How Welfare Policies Affect Child and Adolescent Achievement

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Recent research based on random-assignment experiments has found that the effects of welfare and employment policies appear to vary by children's developmental stage. Programs that increase parents' employment and income have been found to have either neutral or positive effects for preschool and early-school-age children in poverty, depending on the policy approach utilized (Pamela Morris et al., 2001). At the same time, negative effects have been observed for adolescent children (Lisa Gennetian et al., 2002), and the limited research on very young children has shown neutral effects (Morris and Charles Michalopoulos, 2000).

We pool data on over 30,000 achievement reports for children in families enrolled in 14 different random-assignment welfare and work programs to examine how the impacts of policies aimed at increasing parents' employment and their income vary across childhood. Our efforts extend past work by including more programs, using longer-run follow-up data from some of the programs that had been included in prior studies, and pooling micro-level data rather than applying meta-analytic techniques to study-wide impact estimates.

Both economic and psychological theories suggest that changes in parents' economic and employment circumstances may affect chil-

dren's development, although each emphasizes a different pathway of influence (Gary S. Becker, 1981; James S. Coleman, 1988; Vonnie McLoyd, 1998). But children in differing developmental periods may respond differently to the same changes in employment on the part of their parents. For example, employment in the first year of a child's life may be associated with more negative child outcomes (Jeanne Brooks-Gunn et al., 2002), especially if it involves many hours of work (Elizabeth Harvey, 1999) or is associated with long hours in nonmaternal care (Michael Lamb, 1998; McLoyd, 1998). After-school arrangements are associated with positive outcomes for both pre-adolescent and adolescent children, keeping them in structured care and away from peers (Gregory S. Pettit et al., 1999; Jill K. Posner and Deborah Lowe Vandell, 1999).

At the same time, adolescents may have difficulties if left alone after school and into the evening hours as mothers take on off-hour and shift work; maternal employment has been found to be associated with reduced parental supervision and increased adolescent delinquency among low-income families (Robert J. Sampson and John H. Laub, 1994). Finally, adolescent children may also be asked to take on greater household responsibilities when their single mothers move into employment, which may result in negative academic performance.

Since some of the welfare programs in our pooled data provided financial incentives and boosted not only employment, but also family income, we are able to ascertain whether income-augmenting programs benefit children more than programs that merely increase employment. Note, however, that none of our studies randomly allocated participants into either a financial incentive or a nonfinancial incentive program, so our comparison of impacts between these two types of programs is nonexperimental. Experimental research to date suggests that programs that increase both parents' employment and their income produce positive effects for preschool and early-school-age children

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even as they negatively affect adolescents (Morris et al., 2001; Gennetian et al., 2002). In contrast, programs without these same effects on parents' income have few effects on preschool and early-school-age children.

Based on this past work, we expect that the effects of welfare and employment programs will change over the childhood age span, with more positive effects for preschool and early-school-age children and more negative effects for adolescents; that this pattern of impacts will be most pronounced for programs with earnings supplements; and that programs that increase parents' transitions from welfare to employment may have their strongest effects on children when these impacts coincide with transition points in children's development (i.e., the transition from preschool to school-age or that from pre-adolescence to adolescence).

I. Data and Measures

Our pooled sample consists of children aged 0–15 at the point of random assignment whose families were enrolled in seven experimental studies that together tested the effects of 14 different welfare and work programs. Although most of the studies were under way by 1996, they were designed to test the effects of many program features that have been implemented by the states since the federal welfare law of 1996 was passed. The following studies were included in this analysis: Connecticut Jobs-First (abbreviated CT Jobs First in subsequent discussion), Florida's Family Transition Program (FTP), Los Angeles Jobs-First GAIN (LA GAIN), Minnesota Family Investment Program (MFIP; testing the effects of two programs, Full MFIP and MFIP Incentives Only), National Evaluation of Welfare to Work Strategies (NEWWS; testing the effects of six programs in three sites across two follow-up points), New Hope, and the Canadian Self-Sufficiency Project (SSP, testing the effects of one program at two follow-up points).

Taken together, the experimental studies tested three basic approaches that are currently used in many state welfare policies to increase the self-sufficiency of welfare recipients: earnings supplements, mandatory employment services, and time limits on welfare receipt, at times combining these approaches into a single package. Five of the 14 programs (two variants of the MFIP program, New Hope, CT Jobs First and SSP) offered generous earnings supplements designed to make work more financially rewarding by providing families with monthly cash supplements or by increasing the amount welfare recipients could keep when they went to work. Ten of the programs (LA GAIN, the six programs evaluated as part of the NEWWS evaluation, the Full MFIP program, CT Jobs First, and FTP) provided such mandatory employment services as education, training, or immediate job search in which parents were required to participate to be eligible to receive cash welfare benefits. Two of the programs under study put time limits on families' eligibility for welfare benefits (CT Jobs First and FTP), restricting eligibility to a certain number of months in a specified period. As confirmed in our empirical analysis below, all program types increased the employment of welfare-recipient parents, but only programs with generous earnings supplements were intended to, and were successful at, increasing both parents' employment and their family incomes (Howard Bloom and Michalopoulos, 2001).

