The Effect of Family Income on Risk of Child Maltreatment

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Abstract

Over six million children were reported to the child welfare system as being at risk of child abuse or neglect in the United States in 2008. Researchers and policymakers have long recognized that children living in families with limited economic resources are at higher risk for maltreatment than children from higher socioeconomic strata, but the causal effect of income on maltreatment risk is unknown. Because many factors, for example, poor parental mental health, are known to increase the probability both of poverty and child maltreatment, teasing out the causal role of income can be challenging. Using newly available data, we exploit a random assignment experiment that led to exogenous differences in family income to measure the effect of income on the risk of maltreatment reported to the child welfare system. We find consistent evidence of a causal effect.

Keywords: child welfare, maltreatment, poverty, income effects

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INTRODUCTION

The public child welfare system, which encompasses child protective services, foster care, and permanency planning (e.g., adoption, subsidized guardianship) services, plays an essential, if often overlooked, role in American social policy. In a country that is characterized by many analysts as providing relatively modest supports for children, leaving their parents with great responsibility and discretion in their caregiving role (Rainwater and Smeeding, 2003; Gornick and Meyers, 2005), the child welfare system allows public intervention when children are deemed to be at risk due to abuse or neglect. In 2008, reports involving approximately six million children were made to the child welfare system (U.S. Department of Health and Human Services, 2010), and direct public expenditures in response to child abuse and neglect are estimated to be over $25 billion annually (Scarcella, Bess, Zielewski, and Geen, 2006). Furthermore, the consequences of child maltreatment have been repeatedly shown to extend into and beyond childhood to affect educational and employment outcomes, mental and physical health, relationship quality, and antisocial and criminal behavior (Corso, Edwards, Fang, and Mercy, 2008; Gilbert, Widom, Browne, Fergusson, Webb and Janson, 2009; Mersky and Topitzes, 2010). Such sequelae exponentially increase the costs to society that are generated by child maltreatment. The compelling need to protect vulnerable children, as well as more prosaic concerns regarding public expenditures, motivate interest in identifying the underlying risk factors and effective approaches to prevent child maltreatment.

Researchers and policymakers have long recognized that children living in families with limited economic resources are at higher risk for maltreatment than children from higher socioeconomic strata (e.g., Gil, 1970; Pelton, 1981; 1994; Wolock and Horowitz, 1979). The causal effect of income on maltreatment risk, however, is unknown. Because many factors, for example, poor parental mental health, are known to increase the probability both of poverty and child maltreatment, teasing out the causal role of income can be challenging. Using newly available data, we exploit a random assignment experiment

that led to exogenous differences in family income to measure the effect of income on the risk of maltreatment reported to the child welfare system. We find consistent evidence of a causal effect.

LITERATURE REVIEW

The association between poverty and child maltreatment has been repeatedly demonstrated in the research literature (Bath and Haapala, 1993; Drake and Pandey, 1996; Gil, 1970; Jones and McCurdy, 1992; Pelton, 1981, 1994; Russell and Trainor, 1984; Sedlak and Broadhurst, 1996; Sedlak, Mettenburg, Basena, Petta, McPherson, Greene, and Li, 2010; Trickett, Aber, Carlson, and Cicchetti, 1991; Wolock and Horowitz, 1979; Yang, 2010). An inverse association between income and measures of child maltreatment has been found in large-scale, cross-sectional studies of the general population such as the National Incidence Studies (NIS) (Sedlak and Broadhurst, 1996, Sedlak et al., 2010) and the National Family Violence Surveys (Berger, 2004; Gelles, 1992). For example, families deemed to have low socioeconomic status in the NIS-4 were five times more likely to experience child maltreatment than families of higher socioeconomic status (Sedlak et al., 2010). The relationship between income and child maltreatment is less consistent in studies of high-risk (primarily low-income) populations, where variance in family income is constricted. Several such studies failed to find an association between income, per se, and child welfare system involvement (Slack, Holl, Lee, McDaniel, Altenbernd, and Stevens, 2003; Slack, Holl, McDaniel, Yoo, and Bolger, 2004), while others demonstrated that income is inversely associated with maltreatment reports, even after adjusting for potentially confounding factors (Cox, Kotch, and Everson, 2003; McDaniel and Slack., 2005; Nam, Meezan, and Danziger, 2006; Shook, 1999). Other studies have shown that income loss (as opposed to income level) increases the risk of child welfare system involvement (Shook, 1999; Slack, Lee, and Berger, 2007). For example, using fixed-effects methods, Slack and colleagues (2007) found that when a welfare benefit reductions were not offset by other income sources (e.g., earnings, food stamps), the risk of being reported to the child welfare system increased.

