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The Centrality of Child Maltreatment to Criminology

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Abstract

Despite sufficient evidence to conclude that maltreatment exposure affects the risk of crime and delinquency, we conclude that the unique effects of child maltreatment on crime and delinquency, and the mechanisms through which those effects operate, remain poorly identified. Key challenges include insufficient attention to the overlap of child maltreatment with various forms of family dysfunction and adversity and a lack of comprehensive measurement of the multiple, often comorbid, forms of child maltreatment. We then consider potential impacts of the child welfare system on the maltreatment-crime link. Because the child welfare system typically provides voluntary, short-term services of unknown quality, it likely neither increases nor reduces risks of delinquency and crime for most children who encounter it. For the comparatively small subset of children experiencing foster care, impacts on delinquency and crime likely vary by the quality of environments within and after their time in care – issues that, to date, have received too little attention.

Keywords

child maltreatment; child abuse; neglect; crime; delinquency; child welfare system

1. Introduction

Child maltreatment – physical and sexual abuse, neglect, and emotional maltreatment –are experienced by a substantial proportion of children in the US (Font and Maguire-Jack, 2020a) and worldwide (Stoltenborgh et al., 2015). In addition to well-documented associations between maltreatment and engagement in violence (Fitton et al., 2020) and other antisocial behaviors, narratives in the public, the media, and the courts all implicitly or explicitly assert a maltreatment-crime linkage. Childhood abuse is commonly cited as a mitigating circumstance at sentencing hearings, particularly in death penalty cases (Litton, 2005) and the public sees childhood trauma as an important context for understanding offenders' (greater) threat to society and (lesser) culpability for their crimes (Holleran et al., 2016; Nunez et al., 2007; Snyder, 2020). Thus, it is perhaps surprising that national surveys of people in US prisons find that about 11% report ever experiencing child sexual

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abuse and 20% report physical abuse (Henry, 2020) – rates that are not substantially higher than the range of estimates for the general population (Font and Maguire-Jack, 2020a). Indeed, one of the few articles on this topic appearing in *Criminology* called the association between maltreatment and delinquency (and particularly, violence) "exaggerated" (Zingraff et al., 1993). Further complicating the maltreatment-crime link is the role of institutions – particularly the child welfare system (CWS) – in altering the life trajectories of maltreated children, for better or worse. That is, a large proportion of studies rely on CWS records to identify maltreatment, thus conflating the (likely heterogeneous) consequences of CWS intervention with the impacts of maltreatment exposure.

In this review, we briefly describe the scope and nature of child maltreatment and highlight the core challenges to understanding the maltreatment-crime link. We then discuss the mechanisms that imply a maltreatment-crime link, drawing particular attention to the likely role of neglect. The second half of the review turns to the role of CWS in responding to child maltreatment and its potential for mitigating risks of crime and delinquency among victims. We note that little of this research is found in criminological journals. However, inquiry would be greatly enhanced by a criminological lens, especially with respect to theory development and testing. We close with a summary of recommendations for future research, spanning issues of measurement, methods, and focus.

2. Defining and Characterizing Child Maltreatment

The federal Child Abuse Prevention and Treatment Act defines child maltreatment as: "Any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation; or an act or failure to act which presents an imminent risk of serious harm." This definition guides the activities of CWS, though states expand or elaborate on this general definition in their own civil statutes. In the criminal justice system (CJS), child maltreatment could be broadly categorized under state statutes pertaining to child endangerment, contributing to the delinquency of minors, abandonment, and physical assault, sexual assault, exploitation, trafficking, and related statutes where the victim is a minor child.

Basic definitions of physical abuse (nonaccidental physical injury) and sexual abuse (contact with a minor for the purpose of sexual stimulation) are similar in survey research and statutes, whereas measures of neglect are more variable. Neglect is a complex, multi-dimensional construct, with core subcategories of supervision, emotional, educational, environmental, and physical (deprivation of basic material needs) neglect (Coohey 2003; Dubowitz et al. 1993). Neglect implies a pattern of parental conduct, though measurements based on CWS records (where a single report may reflect one event or a chronic pattern) cannot discern pattern.

Due to the often secretive nature of maltreatment, as well as disagreements about definitions and measures, the true prevalence of child maltreatment is unknown. Yet, there are no credibly derived estimates that suggest child maltreatment is rare (Font and Maguire-Jack, 2020a). On the contrary, the most conservative estimates, based on cumulative rates of substantiated child maltreatment, are about 12% (Wildeman et al., 2014; Yi et al., 2020).

3. Knowns and Unknowns of the Child Maltreatment – Crime Link

There is broad agreement that child maltreatment has the potential to cultivate criminal behavior, but challenges abound in establishing the nature, specificity, and mechanisms of these effects. This section precedes as follows: first, we describe primary challenges to studying the maltreatment-crime link. Second, we discuss potential mechanisms linking maltreatment to crime. Third, we provide a select review of common approaches to studying these linkages and highlight their respective strengths and limitations.

3.1. Key Challenges to Studying the Maltreatment-Crime Link

Identifying plausibly causal effects of child maltreatment faces two major challenges: accurate measurement of maltreatment itself and the complicated temporal ordering of antecedents, concurrent risks, and mechanisms.

3.1.1. Measuring Maltreatment.—Measurement is a persistent challenge that limits conclusions about the scope of child maltreatment and may lead researchers to understate its developmental impacts. Cumulative estimates using CWS substantiated cases suggest low rates of physical abuse (2%), sexual abuse (<1%) and emotional maltreatment (<1%), with neglect rates at 8% (Kim et al., 2017). In contrast, self-report and caregiver-report studies generally suggest rates of sexual, physical, and emotional abuse of at least 10% and as high as 30% (Centers for Disease Control and Prevention, 2019; Finkelhor et al., 2015). Because CWS focuses primarily on maltreatment perpetrated by caregivers and maltreatment that threatens physical safety (English et al., 2015), CWS records under-capture child sexual abuse (CSA, where most perpetrators are not caregivers) and emotional maltreatment (a psychological rather than physical threat). In addition, poor investigation quality and incentive structures that discourage intervention likely result in a substantial number of false negatives (Font and Gershoff, 2020). Thus, researchers relying solely on substantiated CWS cases may encounter considerable contamination bias (unintentional inclusion of maltreatment victims in the comparison group) and thus underestimate effects of child maltreatment on behavior (Shenk et al., 2016, in press).

Despite the limitations of CWS-based measures of maltreatment, alternative measures are also quite problematic. Self-report measures, which are typically retrospective, are likely to involve selective underreporting (e.g., individuals whose lives turned out well may characterize their childhoods more favorably than those experiencing difficulties) as well as recall bias, particularly for less severe, single-event, or early-life maltreatment. Self-report is especially complicated for the measurement of neglect, as individuals are less able to characterize things that did not happen (i.e., parental omissions) and the period in which children are most vulnerable to neglect (early childhood) is least likely to be accurately recalled in surveys. Studies using parental report of maltreatment behaviors face obvious problems of underreporting, both due to social desirability bias and fears that disclosure will trigger CWS involvement.

