Published in final edited form as:
Child Youth Serv Rev. 2009 March ; 31(3): 422–427. doi:10.1016/j.childyouth.2008.09.009.

Is the overrepresentation of the poor in child welfare caseloads due to bias or need?☆

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Abstract

One hanging question in child welfare policy and research is whether there is an artificial overrepresentation of the poor in child welfare caseloads or whether this reflects the co-occurrence of poverty and need. In order to address this question, this study uses data from child welfare (report, assessment, service and re-report), income maintenance, special education, hospitals, juvenile court, public mental health treatment, and census data. Poor children reported to child welfare are compared to non-poor children reported to child welfare and also to poor children not reported to child welfare. Poor children reported for maltreatment had greater risk factors at the parent and neighborhood levels and higher rates of negative outcomes than children in either comparison group. Among children reported for maltreatment, poor children have worse outcomes, both within child welfare (e.g., recurrence) and outside of child welfare (e.g. juvenile court, hospitalization for violence) than non-poor children. These data suggest that the overrepresentation of poor children is driven largely by the presence of increased risk among the poor children that come to the attention of child welfare rather than high levels of systemic class bias.

Keywords

Child welfare; Child abuse; Child neglect; Reporting bias; Poverty; Cross-sector

1. Introduction

Child abuse and neglect is a major national concern, associated with a range of negative behavioral, developmental, health, and economic outcomes (Leiter, Myers & Zingraff, 1994; Leiter & Johnsen, 1997; Jonson-Reid, Chance & Drake, 2007; Kaufman & Widom, 1999). While many children are reported, most maltreatment events do not result in a report (DHHS, 1994; Sedlak & Broadhurst, 1996). Poor children are far more likely to have contact with the child welfare system than non-poor children (Brown, 1984; DHHS, 1994; Coulton, Korbin, Su & Chow, 1995; Drake, Jonson-Reid, Way & Chung, 2003; Fluke, Yuan, Hedderson & Curtis, 2003). There are two commonly discussed reasons why poor

☆This work funded by funding from the National Institute of Mental Health, R0MH 06 1733-04 A1, points of view and opinions expressed in this article are the author's and do not necessarily express the views or opinions of the funding agency.

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children may be more likely to come to the attention of child welfare (Pelton, 1978). The first possible reason is that poor children are, in reality, far more likely to suffer maltreatment. The second possible reason is that the system is massively biased, due to social class, at one or many levels (e.g. report, screening, investigation disposition, and entry into foster care). By "bias" we refer to the assertion that social class, rather than risk or need for service, drives the likelihood of child welfare contact. If class-based bias does exist at practically significant levels, it has serious implications.

One of the first concerted attempts to grapple with the issue of class bias was made by Pelton (1978). Pelton asserted that class and maltreatment were related. He suggested that the tendency to dismiss this relationship was due to several factors, including a psychiatric conceptualization of maltreatment which stressed psychological factors and downplayed social context. In the last thirty years, data relating to this issue have grown exponentially. Pelton's assertion that there is a real relationship between class and maltreatment has been supported by subsequent child welfare studies (Drake & Zuravin, 1998; Gelles, 1992), population-based studies (Theodore, Runyan & Chang, 2007), and community level studies (Coulton et al., 1995; Drake & Pandey, 1996).

Dominant theoretical conceptualizations of child maltreatment also support the idea that maltreatment and poverty are associated (Drake & Zuravin, 1998). Stress theories (Crouch & Behl, 2001; Coohey & Braun, 1997), and theories dealing with family, social and community structure (Coulton et al., 1995; Freisthler, 2004) imply greater risks for poor children. Theory suggests that poor families are more likely to experience maltreatment because of stress related to family poverty (such as care-taker overload related to the inability to afford adequate child care) as well as residence in poor communities with fewer formal supports and higher levels of environmental stressors, such as serious crime (Pelton, 1978).

