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Patterns of intergenerational child protective services involvement

Sarah Font^{a,*}, Maria Cancian^b, Lawrence M. Berger^c, Anna DiGiovanni^d

^aDepartment of Sociology and Criminology/Child Maltreatment Solutions Network, Pennsylvania State University, United States

^bSchool of Public Policy, Georgetown University, United States

^cSchool of Social Work and Institute for Research on Poverty,, University of Wisconsin-Madison, United States

^dDepartment of Sociology and Criminology and Child Maltreatment Solutions Network, Pennsylvania State University, United States

Abstract

Background: Prior research on Child Protective Services (CPS) involvement among at-risk youth focuses on their roles as parents perpetrating maltreatment against biological offspring. Given family complexity and assortative partnering, measuring all CPS involvement – as perpetrators and non-offending parents of victims – provides new insight into intergenerational maltreatment patterns.

Objectives: Our objective was to investigate the risk of multiple forms of parent or perpetrator CPS involvement (PP-CPS) by age 25, among those exposed to three forms of adversity in their late teens (at ages 14–17): alleged victim on a CPS investigation, out-of-home care (OHC), and poverty.

Participants and setting: We used a sample of 36,475 individuals born in 1990–1991 from the Wisconsin Data Core longitudinal administrative database, and tracked their involvement in CPS, OHC, and the food assistance program (SNAP) over time. Our sample consisted of individuals who, at ages 14–17, met one of the following criteria: were in OHC; had CPS involvement as a victim but no OHC (CPSV group), or received food assistance without CPSV or OHC (SNAP group).

Methods: Using logistic regression, we modeled four forms of PP-CPS involvement: parent-perpetrator, resident parent non-perpetrator, nonresident parent non-perpetrator, and non-biological parent-perpetrator.

Results: Predicted risks of any PP-CPS involvement by age 25 were 10 % (SNAP group), 17–22 % (CPSV group), and 26–33 % (OHC group); among OHC youth known to have a biological

*Corresponding author. saf252@psu.edu (S. Font).

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child, rates exceeded 40 %. The proportion of CPS involvement that involved parent-perpetration varied substantially by sex and adversity type.

Conclusions: Focusing only on intergenerational maltreatment in which the parents are the perpetrators may substantially understate the risk of maltreatment recurring across generations.

Keywords

Child protective services; Poverty; Inter-generational; Perpetrator; Maltreatment

1. Introduction

Exposure to child abuse or neglect during childhood is associated with an elevated risk of maltreatment victimization for one's own children, a process referred to as intergenerational transmission of child maltreatment (Child Welfare Information Gateway, 2016). Yet, prior research in this area is characterized by methodological shortcomings with respect to sampling, measurement, and causal identification (Thornberry, Knight, & Lovegrove, 2012). In this study, we employ extensive administrative data to examine intergenerational patterns of child protective services (CPS) involvement in Wisconsin from 2004 to 2016. Our data include the full population of CPS-involved individuals and the full population of low-income individuals receiving Food Stamps/Supplemental Nutrition Assistance Program (SNAP) benefits over this time period. This allows us to examine patterns of CPS involvement among young adults, some of whom were involved in the child welfare system (as alleged victims or foster care youth) during their adolescence, and others who were not, but were in economically disadvantaged families. We analyze alleged maltreatment of these young adults' biological children by both the adults themselves and by other adults, as well as these individuals' risk of alleged maltreatment perpetration against either their biological children or children who are not their biological offspring.

We extend prior research in three key ways. First, whereas most prior studies have either focused exclusively on women (Avery, Hutchinson, & Whitaker, 2002; Bartelink, van Yperen, & Ingrid, 2015; Bartlett & Easterbrooks, 2012, 2015; Bartlett, Kotake, Fauth, & Easterbrooks, 2017; Berlin, Appleyard, & Dodge, 2011; Egeland, Jacobvitz, & Sroufe, 1988; McCloskey & Bailey, 2000; Narayan et al., 2017; Valentino, Nuttall, Comas, Borkowski, & Akai, 2012; Yang, Font, Ketchum, & Kim, 2018; Zuravin, McMillen, DePanfilis, & Risley-Curtiss, 1996) or have not provided separate estimates by sex (Dixon, Browne, & Hamilton-Giachritsis, 2009; Ben-David, Jonson-Reid, Drake, & Kohl, 2015; Dixon, Browne, & Hamilton-Giachritsis, 2005; Hellmann, Stiller, Glaubitz, & Kliem, 2018), we estimated intergenerational transmission of CPS involvement for both females and males. Second, most previous studies have focused on only biological parents and children (Ball, 2009; Bartlett & Easterbrooks, 2012, 2015; Bartlett et al., 2017; Dixon et al., 2005a; 2009; Egeland et al., 1988; Kim, 2009; Yang et al., 2018) and have been silent with respect to both maltreatment by adults other than biological parents and maltreatment of non-biological children. In the context of contemporary family complexity, understanding all instances of alleged maltreatment, irrespective of biological relationship between the alleged perpetrator and child is important. Third, prior work has largely used small, potentially non-representative samples, and struggled to identify relevant comparison groups. In contrast, we

follow a cohort of disadvantaged youth born in 1990 and 1991, some of whom experienced CPS involvement as children, and examine patterns of adult CPS involvement through 2016, when they were approximately age 25. Although most children in disadvantaged families are not maltreated, such children comprise the majority of the CPS population, making this an informative sample for considering intergenerational transmission of maltreatment.

Experiencing maltreatment in childhood could increase risk of maltreatment victimization for one's own children, in part because of limited intergenerational mobility and the consequent intergenerational transmission of economic disadvantage, combined with a higher risk of maltreatment among economically-disadvantaged children (Corcoran, 1995; Dixon, Browne, & Hamilton-Giachritsis, 2005; Drake & Pandey, 1996; Solon, 2002). In considering this and other explanations, we identify four specific contexts of adulthood/non-victim CPS involvement. First, abused or neglected children could, as adults, maltreat their biological offspring. Two perspectives shed particular light on such *parent-perpetrator transmission*: social learning (and the related "cycle of violence" theory), wherein a child might have incorporated abusive and neglectful elements into their working model of parent-child relationships, and compromised functioning such that experiencing childhood abuse and neglect might have adversely influenced one's psychological health and attachment orientation in ways that might have inhibited safe parenting (Bartlett & Easterbrooks, 2012; Dixon et al., 2009; Egeland et al., 1988; Hellmann et al., 2018; Lamela & Figueiredo, 2013; Milner et al., 2010; Narayan et al., 2017). In other words, a child might have interpreted abusive and neglectful behavior as an appropriate or normative model for a parent-child relationship, and thus imitated similar abusive and neglectful behavior toward their children. Past evidence indicates that the vast majority of parents with a history of being maltreated do not maltreat their offspring (Child Welfare Information Gateway, 2016). Nonetheless, children of formerly maltreated parents are at elevated risk of experiencing parental maltreatment.

Second, *resident parent non-perpetrator transmission* might occur if a child who resided with a parent who was maltreated in childhood was abused or neglected by someone else, including the other parent, a paramour, family members, or other caregivers. Prior research has addressed why persons with a maltreatment history might have relationships that pose maltreatment risk to their children. For example, experiencing childhood maltreatment could predispose one towards partners who may display abusive, neglectful, or unstable behaviors. Indeed, child maltreatment victims are far more likely to experience domestic violence in adulthood than persons without maltreatment histories (Richards, Tillyer, & Wright, 2017; Widom, Czaja, & Dutton, 2014). "Learned helplessness", could compromise a victim's ability to protect themselves (Renner & Slack, 2006), and to protect their children by detecting or acting on maltreatment threats. In addition, children whose parents were maltreated could be at elevated risk through exposure to their parents' own abusers (e.g., grandparents). The best evidence to date on resident parent, non-perpetrator transmission is for sexual abuse. Studies have found that sexually-abused children commonly have a non-offending mother who also experienced sexual abuse as a child (Avery et al., 2002; McCloskey & Bailey, 2000). However, there is little evidence for other forms of maltreatment, as the few studies that have included both parent-perpetrator and resident

parent, non-perpetrator transmission have not provided separate estimates by perpetrator type (Bartlett et al., 2017; Berlin et al., 2011).

