

RESEARCH-TO-PRACTICE SUMMARY

Intervention Implications: The Links among Early Risk for Abuse, Children's Regulation, and Behavioral Problems

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The current project explored how toddlers' ability to regulate themselves may be the link between prenatal maternal risk of child abuse and behavior problems at three years. A sample of 285 mothers and their first-born children were followed from pregnancy through the child's third year. Results showed that pregnant mothers who had a greater potential for abusing their children had toddlers who were less able to regulate themselves (e.g., disrupted sleeping and eating patterns, stronger reactions to noises). This inability to regulate themselves predicted their behavioral problems at age 3 years (e.g., aggression, depression). Screening for prenatal child abuse potential and providing intervention supports offers an important opportunity to prevent child maltreatment and its developmental repercussions. For toddlers already experiencing regulatory difficulties, self-regulation appears to be another key target to halt the progression of behavioral problems often found in maltreated children.

Keywords: maltreatment risk; physiological regulation; behavioral problems

Over 679,000 American children were substantiated as victims of maltreatment in 2013 (U.S. Department of Health & Human Services, 2015). Children are at greatest risk for victimization in their first year of life. Detecting maltreatment early in a child's life is difficult for many reasons including a preverbal child's inability to tell someone what is happening and little exposure to possible reporting sources (i.e. teachers, coaches, neighbors). Despite the difficulties in early detection, the need to do so is obvious - maltreatment impacts children's development in multiple harmful ways: physical complications, relational difficulties, emotional and behavioral problems, and self-regulatory dysfunction. The current study utilized a longitudinal, prospective design to explore the relationships among maltreatment, self-regulation, and emotional and

behavioral problems, offering insights into potential early screening and intervention opportunities.

Maltreatment, Internalizing and Externalizing Problems, & Regulation

Research consistently associates maltreatment with a child's heightened risk for externalizing problems such as disruptive and aggressive behaviors (e.g., Aber, Allen, Carlson, & Cicchetti, 1989; Flores, Cicchetti, & Rogosch, 2005). Increased rates of internalizing problems, such as depression and anxiety, have also been extensively documented (Kim & Cicchetti, 2003). Children's ability to regulate their emotions and behavior is a key link between abuse and later dysfunction; early maltreatment predicts children's compromised self-regulation which in turn contributes to difficulties in multiple domains (Egeland, Yates, Appleyard, & van Dulmen, 2002; Maughan & Cicchetti, 2002; Schatz, Smith, Keogh, Borkowski, & Whitman, 2008). Although many components of self-regulation have been explored, significant attention has been given to physiological regulation. Physiological regulation is considered to include the modulation of many physical processes such as the stress response, hormone levels, heart rate, and sleep patterns. Evidence suggests that physiological regulation, which is intricately tied into each of the other regulatory components (i.e., emotional, behavioral), is impacted by childhood abuse (Heim, Newport, Mletzko, Miller, & Nemeroff, 2008; Murray-Close, Han, Cicchetti, Crick, & Rogosch, 2008). Once compromised, maladaptive regulatory responses then increase the likelihood of depression and aggressive behaviors (Heim, et al, 2008; Murray-Close, et. al, 2008). Taken as a whole, a large body of research supports maltreatment's impact on physiological regulation, which in turn fosters maladaptive development. Less is known, however, about a broader conceptualization of physiological regulation including sleeping, eating, and sensory reactivity patterns and its role as a process variable within an at-risk sample of toddlers.

Child Abuse Potential

Child maltreatment has been assessed in many ways including measures that assess potential for abuse, self-reports of abuse and neglect, and information gathered from Child Protective Services (CPS). Problems surround the use of CPS reports, however, chief among them is that they underestimate actual maltreatment instances (Chaffin & Valle, 2003). Self-report measures of instances of abuse and neglect also can be inaccurate due to parental concern about the legal consequences of admittance to an act of child abuse. For this reason, measures that assess potentiality, or likelihood for abuse, have often been utilized in research (Moreland Begle, Dumas, & Hanson 2010). One of the most prominent, substantially supported measures is the Child Abuse Potential Inventory (CAP; Milner, 1986). Using the CAP offers several advantages over other sources of information including: (1) abuse potential can be considered a proxy measure, conceptualizing maltreatment as a continuum of behaviors and attitudes versus a dichotomous conceptualization (present or absent), and (2) most importantly, abuse potential can be assessed during pregnancy, serving as an early screening tool to identify those at risk for abusing their children and identify who to target for prevention efforts. Brief versions of the CAP offer a means for efficient screening.