Despite the substantial data and theoretical rationale supporting the relationship of poverty to child maltreatment, researchers remain concerned that "official reports may be characterized by biased reporting, investigation, and substantiation of maltreatment in low income families" (Brown, Cohen, Johnson & Salzinger, 1998, p 1066). In other words, what appears unsettled is the *degree* to which bias may be operative in cases "screened in" (investigated or assessed) by child welfare. In 2006, six million children were reported for abuse or neglect (DHHS, 2008). Class bias could manifest in unnecessary reporting of the poor (something akin to a "false positive") or suppression of needed reporting of the non-poor (rather like a "false negative"). If poor children are commonly reported due simply to anti-poor bias, then families are being unnecessarily burdened with investigations and scarce resources are being wasted. If systematic bias operates to cause non-poor children to remain unseen by the reporting system, then these children may remain unidentified until the situation is so negative that it is difficult to provide effective help.

1.1. Theoretical framework for assessing bias

This article is concerned with evaluating bias associated with child welfare involvement, and does so partly by comparing child welfare system involvement with involvement rates with other systems. This approach to understanding child maltreatment is not new, but is similar

to that used in the landmark study on substantiation done by Leiter et al. (1994), in which the similarities between substantiated and unsubstantiated children were highlighted through comparison of substantiation status to school records. Our study adds another dimension, by considering many different systems with a range of different kinds of sentinels. For example, a child with a broken bone will usually be taken to an ER by a family member. Law enforcement would most likely facilitate child contact with juvenile court, and either family or school staff might bring a child to the attention of the special education system. It is reasonable to suspect that different systems would have differential sensitivity to class bias. For example, since virtually all serious injuries go through emergency rooms and do not involve reporting *per se*, it is difficult to see how these events could be sensitive to class bias on the part of an extra-familial reporter.

It is well established that child maltreatment is comorbid with a range of other individual and family problems (McGuinness & Schnieder, 2007). It is also well documented that maltreated children are at elevated risk for a number of negative downstream outcomes, such as delinquency (Bright & Jonson-Reid, 2008; Herrenkohl & Herrenkohl, 2007; Kaufman & Widom, 1999). By examining rates of comorbidity and future negative outcomes, we can make inferences about the appropriateness of targeting in CPS referrals, and hence, the absence of bias. This logic implies a naturalistic quasi-experimental condition which can be empirically examined. Children correctly identified by child welfare *should* be at higher risk for many other negative system contacts. While national reports (DHHS, 2008) do not include income as a descriptor, the Third National Incidence Study (Sedlak & Broadhurst, 1996) found far higher rates of child maltreatment among poor families compared to non-poor families, with families with incomes of under $15,000 (1993 dollars) having rates of maltreatment two to three times higher than families earning $15,000 to $29,999. When compared to the highest strata (≥$30,000), the poorest strata were more than 20 times as likely to be reported. If that overrepresentation is due to erroneous reporting due to class bias, then simple math requires that most poor children identified by child welfare must represent inappropriate referrals without underlying maltreatment. This leads to a series of testable assertions:

Hypothesis 1A—Compared to poor children with investigated reports to child welfare (CAN/AFDC), non-poor children reported to child welfare (CAN Only) will have worse family risk factors and child-level health and behavioral outcomes. There are two mechanisms supporting this hypothesis. If substantial class bias exists, then it should be somewhat harder (i.e., higher levels of risk needed) for non-poor cases to enter the child welfare system. Further, if substantial class bias exists, then maltreated children in the CAN/AFDC group (true positives) will be diluted by high numbers of unnecessarily reported poor children (false positives).

Hypothesis 1B—If substantial bias exists, there should be significant differences in the *severity* of maltreatment reports and recurrent reports with CAN Only cases being worse then CAN/AFDC, for the same reasons listed above.

Hypothesis 2—If substantial class bias causes large numbers of erroneous contacts with child welfare, the CAN/AFDC group will have small differences in outcomes, if any,

compared to AFDC Only. As one cannot test a null hypothesis, we will therefore test whether differences exist in these family risk factors and child-level health and behavioral outcomes.