Third, *non-resident parent non-perpetrator transmission* might occur when a formerly maltreated parent does not reside (full time) with their child and the child is maltreated by someone else, including the other parent. To our knowledge, this potential phenomenon has never been studied. However, both intergenerational transmission of social and economic disadvantage and assortative mating imply that it could occur for similar reasons that resident parent, non-perpetrator transmission could occur—due to economically stressed environments, family disruption, and an elevated likelihood of partnering with individuals who are at risk of maltreating their child. Given that most children, and especially those from disadvantaged families, will not live with both of their biological parents for their full childhood, investigating this form of transmission is increasingly warranted (National Center for Family & Marriage Research, 2012).

Finally, we considered intergenerational transmission in the form of *maltreatment of a non-biological child*, in which adults who were abused or neglected in childhood go on to maltreat children who are not their biological offspring. Such transmission may be particularly important to interrogate given that blended and complex families are now common. Moreover, it would likely reflect similar mechanisms as parent-perpetrator transmission. However, we are aware of no prior studies to focus on this potential form of intergenerational transmission of child maltreatment.

2. Method

2.1. Sample

Our sample was drawn from the Wisconsin Data Core, a longitudinal administrative database of all persons who interact with State public programs including public assistance (cash, food, or medical assistance, supplemental security income), state prisons, child welfare (CPS, foster care, related services), and child support. Because child welfare records were not completely electronic in Wisconsin until mid-2004, we focused on observations from 2004 to 2016.

Our potential sample included all persons in Wisconsin who met the following criteria: (1) were born in 1990 or 1991; (2) received Food Stamps/SNAP, were an alleged victim on a CPS investigation, or were in the state foster care system between the ages of 14 and 17; and (3) were not known to have died or moved out of state during the observation period. From that sample ($N = 36,907$), individuals were excluded if they had missing information on sex ($n = 9$) or race ($n = 425$). This resulted in a sample of 36,475 individuals observed from roughly age 14 to age 25. Fig. 1 depicts our data linking, sample selection, and outcome identification processes.

Our data include the full population of individuals who fall within the parameters identified above and could therefore be characterized as a population rather than a sample (Gibbs, Shafer, & Miles, 2017). However, we characterize the observations as a sample due to the limited time frame and geographic area, and our interest in generalizing beyond Wisconsin

in these select years. Thus, we use inferential statistics in our analyses and consider statistical significance, in addition to magnitude and direction of coefficients, in interpreting our findings.

2.2. Measures

We use CPS investigation as a proxy for child maltreatment, both to identify those subject to maltreatment as children and to identify our primary outcome. Consistent with recent research on intergenerational maltreatment (Bartlett et al., 2017; Berlin et al., 2011; Yang et al., 2018) and longstanding concerns about whether case substantiation accurately identifies maltreatment (Drake, 1996; Hussey et al., 2005; Kohl, Jonson-Reid, & Drake, 2009), we include both unsubstantiated and substantiated investigations. We excluded investigations in which the alleged victim was an “unborn child” because such cases are narrowly focused on the behavior of the expectant mother and are categorized separately by the state (Wisconsin Department of Children & Families, 2017). We further excluded investigations where the perpetrator was under age 14 or within 5 years of the victim’s age to exclude cases where the perpetrator was a child themselves, specifically a sibling or a paramour of the alleged victim, rather than a caregiver or person responsible for the child’s welfare. We recognize that many instances of maltreatment are never reported, or are screened out without investigation. This is likely to downwardly bias our estimates. We further caution that CPS records were only available from July 2004 onward, and therefore our observation of CPS involvement is time limited: we measure CPS involvement as perpetrators or parents through age 25 only, at which point many sample members have yet to become parents.

For our outcome measure of CPS involvement as a parent or as a perpetrator (PP-CPS) We focus on five indicators of maltreatment allegedly perpetrated by sample members or against sample members’ children: (1) parent-perpetrator: sample member is the parent and an alleged perpetrator on a CPS investigation; (2) resident parent non-perpetrator: sample member is the resident parent but not an alleged perpetrator on a CPS investigation; (3) nonresident parent non-perpetrator: sample member is the nonresident parent and is neither an alleged perpetrator nor named as the case reference person (primary caregiver); (4) non-biological parent-perpetrator: sample member is as an alleged perpetrator, but not a parent to the alleged victim; and (5) any young adult PP-CPS-involvement of types (1) through (4).

We compare patterns of PP-CPS involvement among three mutually exclusive groups of young adults. The SNAP group consisted of individuals who received Food Stamps/SNAP but were not alleged CPS victims (CPSV) and did not experience out-of-home care (OHC) at ages 14–17. The CPSV group contained alleged victims on a CPS investigation between the ages of 14 and 17 who did not experience OHC. The OHC group consisted of those who experienced OHC between ages 14 and 17.

The SNAP group includes only those who had no CPSV or OHC involvement at ages 14–17, but individuals in both the CPSV and OHC group may also have received SNAP. The CPSV group includes only those who had no OHC experience at ages 14–17, whereas most youth in OHC have experienced a CPSV investigation. That is, although some youth enter OHC without prior CPS-investigated maltreatment, the vast majority have been exposed to parental maltreatment, violence, or related traumas (Greeson et al., 2011; Turney &

Wildeman, 2017). Ages 14–17 reflect the period for which we have consistent data. By focusing on late-adolescent exposure to poverty (SNAP), investigated maltreatment (CPSV), or OHC, we are capturing the association between proximal adversity and parent or perpetrator CPS involvement (PP-CPS).

Our regression models control for the sample member's race/ethnicity (white [reference category], black non-Hispanic, Hispanic [any race], Asian, American Indian, multiracial), SSI (supplemental security income) receipt as a child (a proxy for disability), months from birth through age 13 the sample member's family received SNAP, and birth year of 1991 (versus 1990). For regression models limited to parents, we also control for age at first birth (younger than 18 [reference category], 18–19, 20–24).

2.3. Analytic approach

We examined males and females separately in all analyses both because women are more likely than men to be the alleged perpetrator of maltreatment and because mothers are more likely than fathers to live with their biological children (Cancian, Meyer, Brown, & Cook, 2014; Risley-Curtiss & Heffernan, 2003). For each sex, we first produced descriptive statistics by CPS-involvement status. We then estimated logistic regressions predicting the likelihood of each CPS-involvement category, for all, and then for the sample known to be parents. These final estimates are informative given that non-parents cannot be parent-perpetrators; however, we caution that they may overestimate risk of PP-CPS involvement among parents (especially fathers) because our data likely under-identify parentage among those who are not involved in the child welfare system. For both sets of models, we plot the predicted probabilities of each type of PP-CPS by sample group (SNAP, CPSV, OHC), net of the covariates. Standard errors from the regression models are clustered by the individuals' primary county of residence prior to adulthood.

3. Results

We provide a description of our sample by sex and parent or perpetrator CPS involvement in Table 1. These simple descriptive results are not easily interpreted, and should not be given a causal interpretation, given that many are related in complex ways. Overall, 16 % of females (3032 of 18,912) and 13 % of males (2288 of 17,563) experienced PP-CPS involvement during young adulthood; PP-CPS was more common among the CPSV and OHC groups than the SNAP group. Males were particularly likely to be nonparent perpetrators and non-biological child perpetrators, whereas females were particularly likely to be parent perpetrators and resident parent non-perpetrators.

Characteristics differed substantially by PP-CPS involvement during young adulthood, with similar patterns for females and males. Those with PP-CPS were disproportionately Black, American Indian, and multiracial, had children at a younger age, were more likely to receive SSI as a child, and their families received SNAP for a longer period of their childhood, as compared with individuals who had no PP-CPS by age 25.

Full sample results from logistic regressions predicting each of the five types of PP-CPS involvement by age 25 are shown in Table 2 for all males (Panel 1) and all females (Panel 2).

Net of controls, males with CPSV history were twice as likely (AOR = 1.95), and those with a history of OHC were more than three times as likely (AOR = 3.30) as males in the SNAP group to experience PP-CPS involvement by age 25 (Model 1). Moreover, males in the CPSV and OHC groups had significantly higher odds of all types of PP-CPS involvement (Models 2–5). In addition, OHC males were more likely than CPSV males to have nonresident parent non-perpetrator involvement as well as non-biological child perpetrator CPS involvement.