Achievement Outcomes.—Children's cognitive performance or school achievement were assessed 2–5 years after parents' entry into the programs. We utilize all of the achievement measures available in the studies of the 14 programs. Achievement measures are based on parent report (available in estimates of seven programs assessed in six studies), teacher report (available in estimates of nine programs in three studies), and test scores (available in estimates of eight programs in two studies), with some studies including multiple reports per child, and two of the studies assessing children at multiple points in time. All achievement scores were standardized using study-specific control-group means and standard deviations to provide comparability. We include in our regressions dummy variables indicating the source of the achievement report. All told, our data include 30,623 achievement reports of 24,050 individual children residing in 16,456 families.

Earnings and Family Income Outcomes.— For all sample members, administrative records provided data on monthly cash assistance and

Food Stamp benefits as well as quarterly earnings in jobs covered by the Unemployment Insurance system. We use data covering the first two years following random assignment to construct measures of (i) average annual earnings and (ii) average annual family income, based on the sum of earnings, AFDC/TANF payments, and Food Stamp payments for both parents. Note that our family-income measure omits self-employment and informal earnings, other public transfers, private transfers, and earnings from family members other than the sample member and, if present, his or her spouse or partner.

Baseline Controls.—Baseline surveys and administrative data sources provided a set of comparable pre-random-assignment parental and family control measures: whether the family received cash assistance in the two years prior to baseline; average earnings in the two years prior to baseline, measured in thousands of 2001 dollars; average earnings in the two years prior to baseline squared; whether employed in the year prior to baseline; whether the parent has a high-school degree or GED; whether the parent was a teenager at the child's birth; the marital status of the parent; the number of children in the family; the age of the youngest child in the family; and the race/ethnicity of the parent.

Analysis Strategy.—We test our hypotheses by estimating ordinary least-squares (OLS) models in which treatment status (e.g., whether in the experimental or control group) varies with children's age. We accomplish this by constructing a set of interaction terms of child age group (0–2, 3–5, 6–8, 9–11, or 12–15 at baseline) with the experimental dummy. We also include dummy variables for these age groups and type of test, plus baseline controls and a measure of the time between baseline and the given achievement assessment. Huber-White methods are employed to adjust standard errors for nonindependence of multiple reports per child and multiple children per family.

II. Results

The first column of Table 1 presents coefficients and standard errors from regression mod-

TABLE 1—REGRESSION COEFFICIENTS AND STANDARD ERRORS FOR MODELS OF ACHIEVEMENT

| Variable | Dependent variable = child achievement | | |
	All programs	Earnings-supplement programs	All other programs
Exp × age 0–2	0.070*	0.082*	−0.016
	(0.031)	(0.034)	(0.074)
Exp × age 3–5	0.051**	0.080**	0.035
	(0.019)	(0.026)	(0.026)
Exp × age 6–8	−0.018	−0.025	−0.015
	(0.030)	(0.033)	(0.070)
Exp × age 9–11	−0.045	−0.043	−0.046
	(0.036)	(0.040)	(0.082)
Exp × age 12–15	−0.073	−0.039	−0.167
	(0.051)	(0.060)	(0.102)
Age 0–2	0.139**	0.171**	0.182*
	(0.040)	(0.045)	(0.087)
Age 3–5	0.134**	0.147**	0.104
	(0.033)	(0.038)	(0.071)
Age 6–8	0.177**	0.215**	0.059
	(0.034)	(0.038)	(0.074)
Age 9–11	—[a]	—[a]	—[a]
Age 12–15	−0.101*	−0.132*	−0.019
	(0.047)	(0.054)	(0.091)
Baseline demographic controls	yes	yes	yes
Type of achievement report	yes	yes	yes
Study dummies	yes	yes	yes
R^2:	0.0318	0.0346	0.0409
N:	30,623	18,641	11,982

Notes: "Exp" indicates the experimental dummy. Baseline demographic controls include follow-up length, prior earnings, prior earnings squared, prior AFDC receipt, prior years of employment, high-school degree, teen parent, marital status, number of children, and age of youngest child.
[a] Omitted from the regression.
* Statistically significant at the 5-percent level.
** Statistically significant at the 1-percent level.

els estimated for the achievement scores of the entire sample of children. We find statistically significant and positive experimental impacts for the two youngest groups of children: those aged 0–2 and 3–5 at baseline. These positive effects of welfare-reform strategies are small: a 0.05–0.07 standard-deviation increase in achievement scores brought about by parents' assignment to the program group. For the other age groups the estimated coefficients are negative,

but none attains statistical significance at conventional levels.

