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## Commentary

## The Complex Etiology and Lasting Consequences of Child Maltreatment

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Child maltreatment is a global public health problem of epidemic proportions [1]. Internationally, the prevalence is striking, with reports suggesting that 25%–50% of children report being physically abused [1]. The annual estimates of child maltreatment in the developed world are highest in the United States: 3.4 million referrals of child abuse involved 6.2 million children in 2011 [2]. It is estimated that 1,570 of these children (or about four children every day) died as a result of child abuse and neglect [2].

Child sexual abuse has consistently been associated with adverse psychological outcomes in adulthood [3]. Norman et al. [4] focused on nonsexual child maltreatment and found a consistent association between nonsexual child maltreatment (e.g., physical abuse, emotional abuse, and neglect) and negative outcomes related to both mental and physical health. These outcomes include depression, alcohol abuse, anxiety, suicidal behavior, and increased risk of infection with human immune deficiency virus and herpes simplex virus type 2 [4–8]. Recent research suggests that developmental timing of exposure to maltreatment during childhood influences the risk of negative outcomes such as depression and suicide in young adulthood [9,10], although there is little agreement as to whether earlier or later exposure is associated with worse outcomes.

In response to the burden of child maltreatment on individuals, families, and society, the Centers for Disease Control and Prevention (CDC) recently launched *Essentials for Childhood* [11], a component of the Public Health Leadership for Child Maltreatment Prevention Initiative toolkit. The Public Health Leadership Initiative is a resource sponsored by the Doris Duke Charitable Foundation and developed in partnership with the CDC Foundation and CDC's Division of Violence Prevention, to help state departments enhance child maltreatment efforts and serve as a foundation for building a national public health prevention system that promotes safe, stable, nurturing relationships (SSNRs) in an effort to prevent child maltreatment [12]. This special issue showcases the latest research initiatives that examine the intergenerational transmission of child maltreatment and investigate the moderating effects of SSNRs on continuity of the intergenerational cycle of maltreatment.

In most families, child maltreatment is not perpetuated from one generation to the next [13,14]. However, in cases where it is, children are at elevated risk for a variety of negative health

outcomes, including substance abuse, intimate partner violence, teenage pregnancy, anxiety, depression, suicide, diabetes, ischemic heart disease, sexually transmitted infections, smoking, obesity, and general delinquency [15–17]. Multiple studies have identified factors that may contribute to the intergenerational cycle of child maltreatment. Specifically, compared with women who were not maltreated as children, those with a history of maltreatment are more likely to become parents at a younger age, have more mental health problems, live with a violent adult [18], and have more substance abuse problems [19]. They are also more likely to respond aggressively to ambiguous social cues [13] and make more negative attributions about their children's behavior [18]. In return, some of these negative outcomes—namely, substance use problems, domestic partner violence, antisocial behavior, and depression—have been associated with maintaining the intergenerational cycle of maltreatment [20]. The four articles in this special issue provide further evidence of a positive relationship between child maltreatment in one generation and child maltreatment in the next [20–24].

It is largely unknown whether positive relationships with adults and peers during childhood and adolescence can help lessen the long-term social, behavioral, and health-related consequences of child maltreatment [25]. However, recent studies featured in this supplement suggest that SSNRs characterized by warmth, trust, and support are key factors in preventing the intergenerational transmission of child maltreatment. These include socially and emotionally supportive relationships between the child and his or her primary caregiver during childhood, as well as with intimate partners in adulthood. Whereas SSNRs represent a feasible approach to intervention and prevention, further research is warranted to examine the effects of other external factors, including structural factors during an adolescent's development that may moderate the effects of child maltreatment. Although some studies included in the present issue have multiple time points of data collection, the analyses described in this issue do not fully assess the degree to which the participants were exposed to intervening factors during their childhood or adolescence. For example, were those children with substantiated abuse removed from their home? Did identified first-generation parents receive directed or required parent training interventions or other psychological counseling? And what, if any, changes in the family occurred on the child–parent reunification? Any of these factors may be partly responsible for mitigating some of the early impact of child maltreatment and may contribute to improved family relationships, which subsequently may affect processes affecting romantic partner selection later in life. The ultimate question

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that remains unanswered is how those who experience maltreatment as children select or are selected by partners with whom they can have SSNRs.

Because family relationships are among the earliest ones that children learn to navigate [26], a secure foundation in family relationships and friendships allows many adolescents to progress to other intimate relationships that are healthy without violence or coercion [26–28]. Because adolescents use the skills they gain with family members and friends to build relationships in late adolescence and early adulthood, social factors can either facilitate or impair the later development of healthy romantic relationships [26]. Given the influential nature of children's early relationships with parents, child maltreatment, which is often a child's first exposure to aggression [29], can have severe negative consequences on the development of other intimate relationships throughout childhood and into adolescence and young adulthood.