Among females, those with a CPSV history were 2.6 times more likely, and those with an OHC history were 4.6 times more likely, to experience PP-CPS involvement by age 25 than those in the SNAP group (Model 1). Moreover, females who experienced CPSV or OHC during childhood were at increased risk of each type of PP-CPS involvement (Models 2–5), and females with an OHC history were at significantly higher risk for each type of PP-CPS involvement than those with CPSV but no OHC experience. Finally, results from Wald tests of the equality of the coefficients for males and females indicated that CPSV and OHC were stronger risk factors for females than males for four of the five types of PP-CPS involvement—all except non-biological child perpetrator.

Fig. 2 depicts the estimated rates (expressed as percentages) of PP-CPS involvement by sample group and sex. On the whole, the OHC group had the highest rates of PP-CPS involvement (25 % for men and 33 % for women), followed by the CPSV group (17 % and 23 %), with the SNAP group having the lowest rates (10 % for both sexes). Women had higher rates of PP-CPS involvement than men, in general, and of parent perpetrator and resident parent non-perpetrator CPS involvement, in particular. Men had higher rates of non-biological parent perpetrator and nonresident parent non-perpetrator involvement. This highlights the importance of considering all four types of involvement. For example, comparing the first (any PP-CPS involvement) and second (perpetrator-parent) point estimates in each panel shows that, especially for males, considering only perpetrator-parent maltreatment substantially understates risk of CPS involvement, particularly among those with a history of CPSV or OHC.

Individuals in the CPSV and OHC groups entered parenthood earlier (on average) than those in the SNAP group: 41 % of the SNAP sample were parents by age 25, versus 52 % and 53 % of CPSV and OHC groups, respectively. As such, it is not surprising that a higher proportion of the CPSV and OHC samples were CPS-involved in young adulthood—they had children younger and were observed as parents longer. To assess whether the CPSV and OHC samples were at higher risk of PP-CPS involvement conditional on parenthood, we repeated our analyses for only the subsample of youth who had become parents by age 25. Results are shown in Table 3, with predicted values (expressed as percentages) shown in Fig. 3. On the whole, the magnitudes of difference in PP-CPS involvement between groups is smaller in these models than in the full sample models; however, the general pattern remains the same. Likewise, the overall pattern of results is consistent with that presented in Fig. 2, although with generally higher rates of all types of PP-CPS involvement and slightly smaller differences in rates among the SNAP, CPSV, and OHC groups.

4. Discussion

We followed youth with SNAP, CPSV, and OHC involvement at ages 14–17 until their 25th birthdays to assess their involvement with CPS as alleged perpetrators or as parents of alleged victims (PP-CPS). We found that CPSV youth were about twice as likely, and OHC youth about three times as likely, as SNAP youth who had no adolescent CPSV or OHC involvement to have PP-CPS involvement. Overall rates of PP-CPS involvement among sample individuals were quite high, affecting about 1 in 10 SNAP youth, 1 in 5 CPSV youth, and 1 in 3 OHC youth. Had we measured only incidents in which a parent maltreated their biological offspring, as has been the focus of most prior work, our estimated rates would be much lower (3 %, 4 %, and 6 % for males; 7 %, 16 %, and 27 % for females). Of particular note, by including perpetration against children who are not one's biological offspring, we account for considerably more PP-CPS involvement among men: 3 % of SNAP males, 7 % of CPSV males, and 12 % of OHC males were accused of maltreating someone else's children by age 25. This likely reflects that disadvantaged young men often live with other family members or nonmarital partners (Berger & Bzostek, 2014) and that contemporary families commonly involve parents residing with partners who are not the parent of all of their children (Manning, Brown, & Stykes, 2014). More broadly, our findings indicate that limiting analyses only to alleged parent perpetrators excludes a non-negligible proportion of alleged maltreatment and, in particular, sexual abuse, which is least likely to be parent-child perpetrated.

Non-perpetrator CPS involvement of resident and non-resident parents also constituted a large proportion of PP-CPS involvement in each of our samples, but was significantly higher for the CPSV and OHC groups than for the SNAP group. Prior work has shown that offspring of female sexual abuse victims are at increased risk of sexual abuse by other persons (McCloskey & Bailey, 2000), but patterns have not been examined for other forms of maltreatment or for fathers. Research further demonstrates that children exposed to maltreatment are both more likely to perpetrate violence and to be victimized by romantic partners (Fang & Corso, 2007; Richards et al., 2017) as adults. Perpetration of violence in intimate relationships is, in turn, strongly correlated with child maltreatment (McGuigan & Pratt, 2001). These factors provide potential insight into why the offspring of maltreatment victims are at increased risk of maltreatment by non-parents. Indeed, approximately 73 % of the resident parent non-perpetrator cases in our sample listed the other biological parent or a paramour of the resident parent as the alleged perpetrator. Although evidence-based treatments (e.g., trauma-focused cognitive behavioral therapy; parent-child interaction therapy) for CPSV and OHC youth focus on relationship and attachment issues, many such youth receive no specialized mental health care (Burns et al., 2004) and fewer yet receive evidence-based interventions. Our findings suggest the potential to reduce intergenerational transmission of maltreatment by assisting youth to choose safe relationships and form healthy romantic attachments, in addition to focusing on their parenting skills and behavior. Given that young maternal age is an independent risk factor for child victimization (Goerge, Harden, & Lee, 2008; Lee & Goerge, 1999) and CPSV and OHC youth have particularly high rates of early childbearing (Font, Cancian, & Berger, 2019), ensuring adequate

education and access regarding family planning for both male and female youth who encounter the CPS and OHC systems is critical.

Notably, there may be additional pathways through which the offspring of youth with CPSV and OHC histories are at increased risk of non-parental victimization. Our sample includes only young adults, who are particularly likely to live in the same households and communities where they lived during childhood. Thus, they may face the same social, economic, and residential circumstances that contributed to their own CPSV involvement. It is common for children of young or unmarried parents to live in families that include grandparents or other relatives (Aquilino, 1996). Although coresidence with extended family may provide support or resources, it may also expose offspring to persons with histories of perpetrating abuse or neglect. Persons other than co-parents or paramours accounted for about 27 % of perpetrators of resident parent non-perpetrator CPS involvement in our sample.

Importantly, we cannot ascertain whether the nonresident non-perpetrators were involved in their children's lives. Uninvolved parents may have no influence on their child's circumstances; the nexus between the parents' history of CPSV or OHC and their children's victimization may be related to macro socioeconomic circumstances. It is also possible that assortative mating or deprivation of resources attributable to parental absence explains this association – in 75 % of nonresident parent non-perpetrator sample cases, the alleged perpetrator was the child's other parent. Further research should seek to further understand these patterns.

There were also significant differences in PP-CPS involvement among those with a history of alleged victimization (CPSV group) and those with OHC histories. Compared with females in the CPSV sample, females in the OHC sample had higher rates of all forms of PP-CPS involvement. Males in the OHC sample had higher overall rates and rates of nonresident parent non-perpetrator and non-biological parent perpetrator involvement, specifically, when compared with males in the CPSV sample. Some of the differences between the CPSV and OHC groups were reduced when focusing only on the sample of known parents, suggesting that higher rates of earlier parenthood explains part of the difference. Other factors, such as more severe histories of victimization among the OHC sample, or lower levels of familial support for parenting, may also play a role. Future research on mechanisms and moderators of the association between OHC and increased risk of PP-CPS involvement is needed.

Several limitations should be noted about the conclusions of this study. First, because our data are only from Wisconsin our findings may not generalize more broadly. Second, our sample included only young adults who were low-income, CPSV-involved, or experienced OHC in late adolescence. Notwithstanding that early childhood adversity is important for development, numerous studies indicate that social-behavioral outcomes are more strongly influenced by proximal adversity (Guo, 1998; Najman et al., 2010; Spano, Rivera, & Bolland, 2006), and intergenerational maltreatment, in particular, may be concentrated among those maltreated in adolescence (solely or in addition to during early childhood) (Thornberry & Henry, 2013). Thus, our sample is likely to identify a greater incidence of

PP-CPS involvement than low-income, CPSV, or OHC samples that include observation during early childhood. Third, our data may under-identify parenthood, particularly for men. Most births to young adults are covered by Medicaid such that the mother and child are identified in our data (Font et al., 2019). About 3 % of mothers but 10 % of fathers were identified only in CPS or OHC records and not in Medicaid records. As such, our estimated rates of PP-CPS involvement for those with a known child should be interpreted with caution. Lastly, this study relies on CPS involvement (investigation or substantiation) as a proxy for child maltreatment risk. Not all maltreatment is reported to CPS and some reports are false. In addition, state and county practices affect investigation rates. In 2017, slightly more than one-third of Wisconsin's CPS reports were assigned for investigation; this rate has decreased over time and is lower than the national rate (U.S. Department of Health & Human Services, 2010, 2019).