Lastly, polyvictimization is common (Dong et al., 2004; Herrenkohl and Herrenkohl, 2009) and may be more consequential for child development than single-type victimization. Most victims of physical or sexual abuse experience more than one form of maltreatment,

whereas neglect frequently occurs as the sole type of maltreatment (Lau et al., 2005). Yet, polyvictimization is poorly captured in both CWS records, which under-capture abuse (Cho and Jackson, 2016; Loomis et al., 2020; Runyan et al., 2005), and survey research, which tends to focus on abuse alone (Laurin et al., 2018; Moody et al., 2018). Overall, maltreatment type is the most common – but likely not the most meaningful – approach to categorizing children's experiences (Jackson et al., 2019). However, readers are advised to consult Noll (2021) for a detailed review of dynamics and outcomes unique to child sexual abuse.

3.1.2. Antecedents, concurrent risks, and mechanisms.—A second challenge to studying maltreatment-crime linkages is that maltreatment rarely manifests in an otherwise well-functioning family environment. Rather, maltreatment is most common where caregivers are compromised by mental illness, substance abuse, criminal activity, their own histories of trauma or maltreatment, economic stress, and relationship violence, dissolution, or instability (Austin, 2016; Berger, 2004; Berger and Waldfogel, 2011; McGuigan and Pratt, 2001; Mulder et al., 2018; Sedlak et al., 2010; Stith et al., 2009; Walsh et al., 2003; Young et al., 2007) – all of which may affect children's development and propensity toward crime. Factors such as parental substance abuse and domestic violence can be a proximal cause of maltreatment (i.e., child unsupervised due to parental intoxication; child injured during a domestic violence episode); in some states, such factors are part of statutory definitions of maltreatment (Child Welfare Information Gateway, 2012a, 2012b). As such, it is not clear when estimating the "effects" of maltreatment that *controlling for* these factors is appropriate.

Moreover, parents who occasionally maltreat their children may frequently engage in practices that correlate with, but are not counted as, maltreatment, such as harsh physical discipline, verbal threats or belittling, or permissiveness. Statutory distinctions between suboptimal parenting and maltreatment reflect cultural norms and legal protections that necessitate a high bar for usurping parental authority; there is little reason to believe those thresholds neatly align with risk or occurrence of harm to children. Indeed, it is plausible that the event triggering a CWS intervention – say a moderately-severe incident of physical abuse – has little explanatory power once the longer-term family dynamics conducive to abuse (domestic violence, alcoholism, harsh parenting) are considered. Yet, studies of maltreatment rarely concurrently measure concurrent substandard parenting practices, whereas studies of parenting rarely directly assess maltreatment.

Although isolating effects of a particular phenomenon is often a goal of scientific inquiry, efforts to separate maltreatment – and especially neglect—from all other forms of family dysfunction may be neither practical nor essential given the lack of consensus definitions for child neglect and the low probability of maltreatment occurring in an otherwise healthy family environment. A key caveat is that it is both feasible and essential for informing social policy and relevant interventions that research disentangle child maltreatment from family poverty (Font and Maguire-Jack, 2020b) and from confounding nonfamilial adversity, such as exposure to neighborhood violence (Rosen et al., 2018). Although it is common to characterize neglect as economic deprivation – and indeed, neglect is far more common among impoverished families (Sedlak et al., 2010)—neglect for reasons of poverty alone

is generally excluded from states' legal statutes defining neglect (Rebbe, 2018). In other words, the law considers why a child's basic needs are unmet; it can occur due to recklessness (e.g., a child goes unfed because food money is diverted to drugs), accident (e.g., food spoils because the refrigerator breaks), or a combination thereof. Unfortunately, CWS data commonly used for research contain very little detail on the context of neglect (Font, 2020) and survey-based research studies may mischaracterize neglect by relying on poor or overly narrow measures (Stoltenborgh et al. 2013) that focus on discrete events rather than a pattern of conduct.

3.2. Mechanisms Linking Child Maltreatment to Delinquent and Criminal Behavior

Despite substantial methodological challenges in establishing and characterizing the maltreatment-crime link, there are many reasons to expect that child maltreatment is on – and perhaps central to – the causal pathway to crime. Yet, empirical applications of theory linking child maltreatment to crime, delinquency, or criminal justice system involvement remain lacking. In this section, we briefly discuss the most likely mechanisms and where future research is needed.

3.2.1. Developmental Changes.—A large number of reviews and meta-analyses document the adverse effects of child maltreatment on a range of psychosocial and behavioral outcomes (see, e.g., National Research Council, 2014; Norman et al., 2012; Widom, 2014), including depression, anxiety, conduct disorder, and aggression; drug use and risky behavior; learning problems, and problems relating to peers (National Research Council, 2014; Norman et al., 2012). Increasingly, studies demonstrate that maltreatment gets "under the skin", altering biological processes and interfering with development in areas of the brain related to the stress response system, emotion processing and emotion regulation, learning and memory, and cognitive functioning (Bernard et al., 2014; Noll, 2021). These associations span types of maltreatment – physical, sexual and emotional abuse, and neglect – and are found in studies using a range of sampling frames, measures, and analytic approaches. The negative developmental sequalae of maltreatment – especially problems with executive function, cognitive and learning delays, mental illness, school disengagement, peer relationship challenges, and substance abuse – all impair judgement and decision-making and are thus conducive to, and increase risk for, criminal activity, including violence (Morgan and Lilienfeld, 2000; Ogilvie et al., 2011). Moreover, children's social-emotional and cognitive functioning may affect the probability of initial or repeated exposure to maltreatment (Belsky, 1978; Font and Berger, 2015), creating a recursive process whereby development changes the caregiving children receive and vise versa. As such, delinquency or related antisocial behavior may both precede and follow maltreatment exposure.

The timing of maltreatment exposure is quite critical for understanding developmental impact. Although some research indicates that maltreatment at any stage in the life course is associated with delinquent behavior (Mersky et al., 2012), other research highlights that maltreatment in adolescence may be uniquely influential (Ireland et al., 2002). Some children maltreated early in life are afforded opportunities to rebound developmentally – e.g., their caregiving environment improves and/or they receive compensatory services

– before they reach the age at which delinquency commonly commences. Thus, abuse or neglect spanning multiple developmental periods is most likely to skew the balance of influences toward crime and delinquency, as it involves children chronically deprived of safe and consistent attachment figures. The mechanisms through which maltreatment affects delinquency are likely to vary with age, too. Early childhood maltreatment may place children off-track on cognitive and emotional skills, setting into motion a negative developmental sequence, whereby children lack the basic skills required to meet new developmental milestones (Ireland et al., 2002). In adolescence, the context of maltreatment itself is likely influential, as maltreated children may have greater opportunity (due to low supervision or monitoring) for delinquency and acquire favorable values and expectancies related to crime via exposure to household violence, substance use, or other antisocial acts.