2. Methods

Data are drawn from a larger longitudinal study (Citation omitted for blind review) based in a Midwestern metropolitan area. We compare characteristics and outcomes of three groups: poor children with no child maltreatment reports or child welfare services (AFDC Only), poor children with investigated child abuse/neglect reports (CAN/AFDC), and non-poor children with investigated child abuse/neglect reports (CAN Only). Membership in one of these groups constitutes our independent variable. Using administrative and census data, we compare the groups according to: child, family and community characteristics; child-level behavioral and health indicators (disability, injuries, juvenile offending, mental health, and child and parental behaviors). We further compare poor and non-poor children reported for maltreatment according to child welfare system indicators (in-home services or foster care entry, report type severity, future reports).

2.1. Sampling

At the time of initial sampling, the cases reported for maltreatment were limited to those coming to the attention of child welfare for the first time. CAN and AFDC records were linked to identify children and families with a known poverty history. These cases formed the CAN/AFDC group. Those cases with CAN involvement but without AFDC involvement formed the CAN Only group. The pool of children who had AFDC involvement but no CAN history were matched to the CAN/AFDC group by age and geographic area, and a subset of children from each strata were randomly selected for inclusion in this study. Children that were reported due to fatality or died within 7 days of the first report were excluded from the original study as the desire was to examine longer term outcomes. Further, children with initial reports for reasons other than physical abuse, sexual abuse or neglect were excluded. To ensure independence of observations, one child per family was randomly selected (N=12,409).

For the purpose of this analysis we wanted a pure comparison over time, so CAN Only cases that later entered TANF were excluded and AFDC Only cases that were later reported for maltreatment were excluded. Children in the present analyses are followed from inclusion in the study (during 1993 or 1994) through mid-year 2006. Some pre-existing background data recorded prior to 1993 (e.g. birth records) were also used. As several outcomes of interest were unlikely to occur prior to early adolescence (such as mental health service use or delinquency), the sample was limited to children who were at least 15 years of age by May 2006 (n=7,313). For this paper all outcomes occur prior to age 18.

2.2. Data sources

We include tract-level data from 1990 US census, birth and death records (for censoring only), child welfare (specific subtypes of maltreatment reported, reporter source, investigation conclusions, in-home and foster care services); Department of Mental Health

Medicaid and non-Medicaid programs, emergency room and hospital records, income maintenance data (AFDC and TANF); juvenile corrections and juvenile court records; statewide Medicaid data including, health hospitalization and inpatient and out-patient mental health treatment; and special education eligibility records.

2.3. Data preparation

Data used in this paper were obtained for all systems through mid-2006. Most of the datasets are statewide and share a common state-level case identifier. The other datasets were matched according to identifying information, including the first four letters of first and last name, as well as date of birth. Addresses at the time of entry into the sample event were geocoded using Arcview and linked to census information. All identifiers were removed following linkage and are not present in the analysis data. Results are always reported at an aggregate level sufficient to prevent identification of individuals.

2.4. Variables

Control and dependent variables are described in Table 1. Neighborhood (tract) median family income was obtained through geocoding addresses to tracts and consulting 1990 decennial census data (STF-3) for those tracts. Race was dichotomized into White and “Of Color,” which is over 96% Black. Parental developmental delay is based on any record of services for mental retardation or severe delay; likewise parent mental health is based on known services for a mental health disorder from Medicaid or Department of Mental Health programs. Parents were coded as having a recorded history of substance abuse if they had received DMH or Medicaid-reimbursed substance abuse services, or if substance abuse was recorded in CA/N records.

Child behavior, health and development: Child ER and hospital records were recoded into injury (not violence related), self-injury, and violence related injuries (fights, assault, rape, abuse). [Note: it was not possible to differentiate between whether the subject was a simple victim or was both injured and a perpetrator for fights or assaults.] Birth, Department of Mental Health, ER/Hospital records, and Medicaid and ICD-9 and ICD10 classifications were recoded into two broader categories for this analysis: “Child Mental Health” or “Child, Other Disability”. Special education services for emotional disturbance was included with “Child Mental health” while all other special education types were included with “Child Other Disability”. Behavioral outcomes included any record of a petition for a status offense, for a non-violent delinquent offense, or for a violent delinquent offense.