Despite these caveats, this study incorporates a more comprehensive approach to measuring intergenerational transmission of CPS involvement than has been possible in prior work, and provides new evidence that children born to parents who were CPSV-involved or in OHC as adolescents are far more likely to be maltreated than children born to parents with low-income backgrounds, but no CPSV involvement, reflecting both risk of perpetration from their parents and from other adults. Thus, interventions that target only parental behaviors, without consideration of the socioeconomic environment and social network, may be limited in protecting children from maltreatment.

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References

- Aquilino WS (1996). The life course of children born to unmarried mothers: Childhood living arrangements and young adult outcomes. *Journal of Marriage and the Family*, 293–310.
- Avery L, Hutchinson KD, & Whitaker K (2002). Domestic violence and intergenerational rates of child sexual abuse: A case record analysis. *Child and Adolescent Social Work Journal*, 19(1), 77–90.
- Ball JD (2009). Intergenerational transmission of abuse of incarcerated fathers: A study of the measurement of abuse. *Journal of Family Issues*, 30(3), 371–390.
- Bartelink C, van Yperen TA, & Ingrid J (2015). Deciding on child maltreatment: A literature review on methods that improve decision-making. *Child Abuse & Neglect*, 49, 142–153. [PubMed: 26190191]
- Bartlett JD, & Easterbrooks MA (2012). Links between physical abuse in childhood and child neglect among adolescent mothers. *Children and Youth Services Review*, 34(11), 2164–2169. 10.1016/j.chilyouth.2012.07.011.
- Bartlett JD, & Easterbrooks MA (2015). The moderating effect of relationships on intergenerational risk for infant neglect by young mothers. *Child Abuse & Neglect*, 45, 21–34. <https://doi.org/10.1016/j.chiabu.2015.02.018>. [PubMed: 25823793]
- Bartlett JD, Kotake C, Fauth R, & Easterbrooks MA (2017). Intergenerational transmission of child abuse and neglect: Do maltreatment type, perpetrator, and substantiation status matter? *Child Abuse & Neglect*, 63, 84–94. [PubMed: 27914238]

- Ben-David V, Jonson-Reid M, Drake B, & Kohl PL (2015). The association between childhood maltreatment experiences and the onset of maltreatment perpetration in young adulthood controlling for proximal and distal risk factors. *Child Abuse & Neglect*, 46, 132–141. 10.1016/j.chiabu.2015.01.013. [PubMed: 25682732]
- Berger LM, & Bzostek SH (2014). Young adults' roles as partners and parents in the context of family complexity. *The Annals of the American Academy of Political and Social Science*, 654(1), 87–109. [PubMed: 25641975]
- Berlin LJ, Appleyard K, & Dodge KA (2011). Intergenerational continuity in child maltreatment: Mediating mechanisms and implications for prevention. *Child Development*, 82(1), 162–176. 10.1111/j.1467-8624.2010.01547.x. [PubMed: 21291435]
- Burns BJ, Phillips SD, Wagner HR, Barth RP, Kolko DJ, Campbell Y, & Landsverk J (2004). Mental health need and access to mental health services by youths involved with child welfare: A national survey. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43(8), 960–970. 10.1097/01.chi.0000127590.95585.65. [PubMed: 15266190]
- Cancian M, Meyer DR, Brown PR, & Cook ST (2014). Who gets custody now? Dramatic changes in children's living arrangements after divorce. *Demography*, 51(4), 1381–1396. [PubMed: 24811135]
- Child Welfare Information Gateway (2016). Intergenerational patterns of child maltreatment: What the evidence shows. Retrieved from U.S. Department of Health and Human Services website: <https://www.childwelfare.gov/pubs/issue-briefs/intergenerational/>.
- Corcoran M (1995). Rags to rags: Poverty and mobility in the United States. *Annual Review of Sociology*, 21, 237–267.
- Dixon L, Browne K, & Hamilton-Giachritsis C (2005a). Risk factors of parents abused as children: A mediational analysis of the intergenerational continuity of child maltreatment (Part I). *Journal of Child Psychology and Psychiatry*, 46(1), 47–57. 10.1111/j.1469-7610.2004.00339.x. [PubMed: 15660643]
- Dixon L, Browne K, & Hamilton-Giachritsis C (2005b). Risk factors of parents abused as children: A mediational analysis of the intergenerational continuity of child maltreatment (Part I) - Dixon - 2005 - *Journal of Child Psychology and Psychiatry* - Wiley Online Library. *Journal of Child Psychology and Psychiatry*, 46(1), 47–57. [PubMed: 15660643]
- Dixon L, Browne K, & Hamilton-Giachritsis C (2009). Patterns of risk and protective factors in the intergenerational cycle of maltreatment. *Journal of Family Violence*, 24(2), 111–122. 10.1007/s10896-008-9215-2.
- Drake B (1996). Unraveling “unsubstantiated”. *Child Maltreatment*, 1(3), 261–271.
- Drake B, & Pandey S (1996). Understanding the relationship between neighborhood poverty and specific types of child maltreatment. *Child Abuse & Neglect*, 20(11), 1003–1018. [https://doi.org/10.1016/0145-2134\(96\)00091-9](https://doi.org/10.1016/0145-2134(96)00091-9). [PubMed: 8958452]
- Egeland B, Jacobvitz D, & Sroufe LA (1988). Breaking the cycle of abuse. *Child Development*, 1080–1088. [PubMed: 3168615]
- Fang X, & Corso PS (2007). Child maltreatment, youth violence, and intimate partner violence: Developmental relationships. *American Journal of Preventive Medicine*, 33(4), 281–290. 10.1016/j.amepre.2007.06.003. [PubMed: 17888854]
- Font SA, Cancian M, & Berger LM (2019). Prevalence and risk factors for early motherhood among low-income, maltreated, and foster youth. *Demography*, 56, 261–284. 10.1007/s13524-018-0744-x. [PubMed: 30519845]
- Gibbs BG, Shafer K, & Miles A (2017). Inferential statistics and the use of administrative data in US educational research. *International Journal of Research & Method in Education*, 40(2), 214–220. 10.1080/1743727X.2015.1113249.
- Goerge RM, Harden A, & Lee BJ (2008). Consequences of teen childbearing for child abuse, neglect, and foster care placement Kids having kids: Economic costs and social consequences of teen pregnancy 257–288.
- Greeson JK, Briggs EC, Kisiel CL, Layne CM, Ake GS III, Ko SJ,... Pynoos RS (2011). Complex trauma and mental health in children and adolescents placed in foster care: Findings from the National Child Traumatic Stress Network. *Child Welfare*, 90(6), 91.