Lastly, we note that there is substantial evidence that the developmental effects of maltreatment vary for males and females, both overall and specifically in the realm of crime and delinquency. These patterns point to relatively stronger effects of maltreatment on crime for females, despite overall higher levels of crime for males (Fitton et al., 2020; Jung et al., 2015; Papalia et al., 2018; Rivera and Widom, 1990; Widom and White, 1997). This is, of course, consistent with the longstanding consensus that females require greater provocation than males before engaging in crime (Steffensmeier and Allan, 1996). However, the stronger association between maltreatment and crime for females is not found for delinquency (Topitzes et al., 2011; Yun et al., 2011). Juvenile and adult crime involve different proximal influences (e.g., parental supervision and monitoring being relevant during adolescence; increased relevance of romantic partners during adulthood) that explain this pattern of findings, but more research is needed.

In sum, experiencing child maltreatment can lead to significant changes in development, emotional regulation, and behavior, increasing vulnerability to offending and (re)victimization. Notably, however, the practice of using CWS measures to capture maltreatment exposure is problematic for capturing timing, given that the point of first detection cannot be assumed to capture the point of first occurrence, given widely-known patterns pertaining to delayed disclosure of sexual abuse (Kellogg et al., 2020), inability to detect maltreatment when children are not seen by mandatory reporters, and poor quality control in CWS screening and investigations.

3.2.2. Childhood Abuse and the “Cycle of Violence”.—The cycle of violence has been invoked in linkages of various forms of maltreatment to various forms of crime and delinquency (Widom, 1989). When used broadly, the term encompasses both non-violent maltreatment (neglect) and non-violent crime, and makes no claims regarding specificity (e.g., whether a neglected child or a sexually-abused child would have different probabilities of committing a sexual offense). However, ‘cycle of violence’ implies and is often used to refer to the more specific pattern whereby victims of physical and sexual violence perpetrate similar acts to which they were exposed. In this narrower framing, the cycle of violence harkens to social learning theory, with behavioral imitation and constructions of beliefs and expectations driving intergenerational processes.

On the whole, there is weak evidence that CSA victimization increases the propensity for future CSA perpetration (Noll, 2021). This is perhaps surprising, given compelling evidence that CSA uniquely disrupts sexual development (Noll, 2021), with CSA victims experiencing increased sexual preoccupation, intrusive thoughts, and distress regarding atypical (e.g., pedophilic) sexual attraction (Kratzer et al., 2020) and may engage in traumatic reenactment (Van der Kolk, 1989). We caution that measurement challenges are particularly prominent here, given that the low probability of accurate self-report of CSA perpetration and that CJS-based measures of sexual offending will miss the vast majority of incidences of CSA (Block and Williams, 2019; Cross et al., 2015, 2003). Few existing studies on this topic use non-corrections/non-clinical samples, and most focus on adult offending despite that juveniles commit about one-fourth of sex offenses and many juvenile offenders desist by adulthood. We further note that victim-perpetrator pathways are less likely for CSA in part because females constitute a majority of victims but a small share of offenders (Finkelhor et al., 2014). There is however, evidence that female CSA victims increase risk of CSA in their offspring (Font et al., 2020; McCloskey and Bailey, 2000; Noll et al., 2009), likely through assortative partnering, compromised psychological functioning, substance abuse, and low supervision.

In contrast to CSA, there is more consistent evidence of an association between childhood physical abuse and later physical aggression, including violent crime. A review of studies argued that physical abuse may be more predictive of later violence than other forms of maltreatment (Maas et al., 2008), in support of the more specific cycle of violence framework. Yet, in a well-controlled longitudinal study, Smith et al. (2005) found that neglect was more consistently associated with adolescent violent offending than physical or sexual abuse, with no significant differences between types for adult violent offending. Other studies similarly question whether physical abuse is more strongly associated with future violence than other forms of maltreatment (Mersky and Reynolds, 2007).

On the whole, evidence appears to point to general associations between various forms of maltreatment and various forms of crime and delinquency, rather than – or in addition to-- pathways whereby victims ‘specialize’ in perpetrating acts similar to those they experienced as children. Further, not only is there evidence that childhood maltreatment is associated with juvenile and adult crime, there is considerable evidence that the children whose parents were delinquent youth experience substantially elevated rates of abuse, both perpetrated by the parent and due to the parents romantic partners and broader social networks (Giordano, 2010). In other words, the intergenerational transmission of crime and the intergenerational transmission of maltreatment likely have shared causes and processes. Illuminating the mechanisms of these (not type-specific) associations requires that we turn our focus to neglect.

3.2.3. Centering Neglect in the Maltreatment-Crime Nexus.—Childhood neglect is among the most critically understudied contexts for the development of criminal and delinquent behavior. It remains common, both among researchers and the lay public, to think of neglect as less serious or impactful than sexual and physical abuse. This belief is explicit in studies or frameworks that rank child maltreatment experiences according to the “most societally egregious form” (Cicchetti and Toth, 2016, p. 35); it is the implicit

argument of those who present as evidence of system overreach or excess that neglect is the most common antecedent of CWS intervention (Raz and Sankaran, 2019). As neglect is the primary context for CWS interventions (U.S. Department of Health and Human Services, 2021, 2020), a greater understanding of the dimensions of neglect that influence or enable criminal and delinquent behavior is needed to improve interventions.

There is growing evidence that neglect is associated with similar or worse outcomes as abuse, including associations with delinquency and CJS contact (Bland et al., 2018; Lemmon, 1999; Ryan et al., 2013; Smith et al., 2005; Vidal et al., 2017; Williams et al., 2010), violence (Mersky and Reynolds, 2007; Smith et al., 2005; Yun et al., 2011), and incarceration (Font and Maguire-Jack, 2020b). As a multidimensional construct characterized in part by its chronicity, it is challenging to ascertain how neglect operates in the development of criminal behavior. However, many of the answers likely lie within existing criminological research. For example, the association between parent-child attachment – specifically, the dimensions of supervision, communication, and affectional identification (i.e., seeing one's parent as a preferred person to emulate) – and delinquency is among the most widely-tested and affirmed findings in criminology (Costello and Laub, 2020; Hoeve et al., 2009). Though rarely specifically measured in studies applying control theories, neglect is highly conducive to weakened parent-child attachment. The common manifestations of neglect imply low degrees of supervision and communication, creating opportunity for delinquent behavior and potentially a lack of parent-imposed consequences to deter such behaviors. Hirschi (1983) has argued that intergenerational transmission of crime is largely explained by the weak or ineffectual response of parents to their children's behavior – that discipline, when it occurs, is short-term and harsh (e.g., yelling, hitting) and parents are not attentive to their children's antisocial or deviant behaviors. Again, descriptions of parenting practices that are conducive to delinquency have a great deal of overlap with the family environments of children referred for neglect.