SUMMARY OF STUDY AND RESEARCH METHODS

The current study investigated the role of toddlers' physiological regulation (sleeping, eating patterns, sensory reactivity) in understanding the relationship between prenatal maternal child abuse potential and preschoolers' later internalizing and externalizing problems at age 3. A subsample of 285 mother-child dyads was drawn from a longitudinal study designed to understand low-levels of neglectful parenting among mothers and their first-born children. The multi-site design included a racially diverse sample with variability in participants' ages, economic status, and educational backgrounds. Maternal child abuse potential, conceptualized as a continuum of likelihood for maltreatment, was measured prenatally by a 25-item abbreviated version of the Child Abuse Potential Inventory (Milner, 1986). At 24-months, children's physiological regulation was measured by maternal report using the Dysregulation subscale of the Infant-Toddler Social and Emotional Assessment (ITSEA) to assess sleeping and eating patterns, as well as sensory and emotional reactivity. Children's problem behaviors at 36-months were assessed by the Externalizing and Internalizing subscales of the ITSEA.

MAJOR FINDINGS

The results provided support for the far-reaching effects of maltreatment with two key findings emerging from this study. First, maternal abuse potential showed an indirect relationship to internalizing problems such that abuse potential was significantly predictive of toddler's physiological regulation, which in turn was significantly predictive of their internalizing problems. More specifically, mothers who had a greater risk of child abuse during their pregnancy had children who showed more physiological regulation difficulties at 24 months of age (e.g., disrupted sleeping patterns, more emotionally reactive) which led to more internalizing problems at 36 months (e.g., depression and anxiety). Second, prenatal maternal child abuse potential influenced later externalizing problems directly as well as indirectly, through toddler's self-regulation. Mothers showing greater abuse potential during pregnancy had children with greater externalizing problems at 36 months (e.g., aggression, defiance). Higher abuse potential also predicted greater dysregulation which in turn also fostered greater externalizing problems. In summary, it appears that physiological regulation serves as an important process variable responsible for transmitting maltreatment's effects to internalizing symptoms. For externalizing problems, however, both maternal abuse potential and children's dysregulation are important influences. Overall results highlighted the importance of considering toddlers' regulation in understanding the link between child abuse and early behavioral problems.

PRACTICE IMPLICATIONS

The findings from this study lend support to the urgent need of early intervention and provide a glimpse of two key domains and times in which to offer programming. Most importantly, the findings highlight the importance of laying a solid foundation for positive parenting as early as possible.

Preventing Child Abuse

Screening during pregnancy in order to identify mothers at risk for abuse potential could prevent the tragic cycle of maltreatment and children's subsequent developmental dysfunction from unfolding. Offering prevention programming for pregnant mothers could alter problematic parenting beliefs and attitudes before the child is even born providing the optimal groundwork for the parent-child relationship to begin. Many evidence-based home visitation programs are available, such as SafeCare, Nurse Family Partnership, Triple-P and Healthy Families America, with demonstrated success in reducing rates of maltreatment as well as in increasing non-violent means of punishment. When used as a part of Early Head Start programming, it could improve the home life of the children, the quality of parent-child interactions, and the children's chances of school success. Utilizing the abbreviated CAP measure could provide an efficient means of identifying families who would benefit from services.

Supporting Children's Regulation

For children who have already experienced maltreatment and are showing signs of early dysregulation, toddlerhood is another key time to intervene to support healthy regulatory development. Schmitt and colleagues (2014) conducted and evaluated a self-regulation intervention for young children at-risk for poor regulation. The 8-week self-regulation intervention was implemented in Head Start classrooms and proved effective: children receiving the intervention showed greater gains in both self-regulation and academic achievement than those in the control group. In a review of interventions that specifically included a component of physiological regulation (cortisol levels) as an evaluative assessment, support was found for the possibility of psychosocial interventions repairing physiological dysregulation brought about from early childhood adversity (Slopen, McLaughlin, & Shonkoff, 2014). Offering self-regulation interventions for families of at-risk toddlers could change the developmental trajectory of the child by supporting healthy physiological regulation.

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