- Guo G (1998). The timing of the influences of cumulative poverty on children's cognitive ability and achievement. *Social Forces*, 77(1), 257–287.
- Hellmann DF, Stiller A, Glaubitz C, & Kliem S (2018). (Why) do victims become perpetrators? Intergenerational transmission of parental violence in a representative German sample. *Journal of Family Psychology*, 32(2), 282. [PubMed: 29658766]
- Hussey JM, Marshall JM, English DJ, Knight ED, Lau AS, Dubowitz H, & Kotch JB (2005). Defining maltreatment according to substantiation: distinction without a difference? *Child Abuse & Neglect*, 29(5), 479–492. 10.1016/j.chiabu.2003.12.005. [PubMed: 15970321]
- Kim J (2009). Type-specific intergenerational transmission of neglectful and physically abusive parenting behaviors among young parents. *Children and Youth Services Review*, 31(7), 761–767. 10.1016/j.childyouth.2009.02.002.
- Kohl PL, Jonson-Reid M, & Drake B (2009). Time to leave substantiation behind: Findings from a national probability study. *Child Maltreatment*, 14(1), 17–26. [PubMed: 18971346]
- Lamela D, & Figueiredo B (2013). Parents' physical victimization in childhood and current risk of child maltreatment: The mediator role of psychosomatic symptoms. *Journal of Psychosomatic Research*, 75(2), 178–183. [PubMed: 23915776]
- Lee BJ, & Goerge RM (1999). Poverty, early childbearing, and child maltreatment: A multinomial analysis. *Children and Youth Services Review*, 21(9), 755–780. 10.1016/S0190-7409(99)00053-5.
- Manning WD, Brown SL, & Stykes JB (2014). Family complexity among children in the United States. *The Annals of the American Academy of Political and Social Science*, 654(1), 48–65. [PubMed: 25332509]
- McCloskey LA, & Bailey JA (2000). The intergenerational transmission of risk for child sexual abuse. *Journal of Interpersonal Violence*, 15(10), 1019–1035. 10.1177/088626000015010001.
- McGuigan WM, & Pratt CC (2001). The predictive impact of domestic violence on three types of child maltreatment. *Child Abuse & Neglect*, 25(7), 869–883. [PubMed: 11523866]
- Milner JS, Thomsen CJ, Crouch JL, Rabenhorst MM, Martens PM, Dyslin CW,... Merrill LL (2010). Do trauma symptoms mediate the relationship between childhood physical abuse and adult child abuse risk? *Child Abuse & Neglect*, 34(5), 332–344. 10.1016/j.chiabu.2009.09.017. [PubMed: 20359748]
- Najman JM, Clavarino A, McGee TR, Bor W, Williams GM, & Hayatbakhsh MR (2010). Timing and chronicity of family poverty and development of unhealthy behaviors in children: A longitudinal study. *Journal of Adolescent Health*, 46(6), 538–544. 10.1016/j.jadohealth.2009.12.001. [PubMed: 20472210]
- Narayan AJ, Kalstabakken AW, Labella MH, Nerenberg LS, Monn AR, & Masten AS (2017). Intergenerational continuity of adverse childhood experiences in homeless families: Unpacking exposure to maltreatment versus family dysfunction. *The American Journal of Orthopsychiatry*, 87(1), 3. [PubMed: 26752439]
- National Center for Family and Marriage Research (2012). Who are nonresident fathers? Demographic characteristics of nonresident fathers (No. FP-12-08). Retrieved from <https://www.bgsu.edu/content/dam/BGSU/college-of-arts-and-sciences/NCFMR/documents/FP/FP-12-08.pdf>.
- Renner LM, & Slack KS (2006). Intimate partner violence and child maltreatment: Understanding intra- and intergenerational connections. *Child Abuse & Neglect*, 30(6), 599–617. 10.1016/j.chiabu.2005.12.005. [PubMed: 16782195]
- Richards TN, Tillyer MS, & Wright EM (2017). Intimate partner violence and the overlap of perpetration and victimization: Considering the influence of physical, sexual, and emotional abuse in childhood. *Child Abuse & Neglect*, 67, 240–248. 10.1016/j.chiabu.2017.02.037. [PubMed: 28282597]
- Risley-Curtiss C, & Heffernan K (2003). Gender biases in child welfare. *Affilia*, 18(4), 395–410.
- Solon G (2002). Cross-country differences in intergenerational earnings mobility. *The Journal of Economic Perspectives*, 16(3), 59–66.
- Spano R, Rivera C, & Bolland J (2006). The impact of timing of exposure to violence on violent behavior in a high poverty sample of inner city African American youth. *Journal of Youth and Adolescence*, 35(5), 681–692. 10.1007/s10964-006-9080-3.

- Thornberry TP, & Henry KL (2013). Intergenerational continuity in maltreatment. *Journal of Abnormal Child Psychology*, 41(4), 555–569. 10.1007/s10802-012-9697-5. [PubMed: 23192742]
- Thornberry TP, Knight KE, & Lovegrove PJ (2012). Does maltreatment beget maltreatment? A systematic review of the intergenerational literature. *Trauma, Violence & Abuse*, 13(3), 135–152. 10.1177/1524838012447697.
- Turney K, & Wildeman C (2017). Adverse childhood experiences among children placed in and adopted from foster care: Evidence from a nationally representative survey. *Child Abuse & Neglect*, 64, 117–129. 10.1016/j.chiabu.2016.12.009. [PubMed: 28086178]
- U.S. Department of Health and Human Services (2010). *Child maltreatment 2009*. p. 261 Washington, DC: Author, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau.
- U.S. Department of Health and Human Services (2019). *Child maltreatment 2017*. p. 261 Washington, DC: Author, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau.
- Valentino K, Nuttall AK, Comas M, Borkowski JG, & Akai CE (2012). Intergenerational continuity of child abuse among adolescent mothers: Authoritarian parenting, community violence, and race. *Child Maltreatment*, 17(2), 172–181. [PubMed: 22287568]
- Widom CS, Czaja S, & Dutton MA (2014). Child abuse and neglect and intimate partner violence victimization and perpetration: A prospective investigation. *Child Abuse & Neglect*, 38(4), 650–663. 10.1016/j.chiabu.2013.11.004. [PubMed: 24325940]
- Wisconsin Department of Children and Families (2017). *Wisconsin child abuse and neglect report*.
- Yang M-Y, Font SA, Ketchum M, & Kim YK (2018). Intergenerational transmission of child abuse and neglect: Effects of maltreatment type and depressive symptoms. *Children and Youth Services Review*, 91, 364–371. 10.1016/j.childyouth.2018.06.036.
- Zuravin S, McMillen C, DePanfilis D, & Risley-Curtiss C (1996). The intergenerational cycle of child maltreatment: Continuity versus discontinuity. *Journal of Interpersonal Violence*, 11(3), 315–334.

Primary Data Sources	Focal Subject Identification and Grouping	
<p><u>Child Protective Services (CPS) records, 2004-2016:</u> Wisconsin SACwis investigation records including:</p> <ul style="list-style-type: none"> masked IDs for alleged victims, alleged perpetrators, and reference person (typically victims' primary caregiver) date of investigation victim-perpetrator relationship family living arrangement 	<p><u>Inclusion criteria</u> <i>Any of 1, 2, or 3:</i></p> <ol style="list-style-type: none"> Received SNAP benefit between ages 14-17 Was an alleged CPS victim between ages 14-17 Was in a foster care placement between ages 14-17 <p><i>AND</i></p> <ol style="list-style-type: none"> Born 1990 or 1991 Not known to have moved out of state or died Non-missing values on sex and race 	<p><u>Focal subjects (N=36,475)</u></p> <ul style="list-style-type: none"> SNAP group: criterion 1 but not 2 or 3 (n= 25,018) CPSV group: criterion 2 but not 3 (n= 8,254) OHC group: criterion 3 (n= 3,203)
<p><u>Out-of-Home Care (OHC) records, 2004-2016:</u> Dates and details of placement in formal foster care settings</p>	Outcome Identification	
<p><u>SNAP (food assistance) records, 1990-2016:</u> Monthly indicators of individual benefit eligibility and amount</p>	Record Linking Process	Outcome Variable Coding Process
<p><u>Parent-child files:</u> Uses multiple systems (child support, Medicaid, public assistance, child welfare) to identify parent-child sets. Created by the Institute for Research on Poverty.</p>	<p><u>Link 1. Perpetrators</u> Merge focal subject IDs to CPS perpetrator IDs</p>	<p><u>Step 1. Differentiate parent and nonparent perpetrators</u> <i>Parent perpetrator if:</i></p> <ul style="list-style-type: none"> The investigated victim is listed as the perpetrator's biological child in the parent-child files OR The victim-perpetrator relationship variable in the CPS records indicates biological parent <p><i>Else, non-biological parent perpetrator</i></p>
	<p><u>Link 2. Primary caregiver of victims</u> Merge focal subject IDs to CPS reference person IDs</p>	<p><u>Step 2a. Identify non-perpetrator parents</u> <i>Parent non-perpetrator if focal subject is:</i></p> <ul style="list-style-type: none"> Not listed as a perpetrator AND Identified as biological parent of victim in parent-child files OR listed as CPS reference person
	<p><u>Link 3. Non-primary caregiver of victims</u> <i>Part A: Identify focal subjects' biological children</i> Merge focal subject ID to parent IDs in parent-child files <i>Part B: Identify alleged victimization of subjects' children</i> Merge focal subjects' biological children's IDs to CPS victim IDs</p>	<p><u>Step 2b. Differentiate resident and non-resident non-perpetrator parents</u> <i>Resident parent non-perpetrator IF:</i></p> <ul style="list-style-type: none"> Is reference person for CPS investigation OR Child's living arrangement variable in CPS record indicates residence <p><i>Else, nonresident parent non-perpetrator</i></p>

Fig. 1.
Explanation of Data Elements and Linkages.