The extant literature has further demonstrated that child maltreatment risk is associated with various indicators of economic hardship, including welfare receipt (Brown, Cohen, Johnson, and Salzinger, 1998; Jones and McCurdy, 1992; Martin and Lindsey, 2003; Needell, Cuccaro-Alamin, Brookhart, and Lee, 1999); unemployment (Sidebotham, Heron, Golding, and Team, 2002; Gillham, Tanner, Cheyne, Freeman, Rooney, and Lambie, 1998); and single-parent family structure (Berger, 2005; Chaffin, Kelleher, and Hollenberg, 1996; Gelles, 1992; Mersky, Berger, Reynolds, and Gromoske, 2009; Sedlack and Broadhurst, 1996). Within high-risk populations, hardships such as utility shut-offs, difficulty paying for housing, food insecurity, and self-reported material economic stress have been shown to increase the risk of involvement with the child welfare system (Courtney, Dworsky, Piliavin, and Zinn, 2005; Dworsky, Courtney, and Zinn, 2007; Slack et al., 2007; Slack et al., 2004; Epstein, 2002; Slack et al., 2003). Furthermore, child maltreatment has been shown to correlate with community- or state-level poverty rates (Coulton, Crampton, Irwin, Spilsbury, and Korbin, 2007; Coulton, Korbin, Su and Chow, 1995; Drake and Pandey, 1996); unemployment rates (Jones, 1990); and welfare receipt rates and benefit levels (Paxson and Waldfogel, 2002).

Various mechanisms have been proposed to explain observed associations between poverty and child maltreatment (Berger, 2007; Drake and Pandey, 1996; Jonson-Reid, Drake, and Kohl, 2009; Paxson, Berger, and Waldfogel, 2002; Pelton, 1994; Shook, 1999). One hypothesis is that poverty may reduce a parent's ability to provide for a child's most basic necessities (e.g., food, shelter, medical care). Alternatively, economic hardships may lead to changes in parental mental health, caregiving behaviors, or family dynamics that in turn pose a threat to child safety and well-being. Another hypothesis is that certain indicators of poverty may increase the visibility and scrutiny of low-income families to potential maltreatment reporters. For example, welfare participants may have greater exposure to mandatory reporters, such as case workers. It should be noted that the visibility hypothesis has particular relevance for studies that rely upon official records of abuse and neglect reports to operationalize child maltreatment. Finally, it is also possible that selection accounts for associations between income or poverty status and

child maltreatment, in that certain characteristics increase the chances of being poor, as well as engaging in abusive or neglectful behavior toward one's children.

Taken together, the existing evidence compels the question of whether income plays a causal role in the etiology of child maltreatment. Prior research, however, has only been able to assess the correlation. To our knowledge, there has never been an experimental evaluation that explores the causal role of income on child maltreatment.[1] To address this gap in knowledge, the present analysis explores the causal role of income supplementation on the risk of child welfare system involvement using a randomized experimental evaluation of a state child support demonstration program.