The second and third columns present the results separately for programs with generous earnings supplements and other program models (programs with mandatory employment services and programs with time limits, both without generous supplements). Only programs with earnings supplements produce positive effects on the younger two groups of children. Apart from a marginally significant ($p = 0.101$) negative impact on youth 12–15 years old at baseline, the non-earnings-supplement programs have no impacts, either positive or negative, on sample children. None of the t tests performed on coefficient differences between the two samples was statistically significant at conventional levels. Control variables produce predictable effects, with lower achievement associated with older ages, pre-baseline AFDC receipt, lower maternal schooling, and larger family sizes.

Table 2 presents the effects of these same welfare reform strategies on parents' earnings and family income. Consistent with past analyses of the individual programs, the effects of welfare-reform programs on earnings are positive and significant for both earnings-supplement and non-earnings-supplement programs for all the age groups of children. Earnings impacts per year over the first two years following random assignment ranged from $700 to $1,100 for both sets of programs and in no case were the age-specific earnings impacts significantly different between the two sets of programs.

In contrast, family-income impacts were significantly higher for all age groups of children in the earnings-supplement programs compared with the other programs. Impacts ranged from $1,500 to $2,000 per year for the family incomes of families enrolled in the earnings-supplement programs but never exceeded $250 per year for families enrolled in the other programs.

III. Discussion

Our analysis suggests that welfare reform and antipoverty programs affect children and adolescents differently. When we pool across all program models we observe positive impacts for the two youngest age groups, children 0–5 at the beginning of these studies. Ironically,

TABLE 2—REGRESSION COEFFICIENTS AND STANDARD ERRORS FOR MODELS OF EARNINGS AND FAMILY INCOME

Variable	Dependent variable = earnings in $1,000's		Dependent variable = family income in $1,000's	
	Earnings-supplement programs	All other programs	Earnings-supplement programs	All other programs
Exp × age 0–2	0.818**	0.762*	1.535**	0.235
	(0.175)	(0.328)	(0.182)	(0.355)
Exp × age 3–5	0.900**	0.749**	1.673**	0.104
	(0.156)	(0.126)	(0.158)	(0.125)
Exp × age 6–8	1.003**	1.093**	1.967**	0.163
	(0.208)	(0.378)	(0.211)	(0.385)
Exp × age 9–11	0.758**	0.921*	1.602**	0.162
	(0.237)	(0.421)	(0.236)	(0.426)
Exp × age 12–15	0.718*	1.124*	1.924**	0.235
	(0.349)	(0.558)	(0.332)	(0.523)
Age 0–2	0.004	−0.211	0.262	−0.248
	(0.244)	(0.396)	(0.240)	(0.403)
Age 3–5	−0.073	0.120	0.118	−0.144
	(0.209)	(0.322)	(0.202)	(0.319)
Age 6–8	−0.274	−0.118	−0.211	−0.107
	(0.200)	(0.327)	(0.190)	(0.312)
Age 9–11	—[a]	—[a]	—[a]	—[a]
Age 12–15	0.040	−0.415	0.184	−0.520
	(0.295)	(0.444)	(0.274)	(0.416)
Baseline demographic controls	yes	yes	yes	yes
Type of achievement report	no	no	no	no
Study dummies	yes	yes	yes	yes
R^2:	0.3146	0.2966	0.2184	0.3242
N:	18,582	11,982	18,641	11,982

Notes: "Exp" indicates the experimental dummy. Baseline demographic controls include follow-up length, prior earnings, prior earnings squared, prior AFDC receipt, prior years of employment, high school degree, teen parent, marital status, number of children, and age of youngest child.
[a] Omitted from the regression.
* Statistically significant at the 5-percent level.
** Statistically significant at the 1-percent level.

younger children were viewed as most at risk for negative impacts of maternal employment in the debate that preceded welfare reform. Moreover, we find that the positive impacts on young children's achievement appear to be confined to family-income-boosting programs offering generous earnings supplements as compared with programs with mandatory employment services and time limits but no generous supplements. That younger children's achievement appears to

benefit from higher family incomes has also been documented in the nonexperimental literature (Duncan and Brooks-Gunn, 1997).

Why might effects on achievement differ for children of differing developmental periods? Our investigation of whether effects on earnings and income impacts differed by child age revealed no such differences. Both kinds of programs boosted parents' earnings, and earnings-supplement programs alone increased family income as well as earnings. Thus, the differing effects observed across the age groups are likely due to differing responses on the part of children to similar changes in their parents' economic circumstances. Other work (Gennetian et al., 2002) has suggested that some negative effects are observed for adolescents in both programs with earnings supplements and those without such supplements, although the precise outcome affected might differ by program model.

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