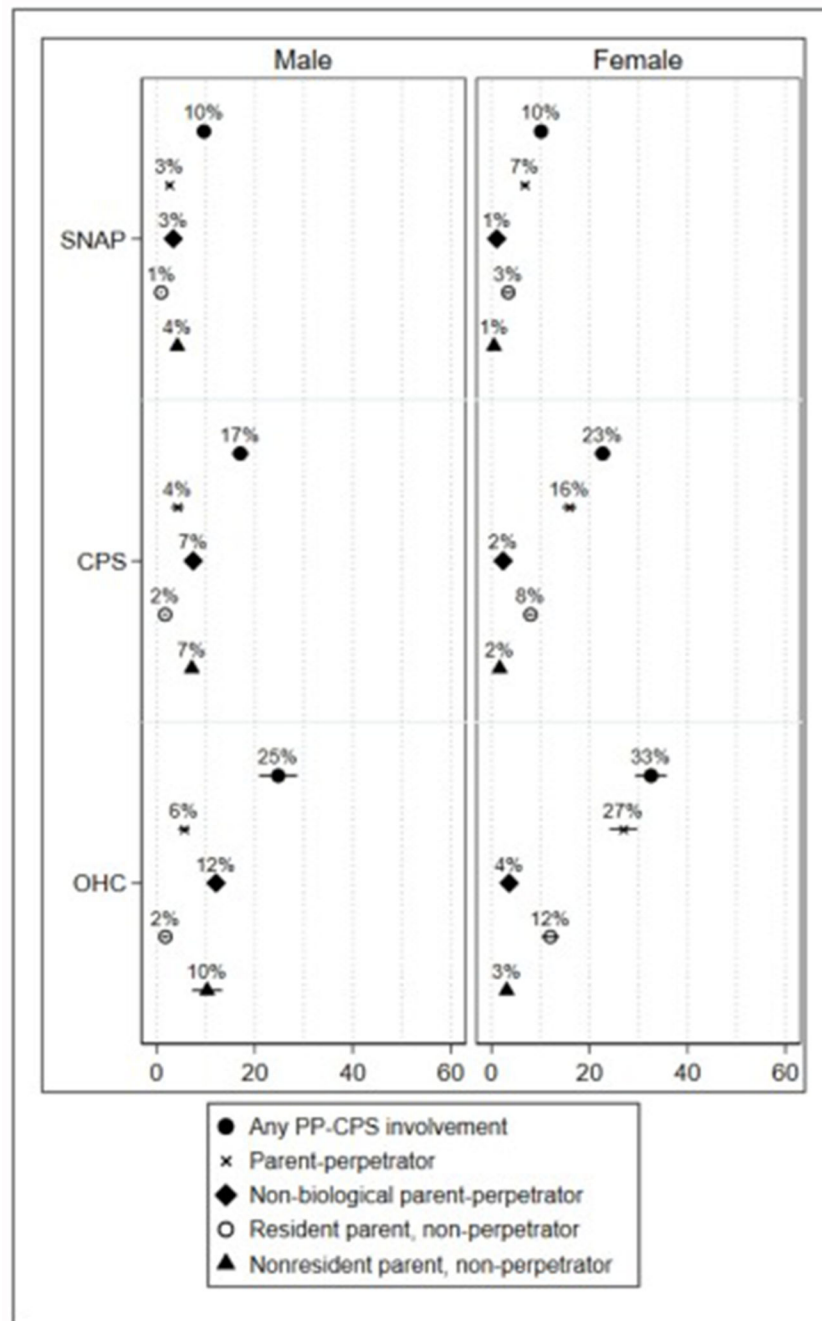


Fig. 2. Estimated rates of each type of parent or perpetrator CPS involvement (PP-CPS) by sex and sample group (full sample).

Graph depicts predicted proportions (expressed as percentages) and 95 % confidence intervals produced from sex subgroup logistic regression models that included group, race, year of birth, childhood Supplemental Security Income receipt, and percent of childhood (ages 0–16) receiving SNAP benefits.

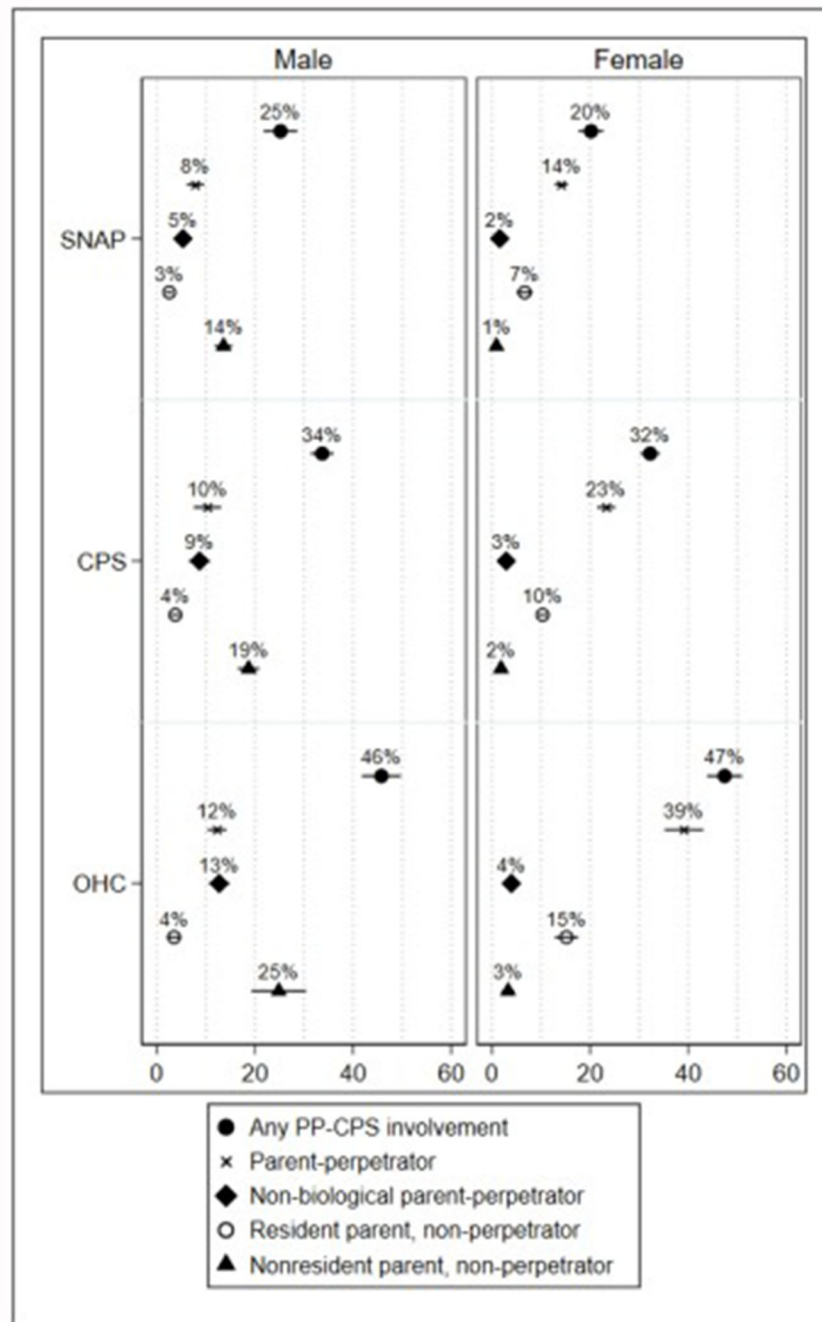


Fig. 3. Estimated rates of parent and perpetrator CPS involvement (PP-CPS) by sex and sample group among individuals with biological children. Graph depicts predicted proportions (expressed as percentages) and 95 % confidence intervals produced from sex-subgroup logistic regression models that included the following predictors: group, age at first child, race, year of birth, childhood Supplemental Security Income receipt, and percent of childhood (ages 0–16) receiving SNAP benefits. Predicted probabilities hold all controls constant except group. Sample is limited to individuals known to have one or more biological children.

Table 1

Sample Description by Sex and Parent or Perpetrator CPS Involvement (PP-CPS).