Furthermore, the context of childhood neglect implicates social learning mechanisms, as it implies exposure to antisocial behavior within one's primary sphere of socialization – including parents' engagement in domestic violence, substance abuse, and other criminal activity (Dubowitz et al., 1993; Font and Maguire-Jack, 2020a; Rebbe, 2018). Neglectful parents – particularly those with substance dependency issues or violent romantic partners– may introduce external threats or negative influences into their children's environments and such threats may be poorly monitored (Turner et al., 2019). In the absence of attentive parents, children are more vulnerable to manipulation by others, including peers, romantic partners, or gangs (Reiter et al., 2007; Vézina and Hébert, 2007), who may offer affection, belonging, and material support. Vulnerability to external influences may be especially relevant for female crime, where relational motivations are more common (Steffensmeier and Allan, 1996).

Interestingly, strain theory is also rarely applied to the study of child maltreatment and crime, though it contributes a number of useful insights. Agnew (2001) argues that perceived injustice or unfairness of a strain is positively associated with crime. Yet, children often blame themselves for experiencing abuse, especially in the absence of a supportive caregiver (Deblinger and Runyon, 2005). This may be especially true in cases of CSA where physical

violence is rarely used to obtain compliance, and in cases of physical abuse, which commonly arise from use of physical punishment for misbehavior. Agnew (2001) further argues erratic or rejecting behavior by parents specifically reduces social control and the costs associated with crime. This implies that neglect – perhaps to an equal, or larger, extent than abuse –cultivates criminal behavior.

3.3. Evidence of Maltreatment-Crime Linkages

Most high-quality and widely-used national longitudinal studies are not well-suited to studying child maltreatment. For example, Add-Health includes only retrospective self-report on early childhood maltreatment: respondents report, at ages 18–28, whether they experienced maltreatment prior to 6th grade. Another example is the Fragile Families and Child Wellbeing Study, which includes caregiver-reported (and, in later waves, child-reported) measures of 'substandard parenting' but omits items perceived to trigger mandatory reporting requirements. Maltreatment measures may be excluded or retrospective in surveys for both ethical (considerations related to mandatory reporting and harm to participants) and methodological (likelihood of social desirability bias and increased non-response) reasons. Linkages to administrative data in national surveys are challenging to navigate in the US, where permissions and procedures are typically determined by state and local governments.

Consequently, much of what is known about child maltreatment and crime/delinquency is derived from local or regional longitudinal studies. There are two main types of longitudinal studies of child maltreatment outcomes (Currie and Tekin, 2012; Rivera and Widom, 1990; Smith and Thornberry, 1995; Topitzes et al., 2011; Widom, 1989). The first and most common type (Malvaso et al., 2018) involves identifying or recruiting a sample of children exposed to maltreatment based on CWS substantiation or court adjudication and then creating a socio-demographically matched comparison group (e.g., Manly et al., 2001; Noll and Shenk, 2013; Rivera and Widom, 1990; Trickett et al., 2011; Widom, 1989). Many of these studies have great depth in terms of capturing individual and family dynamics and outcomes, and thus provide some of the best evidence linking maltreatment to long-term outcomes and are well-positioned to illuminate the mechanisms underlying those associations.

However, we caution that these studies may be biased in a number of ways, many of which stem from the use of substantiated/adjudicated maltreatment. First, as discussed earlier, contamination bias will downwardly bias estimates. Second, CWS intervention only occurs in cases reported to CWS and is more common in substantiated than unsubstantiated cases. Hence, any effects of maltreatment are confounded by the effects of CWS intervention (where the direction of bias is unclear). Lastly, these studies generally recruit on the basis of maltreatment, and are largely unable to account for a child's functioning prior to the maltreatment exposure. The limited variables used to create matched comparison groups are unlikely to balance on relevant characteristics, and thus suggests that estimates may be upwardly biased.

The second type of longitudinal study tracks maltreatment (commonly via official reports) during the course of the study, but maltreatment exposure was not part of the initial

recruitment strategy or criteria (Currie and Tekin 2012; Topitzes et al. 2011). Some studies were developed with maltreatment as a key focus, such as the Longitudinal Studies in Child Abuse and Neglect (LONGSCAN), which involved multi-site data collection with different samples (Runyan et al., 1998). Others, such as the Chicago Longitudinal Study or the Rochester Youth Development Study, were developed for other purposes but are nonetheless suited to the study of maltreatment effects. These studies may share some of the measurement limitations of the matched-comparison longitudinal studies but have the advantage of observing (in some cases) the social and behavioral characteristics of children and their parents before the onset of maltreatment. Together these studies have produced hundreds of research articles and provide some of the best evidence to date on the long-term consequences of child maltreatment.

Regardless of the source dataset, longitudinal studies typically find support for the maltreatment-crime link (Currie and Tekin, 2012; Rivera and Widom, 1990; Smith and Thornberry, 1995; Topitzes et al., 2011; Widom, 1989). For example, Widom (1989) in one of the first matched-cohort longitudinal studies to examine this link found that experiencing child abuse and neglect significantly increased the likelihood of delinquency, adult criminal behavior, and violent criminal behavior. Smith and Thornberry (1995) using official and self-report delinquency data from the Rochester Youth Development Study found that child maltreatment significantly increased the likelihood of delinquency, and specifically that maltreatment increased the risk of arrest, as well as the frequency of arrest among adolescents.

We further note substantial advances in the availability of linked administrative data over the past decade for studying linkages between maltreatment and crime using official records from CWS and the juvenile or criminal justice systems (Berger et al., 2016; Eastman et al., 2019; Font et al., 2020; Jonson-Reid et al., 2012). The benefits of such linkages include large samples and lack of attrition/non-response bias, through the drawbacks of relying on administrative records alone are also substantial (e.g., using systems involvement to approximate experiences; limited detail available on children/families). On the whole, linked administrative data is better suited to the study of how CWS contact affects justice system trajectories (which we discuss in the second half of this review) than to the effects of maltreatment, itself.

Lastly, there have been several efforts to apply twin methodologies to isolate causal effects of maltreatment from various genetic and shared environment confounders (Capusan et al., 2016; Dinkler et al., 2017; Forsman and Laangström, 2012; Misheva et al., 2017). We argue that such methods, despite their appeal for a range of research questions, are likely to produce overly conservative (downwardly biased) estimates of child maltreatment effects. Interpretation of effects in twin studies pertains to situations in which one twin experienced maltreatment and the other did not. Thus, twin studies are unreliable for studying neglect, which is typically considered a chronic household-level phenomenon, rather than a child-level adversity. Further, although it is not uncommon for a single child within a household to be targeted, either disproportionately or entirely, for abuse, the selection of the targeted child is unlikely to be random (Belsky, 1984, 1978). Rather, the targeted child may differ from their sibling in characteristics such as age, sex, disability, temperament, attachment,

or behavior (Font and Berger, 2015; Hershkowitz et al., 2007). In the case of identical twins, differences in self-reported exposure to abuse may be disproportionately driven by measurement error, extrafamilial abuse, or otherwise distinctive and nongeneralizable contexts. Moreover, adverse outcomes for a non-abused twin could arguably be, at least in part, attributable to indirect effects of their sibling's abuse (van Berkel et al., 2018), rather than indicating a null or small effect of maltreatment. Consistent with these limitations, twin studies imply small nonsignificant effects of maltreatment on adult crime convictions (Forsman and Laangström, 2012); and small statistically significant effects on potential correlates or antecedents of crime, such as psychiatric disorders (Capusan et al., 2016; Dinkler et al., 2017). Larger effects were found in a twin study that used retrospective self-reported physical and sexual abuse and self-reported indices of crime and deviance; they found effects of abuse on drug use and dependency, conduct disorder, and crime for both fraternal and identical twin pairs (Misheva et al., 2017).

