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## Impact of Mothers' Welfare Program on Child Outcomes

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### **Abstract:**

*There have been a number of programs aimed at reducing the welfare dependence of single mother families. These programs usually operate by providing young welfare mothers access to an array of education, employment, and family services to increase their human capital, employment and reduce or eliminate their reliance on welfare. Most of the existing studies examine the impact of these programs on the women they target. I try to examine the spillover effect of one such program on the family, more particularly children of the participating mothers'. Using a randomized experiment that provided education, training and life skill services to teenage high school dropout mothers' as the policy, I examine the impact of mothers' participation in the program on their preschool children's cognitive and behavioral outcomes and also try to look at the pathway through which it might be operating. My estimates suggest that the program is negatively impacting the children, both on cognitive and behavioral outcomes.*

**Keywords:** *Welfare programs, child cognitive and behavioral outcomes, teenage unwed mothers'*

### **1. Introduction**

There has been stress on welfare to work programs over the last 30 years to help people receiving welfare attain economic self-sufficiency in the United States of America. One of the biggest step towards this was the Personal Responsibility and Work Opportunity Act (PRWORA) replacing Aid to Families with Dependent Children (AFDC) program with Temporary Assistance to Needy Families (TANF). The aim was to provide people temporary financial assistance while aiming to get them off that assistance, primarily through employment. The work requirement set forth by TANF included recipients (with few exceptions) to work as soon as they are job ready and single parents to participate in work activities for at least 30 hours per week. Single mothers form a significant portion of welfare recipients and the impact of such programs on their children is an important policy question that has been explored in the last decade. Supporters of welfare-to-work program argue that transitions from welfare to work would benefit children by creating positive female role models, promoting maternal self-esteem and sense of control, introducing productive daily routines into family life, and, eventually, fostering career advancement and higher earnings on the part of the mother. Opponents argue that such programs would overwhelm severely stressed mothers', deepen the poverty of many families, force young children into substandard child care, and reduce mothers' ability to monitor the behavior of their older children. Economic, psychological and sociological research suggests that mothers' employment affects children's development (Gary S. Becker, 1981; James S. Coleman, 1988). Jeanne Brooks-Gunn et al. (2002) find that maternal employment by the ninth month of birth lowers Bracken School Readiness scores at 36 months, with the effects more pronounced when mothers are working 30 hr or more per week. Duncan et al. (forthcoming) evaluate the effect of 13 employment based welfare and antipoverty programs in the United States and two Canadian provinces on both parents and their children. They conclude that programs that increase income and the use of center-based child care are most able to improve children's achievement measured a few years after program entry. Using data from multiple years of the National Longitudinal Survey of Youth (NLSY), Ruhm (2004) finds a negative effect of early maternal employment. He finds that maternal employment in the first year is associated with lower verbal ability at ages 3 and 4. Early job-holding has a more detrimental cumulative impact on the predicted reading and mathematics performance of 5 and 6 year olds, with negative effects persisting for work in the second and possibly the third year. Wen-Jui et al. (2001) examine non Hispanic white and African American children aged 3 to 4 in the 1986 National Longitudinal Survey of Youth and find the negative effects of first year maternal employment on behavioral problems for White children, mainly at ages 7 to 8. The effects seem to be concentrated in the area of externalizing problems. According to Blau and Currie (2004) evidence of negative effects of maternal employment comes from families in which the mother returns to work when the child is less than one year old and/or young children spend very long hours in care. Cases where the mothers' employment does not raise family income (as in some households where families have been forced off welfare) and/or the work itself is very stressful and reduces the resources the mother brings to parenting also see the negative impact of maternal employment on children. According to Wilson et al. (1995), labor force participation of poor, uneducated, and single mothers is likely to increase maternal stress, depression, guilt, and anxiety, and results in a number of negative parenting behaviors. This in turn adversely affects the child cognitive and behavioral development. Baydar and Brooks-Gunn (1991) consider the intersection of maternal employment and child care in the first 3 yrs of life. They conclude that employment in the first year had detrimental effects on the cognitive and behavioral development of all children regardless of gender or poverty status. Infancy care arrangements also affect cognitive and behavioral outcomes. Grandmother's care is the most beneficial arrangement for the cognitive development of children in poverty. Using the Fragile Families and Child Wellbeing Study, Brooks-Gunn et al. (2007) find that among 3 year