	Male		Significance of group differences	Female		Significance of group differences
	No PP-CPS	Any PP-CPS		No PP-CPS	Any PP-CPS	
<i>Sample Group</i>						
SNAP	77.54	58.39	***	66.73	40.93	***
CPSV	14.21	20.98	***	27.32	41.72	***
OHC	8.25	20.63	***	5.95	17.35	***
<i>PP-CPS involvement</i>						
Parent perpetrator		24.96			73.88	
Resident parent, non-perpetrator		8.96			35.92	
Nonresident parent, non-perpetrator		47.29			7.49	
Non-biological parent perpetrator		38.99			11.15	
<i>Demographics</i>						
White, non-Hispanic	50.34	42.18	***	50.57	45.75	***
Black, non-Hispanic	27.75	37.11	***	27.30	32.32	***
Hispanic (any race)	9.70	8.92		10.26	9.99	
Asian	6.16	1.62	***	6.11	1.35	***
American Indian	2.17	3.41	***	2.25	4.19	***
Multiracial	3.88	6.77	***	3.49	6.40	***
Received SSI as child	10.09	16.70	***	4.91	9.20	***
Born 1991 (vs. 1990)	52.16	50.92		51.44	49.80	
First child by age 18	2.78	18.66	***	9.11	38.72	***
First child at age 18–19	6.25	26.79	***	12.66	34.14	***
First child at age 20–24	17.73	33.13	***	23.57	24.14	
No child by age 25	73.24	21.42	***	54.67	3.00	***
Proportion of months on SNAP, age 0–13	.30 (.29)	.36 (.28)	***	.28(.29)	.34 (.28)	***
Observations	15,275	2288		15,880	3032	
Percent of Sample	87.0	13.0		84.0	16.0	

Note: SNAP = Group receiving food assistance but not involved with child protective services (CPS) as a victim or in out-of-home (OHC) at ages 14–17. CPSV = Group investigated by CPS as an alleged maltreatment victim at ages 14–17 and did not spend time in OHC. OHC = Group in out-of-home care at any point between ages 14–17.

SSI = supplemental security income.

Statistical significance based on tests of equal proportions or means;

p < .001.

Table 2
Logistic Regressions Predicting Parent or Perpetrator CPS Involvement (PP-CPS) by Age 25 (full sample).

	Model 1:		Model 2:		Model 3:		Model 4:		Model 5:	
	b(SE)	AOR	b(SE)	AOR	b(SE)	AOR	b(SE)	AOR	b(SE)	AOR
Panel 1. Male (n = 17,563)										
Sample Group (reference: SNAP only)										
CPSV	0.668 (0.064)	1.951***	0.516 (0.101)	1.676***	0.652 (0.146)	1.919***	0.560 (0.069)	1.751***	0.833 (0.090)	2.299***
OHC	1.195 (0.074)	3.303***	0.805 (0.159)	2.236***	0.684 (0.250)	1.982**	0.958 (0.129)	2.605***	1.372 (0.091)	3.942***
Race/ethnicity (reference: White non-Hispanic)										
Black non-Hispanic	0.310 (0.131)	1.363*	0.371 (0.137)	1.450**	-0.170 (0.163)	0.844	0.733 (0.111)	2.082***	-0.268 (0.158)	0.765
Hispanic (any race)	0.098 (0.074)	1.102	0.328 (0.185)	1.388	0.074 (0.149)	1.077	0.257 (0.095)	1.294**	-0.166 (0.149)	0.847
Asian	-1.089 (0.185)	0.337***	-0.464 (0.235)	0.629*	-0.582 (0.356)	0.559	-1.811 (0.455)	0.164	-0.958 (0.237)	0.384***
American Indian	0.552 (0.201)	1.736**	0.684 (0.247)	1.981**	0.844 (0.491)	2.325	0.720 (0.200)	2.055***	-0.114 (0.212)	0.892
Multiracial	0.529 (0.127)	1.697***	0.548 (0.219)	1.730*	0.488 (0.290)	1.630	0.690 (0.105)	1.993***	0.108 (0.185)	1.114
Received SSI as child	0.286 (0.062)	1.331***	0.160 (0.113)	1.174	-0.036 (0.179)	0.965	0.111 (0.068)	1.117	0.414 (0.084)	1.513***
Born 1991 (vs. 1990)	-0.000 (0.059)	1.000	0.052 (0.068)	1.053	0.132 (0.156)	1.141	-0.050 (0.085)	0.951	0.049 (0.063)	1.050
Prop. Months on SNAP, age 0-13	0.672 (0.108)	1.959***	0.239 (0.209)	1.270	0.782 (0.209)	2.186***	0.840 (0.134)	2.315***	0.551 (0.172)	1.735**
Constant	-2.689 (0.436)		-5.014 (0.744)		-4.646 (0.881)		-3.614 (0.550)		-3.847 (0.378)	
Panel 2. Female (n = 18,912)										
Sample Group (reference = SNAP only)										
CPSV	0.949 (0.093)	2.583***	0.954 (0.063)	2.596***	0.891 (0.154)	2.437***	1.185 (0.297)	3.269***	0.808 (0.097)	2.242***
OHC	1.516 (0.066)	4.555***	1.621 (0.061)	5.058***	1.346 (0.108)	3.840***	1.813 (0.369)	6.130***	1.234 (0.143)	3.435***
Race/Ethnicity (reference = White non-Hispanic)										
Black non-Hispanic	0.144 (0.056)	1.155*	0.127 (0.070)	1.136	-0.028 (0.078)	0.973	-0.143 (0.240)	0.867	-0.171 (0.118)	0.843
Hispanic (any race)	0.110 (0.059)	1.117	0.034 (0.092)	1.035	0.319 (0.100)	1.376**	0.085 (0.223)	1.089	-0.326 (0.228)	0.722
Asian	-1.239 (0.163)	0.290***	-1.624 (0.182)	0.197***	-0.947 (0.276)	0.388***	-2.275 (0.974)	0.103*	-0.784 (0.338)	0.456*

	Model 1:		Model 2:		Model 3:		Model 4:		Model 5:	
	<u>AOR</u>	<u>b(SE)</u>	<u>AOR</u>	<u>b(SE)</u>	<u>AOR</u>	<u>b(SE)</u>	<u>AOR</u>	<u>b(SE)</u>	<u>AOR</u>	<u>b(SE)</u>
Any PP-CPS <i>a,b,c,d</i>										
			<u>AOR</u>	<u>b(SE)</u>	<u>AOR</u>	<u>b(SE)</u>	<u>AOR</u>	<u>b(SE)</u>	<u>AOR</u>	<u>b(SE)</u>
American Indian	0.661 (0.148)	1.937 ***	0.666 (0.183)	1.947 ***	0.639 (0.146)	1.895 ***	0.668 (0.363)	1.950	0.323 (0.290)	1.382
Multiracial	0.516 (0.118)	1.675 ***	0.458 (0.113)	1.582 ***	0.614 (0.127)	1.848 ***	-0.399 (0.376)	0.671	0.543 (0.230)	1.721 *
Received SSI as child	0.370 (0.077)	1.448 ***	0.425 (0.090)	1.529 ***	0.260 (0.109)	1.297 *	0.044 (0.305)	1.045	0.622 (0.140)	1.863 ***
Born 1991 (vs.1990)	-0.010 (0.033)	0.990	0.031 (0.040)	1.032	0.028 (0.060)	1.028	0.216 (0.103)	1.241 *	-0.168 (0.098)	0.845
Prop. Months on SNAP, age 0-13	0.760 (0.107)	2.139 ***	0.789 (0.095)	2.201 ***	0.659 (0.213)	1.933 **	0.946 (0.192)	2.576 ***	0.584 (0.158)	1.794 ***
Constant	-2.666 (0.239)		-3.123 (0.269)		-3.636 (0.377)		-6.372 (1.094)		-4.228 (0.486)	

Note: AOR = adjusted odds ratio. SNAP = low-income sample without CPSV or OHC involvement; CPSV = Child Protective Services victim sample; OHC = out-of-home care sample. Sample designations based on program participation at ages 14-17 and are mutually exclusive. SSI = Supplemental Security Income, a means-tested income support program for low-income children and adults with disabilities. SNAP = Supplemental Nutrition Assistance Program (federal means-tested food assistance program).

