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Heed Neglect, Disrupt Child Maltreatment: a Call to Action for Researchers



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Abstract

Child neglect is the most common type of child maltreatment and neglect is present in 80% of the child fatalities attributed to maltreatment. The disruption of child maltreatment must then prioritize neglect prevention. To date, maltreatment prevention efforts have been most effective for physical and sexual abuse. However, traditional prevention strategies and the supporting research have proven to be less effective at preventing neglect. We posit that a new approach of focusing on macro-level factors, such as economies, labor markets, and governmental affairs, should be investigated. These macro-level factors play a key, yet underexplored role in family circumstances, and they strongly influence parents' ability to consistently provide safe and sufficient environments for their children. Existing research, policies, and programs have successfully improved the health and safety of children in many areas including reducing physical and sexual abuse and reducing child deaths from disease and car accidents. Yet, these strategies have not been implemented in the area of child neglect, partially because the research community does not fully understand the causes of neglect. To inform new directions for child protection, we propose shifting the focus of research on neglect away from individual and family-level factors of indicated populations. And, we suggest focusing on macro-level factors that, while receiving far less attention from researchers, show initial promise for understanding the causal pathways of neglect and identifying policies for universal prevention. We conclude with recommendations for advancing the precision and quality of research in this area.

Keywords Neglect · Disruption · Macro-level factors

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Introduction

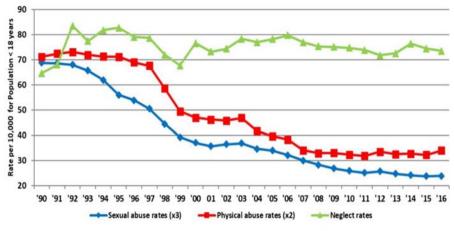
In 2016, Child Protective Service (CPS) agencies in the USA received 4.1 million referrals involving approximately 7.4 million children (DHHS 2018), indicating yearover-year increases in child maltreatment referrals. The sheer volume of maltreated children is alarming, as is the inability of current efforts to stem these episodes of maltreatment. Maltreatment reports continue to rise despite the dedication of many skilled professionals and millions of dollars spent on program funding. One reason for the persistently high level of child maltreatment could be that research has not been successful in making policy prescriptions for the prevention of child maltreatment. Therefore, we propose a new direction for research that focuses on policy solutions.

Moving forward, it is imperative that researchers heed neglect, consider the role of macro-level factors on neglect, and that data is both improved—especially as it relates to consistent measures and definitions—and fully leveraged to inform child welfare professionals, policymakers, and the public about the interplay between macro-level factors and neglect. We fear that without policies informed by research seeking to understand the effect of macro-level factors on children and their well-being, the current trends in child maltreatment will persist.

What Is and What Causes Neglect?

Neglect is the single largest report category to CPS agencies across the USA, accounting for 74.8% of the victims reported to CPS agencies in 2016 (DHHS 2018). Figure 1 shows trends in substantiated child maltreatment rates for the three main types of reports received by CPS agencies nationwide. Physical and sexual abuse rates have a downward trend, but neglect rates have been flat (Finkelhor et al. 2018). Moreover, neglect can cause serious harm to children; indeed, it is the deadliest form of maltreatment. Of the nearly 1500 child maltreatment deaths in 2016, neglect played a role in over 80% of those deaths, and children under the age of 3 are particularly vulnerable to death as a result of neglect. Therefore, to disrupt child maltreatment, we must heed and disrupt neglect.

While legal definitions of neglect vary across jurisdictions, in the most general terms, "neglect occurs when basic needs of children are not met, regardless of cause" (Dubowitz et al. 1993). Slack et al. (2003) have proposed three overarching typologies of neglect: mental health, cognitive, and physical, where supervisory and basic needs are both considered domains of physical neglect. There are also definitions that address neglect from the perspective of the child with varying degrees regarding the role of parental culpability. Empirical studies of the specific experiences of children identified as "neglected" in CPS records reveal a heterogeneous assortment of omissions of care under the umbrella term of "neglect" (Mennen et al. 2010). The range of definitions identifies a complex and interacting array of acts that include both the commission of harm as well as the omission of protective environmental factors and resources. Unfortunately, much of the existing data does not disaggregate neglect by sub-type. Unless otherwise noted, we will use the term "neglect" to include all forms of neglect.