olds maternal anxiety/depression is associated with increased odds of anxious/depressed, attention deficit, and oppositional defiant disorders. Waldfogel (2002) claims that there is a great deal of evidence in sociology that child care begun in the first year of life has a different effect on later emotional adjustment than care begun thereafter (Haskins 1985; Belsky and Eggebeen 1991; Baydar and Brooks-Gunn 1991; Bates et al. 1994). The same may be true of cognitive development. Child care begun in the first year of life has been found to have negative effects in several studies (Desai et al. 1989; Baydar and Brooks-Gunn, 1991; Blau and Grossberg, 1992; Han et al. 2001). Sampson and Laub (1994) find that maternal employment is associated with reduced parental supervision and increased adolescent delinquency among low-income families.

Economists have examined random-assignment experiments and 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 (Morris et al., 2001). At the same time, negative effects have been observed for adolescent children (Gennetian et al., 2002), and the limited research on very young children has shown neutral effects (Morris and Michalopoulos, 2000). Clark-Kauffman et al. (2003) observe positive impacts of welfare reform and antipoverty programs on children 0-5 at the beginning of these studies. They conclude that 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. Most of the existing papers examine the impact of welfare to work programs on the cognitive outcomes of school going children or on the behavioral outcomes of adolescent children. Only a few papers examine the impact of welfare to work programs on the cognitive and behavioral outcomes of preschool children. Using a longitudinal study of 2402 low income families, Chase-Lansdale et al. (2003) find that mothers' transition off welfare and into employment is not associated with negative outcomes for preschoolers (2 to 4 years) or young adolescents (10 to 14 years). My paper examines the impact of one welfare to work experiment on both the cognitive and behavioral outcomes of preschool children of single, teenage unmarried mothers'. This experiment was conducted across 10 states and hence the results can be taken to be more generalizable. In this paper, using a randomized experiment that provided education, training and life skill services to teenage high school dropout mothers' as the policy, I examine the impact of mothers' participation in the program on their preschool children's cognitive and behavioral outcomes. I draw on the policy experiment to understand the effects of reforms targeting mothers' self sufficiency on the children. The random assignment design of the experiment provides the basis for identifying conditions under which policy-induced increase in education and employment among the mothers' can help or hurt young children's achievement. It is difficult to estimate the impact of mothers' labor market participation on children. A naive interpretation might expect it to be good because we always think that parents with better labor market characteristics are better parents, but this is likely due to unobserved factors that are correlated with labor market success. Here, due to the randomized nature of the experiment we can interpret the impact as causal. The results might not be applicable to children of high socioeconomic level mothers' and cannot be generalized across the population though.

The rest of the paper is organized as follows. Section 2 covers the data. Section 3 talks about the methodology and results. Section 4 examines the underlying mechanisms behind the relationship between reforms and child outcomes. Section 5 concludes.

## 2. Data

The data for our study comes from the New Chance project. New Chance was a voluntary demonstration project that provided comprehensive education, training and other services intended to increase the long-term self-sufficiency and well being of a group of high school dropout teenage mothers' who were receiving Aid to Families with Dependent Children (AFDC). During the program's demonstration phase, which began in 1989 and concluded in 1992, New Chance was operated by community-based organizations, schools, a community college, and municipal agencies at 16 locations (or "sites") in 10 states across the country.<sup>1</sup>

It was targeted at 16 to 22 year old mothers' who had first given birth at 19 or younger, were not pregnant when they entered the program, had dropped out of high school and were receiving cash welfare assistance. Most women enrolled in the program voluntarily, though some were referred by welfare-to-work programs. Women who applied and were determined to be eligible for New Chance were randomly assigned to one of two groups: the experimental group or the control group. The experimental group could enroll in the program while the control group could not join New Chance but could receive other services available in their communities. New Chance was implemented in two phases:

- Phase 1 centered on education, career exposure, and a number of services falling under the general rubric of "personal development" (for example, parenting, family planning, and life skills). During this phase, services were delivered mostly at the program site. Typically, the program ran from 9 a.m. until 3 p.m. five days a week, with daily attendance at all classes expected. Local programs were intended to be small in size, enrolling 100 participants over 12 to 18 months and serving about 40 participants at any given time, in order to promote an intimate and personal environment in which participants and staff could establish close bonds.
- Phase 2 services encompassed occupational skills training and work experience (both of which were generally off-site) and ultimately job placement assistance. Although college was not a formal part of the New Chance model, staff members at some sites encouraged participants to enroll in college, especially in two-year programs with a vocational focus.

Enrollees were permitted to remain in the program for 18 months, throughout which time case managers were expected to counsel them and monitor their progress. Each site had case managers who kept track of each participants progress and provided continuous guidance and support. There were follow-ups at 18 and 42 months.

The outcome variables considered for measuring cognitive and behavioral skills are Bracken Basic Concept Scale School Readiness Component (BBCS), Behavior Problems Index (BPI) and Positive Behavior Index (PBI) respectively. The BBCS is a measure of receptive language that assesses the mastery of basic concepts; the School Readiness Component consists of five subtests of the BBCS: colors, letter identification, numbers, comparisons, and shapes. The scores shown are standard scores on a scale that ranges from 1 to 19; a standard score of 6.9 corresponds to about the 15th percentile nationally. The BPI is a widely employed scale for describing the incidence of behavioral

<sup>1</sup> Details provided in Appendix A

problems of children aged four or older, usually as described by a parent. Raw scores for the BPI and its six subtests were converted to standardized normed scores, which are based on data from the 1981 National Health Interview Survey. These standard scores (with a mean of 100) are standardized separately for boys and girls within single years of age. A higher score points to more behavioral problems. PBI assesses social and emotional competence. It is a 25-item scale developed for the new chance study, with many items adapted from the Block and Block California Child Q Set. Scores for the total scale could range from 0 (least favorable) to 250 (most favorable). The subscales were developed on the basis of factor analysis.

Our sample consists of 2079 women. Out of 85 were missing the BBCS, 28 were missing the BPI score, 18 were missing PBI score and 232 were missing all three. Also a few were missing some of the explanatory variables. Hence our final estimation includes 1735 observations for BBCS, 1785 observations for BPI and 1798 observations for PBI. The BBCS, BPI and PBI scores for the sample are summarized in Table 1. Basic summary statistics of the sample used are presented in Table 1. The women were on an average 19 years old when they joined the program. They had given birth when they were around 17 years of age. More than 50% of the enrollees were black and 60% of the program participants had completed grade 10 or less. I also did some mean comparison tests to check the randomness of the sample at baseline. Results are presented in Table 2. Since mothers' were assigned to one or the other group at random, the two groups did not differ at the onset of the study. Therefore, any differences between them that emerged during the follow-up period can be attributed to the program. The distribution of sample across sites is provided in Appendix B.

### 3. Methodology and Results

#### 3.1. Intent to Treat and Treatment on the Treated

I start by looking at whether the program had any effect on the child outcome through a simple intent to treat (ITT) regression of the child outcome on the mothers' program assignment indicator.

$$Y_{ij} = \pi_0 + \pi_1 Z_{ij} + \pi_2 X_{ij} + \delta_j + \epsilon_{ij} \quad (1)$$

where  $Y_{ij}$  is outcome of interest for child  $i$  at location  $j$ ,  $Z_{ij}$  is the program assignment indicator, where

$$Z_{ij} = \begin{cases} 1 & \text{if mother in the treatment group} \\ 0 & \text{if mother in the control group} \end{cases}$$

$X_{ij}$  is the vector of exogenous inputs. Includes mothers' age, education of grandparents, mothers' TABE reading score at baseline, race, whether mothers' dad stayed with the family when mother was 14, whether mothers' family was ever on welfare, whether mother is married, age of the focal child at 18 months at baseline, focal child is a boy.  $\delta_j$  are the site fixed effects.