In sum, even among relatively rigorous approaches, there are substantial limitations to identifying the effects of maltreatment. The magnitude of such effects is difficult to discern and it is possible –likely, even – that broader patterns of family dysfunction are more impactful that a specific incident of maltreatment. Notwithstanding, the bulk of evidence is consistent with the conclusion that maltreatment – regardless of type – comprises development in ways that increase the likelihood of delinquent and criminal behavior.

4. Race and Racism in the Maltreatment-Crime Link

In the US, Black and Native Americans are overrepresented in CWS and the juvenile and criminal justice systems (Nellis, 2016; U.S. Department of Health and Human Services, 2021, 2020). Given that crime and maltreatment have shared risk factors and that many scholars characterize CWS as similar in structure and purpose as the CJS (Edwards, 2016; Roberts, 2012), one might expect racial/ethnic disparities to be similar across systems, but they are not. As of 2016, cumulative risk of substantiated maltreatment and foster care entry are higher for Black (18% and 9.1%) and Native youth (15.8% and 11.4%) than white (10.5% and 5%), Hispanic (11.0% and 3.8%) and Asian/Pacific Islander (3.5% and 1.5%) youth (Yi et al., 2020). Overall, Black-white disparities are much smaller for CWS involvement than CJS involvement; Native Americans are overrepresented in CWS more so than in CJS; Hispanics are overrepresented in CJS only, and Asians are underrepresented in both systems. Of note, the substantially smaller Black-white disparities in CWS (relative to CJS) are a comparatively recent trend. Rates of substantiated maltreatment for Black children declined from 25.2 per 1,000 in 1999 to 13.8, versus a decline from 10.6 to 7.8. for white children (U.S. Department of Health and Human Services, 2021, 1999). Similarly lopsided declines in foster care populations during this time frame appear to reflect changes in a handful of large jurisdictions (e.g., Chicago, Los Angeles, New York) with large Black populations (U.S. Department of Health and Human Services, 2013).

Disparities in both CJS and CWS overlap with – but are not fully explained by – the disproportionate representation of racial minorities residing in poverty (Bruner, 2017; Kim and Drake, 2019). Indeed, Hispanics are not significantly overrepresented in CWS, and are less overrepresented in CJS than Black or Native Americans, despite having similar levels

of socioeconomic disadvantage. Rather, disproportionate representation in both systems is more consistent with behaviorally-mediated consequences of historical and current racism that produce substantial racial disparities in child maltreatment exposure (Drake and Jonson-Reid, 2011) and violent crime offenses (U.S. Department of Justice, 2021). Indeed, it would be surprising if there were no racial disparities in the rates of maltreatment, given the distinctive historical exclusion and mistreatment of Black and Native Americans in the US for centuries-- histories much different not only from whites, but also Hispanic and Asian Americans. On the whole, racial disparities in CWS involvement are within the boundaries of those found in non-CWS-based measures of maltreatment (Sedlak et al., 2010) and maltreatment-related fatalities (U.S. Department of Health and Human Services, 2021).

Of course, differential risk of maltreatment or crime does not preclude the presence of system bias (differential treatment). Conclusions about differential treatment within CWS are highly sensitive to state and local context (Maguire-Jack et al., 2020, 2015; Putnam-Hornstein et al., 2013). Overall, higher rates of substantiation and removal for Black children investigated by CWS at the state and national levels appear to be driven by differences in decision-making patterns across counties (the typical organizing unit of CWS), rather than disparate treatment by race within counties (Fluke et al., 2003; Maguire-Jack et al., 2020). Further, although many assume that racial bias would manifest in higher rates of involvement for racial minority families – i.e., overly harsh treatment of racial minority parents—bias could also manifest in a lack of sensitivity to harm inflicted on racial minority children (Fix and Nair, 2020).

Differential rates of CWS and CJS involvement that exceed differences in risk/behavior may either mask or falsely imply differences in the effects of maltreatment on crime or delinquency in studies using systems data for either or both measures (and would produce findings specific to the time/place of the study). Of perhaps greatest concern, to interpret a coefficient for CWS involvement as the effect of maltreatment assumes that CWS interventions themselves are of negligible impact, or at least have similar impacts across groups. However, there is an unresolved debate as to whether (conditional on maltreatment risk) the nature and effects of CWS involvement are similar across racial groups (Barth et al., 2020). Overall, conclusions about racial variation within the maltreatment-crime link vary across studies, with some finding racial differences (English, 2002; Rivera and Widom, 1990; Widom, 1989) and others find small or no racial differences (Lee et al., 2012; Makarios, 2007). Future research using multi-informant measures of both maltreatment and crime or delinquency is needed.

5. The Role of the Child Welfare System in the Maltreatment-Crime Link

This section will first briefly review the basic structure and activities of the CWS and then discuss what is known and unknown about the impacts of CWS, particularly on the propensity for crime and criminal justice system involvement. We note here that it is common to use CWS involvement – particularly an investigated or substantiated (confirmed) allegation of maltreatment – as a measure of maltreatment exposure. However, this section is concerned with efforts to discern the effects of CWS *itself*, conditional on exposure to maltreatment or associated risks. We caution that the proportion of maltreatment that is

never investigated by CWS has been estimated at two-thirds (Sedlak et al., 2010), though expansions in mandatory reporting may have closed that gap.

5.1. CWS Reporting, Assessment, and Investigation

The front end of the system, often referred to as Child Protective Services (CPS), is tasked with receiving, screening, and investigating or assessing allegations of child abuse or neglect. Overviews of these processes can be found elsewhere (Yi and Wildeman, 2018), but two points are especially noteworthy. First, there is a wide degree of variability across states, and across county agencies within states, in the proportion of referrals that are screened out and the existence and scope of non-CPS responses for family issues that are not considered to rise to the level of maltreatment (Child Welfare Information Gateway, 2012c; Pennsylvania Department of Human Services, 2019; U.S. Department of Health and Human Services, 2021). Consequently, the populations of children with CWS involvement are highly variable across (and within) states in ways that extend beyond likely variability in the true incidence of maltreatment.

Second, an investigation provides little guarantee that children will be protected from additional maltreatment or receive compensatory services to address maltreatment already experienced, reflecting low-quality investigations that are poorly situated to identify maltreatment and minimal services provided following investigations (Font et al., 2020). If the front-end process accurately identified child maltreatment and responded with adequate supports and interventions, we would expect that, on average, a maltreated child would be better off – in terms of safety and social development – reported to CWS than not. In the absence of these quality standards, we would expect inconsistent, and perhaps largely null effects of CWS referral or investigation on most outcomes, including crime and delinquency.