A thorough analysis of intergenerational continuity of child maltreatment, especially among adolescents, must not be limited to the parent–child dyad, but must include other relationships such as friendships and romantic partners during adolescence and early adulthood. There are likely multiple factors underlying an adolescent or young adult's decision to enter into, as well as remain in, an unhealthy relationship that may or may not affect whether the cycle of maltreatment is continued. To better understand the issue of intergenerational transfer of child maltreatment, comprehensive examination and collection of data on an individual's social history, including his or her early family relationships, friendships, and romantic relationships, as well as his or her exposure to other intervening factors, may be warranted. As such, researchers may better disentangle how the transmission of maltreatment is both mitigated and perpetuated. For example, among children who have subsequently been removed from their primary household of origin, how do intervening factors such as child welfare systems of care (i.e., foster care), psychological counseling, and their parent's receipt of parenting classes affect their skills and abilities, as well as selection of future partners during adolescence? In other words, what developmental changes occur during an adolescent's life course so as to make them more or less likely to enter an unhealthy relationship or more or less likely to maltreat their own children [21]? Is one nurturing relationship the important first step that leads to the development of an appreciation for and understanding of how another person's social and emotional support can affect that person's ability to control stress, conflict, and anger? In addition, we might consider whether duration or quantity has a greater effect on the ability of SSNRs to moderate the transmission of intergenerational child maltreatment. In other words, would a greater number of SSNRs over time exert a stronger moderating force than fewer long-term SSNRs?

Overall, as noted in the meta-analysis [24], all four studies found a significant association between child maltreatment victimization and perpetration, and three of the four studies [20,22,23] reported a moderating effect of at least one SSNR variable on the intergenerational continuity of child maltreatment. However, interstudy differences with respect to terminology, measures, sample characteristics, and other methodological aspects limit the generalizability of these findings. The major outcome of interest, for example, is not consistently called "child maltreatment" in all of the featured studies. Conger et al. [23] used the term "harsh parenting" and Herrenkohl et al. [21] used the term "abusive discipline." As reported in

the meta-analysis by Schofield et al. [24], neither the magnitude of intergenerational continuity nor the magnitude of the moderating effect of SSNRs differs between "harsh parenting" and "abusive discipline." However, whereas harsh parenting and abusive discipline may both be associated with child maltreatment, these terms, when used interchangeably, do not lead to an improved understanding of intergenerational continuity of child maltreatment. Thus, prevention efforts that minimize differences in terminology and agree on consistent definitions and measures that accurately assess outcomes of interest are critically important [25].

Aside from terminological inconsistencies, measures related to child maltreatment also varied between studies because those panels already consisted of multigenerational datasets that were independently conceived. Whereas the richness and uniqueness of each dataset contribute to our understanding of the impact of SSNRs, this is just a beginning step. These studies point to the utility of future investigations where consistency of recruitment and data collection methods may allow for increased clarity among and between samples to better understand prevention of child maltreatment.

The articles in this special issue introduce novel findings and important implications for the prevention of child maltreatment. Next steps in the further investigation of the intergenerational continuity of child maltreatment should involve greater consistency in terminology, methodology, and measures used. Although there was consistency among results of the four studies included in this supplement, the statistical power of the findings could be enhanced by replication among diverse populations. Importantly, future efforts to study child maltreatment must consider intervening factors, such as involvement in systems of care, which may or may not influence behavioral trajectories over the life course. Although findings suggest that the moderating role of SSNRs is consistent regardless of where a family is located on the child maltreatment spectrum [24], it is important to consider the type of abuse and to seek to understand why some maltreatment survivors are able to enter healthy, supportive adult relationships whereas others are not. In other words, are certain types of maltreatment worse than others with respect to long-term consequences and intergenerational continuity? It is also important to document the perpetrator of abuse. Without information on the perpetrator's own history of abuse, it is difficult to make grounded conclusions about the intergenerational nature of child maltreatment.

It is critical that prevention programs focus not only on parenting strategies, but also on the skills needed to navigate healthy interpersonal relationships with other adults and intimate partners. Evidence-based preventative interventions such as the Nurse Family Partnership have already adopted a holistic approach to the prevention of child maltreatment, with reductions of up to 80% in cases of child abuse and neglect among mothers enrolled in the Nurse-Family Partnership compared with a control group [26].

All things considered, child maltreatment is neither a unitary event nor a series of unitary events. Rather, it is a multidimensional process requiring a multidimensional approach to prevention—one that is fundamentally rooted in changing the way people manage conflict, stress, and anger on a regular basis. Only after we have achieved a truly multidimensional and comprehensive conceptualization of child maltreatment as a complex, multigenerational process can we begin to understand its intergenerational nature and construct effective

prevention strategies. The articles featured in this supplement, with their focus on SSNRs not only within the parent–child dyad but also between parents and their intimate partners, are an excellent start to a better understanding of child maltreatment and its intergenerational transmission.

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