional child in the family is associated with a more than two-point decline in test scores. Black children and boys also obtain lower reading scores. After taking account of other factors, the length of time a child's mother worked and the length of time she was married prior to the study period are both associated with lower reading scores. The greater the proportion of the child's early years spent in poverty, the lower the child's reading score; however, dependence on welfare during these years plays no role, over and above other influences.

DISCUSSION

The USA and most European countries are considering the proper role of government assistance for families with children, particularly poor families. Given strong interest in welfare-to-work initiatives, we conducted these analyses to address several important questions about the effects of poverty and welfare on children. We followed family transitions in and out of poverty and welfare among children during the 4 years before they were 10 or 11 years old, the ages at which children's outcomes were examined.

Our first question was whether welfare and poverty have similar or different influences on children's development. The answer to this initial question is mixed, but our results suggest that welfare is associated with more negative child outcomes than poverty alone. The evidence comes from children who experienced declining circumstances; children who fell into welfare have more 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. Also, prior welfare is a somewhat more negative influence than prior poverty when both are entered as controls. Nevertheless, it should be noted that children whose families were continuously on welfare do not differ from the never poor, when we take account of differences in background and earlier experiences.

The second research question concerned the importance of upward and downward mobility versus ongoing poverty, dependency or stable economic circumstances. The poverty-welfare trajectory of the family does seem to have distinct effects on children's outcomes. Children whose families' economic fortunes improved have outcomes that are indistinguishable

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from those of children who were never poor. However, children whose families slid from above the poverty line into poverty – and particularly those who ended up on welfare – have the worst outcomes of any subgroup. Thus, as expected, improving family circumstances are associated with more positive child outcomes, while deteriorating situations are associated with less positive children's outcomes, even taking the control variables into account.

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 lower reading scores. Indeed, it appears that many of these children have experienced considerable fluctuation, even before the 4-year period examined in detail here. For example, related analyses (not shown) of the children whose families fell from above poverty in the first year of the 4-year period onto welfare indicate that 79 per cent had also been on welfare some time in the 4 years prior to the first year of the study period. Thus, these children appear to have experienced fluctuating circumstances through much or most of their lives, which may help to account for their poor outcomes. Some 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.

Our fourth research question focused on the issue of selectivity, that is, whether apparent differences are explained by other demographic and family influences. When demographic, maternal and child control variables were added, many of the cross-sectional associations disappeared or were substantially reduced. It is possible that there are additional variables, not included in the NLSY-CS, which might more fully and precisely reflect selectivity into poverty and onto welfare. Based on the analyses conducted here, though, we conclude that the associations of poverty and welfare with outcomes for children largely reflect, but are not solely due to, the characteristics of the people who end up on welfare and in poverty.

CONCLUSION

Two patterns are particularly noteworthy for policy makers in developed countries seeking to support children and also reduce public dependency. One is the negative reading outcomes for children whose families leave welfare but remain poor. Although the mothers report fewer behaviour problems for these children, their reading performance remains low. This may mean that it takes longer for reading skills to improve than for

https://doi.org/10.1017/S0047279401006602 Published online by Cambridge University Press

behaviour to improve. Alternatively, it may mean that behaviour can rebound better than reading, a skill that is usually acquired in the early years of elementary school and that may not be so easily regained if deficits occur during those years. Both the USA and the UK are seeking ways to address the needs of pre-school children and enhance their readiness to profit from formal education (Halle *et al.*, 2000; Department for Education and Employment, 1998). These analyses indicate that disadvantaged family and maternal characteristics have important influences on children's development and that approaches to address these disadvantages need to be considered. In addition, these analyses indicate that leaving welfare does not improve children's reading unless families manage to move out of poverty as well. Thus, the needs of low-income young children, not just the adults, require attention.

In addition, children whose families go from being above poverty to either being poor or on welfare have negative outcomes compared with children whose families were never poor. Children whose families descend onto welfare do even less well than those who descend into poverty but not onto welfare. Cushioning such descents remains critical for the families experiencing these episodes. Again, ways to foster the development of such children might be the focus of greater policy or programme effort.

Another implication of these analyses is that the preschool experiences of children are important determinants of children's outcomes during middle childhood. As others have noted (Brooks-Gunn and Duncan, 1997), income and welfare patterns prior to age 6 or 7 along with other family experiences during these years affect children's later development. Here we find that adding measures of early experience greatly reduces the associations observed in middle childhood. Nevertheless, the results make it clear that experiences during middle childhood also affect children, over and above their earlier experiences and their family and demographic backgrounds. These results, taken together, suggest that early interventions are important but not sufficient. Ongoing investments in children during middle childhood are also necessary.

Another notable aspect of this study is the substantial heterogeneity of the population receiving welfare and in poverty. Simple one-size-fits-all approaches are unlikely to be appropriate, given the variation in family characteristics and in their welfare and poverty patterns. These results both provide new information and raise new questions to be addressed by future research efforts. More detailed information on the types and magnitudes of changes in families' economic fortunes, including the sources of income (wages versus welfare), is needed. This information would further our understanding of how deprivation and dependency, transitions into

https://doi.org/10.1017/S0047279401006602 Published online by Cambridge University Press

and out of welfare and poverty, and the duration of poverty and welfare affect children. We caution, however, that summarising the number and complexity of patterns that we found just examining these 4 focal years posed a real challenge to the research team. Researchers examining longer periods of children's lives will find this task even more difficult; however, we suggest that this is the next step.