5.2. In-Home Services

Children who experienced or are perceived to be at risk of maltreatment may receive informal or formal in-home services, or out-of-home services. Informal in-home services typically take the form of referral to voluntary community agencies; these services are typically not monitored or directly purchased by CWS and the child is not in the custody of CWS. Formal in-home services take the form of an ‘open case’ meaning CWS provides or purchases services for the family and monitors the child and family over time to assess continued risk of harm. These services are usually voluntary but may be court-ordered or compliance with services may be a condition for avoiding court involvement (Pelton, 2016). The poor quality of data on informal or formal in-home services remains a significant barrier to rigorous assessment of the effects of CWS involvement on children (Jonson-Reid et al., 2017).

Notwithstanding, CWS is unlikely to play a determinative role in the social development of the average maltreated child, due to its high levels of reliance on informal, unmonitored, and non-evidence-based services. Furthermore, although commonly characterized as *children* receiving post-investigative services (U.S. Department of Health and Human Services, 2021), CWS services rarely attempt to mitigate the effects of maltreatment that children have already experienced. Rather, in-home services mostly target the skills, resources, or

behaviors of parents or caregivers (Berger and Font, 2015), but services for high-risk parents have low uptake and retention when voluntary (Alonso-Marsden et al., 2013) and appear to have limited effects on maltreatment incidence (Al et al., 2012; Chaffin et al., 2001; Duggan et al., 2007). In sum, in-home services are unlikely to meaningfully disrupt the maltreatment-crime link.

5.3. Foster Care

Foster care provides full-time care for children who cannot safely remain with their legal parents. Approximately 250,000 children entered foster care in 2019 (U.S. Department of Health and Human Services, 2020); most, but not all, of these children were removed due to a CPS investigation. Foster care as an intervention warrants greater attention from researchers and policymakers interested in the development, deterrence, and desistence of delinquent and criminal behavior (Yi and Wildeman, 2018). Relative to other CWS interventions, foster care is both intensive and intrusive, and can (though often does not) result in permanent severance of children's relationships with their biological parents. As such, its usage is controversial (Dettlaff et al., 2020; Font and Gershoff, 2020). Beyond debates about the role of government in family life, there is concern that foster care is not effective and instead makes a bad situation worse. Such claims typically invoke social bonds (Goldsmith et al., 2004), emphasizing the traumatic effects of separation from attachment figures, and disruptions in school, community, and extended family ties.

In a recent review of foster care and criminal justice contact, Yi and Wildeman (2018, p. 40) assert "overwhelming evidence that foster care placement is associated with poor outcomes". Indeed, children in foster care are a highly vulnerable population, and that this is especially true for those who experience foster care later in childhood. Justice system involvement is common for those who experience foster care in adolescence. Estimated rates of delinquency petitions for youth in foster care range from roughly 7% to 25% (Cutuli et al., 2016; Ryan and Testa, 2005; Vidal et al., 2017), with males having higher rates than females and Black youth having higher rates than whites. In addition, several studies have considered the proportion of incarcerated or arrested persons who were previously involved with CWS. In a recent study using California's linked administrative data, 60% of those arrested at ages 16 and 17 had prior CPS involvement, most of which was unsubstantiated and did not result in foster care placement (Eastman et al., 2019). A national survey of prison inmates found that 11% reported a history of foster care or institutional placement (Henry, 2020), whereas Berger and colleagues (2016) found that 18% of Wisconsin state prison inmates ages 18 to 21 had a child protective services investigation between ages 15 and 16 and 8% had been in foster care during that period.

Beyond these descriptive studies, what can we conclude about the effects of foster care? Below, we review common strategies for isolating the 'effects' of foster care, discuss the limitations of those strategies and of seminal studies, and suggest some tentative conclusions.

5.3.1. Methodologies for assessing effects of foster care.—

Inferences about the effects of foster care require quasi-experimental designs. Foster care is a relatively rare

and selective intervention; thus, comparisons of children in foster care to children in the general population – regardless of covariates included –are uninformative vis-à-vis causality. Comparisons of children who experience foster care to children involved with CWS but not in foster care is a far better approach for understanding the effects of foster care itself (rather than what led to foster care). However, basic control variables such as maltreatment allegation type or family sociodemographics are unlikely to meaningfully address selection bias, and much of the information relevant to a decision to remove a child is contained in narratives that are traditionally not made available to researchers. To better address selection bias, there are three strategies that hold promise for understanding foster care effects. Within-person models (individual fixed effects) have provided strong evidence on changes in children's behavior and school performance before, during, and after foster care. For example, Berger and colleagues (2009) compared the behavior problems and cognitive skills of CWS-investigated children ages 4–17 by foster care status (removed versus in home). They found that, whereas traditional regression models suggested that foster care increased externalizing behaviors (e.g., aggression, defiance), foster care was associated with *reduced* externalizing behaviors in a fixed effects framework. In a matched comparison, coefficients were positive but non-significant. In addition, longitudinal studies have compared children who will enter foster care in the future, but have not yet, to children in foster care (Berger et al., 2015)– such an approach is a useful way of differentiating the effects of the environment preceding foster care from the effects of foster care itself. However, both of these strategies are challenging to apply to crime and delinquency, given that such outcomes are not observable until adolescence (and do not peak until the late teen years), where rates of (especially first-time) foster care entry are low.

Instrumental variables approaches hold great appeal for discerning causal effects, but they come with significant assumptions and limitations. The basic premise is that an exogenous variable, z, affects the value of an endogenous variable, x, but does not otherwise affect the outcome of interest and is not correlated with unobserved factors that affect the outcome (residuals). To our knowledge, the first application of this approach to study foster care was by Doyle (2007) and relies on two generally noncontroversial facts: caseworkers are usually assigned to investigations on a rotational basis, and caseworkers differ in their tendency to recommend removal to foster care. As such, caseworker assignment is a source of random variation in the probability of removal, and appropriately considered a sort of natural experiment. In addition, most agencies specialize, such that the caseworker who recommends a child be placed in foster care is typically not that child's caseworker during foster care (i.e., the assignment should not directly affect the case outcome other than through the initial decision to remove or not). This approach has many strengths – it can be replicated in any state or time period that has adequate quality administrative records, is robust to omitted variables, and can be used to study distal outcomes. Criminologists will, of course, see obvious parallels with the large body of judge-assignment instrumental variables research on criminal and juvenile sentencing (Aizer and Doyle, 2015; Green and Winik, 2010).

The original application of this approach to the study of foster care focused, in large part, on juvenile and criminal justice system outcomes. Doyle (2008, 2007) found that foster care resulted in large (though imprecisely estimated) increases in the probability of juvenile

justice involvement and arrest in adulthood, using a sample of Illinois children experiencing CWS involvement in the 1990s. Recent studies have applied this methodology to assess other outcomes. A string of studies in Rhode Island (Bald et al., 2019), Michigan (Gross, 2019), and South Carolina (Roberts, 2019)– all of which are currently available only as white papers or dissertations – have used a similar instrument and found either null or beneficial effects of foster care for educational outcomes. Gross (2019) also, unsurprisingly, found lower rates of recurrent maltreatment for children who entered foster care. Although these recent studies did not measure crime or delinquency, it is well-established that school performance and delinquency are correlated, likely reflecting shared causes (Felson and Staff, 2006). Thus, although it is possible that foster care improves educational outcomes and safety while also increasing risk of crime and delinquency, it is (arguably more) plausible that the nature of foster care effects varies across contexts.