2.4.1. Child welfare—Child welfare variables included reporter type (mandated or non-mandated reporter), maltreatment type based on recode of 45 different specific subtypes (e.g., “skull fracture”), severity of type according to physical risk (types coded as severe included anal, oral or vaginal intercourse or sexually transmitted disease; head or internal injury, fractures; untreated illness, exposure, failure to thrive, malnutrition, poisoning and repeated ingestions). We do not limit severity to substantiated cases based on the body of prior work that shows little difference between substantiated and unsubstantiated cases (e.g., Drake et al., 2003; English, Marshall, Coghlan Brummel, & Orme, 2002; Hussey et al., 2005; Leiter, Myers & Zingraff, 1994). Because the sample consists of cases reported to

child welfare for the first time, we do not use the severity coding system of Manly, Cicchetti and Barnett (1994) which includes chronicity as a part of the measure. Instead, we also examined referral to services following investigation (in-home services or foster care placement) as a second means of assessing seriousness beyond type of maltreatment. Services had to be initiated within 45 days of the first report and before a re-report event to be counted as triggered by the first report. Second reports of maltreatment (re-report) were coded if they occurred more than 14 days after the first (index) report to exclude "echo" reports made on the same incident.

2.5. Analyses

Analyses were conducted in SAS 9.1. Differences between groups were examined using ANOVA, and independent samples chi-square. Proc SurveyLogistic was used to examine whether bivariate associations held with multivariate controls. This technique adjusts the model for clustering by census tract. A significant odds ratio greater than 1.0 indicates increased risk and a significant odds ratio less than 1.0 indicates decreased risk. For ease of interpretation the odds ratios for outcomes comparing all three sample groups are provided for comparison with AFDC Only and then in parentheses for CAN Only.

3. Results

Demographic characteristics and non-child welfare risk and outcome data for all three groups are presented in Table 1. Groups were different with regard to race (Non-white percentages: AFDC Only: 83.6%, CAN/AFDC: 74.3%, CAN Only: 26.3%, $p<=.0001$ for all paired comparisons). The Median Neighborhood income results showed the CAN Only group living in far wealthier neighborhoods (Median family income in excess of $39,000) as compared to the AFDC Only and CAN/AFDC groups (Median family income below $25,000). The AFDC Only and CAN/AFDC groups had parents about three years younger than those in the CAN Only group ($p<.0001$). Parents in the CAN/AFDC group had more than three times the rate of DMH or Medicaid mental health treatment and over four times the level of known substance abuse problems compared to the other two groups.

3.1. Cross-sector outcomes

Study hypotheses required comparison of outcomes across systems. We therefore performed a series of PROC SurveyLogistic analyses, controlling for clustering at the census tract level. Table 2 takes the outcome variables from Table 1 and presents them somewhat differently. Mental Health, Other Disability and Status Offending are presented in the same way. Delinquency is now split out into violent and non-violent types, while ER/Hospital care is broken into particular subtypes of interest (violent, teen pregnancy and unintentional head injury or fracture). Controls were child race, gender, parent age at birth, income in census tract, parent MH and substance abuse indicators and known parent development delay. All models had significant Wald chi-squares at $p<.0001$, though only the model of teen pregnancy had a *c* value of over .70, meaning the predictive value of the models were generally poor. Compared to AFDC Only children, CAN/AFDC children were at higher risk for all negative outcomes, with odds ratios ranging from 1.44 (ER for unintentional head injury or fracture) to 4.13 (status offending). Compared to CAN Only children (see

bracketed ratios), CAN/AFDC children had odds ratios that were between 1.79 (mental health services) and 3.00 (Status offences). The single non-significant ratio was found in the case of the model of disability (non-mental health). In this model there were no significant differences between CAN Only and CAN/AFDC cases.