POLICY CONTEXT AND THE ORIGINAL CHILD SUPPORT DEMONSTRATION EVALUATION (CSDE)

The 1996 welfare reform led to broad changes in income support policy as states responded to the elimination of the entitlement to cash assistance, and to a new block grant funded, time-limited, and work-focused Temporary Assistance for Needy Families (TANF) program. The State of Wisconsin had a history of welfare policy innovation, having successfully sought waivers from federal welfare requirements and tested a number of alternative program features starting in the late 1980s (Mead, 2004; Kaplan, 2000). When TANF gave states greater flexibility with regards to their cash assistance program, Wisconsin implemented a program, known as Wisconsin Works (W-2), that was among the most intensive in its work focus. W-2 benefit administration was designed to mimic regular employment along a number of dimensions. For example, W-2 benefits are not adjusted for family size (just as wages in regular employment generally do not vary explicitly with the worker's number of children), and benefits are reduced for each hour of mandated activities missed (just as earnings are generally tied directly to hours worked).

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[1] A Title IV-A Waiver demonstration in Delaware (Fein and Lee, 2003) did find evidence that the combination of welfare reform policies implemented in that state increased the rate of involvement with the child welfare system for reasons of child neglect. The experimental "black box," however, did not afford an assessment of whether changes in income per se were responsible for this finding.

A unique aspect of Wisconsin's welfare reform was the full pass-through and disregard of child support paid on behalf of families receiving W-2 benefits. This policy was consistent with the core philosophy of W-2, since W-2 cash benefits were not reduced when child support was collected (just as employers do not reduce wages if an employee receives child support). However, because child support paid to TANF recipients is generally retained and used by both state and federal governments to offset welfare costs, the policy required a federal waiver. As a condition of the waiver the federal government required a random assignment evaluation.

The original Child Support Demonstration Evaluation (CSDE) was implemented statewide in 1997–1998, during which time all TANF participants were randomly assigned to either a full pass-through and disregard group, or a partial pass-through and disregard group. For those in the experimental group, every dollar of current child support paid by the nonresident father was passed on to the mother,[2] and the child support was disregarded in determining her TANF cash benefit. So, for example, a mother in the experimental group receiving a cash benefit of $673 per month,[3] and also due $200 per month in child support, could receive a total of $873 in child support and TANF. In contrast, those assigned to the control group received the greater of $50 or 41 percent of child support paid. So, a mother in the control group with a cash benefits of $673 and receiving child support of $200 would receive a total of $755 in child support and TANF (because only $200*41% = $82 of child support would be passed-through and disregarded).

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[2]Both child support and TANF rules distinguish resident parents (those who live with their children) and nonresident parents (who do not live with their children). In most cases there is no explicit policy of differential treatment of mothers and fathers. However, most children receiving TANF benefits are born to unmarried parents, and children born to unmarried parents usually live with their mother, and much less often with their father. In the analysis that follows we restrict our sample to nonmarital children living with their mother.

[3]W-2 participants may be assigned to a number of different tiers, depending in part on their work history and current barriers to employment. The lower tiers pay a cash stipend. These include "Community Service Jobs," which provide a monthly cash payment of $673 for full participation and the "W-2 Transitions" tier, designed for those with greater barriers to employment and providing a monthly cash payment of $628. "Caretaker of Newborn" benefits are available to mothers of children less than 12 weeks of age, also provides $628 per month. Upper tier placements typically involve only case management services, and do not include a cash stipend. Those in an upper tier placement were not subject to having child support diverted, regardless of their experimental or control status.

Families in the experimental group received more child support—as a mechanical effect of the policy; however, assignment only affected resources for those receiving TANF cash benefits and child support in the same month. Because TANF participation in Wisconsin tended to be short, and child support receipt among TANF participants irregular, differences in total income were fairly modest. Among families with nonmarital children, those in the experimental group received an average of $97 more child support in the first year of the experiment, and $81 more in the second year; among those with a child support order at assignment, the amounts were $164 and $143.[4] While the difference in income is fairly modest, it provides an opportunity to test the causal effects of an increase in family income on child maltreatment.