Note: Trend estimates represent total change from 1992 to 2016. Annual rates for physical abuse and sexual abuse have been multiplied by 2 and 3 respectively in Figure 1 so that trend comparisons can be highlighted.

Fig. 1 U.S. child maltreatment rate trends: 1990–2016. From Finkelhor et al. (2018)

Why Does Neglect Remain Intractable?

Reducing neglect is challenging because it seems to be the result of complex and unidentified interactions that our current health and social services systems do not effectively prevent.¹ However, reducing childhood illness, injuries from car accidents, and childhood cancer throughout the past several decades was also challenging. Despite the difficulty of those endeavors, society has made great strides in reducing these other childhood tragedies. Compared with those in 1970, today's children are dramatically less likely to die from motor vehicle accidents, influenza and pneumonia, malignant neoplasms, and congenital malformations. For example, according to the National Center for Health Statistics Vital Statistics, in 1970, the car accident death rate was 10.5 per 100,000 for children aged 14 and under. In 2016, this rate was approximately 4 times lower: 2.4 per 100,000 children (see Fig. 2). Figure 2 also shows, however, that while we are making advancements in many areas of child fatality prevention, deaths from maltreatment—of which the majority are deaths from neglect—are rising, not falling. In 1996, the child maltreatment fatality rate was 1.59 per 100,000 children. Twenty years later, the rate was two-thirds higher at 2.36.²

We posit that the public health model that produced progress in reducing child mortality is one that child welfare professionals, policymakers, and the public at large can and should learn from. Reductions in other forms of child mortality resulted from (1) clearly defining the fatality outcome; (2) understanding the mechanisms that lead to the cause-specific mortality; and (3) implementing macro-level policies and campaigns to change behaviors, often by changing the environment. For example, in the case of

¹ There is a larger debate about whether or not neglect should even be investigated by CPS agencies (see Wald 2015). We acknowledge this debate and believe it is worth having, but it is beyond the scope of our paper. Our larger argument that macro-level factors are important in neglect reduction remains regardless of CPS's ultimate involvement in neglect cases.

 $^{^{2}}$ Some of the rise should be attributed to better identification of child maltreatment deaths, but even when using caution, the statistics point to an increase in the child maltreatment.

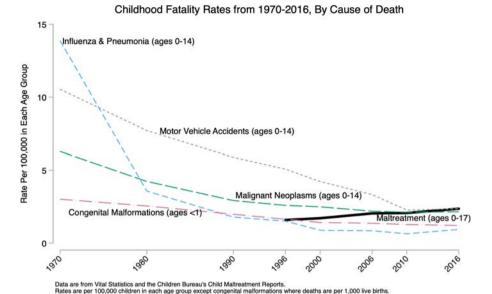


Fig. 2 Childhood fatality rates from 1970 to 2016 by cause of death. Data from National Center for Health Statistics and Child Maltreatment Reports. Authors' calculations

motor vehicle deaths, the danger to children from riding in motor vehicles was clearly identified (e.g., in contrast to a focus on children as pedestrians or bicyclists). The goal then became to reduce the total number of motor vehicle accidents by making all driving safer (i.e., universal prevention involves everyone driving the speed limit, not just those drivers that have been identified as unsafe). Next, research determined the primary factors in motor vehicle fatalities. Public advocates then identified a set of clear interventions to employ and made the appropriate legislative changes to require, regulate, or incentivize the use of the intervention. Specifically, we changed the driving environment and individual behaviors through legislation by requiring the use of car and booster seats, passing graduate drivers licensing policies, enacting speed limits, and enforcing a variety of laws affecting impaired driving (e.g., blood alcohol content laws, minimum legal drinking age laws, zero tolerance laws, and raising the price of alcohol through taxes). We also heightened awareness through child safety seat distribution and education programs as well as public service campaigns like "Friends don't let friend drive drunk." Manufacturers also improved the overall safety of vehicles. Indeed, the reduction in motor vehicle accidents has been ranked by the Centers for Disease Control and Prevention (CDC) as one of the top ten public health achievements of the twentieth century and of the first decade of the twenty-first century. But this achievement was multi-pronged and involved several actors, and the drivers of vehicles were never expected to solve the crisis on their own, such as by simply taking driving lessons.