3.2. Children reported for maltreatment

Next we focus on differences in reports, service provision, and recurrent reports for the poor (CAN/AFDC) and non-poor (CAN Only) children reported for maltreatment (See Table 3). These data are broken down by maltreatment type to help in interpretation. With regard to report source, both sexual abuse and neglect reports were more frequently from mandated reporters in the CAN/AFDC group. Proportion of severe types of reports was not significantly different. CAN/AFDC cases were more frequently provided services. There were no significant differences between CAN Only and CAN/AFDC groups in terms of proportion of severe types (note multivariate models were limited to physical and sexual abuse and neglect due to small sample size for mixed type). The bivariate differences in service provision became non-significant in multivariate models of physical abuse or neglect. In models of recurrence, CAN Only cases were less than half as likely to have a subsequent report of maltreatment.

4. Discussion

We used data from several different agencies to explore the likelihood that large amounts of class-based bias influence who is subject of a child welfare investigation or assessment following a maltreatment report. The data uniformly argue against the presence of large amounts of such bias. Poor childrenwho are reported to child welfare appear to be substantially more at risk along a range of outcomes compared either to children who are reported but not poor, or children who are poor but not reported for maltreatment.

4.1. Strengths and limitations

This study has several strengths and limitations. The relatively large sample size confers the power to determine statistical significance among relatively rare events (e.g. record of hospitalization for violent injury). The longitudinal nature of the data allows us to construct sample groups that remain within a given category (i.e., discrete poverty only, discrete maltreatment without known poverty, mixed) and consider outcome indicators over a long period of time. By sampling children in families at their first contact with the child welfare system, the events measured are not biased by the prior contacts with the system. The use of various datasets allows for hypotheses to be checked against data from different sources, allowing triangulation to assess the comparative and construct validity of key variables. Multiple sources also allow us to track both outcomes that could be related to increased visibility to other systems like a juvenile court petition for delinquency and outcomes based mainly on self-referral, like being treated in a hospital for a physical injury unrelated to violence.

Limitations include our inability to generate original variables specific to areas of interest (e.g. standardized risk or mental health assessments), which would have been helpful in

generating more finely measured risk factors not based on services use. In particular, the measure of severity of maltreatment would have been enhanced by being able to gain more details about the reported event beyond type. The restriction of some parental constructs to public service-related markers (e.g. DMH data, which does not include privately purchased mental health services) is another limitation, particularly as regards the CAN Only group. We expressly report public service use and do not claim that this is a full proxy for presence or absence of parental characteristics *per se*. With regard to mental health, these parents do utilize DMH services, but rarely qualify for Medicaid. These variables are best seen as what they are, markers of public service use. For example, the CAN Only rates would probably have been relatively closer to the other groups had records of privately purchased services been available. The available variables are constituted from different sources, each with different biases. Presentation of the variables in bivariate form allows the reader to draw his or her own conclusions relative to such biases. Furthermore, the parental variables, which are most vulnerable to these issues, are all relatively rare (none exceeding 13.3% involvement for any group) and are not driving the multivariate statistical models. Finally, inclusion of variables determined in the ways we do provides an opportunity to triangulate with data from other studies, in which these variables are obtained differently.

The study region precludes assessment of other ethnic and racial groups. Other relatively minor limitations are inherent in the data set used (e.g. possible undetected subject mobility) are described elsewhere in more detail (Jonson-Reid et al., 2007; Drake, Jonson-Reid & Sapokaite, 2006).

4.2. Evaluation of specific hypotheses

Hypothesis 1A asserts that compared to poor children reported to child welfare (CAN/AFDC), Non-poor children reported to child welfare (CAN Only) will have worse (non-child welfare) risk factors and outcomes (injury, delinquency, status offences, mental health, other disability). This hypothesis was not supported (Tables 1 and 2). With the exception of disability (not mental health), the opposite findings emerged, with CAN/AFDC children having odds ratios (compared to CAN Only) for negative outcomes ranging from 1.79 to 3.00 (see “CAN/AFDC” row, Table 2, bracketed values). Although CAN/AFDC and AFDC Only children had similar timing of initial income maintenance use and lived in similarly low income census tracts, CAN/AFDC children had higher proportions of parental risk factors, and fared significantly worse across all outcome measures, with odds ratios ranging from 1.44 to 4.13 (see “CAN/AFDC” row, non-bracketed values). The significant findings were not due to overpowered analysis, as the magnitude of observed differences were moderate to large. With regards to child disability, the lack of difference between CAN Only and CAN/AFDC cases supports that idea that maltreatment itself is associated with developmental harm separate from that of poverty (Jonson-Reid, Drake, Kim, Han & Porterfield, 2004).