DATA AND METHODS

We rely on administrative data collected as part of the original CSDE evaluation for our measures of experimental status and other control variables (see Cancian et al., 2008 for more details). We measure child welfare system involvement with newly available historical administrative data. Specifically, from the Wisconsin Statewide Automated Child Welfare Information System (WiSACWIS), we determine whether any of the mother's children were the alleged victim in a screened-in[5] (i.e., investigated) child abuse or neglect report. When the child welfare agency receives a report of potential child abuse or neglect (typically from a mandated reporter, such as a teacher or social service provider), allegations that

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[4]In addition to the mechanical effect, the evaluation also found significant behavioral differences for the experimental group, including increases in the proportion of fathers paying any support, and the amount of support paid (see Cancian et al., 2008). However, for our purposes the key outcome of interest is the increase in resources available to families in the experimental group. In the conclusion we discuss the potential implications for our analysis of other effects of the experiment.

[5]Wisconsin's conversion to a new automated data system in the early 2000s resulted in only some historical data being retained. Information on substantiated reports or report allegation categories, were rendered unreliable. In the mid- to late 1990s in Wisconsin, approximately 30 to 40 percent of screened-in cases were ultimately substantiated (i.e., found to involve a preponderance of evidence of maltreatment) (Bureau of Programs and Policies, 1999), suggesting that a sizeable percentage of screened-in cases involve maltreatment deemed to have occurred. Additionally, a range of "safety services" are regularly provided to families in cases involving unsubstantiated reports of maltreatment. Thus, screened-in reports reflect situations that require the child welfare system to take further action, and the associated costs of these additional steps have implications for this analysis.

are "deemed as rising to the level of maltreatment or threat of maltreatment as defined by Wisconsin statutes" are screened in for assessment (State of Wisconsin, 2010: 12).

We limit our analysis to 13,519 mothers of nonmarital children in the original CSDE sample who entered W-2 during the first 10 months of Wisconsin's TANF program, beginning in September 1997.[6] We track these mothers in the administrative data for a period of two years from the time that they entered W-2 and were assigned to the experimental (full child support) or control (partial child support) group.

Our basic approach is to compare the experimental and control group members with regard to the rate of screened-in reports of child maltreatment. If additional income reduces the likelihood of child abuse and neglect, we should observe lower rates of maltreatment reports among the experimental group. While a simple comparison of report rates of experimental and control group members is a valid test given successful random assignment, we follow previous research and also report findings controlling for a limited set of observable characteristics measured at the time of assignment. Logistic regressions control for differences in the characteristics of sample members at W-2 entry (that presumably occurred by chance; see Meyer and Cancian, 2001). In addition, we control for a limited number of other variables measured at the time of initial assignment. To the extent that these control variables account for variance in our outcome, we may be more likely to discern the effect of the experiment (Bloom, 2006).

Table 1 provides the distribution of our primary outcomes and control variables. The first row shows the frequencies for our outcome variable; in our sample, 19 percent of mothers had a child subject to a screened-in child maltreatment report in the two years following group assignment.

The mothers in our sample were mostly young (about half were age 25 or younger), two-thirds were black, and 79 percent lived in Milwaukee County, the largest metropolitan area in Wisconsin. Most of the mothers (60 percent) had a child under 3 years of age, and two-thirds had more than two children. The majority of the sample had low levels of education: 56 percent did not have a high school degree

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[6]Of the original sample, we excluded seven mothers whose youngest child was over 18 years old at the baseline or who did not have a child by the end of observation period.

Table 1
Characteristics of the Sample[a]

	Valid %
Child Welfare Involvement	
Screened-in Report in Year 1 or 2	19.4
E/C Status	
Experimental group	50.6
Control group	49.4
Race	
White (non-Hispanic)	21.3
Black (non-Hispanic)	67.8
Hispanic	7.2
Other	3.7
Education	
Less than high school	55.3
High school	36.2
More than high school	8.5
Mother's Age	
16–25	51.7
26–30	19.5
31 or more	28.8
Age of Youngest Child	
0–2 years	59.7
3–5 years	17.8
6–17 years	22.5
Number of Children	
0	1.0
1	36.3
2	29.0
3 +	33.7
Number of (Legally Established) Fathers	
0	28.5
1	55.3
2+	16.2
Residence	
Milwaukee County	78.8
Other	21.2
AFDC Receipt in 24 Months before Assignment	
No AFDC	11.4
1–18 months	32.2
19–24 months	56.4
W-2 Program at Assignment	
Lower Tier	61.4
Caretaker of Newborn	9.2
Upper Tier	29.4