Neglect prevention could not look more different from our motor vehicle death prevention strategy. To begin with, we have not consistently defined neglect, nor do we know what causes it. While we understand certain stylized facts about neglect—young children are the most vulnerable, there is a link between poverty and neglect, and caregivers are the most likely perpetrators—we do not as a research community completely understand these relationships. For example, poverty may influence neglect because of a decrease in family material resources, diminished access to social services, or the straining of family resources. Further, as Slack and colleagues note (Slack et al. 2003), it is essential to distinguish between proximal risks for neglect from other factors that are merely correlated with neglect. In other words, it may be that traditional risk factors for neglect, such as teen parenthood, may pose risk only because they are likely to co-occur with neglect, not because they necessarily *cause* neglect.

Society has also traditionally viewed child neglect as a problem within-and therefore confined to-the family unit. Research has reinforced this notion by studying targeted interventions at the case or family-level. This micro-level focus has been moderately successful for identifying the risk and protective factors for other forms of abuse and has led to the development of many effective prevention strategies (e.g., the Nurse Family Partnership). As shown in Fig. 1, the last 20 years have witnessed stark declines in the rates of physical and sexual abuse. But the perpetration of physical and sexual abuse can be reduced by changing an individual perpetrator's behavior. For example, physical child abuse may be declining as a result of targeted programs designed to teach parents non-abusive parenting behaviors (Finkelhor et al. 2018), reductions in risk factors (e.g., teen pregnancy) (Runyan 2018), changing societal norms about the appropriateness of corporal punishment (Ryan et al. 2016), widespread public awareness campaigns (Jones and Finkelhor 2001), and laws that improve the monitoring of offenders in the community (Finn 1997). Neglect, however, is not necessarily the result of intentional behaviors that can be influenced or easily changed, especially if larger macro-level factors are at play that suppress the family's ability to promote child well-being.

While the advancements in our ability to prevent physical and sexual abuse are welcome, *imagine a world where neglect prevention mirrors our approach to car safety, where macro-level interventions apply to all cars and all drivers, not just those who are statistically likely to be in an accident or those who have already been in one.* Such universal intervention not only aids in universal prevention, it recognizes that society—not just the family—benefits from and is responsible for neglect eradication and the promotion of child well-being.

The Streetlight over Neglect

We posit that child neglect research and intervention efforts have, like someone looking for lost keys, fallen victim to the "streetlight effect." We have been looking for answers to this complex problem under the streetlight—where there is light and where it seems easier to find "answers"—rather than where the answers may actually exist. In the case of neglect, the streetlight represents family dynamic/behavior, individual pathology, and family-level data. This is where our research has been concentrated, despite theories that instruct us to look further from the family unit.

Two of the three most prominent theories of the etiology of neglect focus on individual- and family-level processes. First, Cicchetti and Rizley propose the transactional model of neglect "in which the reciprocal interactions between a child, the caregiver(s), and their environment play a central role" (Cicchetti and Rizley 1981 cited in Mulder et al. 2018). These reciprocal processes include both protective factors

and risk factors. Second, Wolfe's theory (1991 cited in Mulder et al. 2018) describes neglect as a result of maladaptive parenting behaviors similar to other types of maltreatment. In contrast, using a wider lens, Belsky (1980) argues for a theory of neglect based on Bronfenbrenner's canonical social-ecological theory of development, with risk factors present at all levels of the model (micro- (family, peers), meso-(interactions between microsystems, such as parents interacting with schools), exo-(neighborhood, social services, local policies), and macro- (cultural, state, and federal policies) systems).

However, with limited success, most of the existing research focuses on the innerrings of the Belsky model. For instance, a recent meta-analysis of the risk factors of neglect highlights this limited view (Mulder et al. 2018). Of the 24 factors analyzed, 23 were microsystem-level factors measured at the individual- or family-level, such as parental marital status and parental health status. Only one mesosystem factor of social support was included. No policy contexts or other macroeconomic factors, such as access to affordable and adequate childcare, were included.