Hypothesis 1B asserts that if substantial bias exists, there should be significant differences in the severity of maltreatment reports, child welfare response and recurrent reports. For this hypothesis, CAN Only children should do worse then CAN/AFDC children. The only statistically significant relationships we found were, again, in the opposite direction.

Significant findings included that the CAN Only group was between 40% and 49% as likely to experience recurrence as compared to the CAN/AFDC group (see "CAN Only" row, Table 3). This held true for all maltreatment types. In addition, for sexual abuse only, in-home or foster care was less likely (OR=.51) for the CAN Only group compared to the CAN/AFDC group. Taken together, the data pertaining to Hypotheses 1A and B do not support the assertion that bias is causing less serious poor children to be brought into the system.

With regard to Hypothesis 2, parental mental health treatment history and child risk and outcome variables showed statistically significant and meaningfully large (generally twice the risk or greater) differences between AFDC Only and CAN/AFDC groups, with these differences uniformly in the direction of increased risk among the CAN/AFDC group (Table 1). Put in simple terms, the poor children who are investigated by child welfare appear far more at risk than comparison children with similar AFDC histories who live in equivalently poor neighborhoods.

4.3. Research implications

To our knowledge, this is the first study to attempt to both explicate how class bias might manifest itself and then to test these relationships using data from different agencies with services triggered by different types of sentinels or referring sources. Our findings were consistent with other data pointing to the unique import of maltreatment for later outcomes (e.g., Leiter, et al., 1994; Leiter & Johnsen, 1997; Jonson-Reid, et al., 2004, 2007; Toth & Cicchetti, 2006; Kaufman & Widom, 1999). Our findings are also consistent with theory and research suggesting that poor families are over-represented in the child welfare system because poverty and conditions associated with poverty place families at greater risk of abusive and neglecting behaviors (Coulton et al., 1995; Drake & Zuravin, 1998; Friesthler, 2004; Gibbs, Martin, Kupper & Johnson, 2007; Lindsey, 1994; Pelton, 1978). Given our sample limitations within a Midwestern metropolitan region, however, replication with data from other regions will be required to assess generalizability across regions and other ethnic and racial groups.

4.4. Policy Implications

Maltreatment does occur across social classes. However, those investigated children who also experienced poverty had worse outcomes, both inside and outside of child welfare. Most child maltreatment events go unreported in our society (Drake & Jonson-Reid, 2007; Sedlak, & Broadhurst, 1996; Theodore et al., 2005). Given this and the enormous barriers to parenting that families in poverty face, it is perhaps unsurprising that the majority of children in poor families reported have service needs. From a policy perspective, attempts to screen out poor families (either by increasing services thresholds or by training workers to assess poor families differently) to reduce (questionable) class bias is both pointless and a missed opportunity to prevent downstream negative outcomes. Of course, because substantial class bias was not evident, this cannot be taken to mean that such biased decision making never occurs. When biased decisions are made this needs to be uncovered and addressed.

The problems confronting poor families must be taken seriously, and not be cast aside as simple expressions of class bias in the reporting system. Researchers have long recognized the interrelationship between poverty and maltreatment and some have suggested that we turn more attention to poverty itself (Lindsey, 1994). We agree that poverty is a key social issue that impacts persons of all ages in our country and deserves serious and continued attention. It is, however, critical that policy debate not confuse the need to prevent poverty with the prevention of negative behaviors (like abuse and neglect) and later outcomes resultant from or exacerbated by already existing poverty. For example, some have argued that continuing the current child abuse reporting and investigation system diverts funds from more critical community based approaches to preventing harm (Melton, 2005). However, the child welfare budget is a small fraction of state and federal budgets with the majority of costs related to foster care (Drake & Jonson-Reid, 2007). With so many children reported for child abuse and neglect each year, we cannot afford to abandon current work with affected children and families while searching for a long-term resolution to poverty.