Given welfare reform in the USA and the general shift in Britain towards moving welfare recipients into the work force, fewer families in these nations are likely to experience long-term welfare receipt, for example, a long period on public assistance. However, many families may experience economic turbulence. These results suggest that turbulent patterns may be important for children and need to be monitored as welfare reform unfolds. Also, this study finds negative implications for reading performance among children in families who manage to make it off welfare, but fail to escape poverty.

With substantial declines in welfare receipt being registered 4 years after passage of the Personal Responsibility and Work Opportunity Reconciliation Act (Primus, 1999), welfare reform in the USA is widely hailed as a strong success. However, others caution that it is too soon to proclaim success. The results of this study have implications for policy makers in the USA and in other nations who seek to improve the outcomes for children: Efforts will be most successful when programmes decrease poverty and turbulence, as well as when they reduce welfare dependency.

APPENDIX TABLE 1. *Sample Distributions and Mean BPI (behaviour), PIAT Mathematics and PIAT Reading Scores*

		Mean Scores		
	% of sample	Behaviour	PIAT Math	PIAT Reading
Welfare-Poverty Category				
Stable Patterns				
Never Poor	60.4	93.5	103.7	107.3
Always Poor	2.1	91.3	95.7	102.2
Always Welfare	6.3	88.5	92.6	95.0
Improving Patterns				
Poor to Not Poor	4.5	92.2	101.6	104.1
Welfare to Not Poor	3.5	89.4	96.0	98.6
Declining Patterns				
Not Poor to Poor	3.8	91.1	99.7	101.1
Not Poor to Welfare	2.2	84.1	94.6	92.8
Other Patterns				
Poor to Welfare	1.3	94.0	95.8	99.4
Welfare to Poor	1.5	94.1	91.4	91.2
Fluctuating	14.2	89.4	98.4	100.4

https://doi.org/10.1017/S0047279401006602 Published online by Cambridge University Press

APPENDIX TABLE 1. (*cont.*)

	Mean Scores			
	% of sample	Behaviour	PIAT Math	PIAT Reading
Race/Ethnicity				
Black	18.4	91.4	94.7	97.9
Hispanic	8.8	92.3	96.0	99.4
White	72.8	93.0	103.2	106.0
Sex				
Male	50.9	91.2	101.4	102.6
Female	49.1	94.0	100.6	105.2
Birth Cohort				
Born 1979–80	28.0	91.9	99.2	102.8
Born 1981–82	34.8	92.6	101.3	104.4
Born 1983–84	37.2	93.2	102.0	104.4
Mother & Household Characteristics				
Mother had H.S. educ. or more at child's birth	60.0	93.7	103.5	106.3
Mother had less than H.S. educ. at child's birth	40.0	90.9	97.5	100.3
No maternal substance use in adolescence	50.6	93.9	–	–
Adolescent maternal substance use	49.4	91.2	–	–
Mean/correlation with maternal AFQT score	39.5	0.10	0.41	0.39
Mean/correlation with number of children in HH	0.01	–0.09	–0.17	
% yrs mother married prior to focal period	67.3	0.10	0.20	0.16
% yrs mother worked prior to focal period	44.4	0.04	0.19	0.16
% yrs family in poverty prior to focal period	24.5	–0.12	–0.30	–0.30
% yrs family on welfare prior to focal period	17.9	–0.15	–0.25	–0.24
Mean scores		92.6	101.0	103.9

APPENDIX TABLE 2. *OLS Regression Models of BPI Scores (coded so that higher scores indicate better behaviour, as rated by the child's mother), PIAT Mathematics Scores, and PIAT Reading Recognition Scores*

	Child Outcome Models		
Variables	Behaviour	PIAT Math	PIAT Reading
Welfare-Poverty Patterns			
Stable Pattern			
Never Poor (ref.)	–	–	–
Always Poor, Never Welfare	–1.11	–0.66	–3.10
Always Welfare	0.07	–1.16	–2.65
Improving Pattern			
Poor to Not Poor	0.76	0.19	–0.34
Welfare to Not Poor	0.33	–0.65	–2.18
Declining Pattern			
Not Poor to Poor	–1.28	–2.01	–4.20**
Not Poor to Welfare	–6.02**	–2.70	–8.40***
Other Pattern			
Poor to Welfare	–2.81	–0.36	–0.44
Welfare to Poor	6.01*	–3.03	–7.29**
Fluctuating	–1.71	–0.48	–2.45*

https://doi.org/10.1017/S0047279401006602 Published online by Cambridge University Press

APPENDIX TABLE 2. (*cont.*)

Variables	Child Outcome Models		
	Behaviour	PIAT Math	PIAT Reading
Race/Ethnicity			
Black	1.60	–2.31**	–1.98*
Hispanic	1.27	–3.27**	–1.45
White (ref.)	–	–	–
Male	–2.58***	0.38	–2.83***
Birth Cohort			
Born 1979–1980	0.60	–3.42***	–1.72+
Born 1981–1982	0.14	–0.77	–0.08
Born 1983–1984 (ref.)	–	–	–
Mother & Family Characteristics			
Mother's education at child's birth	0.15	–0.18*	–0.07
Mother's index of prior substance use	–1.67***	–	–
Mother's AFQT	0.04*	0.15***	0.16***
Number of children in HH prior to focal period	–0.13	–0.67*	–2.09***
% yrs mother married prior to focal period	0.62	–2.28*	–2.94*
% yrs mother worked prior to focal period	–1.12	–0.33	–3.28**
% yrs family in poverty prior to focal period	–2.25	–2.94+	–4.44**
% yrs family on welfare prior to focal period	–3.91*	–4.56**	–2.44
Intercept	92.75***	103.51***	111.33***
Adjusted R^2	0.04	0.19	0.20
N	1,877	1,872	1,867

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

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