Focusing our attention so narrowly on the family is problematic and severely limited. Of even greater consequence is the implicit assumption that the family controls the principal circumstances that perpetuate neglect. Indeed macro-level factors, such as economies, labor markets, and governmental affairs, play a key role in family circumstances, and strongly influence parents' ability to provide for their children. By not fully considering these factors in our research efforts, we are missing potential prevention and intervention strategies that show more promise. Neglect prevention may be more amenable to macro-level policies—rather than micro-level interventions that focus on parent's interactions with their children—because of the complex relationship between poverty and parents' ability to consistently provide safe and sufficient care for their children.

The last 20 years have seen an expansion of research focused on the exosystem—the living environment of families—and the mesosystem—the point of interaction between family and environment. This body of work, for example, has elucidated the role of neighborhood factors (e.g., Colton, Korbin, and Su 1999). As a result, effective community-level interventions have been developed that increase connections and support, normalize family need for support, and generally reduce isolation within the community (Kimbrough-Melton and Melton 2015). However, the macro-context that surrounds and influences communities, families, and children needs more attention (e.g., see Fig. 3).

Our continued search for answers under the metaphorical streetlight is likely preventing us from both understanding the causal mechanisms of neglect and developing prevention—rather than treatment—strategies. When interventions only target the family unit, as neglect interventions historically have, their efficacy is limited (just as focusing on individual driving practices had limited efficacy). The benefits of focusing on the macrocontext is that the macro-context encompasses and influences the inner-rings of the socialecological model. Rather than limiting the macro-context to societal perspectives on children and maltreatment, we assert that the macro-system encompasses the whole policy context that affects families and communities. Whether policies intend to or not, changes in the policy context will inevitably change the experience/situation in the inner-rings. That is, in ways that we do not fully understand yet, but are nonetheless observable, policy or macro-level changes may substantially alter community-, family-, and individual-level processes and interactions in ways that reduce neglect.

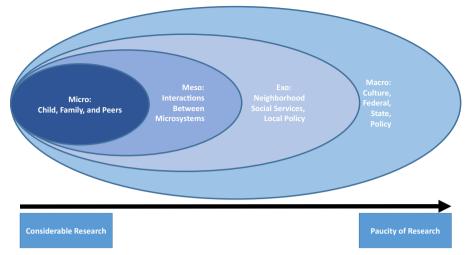


Fig. 3 The Belsky model and the continuum of research and child maltreatment

Emerging research supports our contention that policy changes that positively affect the family's macroenvironment hold the most promise for primary prevention of neglect. Our proposition diverges from mainstream child maltreatment prevention research by emphasizing policies that are not necessarily child welfare-specific policies. Rather, many policies likely have broader impacts and implications than within the child welfare system alone. Indeed, it is important to consider that the causes of neglect may not be best addressed through child protective services. Given the differential trends in child welfare by type of maltreatment, it is likely that the solutions for neglect lay beyond traditional child welfare services. In essence, we advocate for a reframing of how child and family policy can affect neglect, and the positive externalities that policy changes can have on traditional measures of child well-being as well as maltreatment prevention. These policies and interventions, however, have received the least amount of attention from child maltreatment researchers and policymakers, but emerging research demonstrates that this historical research "blind spot" has consequences. New research is illuminating the need to learn about the role of macro-level factors in child maltreatment so that we can better understand the causal pathways that lead to neglect and create universal solutions to appreciably reduce neglect in our lifetime.

Research beyond the Streetlight

An emerging body of research demonstrates the influence of macro-level factors in the incidence of child neglect. This nascent work seeks to understand how factors such as income supports, child and family policy, and macroeconomic policy and events may have positive externalities on child neglect. These studies fall into two broad categories: (1) studies of policies that increase resources for families (e.g., time or money) and are associated with reductions in maltreatment in general or neglect in particular; (2) studying trends and changes in economic circumstances that add to the understanding

of the underlying relationship between income and neglect and thus move the field closer to identifying causal pathways. Examining the extent to which social policies—which apply to all families or at least are not restricted to families involved in the child welfare system—may reduce child neglect is a critical next step in understanding the etiology of child neglect. Findings may shed important light on how best to develop universal prevention interventions.