The fact that children who live in low income families and are investigated or assessed for maltreatment face enhanced risk in so many domains supports a public health mindset toward maltreatment. Rather than see child welfare as an active force engaging families without need, an alternative is to view the reporting system as a means to identify higher risk families, and to channel services to these families and the areas in which they live. Many states are stressing (largely voluntary) community involvement in service provision to families experiencing or at risk for maltreatment (DHHS, 2003). Policies that can encourage such communication and collaborative approach to services may hold particular promise in addressing the needs of this vulnerable population.

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Table 1

Demographic, family, and non-child welfare risk and outcome data

Variable	Source	Column 1	Column 2	Column 3
		CAN/AFDC (*n*=3337)	AFDC Only (*n*=2389)	CAN Only (*n*=1587)
Child demographics				
% female	AFDC or CAN	50.1%	50.4%	53.7%
% of color[a,b,c]	AFDC or CAN records	74.3%	83.6%	26.3%
Neighborhood, family and parental variables				
Census tract:	1990 Census	$24,366	$24,679	$39,242
Median family income[a,b]		(SD=10,927)	(SD=11,080)	(SD=14,267)
Parent age at birth[a,b]	AFDC or CAN records	23.4 years	23.5 years	26.5 years
Parent disability[a,b,c]	AFDC, DMH, Medicaid, CAN	6.5%	4.9%	1.1%
Parent MH Tx[a,b,c]	DMH, Medicaid	11.4%	3.8%	1.6%
Parent substance abuse[b,c]	CAN, DMH, Medicaid	13.3%	2.9%	2.6%
Child welfare outcome Recurrent report[b]	CAN	63.8%	N/A	33.3%
Non-child welfare risk and outcome variables				
Child/adolescent mental health[a,b,c]	Medicaid, ER, Dept. of MH, Special Education (for ED)	19.9%	5.3%	12.8%
Status offense[a,b,c]	Juvenile Court, Runaway Shelter	31.7%	12.1%	17.1%
Delinquency[b,c]	Juvenile Court	27.3%	15.8%	16.6%
Hospital head injury or any fracture[b,c]	Emergency Room Records	51.0%	40.6%	36.2%
Hospital violence[a1,b,c]	Emergency Room Records	9.3%	5.4%	3.2%
Violent delinquency[b,c]	Juvenile Court	17.2%	7.5%	8.8%
Other disability[a1,b,c]	Medicaid, Dept. of MH, Emergency Room Records, Special Education (non-ED)	27.1%	14.3%	22.4%

[a] Column 2 not equal to 3: $p<=.0001$.

[a1] Column 2 not equal to 3: $p=.001$.

[b] Column 1 not equal to 3: p<=.0001.

[c] Column 1 not equal to 2: p<=.0001.

Table 2

Logistic regression analyses for eight different outcomes for children/adolescents