We note three factors that likely explain the divergence in findings across studies (in addition to differences in outcomes or sample construction). First, the inferences from the instrumental variables framework pertain to the 'marginal child' – meaning, those situations where caseworkers may disagree about the necessity of removal – and the marginal child is likely to have changed significantly between the Doyle studies and the more recent ones. In 2000, there were over 550,000 children in foster care on any given day; the median child in foster care was 10.4 years old and 39% were Black (U.S. Department of Health and Human Services, 2006). By 2019, there were about 424,000 children in foster care on any given day; the median child in foster care was 7.7 years old and 23% were Black (U.S. Department of Health and Human Services, 2020). The shifting demographics reflect both lower rates of entry and shorter lengths of stay. Large urban counties, such as Cook County, IL (the context for the juvenile justice findings in Doyle's seminal study), drove these changes (U.S. Department of Health and Human Services, 2013). Massive reductions in the rate at which children are removed imply that today's 'marginal child' faces far greater risk in their home environment than the marginal child of the 1990's or early 2000's.

Second, the experience of being in foster care has changed over time and varies across place. Federal policy successfully prioritized moving children to permanency more quickly; the percent of children spending 5 years or longer in care declined from 10% to 4%. The number of children exiting to adoption increased from about 47,000 to 64,000; guardianships nearly tripled during this period, from 9,000 to 26,000 (U.S. Department of Health and Human Services, 2020, 2006). That the average foster care stay in Doyle's sample exceeded four years—the current national mean is 20 months (U.S. Department of Health and Human Services, 2020)— is one example of how the experience of foster care, itself, varies across studies. Beyond length of stay, the types of foster care environments children experience vary. For instance, a 2013 federal assessment found that the percent of the foster care population in congregate care (group homes, residential facilities) ranged from 5% or lower (Kansas, Oregon, Washington) to over 25% (Wyoming, Rhode Island, Colorado, West Virginia); changes in congregate care populations in the preceding decade ranged from a 77.9% decrease (New Jersey) to a 70.0% increase (Alabama) (U.S. Children's Bureau, 2015). Given that youth with a congregate care placement have substantially higher rates of delinquency than youth in kinship or non-relative family foster care (Ryan et al.,

2008), this implies potentially large differences in the average effects of foster care on delinquency across states and over time.

Third, the counterfactual to foster care varies. Although the comparison is often characterized as foster care versus remaining at home, the proliferation of "kinship diversion" (Annie E. Casey Foundation, 2013; Malm and Allen, 2016) has led to more children living with relatives outside of the formal foster care system due to abuse, neglect, or imminent risk thereof. The implications of this 'hidden foster care system' (Gupta-Kagan, 2020) for understanding foster care impacts are not well understand, but two points are noteworthy. Children who are formally removed (not diverted) are likely higher risk – meaning that states' foster care systems will be increasingly comprised of children with severe behavioral and emotional disturbances. Where foster care is highly selective, there is less overlap between the foster care and non-foster care populations, which will bias study findings. In addition, because kinship diversion may reduce risk compared with remaining at home and states increasingly provide services and funding to children in informal kin arrangements, there are fewer substantive distinctions between the experience of removal versus non-removal. Beyond informal kinship diversion, parents on the cusp of losing custody receive varying levels and qualities of family preservation services.

In sum, there is substantial variability, across time and place, in the foster care population, the nature of foster care experiences, and the alternatives to foster care; these contexts are likely to result in different estimated effects of foster care. This is, of course, not to say that we can learn nothing from the existing literature. That the effects of foster care are neither uniformly positive nor fully negative is critically important information for policy and system reform. It also points researchers toward the study of *for whom* and *under what circumstances* foster care has positive, null, or negative effects.

5.3.2. Beyond Average Effects of Foster Care.—Although the nature of substitute care changes over time and varies widely across the globe, every society has children who cannot reside with their biological parents. Thus, a key contribution of research is in identifying the types and characteristics of substitute care that situate children for healthy development. Whereas criminological theory and research on the development of criminal or delinquent behavior emphasizes the family and community environment, research on children entering foster care due to abuse or neglect is inhibited by a lack of high-quality data on foster, congregate, and kinship care providers. Arguably the two most critical aspects of foster care are the home in which a child resides while in care (Barth, 2001) and the home to which a child exits care (Font et al., 2018) – neither of these has been a prominent consideration in studies of children's developmental outcomes during and after care.

Foster care allows an exploration of how reconfiguring a child's sphere of influences after exposure to harm alters risk trajectories for antisocial development. Foster care introduces new, and potentially competing influences – caregivers and peers in the foster care setting; caseworkers; service providers – which may induce changes in crime-related beliefs and expectancies. Moreover, because in a traditional family setting, direct association and psychological identification are highly correlated, foster care also provides an opportunity to

assess the extent to which children are influenced by those with whom they identify versus those with whom they most frequently associate.

A renewed emphasis on testing mechanisms and heterogeneity in foster care effects is especially urgent for two reasons. First, the subgroup of children with high levels of emotional and behavioral disturbance (those at greater risk for crime and delinquency) are the least likely to have positive experiences in foster care –less stability, more time in congregate care (versus non-relative family or kinship foster care), and lower rates of permanency through adoption or guardianship –which may augment risks of crime and delinquency (Font et al., in press; Ryan et al., 2008; Ryan and Testa, 2005). Second, foster care objectives are poorly aligned with, or contrary to, strategies for preventing crime and delinquency, despite that CWS goals of safety, permanency and wellbeing would seem to be consistent with delinquency prevention. This disconnect reflects two issues: child wellbeing is not directly evaluated by CWS and is commonly subordinate to other objectives in CWS decision-making (Font and Gershoff, 2020). Thus, a child that is considered to have a successful foster care experience may be at greater risk for delinquency than one who has less preferred foster care experiences. For example, a nationally representative study links kinship care – the preferred foster placement in state and federal policy for several decades –with higher likelihood of arrest for Black, white, and Asian males compared with non-kinship foster care; benefits of kinship care were found only for Hispanic youth (Ryan et al., 2010). Although that study was observational, omitted variable bias would be likely to overstate benefits of kinship care, given that relatives are more likely to be approved for and agree to placement of children with fewer behavioral or mental health issues (Font, 2014; Grogan-Kaylor, 2000). Yet, kinship care is prioritized in federal policy because it is thought to be in the best interests of children. Indeed, kinship care is generally more stable (Winokur et al., 2018) and commonly (though not always) involves a pre-existing relationship between the caregiver and child. Further, research consistently shows that kinship caregivers report fewer behavior problems among children than their non-relative counterparts (Rubin et al., 2008; Winokur et al., 2018), which one would expect to correlate with delinquency. Yet, when studies use youth-reported behavior or more objectively measurable outcomes (e.g., teen parenthood; academic test scores), benefits of kinship care are not consistently found (Font, 2014; Sakai et al., 2011).