Research shows that income supports have a clear role in reducing child maltreatment. Poverty has been demonstrated to be one of the strongest and most consistent predictors of child maltreatment (e.g., Berger 2004). Whether and how this relationship is causal is the subject of much debate. As the USA has increasingly moved away from a system of cash welfare and toward a system focused on supporting work, neglect rates have been relatively consistent even while other maltreatment has fallen (Fig. 1). Empirically, Paxson and Waldfogel (2002) found that more restrictive welfare reform regimes resulted in increased out-of-home placements and higher rates of substantiated child maltreatment. Consequently, a handful of researchers have sought to examine whether the inverse is true, that is, whether broad-based income support policies reduce child neglect. For example, Raissian and Bullinger (2017) show that increasing the minimum wage is associated with reductions in reports of neglect. Research has also found that an increase in the earned income tax credit is associated with a reduction in overall child maltreatment (Berger et al. 2017; Klevens et al. 2017).³ These findings suggest that programs designed to increase net income for low-income families may reduce neglect by counteracting the pathways through which poverty leads to child maltreatment.

The other promising category of research on social policies for reducing neglect has largely focused on programs designed to support the health and development of children in low-income families. These policies often shift some child-rearing costs away from families. For example, recent research indicates that access to early child-hood education, child health care, and paid family leave may reduce child maltreatment (Klevens et al. 2015; Klevens et al. 2017). Other researches have found that distributing Supplemental Nutrition Assistance Program (SNAP) benefits later in the month—which could increase the financial strain on financially precarious families at the beginning of the next month when rent is due—increases child maltreatment (Carr and Packham, 2019). This work provides preliminary evidence that universal supportive child and family policies may have dramatic effects on reducing maltreatment.

Unemployment is a macroeconomic trend that is receiving increased attention from maltreatment researchers. From the perspective of the family unit, unemployment is a complex phenomenon. Unemployment may increase the amount of time parents spend with children but may also increase parental stress, decrease a family's net income, and decrease community resources. Additionally, changes in unemployment can be part of a local, regional, or national trend and unemployment at each of these levels may have slightly different impacts on families.

Studies on how employment rates influence neglect are enhancing our understanding of the etiology of neglect and have illuminated some significant methodological issues. These studies have wrestled with questions of causality, brought sophisticated methods to bear on their analyses, and helped make methodological advancements that

⁰ These papers do not identify the effect of the EITC on neglect specifically; they use an aggregate measure of overall maltreatment.

could benefit future child maltreatment research. For example, Millett et al. (2011) evaluated unemployment and child maltreatment rates in seven states and found little evidence of a relationship. Other researchers have looked within states using more granular measures of unemployment and maltreatment. Lindo et al. (2018) examined county-level data in California and found that when male employment increases, child maltreatment decreases and, conversely, when female employment increases, child maltreatment increases. Frioux et al. (2014) drew on county-level data in Pennsylvania and found associations between rising unemployment rates and increases in the child maltreatment rate. In contrast, Nguyen (2013) examined the association between unemployment and child maltreatment in 58 counties in California and found some evidence that maltreatment rates increased as unemployment decreased, but few significant associations overall. In another study, Raissian (2015) examined county-level data from New York State and found rising unemployment rates reduced child neglect. The discrepancy between the results of these studies supports the need for more nuanced and geographically narrow data to ensure that the macro-level factors are associated with the neglect rate in a relevant geographical unit. Moreover, what constitutes neglect is an important consideration, and likely varies from state-tostate. For example, if leaving a child alone when a parent (particularly a single parent) goes to work is considered neglect, then this measure will be sensitive to changes in employment. Regardless, understanding the extent to which unemployment-and policies meant to support the unemployed-affects neglect may inform a key determinant of child neglect. In particular, research in this area can guide social policy design for all families that experience unemployment shocks, not just those who have been previously identified as at-risk of maltreatment.

Though sparse and methodologically limited, the available research on macro-level factors contributes to our understanding of the pathways between poverty and maltreatment. The literature consistently demonstrates that economic changes, either as a result of specific policies or macroeconomic trends, result in relatively predictable changes in child maltreatment and more specifically neglect.

Conclusion

The research community has a critical role to play in reducing child neglect. Over the last few decades, the number of children experiencing neglect, including fatal neglect, has continued a seemingly inexorable increase. However, this trend is reversible. The field needs more research in what we argue is the most promising area of neglect prevention: macro-level factors. This focus should be concurrent with, rather than a replacement of, efforts to strengthen and treat individual families and communities. The goal is to reduce the volume of cases coming before CPS, which will in turn allow CPS to provide appropriate supports to the children and families that need them.