I also do the above for the six subcomponents of the BPI score (anxious or depressed, antisocial, dependent, headstrong, hyperactive and peer conflict) to see if any one dimension was particularly affected. The analysis is also done for the Positive Behavior Index (PBI) and its subcomponents (autonomy, compliance/self control and social competence/sensitivity). Results are presented in column 2 of Table 3. Column 3 of Table 3 present estimates of the treatment on the treated (TOT) effects. For the TOT I generate the program participation indicator  $D_{ij}$ , where:

$$D_{ij} = \begin{cases} 1 & \text{if participation hours in New Chance} > 0 \\ 0 & \text{if participation hours in New Chance} = 0 \end{cases}$$

Column 2 estimates the impact of the program by a simple regression of the outcome on the program participation indicator. TOT instruments the program participation indicator with the program assignment. Hence TOT estimates the equation:

$$Y_{ij} = \gamma_0 + \gamma_1 D_{ij} + \gamma_2 X_{ij} + \delta_j + \epsilon_{ij} \quad (2)$$

where

$$D_{ij} = \beta_0 + \beta_1 Z_{ij} + \beta_2 X_{ij} + \delta_j + \eta_{ij} \quad (3)$$

From all the three analysis, it seems that the New Chance program is affecting the children outcome negatively. The coefficients of the program assignment and participation dummy indicate that it decreases the BBCS and PBI score and increases the BPI score for children. The coefficients for BPI and PBI are significant also. ITT coefficients indicate that the children of the treatment mothers' have a 3% lower BBCS score, a 2.25% lower PBI score and a 1% lower BPI score than the children of control group mothers'. On examining subcomponents of BPI and PBI, I see that for BPI anxiousness/depression, hyperactivity and peer conflict are significantly affected by mothers' participation in the program while all aspects of PBI show a significant decrease due to mother participating in New Chance.

The TOT also has similar coefficients and the BPI score is significant at 5%, while the PBI score shows a significant decline at the 1% level. On examining the subcomponents of BPI, I find that all subcomponents are negatively affected by mothers' participation in the program (depression/ anxiousness, hyperactivity and peer conflict are significantly affected). Similar to ITT all components of PBI show a significant decrease. ITT and TOT show that the children of the treatment group mothers' have on an average 1.5-2% higher anxiousness and peerconflict than the control group mothers'. The program also decreases the PBI and all its subcomponents significantly. The PBI and all its subcomponents for the treatment group mothers' children are on an average 2-3% lower than those of the control group mothers'. The F statistic for the TOT is significant enough and does not point to weak instruments. The first-stage coefficients on program assignment are significant and are presented in column 4 of Table 3. The impact of the program on the mother, though is positive. Assignment to the program increases the mothers' education level (significant at 1%) and also leads to higher earnings for the mother. It also leads to the mother providing a better home environment for the child as shown by the increase in the HOME<sup>3</sup> score for mothers' who were in the treatment group. Even though the program seems to be making the mother more depressed. Table 4 presents these results.

<sup>2</sup> Available on request

<sup>3</sup> The HOME (Home Observation Measurement of the Environment) scale is a survey measure of parenting and the home environment. It appraises the orderliness, cleanliness, and safety of the physical environment, the regularity and structure of the family's daily routine, the amount of intellectual stimulation available to the child and the degree of emotional support provided by parents. It does this through a combination of questions

Since not all mothers' selected for the program participated fully in it, I try to measure the impact of an additional hour of the program on BBCS, BPI and PBI.

$$Y_{ij} = \theta_0 + \theta_1 \text{hours}_{ij} + \theta_2 X_{ij} + \delta_j + \zeta_{ij} \quad (4)$$

where

$$\text{hours}_{ij} = \varphi_0 + \varphi_1 Z_{ij} + \varphi_2 X_{ij} + \delta_j + \xi_{ij} \quad (5)$$

hours is the actual hours of participation in the program in phase 1.