(table continues)

Table 1, continued

	Valid %
Employment in 8 Quarters before Assignment	
0 quarters	20.0
1–6 quarters	61.0
7–8 quarters	19.0
Child Support Order at Baseline	
Yes	56.4
CS Receipt in Year before Assignment	
No Child Support	70.1
$ 1–999	15.6
$1,000 or more	14.3
Fathers' annualized Earnings in 8 Quarters before Assignment	
No legal nonresident parent	9.8
0	18.8
$1–15,000	59.3
$15,000 or more	12.1

Note: The proportion of each variable excludes missing values for some variables (66 for race, 147 for education, 2 for mother's age, and 2 for age of youngest).

upon entering the W-2 Program. Also, most mothers had a history of welfare receipt (over half had received welfare assistance in at least 18 of 24 months prior to entering W-2) as well as employment (80 percent had some earnings reported to the Unemployment Insurance system in the past two years). Just over 60 percent of mothers were assigned to a lower W-2 tier such as a transitional or community service job. Sixteen percent of mothers had legally established paternity for their children with two or more fathers. One third of the mothers either did not have a legally established father of any of their children or no established father had any record of earnings in the past two years. While most mothers (56 percent) had a child support order at baseline, only 14 percent had a history of substantial child support receipt (i.e., more than $1,000 in the prior 12 months). Overall, our sample largely included women with substantial family responsibilities and limited earnings potential. While many had little or no history of child support receipt, we would expect additional income to be potentially important given resource constraints.

RESULTS

Our measures of the relationship between experimental status and a screened-in report of child maltreatment are shown in Table 2, which reports the odds ratios from a logistic regression. The first column shows the results of a simple logistic regression with only experimental status. The second column shows the results when we add controls for those variables that differed (by chance) between the experimental and control groups. The final column adds additional controls measured at the time of assignment. In each case, we find mothers in the experimental group, who therefore received more child support income, were less likely to have a child subject to a screened-in report for child maltreatment (p<.05). These results suggest that additional income reduces the risk of child maltreatment. It is important to note that even given this relatively modest difference in income, the experimental group was estimated be about 10 percent less likely (i.e., an odds ratio of .88 to .90) than the control group to have a screened-in maltreatment report.

Table 2
Odds Ratios from Logistic Regression Models
Predicting Screened-In Child Maltreatment Reports

Variables	(1)	(2)	(3)
Experimental Group	0.896**	0.882**	0.888**
	(0.048)	(0.048)	(0.050)
Black		1.625***	0.745***
		(0.103)	(0.067)
Hispanic			0.619***
			(0.085)
Other Race			0.644**
			(0.129)
Mother's Age 31 or more		1.321***	1.501***
		(0.077)	(0.128)
Mother's Age 26 to 30			1.339***
			(0.112)
High Child Support History ($1,000 or more)		1.098	1.009
		(0.084)	(0.097)
Medium Child Support History ($1–$ 999)			1.126
			(0.095)
Less than High School			1.555***
			(0.184)
High School			1.024
			(0.126)
Youngest Child's age between 3–5 years			0.834**
			(0.068)
Youngest Child's age 6 or more			0.683***
			(0.061)
Having 2 Children			1.931***
			(0.165)
More than 3 Children			3.752***
			(0.327)
1 Legal Father			1.142*
			(0.087)
More than 2 Legal Fathers			1.186*
			(0.121)
Milwaukee			3.488***
			(0.406)
19–24 Months of AFDC Receipt			1.226
			(0.170)
1–18 Months of AFDC Receipt			1.246*
			(0.163)
Caretaker of New Born			1.250*
			(0.168)
Lower Tier			1.385***
			(0.097)
1–6 Quarters Employed in Prior 8 Quarters			1.061
			(0.076)
7–8 Quarters Employed in Prior 8 Quarters			0.930
			(0.094)
Child Support Order At Entry			0.825**
			(0.063)
15K plus Nonresident Parent Earnings			1.014
			(0.095)