While the existing research is promising, to achieve a significant reduction in neglect, we propose alleviating certain methodological challenges that inhibit the accurate analysis of policies and the role of abrupt changes in economic circumstances. First, the most comprehensive existing measurement of neglect is measured by child welfare agencies. These measures are the most logical place to continue assessing neglect (a more nuanced or sophisticated system may be warranted at a later point in time, but for now, we suggest

trying to work with existing and available resources). Importantly, we need a consistent definition of child abuse and neglect, by maltreatment type, that can be applied across the country rather than the state-specific patchwork of definitions that currently exists. In taking the lessons learned from federal requirements for car seat safety, child abuse and neglect standards should have clear national definitions. Consistently defined and measured outcomes would allow comparison of the effects of policies and programs across studies. At minimum, the ability to distinguish between supervisory and physical neglect is essential, as is the separation of sub-categories of neglect from larger categories (e.g., emotional or educational neglect). Second, analyses should separate maltreatment by type (i.e., neglect, physical abuse, sexual abuse), as research has previously shown different causal mechanisms for different types of maltreatment. Further, a standard set of consistent outcomes should be encouraged so that results can be compared across studies. Third, the data on neglect and economic factors should be available at a granular level. These data currently exist but are often not available to researchers. Although we note that relying on CPS reports to measure neglect fails to capture child maltreatment that precedes contact with child welfare agencies, we believe using these data are a starting point for substantial contributions. For example, a key contribution from the body of work we envision would be to quantify the economic costs and benefits of child neglect, determining the policies most effective for universal prevention. In this way, research can shift the paradigm of neglect from a problem at the individual family-level to a problem for society at large. In other words, we hope these efforts will expand the scope of the streetlight to the currently unlit and undiscovered places.

A second methodological challenge relates to assisting policymakers in efficiently and effectively selecting programs. Once researchers have identified if and to what extent macro-level factors and social programs reduce child neglect, the costs and benefits of the policies should be closely evaluated. There are two primary reasons for this suggestion. First, policy expansion is costly, and researchers and policymakers should expand programs that yield the highest return to public dollars. That is to say, we should scale-up the programs that save most children from neglect. Second, the long-standing view of neglect as a family problem may inhibit public investment in effective policies. In the same way that studies demonstrated that seat belts, speed limits, and driving while intoxicated laws translated into safer roads *for everyone*, the public should see how policies translate into safer and more stable families writ large. Doing so will likely help make the case to the public that society and social policies have a role in changing the trajectory of the increasing rate of neglect.

Finally, preventing child neglect will not be solved by a single discipline in their silo. Within the research and funding communities, foundational research that includes experts from disciplines such as economics, public health, medicine, public policy, sociology, family studies, and social work needs to be encouraged and rewarded. Additionally, creative incentives for practitioners and researchers to collaborate would increase the pace and effectiveness of this work.

We are optimistic that the 37.4% of all children suspected as victims of maltreatment (Kim et al. 2017) can be better protected, but we need to consistently use a standard definition of neglect, identify the causes of neglect, improve the research in undiscovered places, and evaluate universal, macro-level prevention strategies to do so. Indeed, the continued intractability of neglect suggests that a new approach is needed. It is time to think big. It is time to think macro.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

References

Belsky, J. (1980). Child Maltreatment: An Ecological Integration. American Psychologist, 35(4): 320-335.