Results are presented in Table 5. Since mothers' in the treatment group were supposed to attend the program for 20-30 hours per week for 18 months, I also calculate the total impact of the mother attending the program for an average of 25 hours per week for 18 months in column 3 of Table 5. These results also indicate that mothers' participation in the program is decreasing the child's cognitive score and increasing their behavioral problems.

To check if these results are being driven by a particular segment of the treatment/control group, I check the impact of the program separately for different races and child age groups. The results are presented in Table 6 and Table 7. The impact of the program is negative for both cognitive and behavioral outcomes of children across races and age groups. The BBCS score is negatively affected for whites and hispanics by 7%. The hispanics are significantly affected. Children of all races seem to have been negatively affected by their mothers' participation in the program. Significance in the adverse results for both BPI and PBI are driven by the impacts on black children even though the magnitude of the impact is nearly same across all the races. In comparing across age groups, I find that for most indicators, children in the older age group have been more significantly and negatively affected by the participation of their mother in the program.

### 3.2. Potential Pathways

I examine two potential pathways through which mothers' participation in the program can affect the children negatively:

- i. More time in market daycare
- ii. Increase in depression of participating mothers' in comparison to the control group mothers'

Even though the program offered free child care to enable them to participate, the number of market daycare hours of the children of mothers' in the experimental group are significantly higher than the children of the control group mothers'. The results are presented in Table 8. A significantly high proportion of treatment group mothers' are using market child care for their children during the first 18 months when they were supposed to attend the program at the site for 6 hours every day. This difference is further intensified when I consider mothers' who actually attended the program. Table 9 presents these results. On an average 38% of the mothers' in the treatment group used market childcare in a given month as compared to 20% of the mothers' in the control group during the initial 18 months of the program. The depression scores of the treatment group mothers' is higher than that of the control group mothers' (not significantly) both during month 18 and month 42 followups. The results are presented in Table 10. This could be another factor that leads to worse cognitive and behavioral outcomes for their children. This could be because of the additional stress/ performance anxiety that the program may be causing. As mentioned earlier in the literature survey, both maternal anxiety and child care begun in early phases of life might cause detrimental effects for both cognitive and behavioral outcomes of young children.

## 4. Conclusions

I examine one welfare to work program to see the spillover impact of the program for the mother on the children. My estimates suggest that the program is negatively impacting the children, both on cognitive and behavioral outcomes. Children of the treatment group mothers fare lower on the cognitive test scores. They also have more behavioral problems and lower positive behavior traits. Two potential reasons for this can be the use of market child care by mothers' receiving the treatment and increase in depression of mothers' due to the expectations set by the program. However, caution should be taken in generalizing them since these results are for a very select disadvantaged group of mothers'. Further research on this can examine children of such mothers' over the longer run and also try and determine the factors that lead to negative impact on the children.

Variable	Mean	Std Dev	Min	Max	N
Test of Adult Basic Education score	746.23	41.63	480	844	1841
Age of mother at baseline	18.82	1.36	16	22	1845
Mothers' age at first birth	16.82	1.37	13	19	1845
Percent black	0.55	0.5	0	1	1847
Percent hispanic/others	0.25	0.43	0	1	1847
Dad with family at age 14	0.27	0.45	0	1	1847
Percent mothers' with family never on welfare when young	0.36	0.48	0	1	1830
Age of child > 18 months	0.43	0.5	0	1	1846
Percent with male child	0.52	0.5	0	1	1847
At least one parent high school graduate or more	0.49	0.5	0	1	1847
Mothers' CESD depression score at baseline	17.99	10.21	0	54	1843

Table 1: Summary Statistics

asked of the parent and items to be completed by the interviewer after spending time in the home observing the child's physical surroundings and the parent and child interacting with one another.