Similarly, reunification is a primary objective of the foster care system, but reunifying may increase risks for crime and delinquency. High rates of post-reunification maltreatment (Connell et al., 2009) and the dearth of evidence on the effectiveness of family reunification services may imply that children are returned to family environments that are not substantively different from when they were removed. A recent study of risk of prison entry among youth entering foster care in middle to late childhood considered whether legal permanency through reunification or permanent custody with a relative reduces risk compared with aging out (Font et al., in press). Traditional criminological theories would arguably suggest that permanency is consistent with reducing crime and delinquency, since emancipation implies a lack of a permanent committed caregiver and often follows unstable living arrangements while in care, including more frequent changes in schools and neighborhoods which reduces potential for other stable prosocial influences. However, that study of several thousand youth entering foster care in Wisconsin found higher risk of prison

entry for reunified youth, both in bivariate analyses and in multivariate analyses accounting for differences in settings and experiences within foster care (Font et al., in press). Although that study was based on a single state, their findings align with other research indicating that reunification from foster care may increase juvenile justice involvement (Jonson-Reid and Barth, 2000) and behavioral problems (Bellamy, 2008). Given that reunification is the modal exit from foster care, comprising nearly half of all exits (U.S. Department of Health and Human Services, 2020), and the preferred outcome of the CWS in state and federal policy (Child Welfare Information Gateway, 2012d), this suggests a need for additional research on how the objectives of the foster care system relate to risks for crime and delinquency.

The volume of research on the outcomes of youth aging out of care dwarfs that on the outcomes of reunification, adoption, and guardianship, despite constituting a vastly smaller population. That body of work – largely drawn from the Midwest Evaluation of the Adult Functioning of Former Foster Youth (Courtney et al., 2011), with some attempts at replication elsewhere (White et al., 2012) – reports high rates of all forms of criminal justice system contact, with substantial majorities of males who age out of care having been convicted of crimes and above-average rates for females who age out as well. Yet, youth aging out of care account for less than 10% of all exits from foster care (U.S. Department of Health and Human Services, 2020); this population is comprised largely of youth who entered foster care as teens (Annie E. Casey Foundation, 2018) and have behavioral or mental health challenges. Thus, such youth are at heightened risk of placement in congregate care (U.S. Children's Bureau, 2015) and experiencing multiple placement changes (Konijn et al., 2019; Oosterman et al., 2007) – experiences that may directly harm children's social-emotional development and further reduces their odds of achieving permanency through adoption or guardianship.

Overall, there is a troubling lack of research on the long-term outcomes of adoption and guardianship from foster care. Studies of adoptees overwhelmingly focus on children adopted near birth through private domestic or international arrangements. Despite the high number of children eligible for or experiencing adoption (Wildeman et al., 2020), and the substantial and long-term federal investment in facilitating adoption (Brehm, 2018; Buckles, 2013; Child Welfare Information Gateway, 2018), there is little evidence to bring to bear on outcomes, especially for children adopted in late childhood or adolescence. There are not enough long-term studies of foster care – and especially studies that track children from birth – with adequate sample sizes to address these various conditions.

6. Conclusion and Directions for Future Research

In this final section, we revisit our key conclusions and provide recommendations for further research. We argued in this review that childhood neglect is a critical and understudied context in crime and delinquency. To facilitate new insights into the role of neglect in the onset and continuation of criminal careers, a clear conceptualization of child neglect that is distinct from poverty, normative variations in parenting, or parent-child relationships is needed. Just as the body of research on effects of the physical discipline of children has been criticized for failing to account for the separate-but-overlapping concept of physical abuse (Gershoff, 2002), the subset of parenting acts and omissions that fall below 'minimally

adequate care' are likely correlated with overall parenting constructs but may account for an outsized proportion of delinquent and criminal behavior. Indeed, commonly-used constructs, such as parental monitoring, are inadequate for characterizing the experiences of the most disadvantaged family environments (Giordano, 2010). Consequently, omitting measures of child maltreatment in studies that consider parenting effects on crime and delinquency may have two problematic consequences. First, in studies with higher-risk samples (where neglect is more common), a singular focus on parenting may overstate the contribution of low-quality (but not illegal/intervenable) parenting to delinquent and criminal behavior. Second, in general population samples, where the rate of serious neglect is low, parenting measures may not be associated with crime or related outcomes, generating misleading conclusions that "parenting doesn't make a difference" (Plomin, 2018). Although it may be true that modest differences in environments are small or even irrelevant in the context of genetic influences, there is substantial evidence that, for example severe neglect, such as that exhibited in institutional settings, affects children's short and long-term development (Nelson et al., 2007; Zeanah et al., 2017) and that children adopted at birth are influenced both by their birth and adoptive parents' characteristics on a range of psychological outcomes (Hyde et al., 2016; Sellers et al., 2020).

We further concluded that, on the whole, evidence points to generalized patterns of association between maltreatment and crime, and these associations exist both across generation (e.g., maltreated children at higher risk of delinquency and crime) as well as within (parents who engage in criminal behavior are more likely to abuse or neglect their children, and to expose their children to abuse by others). The nature and consistency of these intra- and inter-generational patterns should be further explored to identify characteristics and contexts that contribute to risk and resilience. Advancements in electronic records in the 1990s and 2000s have created new opportunities for studying multi-system involvement. Only recently, however, has it been possible to observe children in these systems from infancy, when CWS involvement is most common, until late adolescence and early adulthood, when criminal activity is most common. As more states and countries develop these capabilities, the scientific community will be benefit greatly from studies of the intersections of CWS and justice system involvement. Optimally, future research will combine victimization and perpetration data for both maltreatment and crime across multiple generations to assess how these two dimensions of intergenerational transmission intersect.

Lastly, we note that the vast majority of crime and delinquency studies that include CWS data use such records to measure the incidence of maltreatment, not to assess the effects of CWS itself. Common use of CWS contact as the sole measure of maltreatment implies that CWS intervention is not expected to meaningfully attenuate the effects of maltreatment (otherwise, it would not be an especially useful indicator). With the possible exception of foster care, there is little evidence of CWS contact having a (positive or negative) impact on children's safety or wellbeing. Yet, given the relatively large scope of CWS, and the lack of alternative entities for addressing child maltreatment, it *could* play a central role in improving the ability of families to provide safe and stable environments and reducing the risks of both revictimization as well as the initiation of crime. Research that informs policies and interventions that mitigate the criminogenic effects of child maltreatment – either by modifying parental behavior or by providing compensatory supports – is needed. We further

conclude that current research on foster care as an intervention for maltreated children points to heterogeneous effects on a range of outcomes (Font and Gershoff, 2020) and that such heterogeneity warrants a substantial investment from researchers interested in understanding the types of changes in family and community context that deter crime and delinquency.

Abbreviations:

CWS	child welfare system
CJS	criminal justice system
CPS	child protective services
CSA	child sexual abuse

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