- Berger, L. M. (2004). Income, family structure, and child maltreatment risk. *Children and Youth Services Review*, 26(8), 725–748.
- Berger, L. M., Font, S. A., Slack, K. S., & Waldfogel, J. (2017). Income and child maltreatment in unmarried families: evidence from the earned income tax credit. *Review of Economics of the Household*, 15(4), 1345–1372.
- Carr, J. & Packham, A. (2019). Do income shocks affect domestic violence? Purdue University Krannert School of Management, Working Paper.
- Cicchetti, D., and Rizley, R. (1981). Developmental Perspectives on the Etiology, Intergenerational Transmission, and Sequelae of Child Maltreatment. New Direction for Child and Adolescent Development, 11: 31-55.
- Coulton, C. J., Korbin, J. E., & Su, M. (1999). Neighborhoods and Child Maltreatment: A Multi-Level Study. Child Abuse & Neglect, 23(11): 1019-1040.
- Dubowitz, H., Black, M., Starr, R. H., Jr., & Zuravin, S. (1993). A conceptual definition of child neglect. *Criminal Justice and Behavior*, 20(1), 8–26.
- Finkelhor, D., Saito K., & Jones, L. (2018). Updated trends in child maltreatment, 2016. Crimes against children research center. Retrieved on January 15, 2019 from http://unh.edu/ccrc/pdf/Updated%20 trends%202016.pdf
- Finn, P. (1997). Sex offender community notification. Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.
- Frioux, S., Wood, J. N., Fakeye, O., Luan, X., Localio, R., & Rubin, D. M. (2014). Longitudinal association of county-level economic indicators and child maltreatment reports. *Maternal and Child Health Journal*, 18(9), 2202–2208.
- Jones, L., & Finkelhor, D. (2001). *The decline in child sexual abuse cases*. Washington, DC: United States Department of Justice.
- Kim, H., Wildeman, C., Jonson-Reid, M., & Drake, B. (2017). Lifetime prevalence of investigating child maltreatment among US children. American Journal of Public Health, 107(2), 274–280.
- Kimbrough-Melton, R. J., & Melton, G. B. (2015). "Someone will notice, and someone will care": how to build strong communities for children. *Child Abuse & Neglect*, 41, 67–78.
- Klevens, J., Schmidt, B., Luo, F., Xu, L., Ports, K. A., & Lee, R. D. (2017). Effect of the earned income tax credit on hospital admissions for pediatric abusive head trauma, 1995-2013. *Public Health Reports*, 132(4), 505–511.
- Klevens, J., Barnett, S. B. L., Florence, C., & Moore, D. (2015). Exploring policies for the reduction of child physical abuse and neglect. *Child Abuse & Neglect*, 40, 1–11.
- Lindo, J., Schaller, J., & Hansen, B. (2018). Caution! Men not at work: gender-specific labor market conditions and child maltreatment. *Journal of Public Economics*, 163, 77–98.
- Mennen, F. E., Kim, K., Sang, J., & Trickett, P. K. (2010). Child neglect: definition and identification of youth's experiences in official reports of maltreatment. *Child Abuse & Neglect*, 34(9), 647–658.
- Millett, L., Lanier, P., & Drake, B. (2011). Are economic trends associated with child maltreatment? Preliminary results from the recent recession using state level data. *Children and Youth Services Review*, 33, 1280–1287.
- Mulder, T. M., Kuiper, K. C., van der Put, C. E., Stams, G. J. J., & Assink, M. (2018). Risk factors for child neglect: a meta-analytic review. *Child Abuse & Neglect*, 77, 198–210.

Nguyen, L. H. (2013). The relationship between unemployment and child maltreatment: a county-level perspective in California. *Children and Youth Services Review*, 35(9), 1543–1555.

Paxson, C., & Waldfogel, J. (2002). Work, welfare, and child maltreatment. *Journal of Labor Economics*, 20(3), 435–474.

- Raissian, K. M. (2015). Does unemployment affect child abuse rates? Evidence from New York state. Child Abuse and Neglect, 48, 1–12.
- Raissian, K. M., & Bullinger, L. R. (2017). Money matters: Does the minimum wage affect child maltreatment rates? *Children and Youth Services Review*, 72, 60–70.

Runyan, D. (2018). Preventing maltreatment of children. JAMA, 320(20), 2085-2086.

- Ryan, R. M., Kalil, A., Ziol-Guest, K. M., & Padilla, C. (2016). Socioeconomic gaps in parents' discipline strategies from 1988 to 2011. *Pediatrics*, 138(6), e20160720.
- Slack, K. S., Holl, J., Altenbernd, L., McDaniel, M., & Stevens, A. B. (2003). Improving the measurement of child neglect for survey research: issues and recommendations. *Child Maltreatment*, 8(2), 98–111.
- U.S. Department of Health and Human Services. Child maltreatment (1997–2018, multiple reports, actual numbers used for authors' calculations). Retrieved on January 10, 2019 from https://www.acf.hhs. gov/cb/research-data-technology/statistics-research/child-maltreatment
- Wald, M. S. (2015). Beyond CPS: developing an effective system for helping children in "neglectful" families: policymakers have failed to address the neglect of neglect. *Child Abuse & Neglect*, 41, 49–66.

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