*** p<0.01, ** p<0.05, * p<0.10

The other results reported in Table 2 are largely as anticipated. Considering the final model, we see that mothers with larger families and with younger children are more likely to have a child with a screened in report. Mothers who had children (with legally established paternity) with more than one father were also at greater risk, though the coefficient is marginally significant (p<.10). Mothers who did not have a high school degree were more likely to become involved with the child welfare system than mothers with at least a high school degree. We note that in the regression with limited controls (column 2) non-Hispanic black mothers are more likely to have children with a screened-in report, but the relationship is reversed when we control for other variables, particularly location in Milwaukee. This suggests that the overrepresentation of non-Hispanic black children among screened-in reports may be attributed to other characteristics associated with race.

We also estimated the effect of additional income on the number of screened-in reports over the first two years, rather than the simple dichotomous variable noting any reports. The results (not shown) were consistent with those reported in Table 2. Experimental group status reduced the number of screened-in reports. The relationships between number of reports and other variables were also generally similar, although there were some differences in the relationships that were statistically significant at conventional levels.

This analysis has several limitations that are important to consider. First, our sample is limited to mothers of nonmarital children who participated in Wisconsin's TANF program in its first year of operation. We might expect any change in income to be particularly salient for these low-income and low-asset families. The relatively modest difference in the incomes of those in the experimental and control groups might be less likely to affect child maltreatment in a more advantaged sample. That said, an economically disadvantaged sample is of particular relevance given the overrepresentation of low-income families in the child welfare system.

The variation in income that we exploit is due to differences in the treatment of child support. It is possible that child support has a particularly important effect on child well-being. It is also possible that other effects of the full pass-through and disregard contributed to the lower risk for families in the

experimental group. For example, families in the experimental group established paternity more quickly in the experimental group compared to those in the control group (Meyer and Cancian, 2001). If child support has a differential effect, or if other effects of the experiment contributed, then the results may not be due simply to the increased income of families in the experimental group.

Finally, the reliance on a single indicator of child maltreatment—screened-in reports of abuse and neglect made to the child welfare system—are suggestive of the causal role of income in the etiology of child maltreatment. However, it is possible that income has a different effect when predicting other markers of child welfare system involvement (e.g., initial reports, substantiated reports, foster care placements), or a differential role with respect to the type of abuse or neglect alleged in a report. To the extent that the visibility hypothesis plays a role, it is also possible that income changes are tied to a greater or lesser likelihood of becoming known to a potential reporter, although the fact that income changes in this analysis were not tied to the receipt of other benefits or involvement in other systems beyond W-2 makes this alternative explanation less compelling.

Notwithstanding these limitations, to our knowledge this paper is the first attempt to use experimental data to identify exogenous increases in income as a protective factor for child welfare system involvement. Research to expand upon these findings is needed, particularly studies that can employ multiple measures of child maltreatment (e.g., parent report, interviewer observation, as well as child welfare system indicators) and research that can inform the mechanisms linking income changes to maltreatment risk.

CONCLUSIONS

The child welfare system provides the ultimate safety net for children. Policymakers and researchers have long recognized that low-income families are substantially more likely to come in to contact with the system, but it has been difficult to identify a causal effect of income on the risk of child maltreatment. Many of the same factors—from poor mental health to residence in disadvantaged neighborhoods—are associated with both low income and higher risk of maltreatment. In this paper we

exploit the exogenous variation in income due to a random assignment evaluation of child support and welfare reform to identify the effect of increased income on the risk of child maltreatment. We find that mothers eligible to receive all child support paid on behalf of their children were less likely to have a child subject to a screened-in report of maltreatment than were mothers who were eligible for only partial child support payments. This finding has implications for the design of interventions with populations at risk for becoming involved with the child welfare system. The fact that modest increases in income within an economically disadvantaged population reduced the risk of a screened-in report of child maltreatment suggests that child maltreatment prevention programs should pay explicit attention to the poverty experiences and economic hardships of the families that they serve.

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