* $p < .05$

** $p < .01$

*** $p < .001$.

^a Coefficients for CPSV and OHC in Panel 1 significantly different at $p < .01$.

^b Coefficients for CPSV and OHC in Panel 2 significantly different at $p < .01$.

^c Coefficients for CPSV significantly different in Panel 1 vs. Panel 2, $p < .01$.

^d Coefficients for OHC significantly different in Panel 1 vs. Panel 2, $p < .01$.

Table 3
 Logistic Regressions Predicting Parent/Perpetrator CPS Involvement by Age 25 (parent sample).

	Model 1:		Model 2:		Model 3:		Model 4:		Model 5:	
	Any PP-CPS ^{a,b,c}	AOR	Parent Perpetrator ^{b,c}	AOR	Resident Parent, Non-Perpetrator ^b	AOR	Non-resident Parent, Non-Perpetrator ^{a,b}	AOR	Non-biological parent, Perpetrator ^a	AOR
	b(SE)		b(SE)		b(SE)		b(SE)		b(SE)	
Panel 1. Fathers (n = 5886)										
Sample Group (reference = SNAP)										
CPSV	0.411 (0.080)	1.508***	0.301 (0.097)	1.351**	0.404 (0.161)	1.498*	0.380 (0.111)	1.462***	0.526 (0.126)	1.692***
OHC	0.917 (0.100)	2.503***	0.495 (0.179)	1.641**	0.335 (0.273)	1.398	0.743 (0.136)	2.102***	0.950 (0.128)	2.587***
Age at first child (reference < 18)										
Age 18–19	-0.474 (0.056)	0.622***	-0.105 (0.117)	0.900	-0.539 (0.141)	0.584***	-0.622 (0.050)	0.537***	0.200 (0.149)	1.222
Age 20–24	-1.311 (0.055)	0.270***	-0.837 (0.114)	0.433***	-1.392 (0.143)	0.249***	-1.604 (0.063)	0.201***	0.093 (0.145)	1.097
Race/Ethnicity (reference = White non-Hispanic)										
Black non-Hispanic	-0.055 (0.109)	0.947	-0.193 (0.128)	0.825	-0.818 (0.151)	0.441***	0.154 (0.078)	1.167*	-0.254 (0.162)	0.776
Hispanic (any race)	-0.472 (0.104)	0.624***	-0.221 (0.208)	0.802	-0.605 (0.145)	0.546	-0.460 (0.116)	0.631***	-0.310 (0.236)	0.733
Asian	-1.305 (0.219)	0.271***	-0.418 (0.231)	0.658	-0.579 (0.357)	0.560	-1.915 (0.450)	0.147***	-1.102 (0.399)	0.332**
American Indian	0.106 (0.200)	1.111	0.103 (0.234)	1.108	0.130 (0.474)	1.139	0.001 (0.192)	1.001	-0.355 (0.347)	0.701
Multiracial	0.230 (0.155)	1.258	0.052 (0.243)	1.054	-0.005 (0.322)	0.995	0.240 (0.099)	1.271*	-0.085 (0.254)	0.919
Received SSI as child	0.416 (0.066)	1.516***	0.334 (0.126)	1.397**	0.090 (0.182)	1.095	0.293 (0.089)	1.341**	0.236 (0.123)	1.266
Born 1991 (reference = 1990)	0.097 (0.080)	1.102	0.151 (0.074)	1.163*	0.234 (0.153)	1.263	0.057 (0.089)	1.059	0.079 (0.077)	1.082
Prop. Months on SNAP, age 0–13	0.007 (0.089)	1.007	-0.315 (0.252)	0.730	0.256 (0.210)	1.291	0.252 (0.103)	1.287*	-0.128 (0.159)	0.880
Constant	0.112 (0.675)		-2.660 (0.796)		-1.968 (0.796)		-0.675 (0.558)		-3.035 (0.848)	
Panel 1. Mothers (n = 10,140)										
Sample Group (reference = SNAP)										
CPSV	0.633 (0.096)	1.882***	0.612 (0.061)	1.843***	0.476 (0.156)	1.610**	0.711 (0.285)	2.036*	0.621 (0.119)	1.862***
OHC	1.271 (0.069)	3.565***	1.361 (0.073)	3.899***	0.918 (0.108)	2.505***	1.301 (0.369)	3.671***	0.939 (0.171)	2.556***
Age at first child (reference < 18)										

	Model 1:		Model 2:		Model 3:		Model 4:		Model 5:						
	<u>Any PP-CPS^{a,b,c}</u>	<u>AOR</u>	<u>b(SE)</u>	<u>Parent Perpetrator^{b,c}</u>	<u>AOR</u>	<u>b(SE)</u>	<u>Resident Parent, Non-Perpetrator^b</u>	<u>AOR</u>	<u>b(SE)</u>	<u>Non-resident Parent, Non-Perpetrator^{a,b}</u>	<u>AOR</u>	<u>b(SE)</u>	<u>Non-biological parent, Perpetrator^a</u>	<u>AOR</u>	<u>b(SE)</u>
Age 18–19	-0.515 (0.049)	0.598***	-0.516 (0.046)	0.597***	-0.442 (0.065)	0.643***	-0.688 (0.122)	0.502***	-0.688 (0.122)	0.502***	0.109 (0.125)	1.115			
Age 20–24	-1.466 (0.049)	0.231***	-1.441 (0.058)	0.237***	-1.629 (0.092)	0.196	-2.032 (0.197)	0.131***	-2.032 (0.197)	0.131***	-0.038 (0.138)	0.962			
Race/Ethnicity (reference = White non-Hispanic)															
Black non-Hispanic	-0.266 (0.058)	0.766***	-0.263 (0.078)	0.768***	-0.420 (0.078)	0.657***	-0.560 (0.245)	0.571*	-0.560 (0.245)	0.571*	-0.465 (0.149)	0.628***			
Hispanic (any race)	-0.461 (0.064)	0.631***	-0.523 (0.103)	0.593***	-0.179 (0.093)	0.836	-0.467 (0.226)	0.627*	-0.467 (0.226)	0.627*	-0.643 (0.284)	0.526*			
Asian	-1.552 (0.179)	0.212***	-1.832 (0.201)	0.160***	-1.068 (0.244)	0.344***	-2.451 (0.948)	0.086**	-2.451 (0.948)	0.086**	-1.187 (0.577)	0.305*			
American Indian	0.208 (0.112)	1.231	0.209 (0.153)	1.233	0.165 (0.141)	1.180	0.169 (0.396)	1.184	0.169 (0.396)	1.184	0.142 (0.297)	1.153			
Multiracial	0.272 (0.135)	1.313*	0.200 (0.133)	1.222	0.354 (0.131)	1.425**	-0.716 (0.370)	0.489	-0.716 (0.370)	0.489	0.429 (0.214)	1.536*			
Received SSI as child	0.729 (0.060)	2.073***	0.753 (0.048)	2.123***	0.474 (0.111)	1.607***	0.210 (0.269)	1.233	0.210 (0.269)	1.233	0.835 (0.172)	2.305***			
Born 1991 (reference = 1990)	0.049 (0.053)	1.050	0.068 (0.059)	1.070	0.061 (0.068)	1.063	0.243 (0.101)	1.275*	0.243 (0.101)	1.275*	-0.016 (0.103)	0.984			
Prop. Months on SNAP, age 0–13	0.298 (0.093)	1.347**	0.324 (0.084)	1.383***	0.207 (0.204)	1.230	0.474 (0.190)	1.606*	0.474 (0.190)	1.606*	0.290 (0.198)	1.336			
Constant	-1.001 (0.233)		-1.359 (0.259)		-1.924 (0.349)		-4.480 (1.020)		-4.480 (1.020)						

Note: AOR = adjusted odds ratio. SNAP = low-income sample without CPSV or OHC involvement; CPSV = Child Protective Services Sample; OHC = out-of-home care sample. Sample designations based on program participation at ages 14–17 and are mutually exclusive. SSI = Supplemental Security Income, an means tested income support program for low-income children and adults with disabilities.

* p < .05

** p < .01

*** p < .001.

^a Coefficients for CPSV and OHC in Panel 1 significantly different at p < .01.

^b Coefficients for a. CPSV and OHC in Panel 2 significantly different at p < .01.

^c Coefficients for OHC significantly different in Panel 1 vs. Panel 2, p < .01.