Variable	Control	Treatment	Diff	p value	N_C	N_T
Test of Adult Basic Education score	745.55	746.57	-1.01	0.6	609	1232
Age of mother at baseline	18.82	18.83	-0.00	0.96	610	1235
Mothers' age at first birth	16.79	16.83	-0.04	0.6	610	1235
Percent black	0.56	0.54	0.03	0.3	611	1236
Percent hispanic/others	0.24	0.26	-0.02	0.46	611	1236
Dad with family at age 14	0.27	0.28	-0.01	0.8	611	1236
Percent mothers' with family never on welfare when young	0.34	0.37	-0.03	0.23	604	1226
Age of child gt 18 months	0.45	0.42	0.02	0.32	610	1236
Percent with male child	0.51	0.53	-0.02	0.38	611	1236
At least one parent high school graduate or more	0.52	0.48	0.04	0.14	611	1236
Mothers' CESD depression score at baseline	18.4	17.78	0.62	0.22	609	1234

Table 2: Mean Comparison Tests

Variable	Control group mean	ITT	TOT*	First Stage Coefficient on Program Assignment	N
BBCS	6.84	-0.190 (0.140)	-0.212 (0.155)	.893*** (0.009)	1735
BPI	108.49	1.432** (0.659)	1.605** (0.733)	.892*** (0.009)	1785
BPI-Antisocial	109.92	0.507 (0.728)	0.568 (0.810)	.892*** (0.009)	1785
BPI-Anxious/Depressed	105.68	1.631*** (0.580)	1.828*** (0.646)	.892*** (0.009)	1785
BPI-Dependent	108.18	0.833 (0.630)	0.933 (0.701)	.892*** (0.009)	1785
BPI-Headstrong	102.31	0.321 (0.575)	0.360 (0.639)	.892*** (0.009)	1785
BPI-Hyperactive	107.79	1.565** (0.679)	1.753** (0.756)	.892*** (0.009)	1785
BPI-Peerconflict	105.98	1.937*** (0.665)	2.171*** (0.740)	.892*** (0.009)	1785
PBI	197.3	-4.176*** (1.613)	-4.675*** (1.793)	.893*** (0.009)	1798
PBI-Autonomous	43.42	-0.878*** (0.323)	-0.983*** (0.360)	.893*** (0.009)	1798
PBI-Compliant	63.24	-1.983*** (0.758)	-2.220*** (0.843)	.893*** (0.009)	1798
PBI-Sensitive	90.64	-1.315* (0.717)	-1.472* (0.797)	.893*** (0.009)	1798

Table 3: Intent to Treat and Treatment on the Treated

All regressions include covariates and site fixed effects

Standard error in parenthesis, covariates include family background and demographic variables

\*p<0.1, \*\*p<0.05, \*\*\*p<0.01

\*The first stage F Statistics are significant

Variable	ITT	TOT	N
Mother has atleast high school at month 42	0.076*** (0.023)	0.085*** (0.025)	1825
Home score at month 42	0.314 (0.484)	0.351 (0.537)	1825
Mother earns > \$500 in months 31-42	0.007 (0.024)	0.008 (0.027)	1825
Mothers' CESD depression score at month 42	0.693 (0.494)	0.776 (0.550)	1794

Table 4: OLS and IV: Impact on Mother

All regressions include covariates and site fixed effects

Standard error in parenthesis, covariates include family background and demographic variables

\*p<0.1, \*\*p<0.05, \*\*\*p<0.01

Variable	Mean of group with zero hours	IV of hours at the program	1800 hours	N
BBCS	6.73	-0.0006 (0.000)	-1.08	1735
BPI	108.65	0.005** (0.002)	8.1	1785
BPI-Antisocial	109.78	0.002 (0.002)	2.88	1785
BPI-Anxious/Depressed	105.99	0.005*** (0.002)	9.18	1785
BPI-Dependent	108.39	0.003 (0.002)	4.68	1785
BPI-Headstrong	102.11	0.001 (0.002)	1.8	1785
BPI-Hyperactive	108.04	0.005** (0.002)	8.82	1785
BPI-Peerconflict	106.28	0.006*** (0.002)	10.98	1785
PBI	196.49	-0.013** (0.005)	-23.76	1798
PBI-Autonomous	43.15	-0.003*** (0.001)	-5.04	1798
PBI-Compliant	62.87	-0.006*** (0.002)	-11.16	1798
PBI-Sensitive	90.47	-0.004* (0.002)	-7.38	1798