	Mental health services	Status offending	Delinquency (non-violent)	Delinquency (violent)	Other disability (not mental health)	ER/hospital care: violent injury	ER/hospital care: head or fracture (unintentional)	ER/hospital care: teen pregnancy
Of color	0.84*	0.61***	1.52***	1.93***	1.18*	1.28	0.86*	1.35*
Female	0.68***	0.74***	0.44***	0.53***	0.59***	0.50***	0.58***	N/A
Birth year	0.98	0.88***	0.87***	0.87***	1.01	0.96*	1.08***	0.76***
Child disability	1.18*	1.01	1.22**	1.33**	N/A	1.40**	1.44***	1.27*
Parent<=20 at birth	0.98	1.05	1.08	0.97	0.95	1.23*	1.05	1.10
Parent sub. Ab. Tx	1.04	1.04	1.23	1.26	0.95	0.75	0.95	1.05
Parent MH Tx	1.49**	1.31*	1.11	0.92	1.27*	1.23	1.15	1.22
Parent DD	1.27	1.19	1.11	1.09	1.16	1.33	0.99	0.99
Tract Inc	1.00	1.00	1.00	1.01	0.99	0.99**	1.00	0.98**
CAN/AFDC	4.13***	3.29***	2.07***	2.69***	2.25***	1.77***	1.44***	2.14***
	(1.79***)	(3.00***)	(1.82***)	(1.94***)	(1.12)	(2.31***)	(1.79***)	(2.06***)
AFDC Only	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	(0.43***)	(0.91)	(0.88)	(0.72*)	(0.50***)	(1.31)	(1.25*)	(0.96)
CAN Only	2.31***	1.10	1.14	1.39*	2.01***	0.76	0.80**	1.04
	(1.00)	(1.00)	(1.00)	(1.00)	(1.00)	(1.00)	(1.00)	(1.00)
Wald X^2 (*df*)	272.21 (11)	485.73 (11)	464.40 (11)	361.55 (11)	219.88 (10)	187.56 (11)	361.55 (11)	356.71 (10)
Significance, *c*=	*p*<.0001, *c*=.68	*p*<.0001, *c*=.69	*p*<.0001, *c*=.68	*p*<.0001, *c*=.69	*p*<.0001, *c*=.63	*p*<.0001, *c*=.68	*p*<.0001, *c*=.63	*p*<.0001, *c*=.73

* *p*<=.05,

** *p*<=.01,

*** *p*<=.0001.

Note: Bracketed Values in last three rows show “CAN Only” as the reference group, non-bracketed values use AFDC Only as the reference group.

Note: Identical Chi-Square values in columns 5 and 8 are actual, not typographical.

Table 3

Logistic regressions for child welfare system indicators by type of initial report

	First report: neglect			First report: physical abuse			First report: sexual abuse		
	Any severe type	**In-home or foster care**	**Recurrence**	**Any severe type**	**In-home or foster care**	**Recurrence**	**Any severe type**	**In-home or foster care**	**Recurrence**
Of color	1.32	1.37*	0.91	0.98	1.43*	0.99	2.02**	1.27	0.99
Female	0.83	1.04	1.03	1.30	1.09	1.25	0.61	1.28	1.25
Age at report	0.95	0.99	0.95**	0.77***	1.00	0.99	1.10*	1.09*	0.99
Child disability (non-MH)	1.64***	1.06	1.26*	2.06**	1.65**	1.35*	0.90	1.69*	1.35*
Mother<=20 at birth	0.98	0.629***	0.94	1.88*	0.88	1.03	1.12	0.78	1.03
Parent<H.S. educ	0.81	1.14	1.47***	0.84	1.33	1.38*	0.80	1.27	1.38*
Parent MH Tx	1.60	1.07	1.71*	0.53	1.52	2.05*	0.45	1.15	2.05*
Parent substance abuse	0.71	1.48*	1.69**	1.69	2.15***	1.25	1.48	0.93	1.25
Census tract income	0.99	0.99	0.99*	0.99	0.99	1.00	1.00	0.99	1.00
Mandated reporter	3.48***	2.53***	1.11	2.31**	3.08***	0.95	1.53	1.85*	0.95
CAN Only	1.06	1.03	.49***	1.19	1.09	0.40***	0.71	0.51*	0.40***
Any severe	–	0.99	1.06	–	0.82	0.84	–	2.49**	1.28
Wald X^2 (*df*)	89.96 (11)	142.32 (12)	261.36 (12)	47.61 (11)	100.47 (12)	119.55 (12)	25.26 (11)	50.61 (12)	59.73 (12)
Significance, *c*=	*p*<.0001, *c*=.70	P<.0001, *c*=.66	p<.0001, *c*=.68	*p*<.0001, *c*=.73	*p*<.0001, *c*=.71	*p*<.0001, *c*=.67	*p*=.0083, *c*=.67	*p*<.0001, *c*=.72	*p*<.0001, *c*=.71

* *p*<=.05,

** *p*<=.01,

*** *p*<=.0001.

Note: Reference group for “CAN Only” row is the CAN/AFDC group. The AFDC Only group has no child welfare system involvement and thus cannot be included in this table.