Table 5: IV: Number of New Chance Hours  
 All regressions include covariates and site fixed effects  
 Standard error in parenthesis, covariates include family background and demographic variables  
 \*p<0.1, \*\*p<0.05, \*\*\*p<0.01

Variable	Black		White		Hispanic/Others	
	ITT	N	ITT	N	ITT	N
BBCS	0.015 (0.200)	939	-0.416 (0.294)	362	-0.490** (0.243)	434
BPI	1.573* (0.866)	969	1.845 (1.667)	363	0.706 (1.334)	453
BPI-Antisocial	0.281 (0.976)	969	1.419 (1.738)	363	0.054 (1.442)	453
BPI-Anxious/Depressed	2.245*** (0.746)	969	0.187 (1.511)	363	0.948 (1.219)	453
BPI-Dependent	0.996 (0.850)	969	1.361 (1.474)	363	0.240 (1.264)	453
BPI-Headstrong	0.556 (0.774)	969	-0.154 (1.427)	363	0.432 (1.099)	453
BPI-Hyperactive	1.518* (0.916)	969	2.907* (1.562)	363	0.793 (1.386)	453
BPI-Peerconflict	2.051** (0.898)	969	2.566 (1.591)	363	0.765 (1.348)	453
PBI	-5.090** (2.143)	983	-5.648 (3.718)	362	-1.569 (3.448)	453
PBI-Autonomous	-1.245*** (0.408)	983	-0.857 (0.826)	362	-0.077 (0.704)	453
PBI-Compliant	-2.316** (1.006)	983	-2.291 (1.795)	362	-1.371 (1.592)	453
PBI-Sensitive	-1.530 (0.986)	983	-2.501 (1.554)	362	-0.121 (1.472)	453

Table 6: ITT: Black, White and Hispanic  
 All regressions include covariates and site fixed effects  
 Standard error in parenthesis, covariates include family background and demographic variables  
 \*p<0.1, \*\*p<0.05, \*\*\*p<0.01

Variable	Age lt 18 months		Age gt 18 months	
	ITT	N	ITT	N
BBCS	-0.285 (0.178)	1018	-0.062 (0.225)	717
BPI	1.048 (0.878)	1017	1.759* (1.013)	768
BPI-Antisocial	0.065 (1.015)	1017	0.876 (1.048)	768
BPI-Anxious/Depressed	1.748** (0.799)	1017	1.500* (0.863)	768
BPI-Dependent	0.435 (0.832)	1017	1.036 (0.980)	768
BPI-Headstrong	0.765 (0.754)	1017	-0.254 (0.905)	768
BPI-Hyperactive	0.978 (0.888)	1017	2.293** (1.064)	768
BPI-Peerconflict	1.559* (0.888)	1017	2.355** (1.021)	768
PBI	-3.004 (2.198)	1020	-5.462** (2.376)	778
PBI-Autonomous	-0.569 (0.450)	1020	-1.166** (0.471)	778
PBI-Compliant	-1.417 (1.031)	1020	-2.603** (1.118)	778
PBI-Sensitive	-1.017 (0.987)	1020	-1.694 (1.047)	778

Table 7: ITT: Child's age gt/lt 18 months

All regressions include covariates and site fixed effects

Standard error in parenthesis, covariates include family background and demographic variables

\* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ 

Variable	Control	Treatment	Diff	p value	N_C	N_T
Percent with market child care month 1	9.24	43.05	-33.81	0	541	1087
Percent with market child care month 2	12.94	53.82	-40.88	0	541	1087
Percent with market child care month 3	16.64	54	-37.37	0	541	1087
Percent with market child care month 4	18.85	51.61	-32.76	0	541	1087
Percent with market child care month 5	20.89	48.11	-27.23	0	541	1087
Percent with market child care month 6	21.81	45.08	-23.27	0	541	1087
Percent with market child care month 7	20.7	42.13	-21.43	0	541	1087
Percent with market child care month 8	20.7	40.11	-19.41	0	541	1087
Percent with market child care month 9	21.63	37.9	-16.28	0	541	1087
Percent with market child care month 10	21.44	35.05	-13.61	0	541	1087
Percent with market child care month 11	20.89	33.49	-12.6	0	541	1087
Percent with market child care month 12	19.96	31.28	-11.32	0	541	1087
Percent with market child care month 13	20.52	31	-10.49	0	541	1087
Percent with market child care month 14	20.15	28.7	-8.55	0	541	1087
Percent with market child care month 15	19.78	28.33	-8.56	0	541	1087
Percent with market child care month 16	19.96	27.78	-7.82	0	541	1087
Percent with market child care month 17	22	27.87	-5.88	0.01	541	1087
Percent with market child care month 18	21.07	26.95	-5.88	0.01	541	1087

Table 8: Market Child Care by Control and Treatment Groups

Variable	Control	Treatment	Diff	p value	N_C	N_T
Percent with market child care month 1	9.05	47.03	-37.98	0	652	976
Percent with market child care month 2	12.58	58.71	-46.13	0	652	976
Percent with market child care month 3	15.8	58.81	-43.01	0	652	976
Percent with market child care month 4	17.79	56.05	-38.25	0	652	976
Percent with market child care month 5	19.63	52.05	-32.42	0	652	976
Percent with market child care month 6	20.4	48.67	-28.27	0	652	976
Percent with market child care month 7	19.33	45.49	-26.17	0	652	976

Percent with market child care month 8	19.63	43.03	-23.4	0	652	976
Percent with market child care month 9	21.01	40.16	-19.15	0	652	976
Percent with market child care month 10	20.86	36.99	-16.13	0	652	976
Percent with market child care month 11	20.25	35.35	-15.1	0	652	976
Percent with market child care month 12	19.48	32.89	-13.41	0	652	976
Percent with market child care month 13	19.63	32.79	-13.15	0	652	976
Percent with market child care month 14	19.33	30.23	-10.9	0	652	976
Percent with market child care month 15	19.02	29.82	-10.8	0	652	976
Percent with market child care month 16	19.63	28.89	-9.26	0	652	976
Percent with market child care month 17	21.32	29	-7.68	0	652	976
Percent with market child care month 18	20.25	28.18	-7.93	0	652	976

Table 9: Market Child Care by Mothers' participation in program

Variable	Control	Treatment	Diff	p value	N_C	N_T
Depression score at month 18	15.56	15.79	-.24	.65	570	1167
Depression score at month 42	14.92	15.62	-.71	.17	596	1219

Table 10: Depression scores of the Mother

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**APPENDIX****A. New Chance**

The New Chance program was run at the following 16 sites: Allentown (Pennsylvania), Bronx (New York), Chicago Heights (Illinois), Chula Vista (California), Denver (Colorado), Detroit (Michigan), Harlem (New York), Inglewood (California), Jacksonville (Florida), Lexington (Kentucky), Minneapolis (Minnesota), Philadelphia (Pennsylvania), Pittsburgh (Pennsylvania), Portland (Oregon), Salem (Oregon), San Jose (California). The distribution across the sites is presented in Appendix B.

**B. Distribution across sites**

<b>Site</b>	<b>Control</b>	<b>Treatment</b>	<b>Total</b>
Allentown	35	67	102
Bronx	39	84	123
Chicago	16	38	54
Chulavista	38	71	109
Denver	32	63	95
Detroit	53	101	154
Harlem	38	73	111
Inglewood	41	78	119
Jacksonville	40	88	128
Lexington	43	73	116
Minneapolis	34	70	104
Philadelphia	44	85	129
Pittsburgh	48	103	151
Portland	38	87	125
Salem	31	69	100
San Jose	39	83	122

*Table 11*