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Research article

The effects of recurrent physical abuse on the co-development of behavior problems and posttraumatic stress symptoms among child welfare-involved youth☆

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ABSTRACT

The primary aim of the current study was to examine the longitudinal effects of ongoing physical abuse on the co-development of externalizing behavior problems and posttraumatic stress (PTS) symptoms among child welfare-involved adolescents. Using three waves of data from the National Survey of Child and Adolescent Well-Being, we performed unconditional and conditional parallel process latent growth curve modeling in a structural equation modeling framework. The study sample included 491 adolescents who were between 11 and 13 years of age at baseline. Higher levels of initial PTS symptoms were associated with higher levels of externalizing behavior problems, but the rate of change in PTS symptoms were not significantly associated with the rate of change in externalizing behavior problems over time. Although physical abuse was concurrently associated with both externalizing behavior problems and PTS symptoms at all assessment points, there were no lagged effects. Additionally, we found that physical abuse indirectly affects subsequent development of externalizing behavior problems and PTS symptoms through ongoing physical abuse. Findings highlight the comorbidity of externalizing behaviors and PTS symptoms among early adolescents in the child welfare system, underlining the importance of screening for and addressing these problems simultaneously. Findings also point to the need for continued assessment of and protection from ongoing physical abuse during adolescence.

1. Introduction

Adolescent physical abuse is an under-recognized problem that negatively affects the well-being and social outcomes of youth (Mersky, Topitzes, & Reynolds, 2012; Smith, Ireland, & Thornberry, 2005). A solid body of literature suggests that physically abused children and youth are at a heightened risk of experiencing externalizing behavior problems and posttraumatic stress (PTS) symptoms (Lansford et al., 2006; Teisl & Cicchetti, 2008; Yoon, Steigerwald, Holmes, & Perzynski, 2016). There is also some evidence that these externalizing behavior problems and PTS symptoms often co-occur (Ackerman, Newton, McPherson, Jones, & Dykman, 1998; Bernhard, Martinelli, Ackermann, Saure, & Freitag, 2016; Margolin & Vickerman, 2007). The longitudinal relations among these

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variables is less understood; studies have yet to examine the longitudinal effects of ongoing and repeated physical abuse on the co-development of externalizing behavior problems and PTS symptoms in adolescence. It is critical to understand the role of ongoing adolescent physical abuse in explaining co-development of externalizing behavior problems and PTS symptoms over time in order to develop effective intervention strategies to foster positive and healthy development for the high-risk population.

1.1. Theoretical framework

Developmental psychopathology perspective (Sroufe & Rutter, 1984) offers key insights into understanding longitudinal (process-level) child developmental outcomes. A central tenet of this integrative perspective posits that early adversities and early negative environmental exposures (e.g., child maltreatment) may lead to later maladaptation (e.g. behavior problems and psychological disorders) (Toth & Cicchetti, 2013). The effects of negative life events cascade through development such that maladaptation in one domain (e.g., externalizing behavior problems) or one developmental stage (e.g., early adolescence) may be linked to maladaptation in other domains (e.g., PTS symptoms) or in other developmental stages (mid-adolescence).

This perspective also stresses that ultimate developmental outcomes (adaptation or maladaptation) are determined by a complex interplay between various risk and protective factors that evolve over time (Sroufe, 2009; Toth & Cicchetti, 2013). Developmental psychopathologists argue that it is only by examining the individual's adverse life experiences (e.g., child physical abuse), changing contexts and developmental history (e.g., earlier and later physical abuse, ongoing physical abuse), and outcomes over time that one's development can be truly understood, highlighting the value of prospective longitudinal studies (Sroufe & Rutter, 1984; Sroufe, 2009).

1.2. Co-development of externalizing behavior problems and PTS symptoms

Prior research supports that PTS symptoms commonly co-occur with other emotional and behavioral problems, including externalizing behaviors, among children who experience child maltreatment (Ackerman et al., 1998; Barboza & Dominguez, 2017; Margolin & Vickerman, 2007; Rayburn, McWey, & Cui, 2016). Despite ample evidence of the co-occurring nature of externalizing behavior problems and PTS symptoms from cross-sectional research (e.g., Bernhard et al., 2016), it is unclear how developmental patterns of externalizing behavior problems and PTS symptoms are interrelated, especially during early- to mid- adolescence, in which the symptoms may be especially salient (e.g., Bongers, Koot, Van der Ende, & Verhulst, 2003; Lahey et al., 2000). To the best of our knowledge, to date, only one study has examined the co-development of PTS and externalizing symptoms in child welfare-involved youth, and found that initial levels of externalizing behavior problems were positively related to both initial levels and rate of change in PTS symptoms (Barboza, Domínguez, & Pinder, 2017). More research is necessary to investigate the co-development of externalizing behavior problems and PTS symptoms, which may offer important information to determine the context and timing of interventions to address psycho-behavioral symptoms among at-risk youth.

1.3. Effects of physical abuse on externalizing behavior problems and PTS symptoms

Among the different types of maltreatment, physical abuse is a particularly well-known risk factor for both externalizing behavior problems and PTS symptoms (Lansford et al., 2006; Teisl & Cicchetti, 2008; Yoon et al., 2016). Physical abuse is the second most common form of child maltreatment constituting approximately 17.2% of child maltreatment cases (US Department of Health & Human Services [U.S. DHHS], 2016). However, the prevalence rate of physical abuse is higher than neglect in adolescence, making this problem an important public health priority during this developmental stage (U.S. DHHS, 1993). Further, adolescent physical abuse has received relatively less attention compared to early childhood physical abuse (Pelcovitz et al., 2000). Yet, prior research suggests the importance of examining physical abuse during adolescence because of its effects on behavioral and psychiatric disorders that may continue into adulthood (Fagan, 2005; Mersky et al., 2012; Silverman et al., 1996).

Extant literature suggests that physically abused children and youth are more likely to develop externalizing behavior problems (Norman et al., 2012; Teisl & Cicchetti, 2008), with several longitudinal studies reporting the long-term negative effects of childhood physical abuse on externalizing behavior problems that last into adolescence (Jaffee, Caspi, Moffitt, & Taylor, 2004; Lansford et al., 2004; Lansford et al., 2006). Externalizing behavior problems refer to negative, overt, and outward actions that are directed to the external environment and may be expressed as increased levels of aggression and delinquent behaviors (Achenbach, 1991). Physically abused youth may respond more aggressively towards others and are more challenged in their ability to regulate their anger responses (Shackman & Pollak, 2014). Externalizing behavior problems in adolescence is a critical concern given its relation to other negative social and health outcomes, such as substance use, disruptive disorders, and criminal activity in adolescence and adulthood (Farmer et al., 2015; Reef, Diamantopoulou, Meurs, Verhulst, & Ende, 2011; Salekin, 2008).

Physical abuse also increases the likelihood of PTS symptoms and posttraumatic stress disorder (PTSD) in children and youth (Davis & Siegel, 2000; Norman et al., 2012; Pelcovitz et al., 1994). PTS symptoms entail emotional, physical, and cognitive problems following exposure to a single or multiple traumatic experiences (American Psychiatric Association [APA], 2013). PTS symptoms can include experiencing distressing memories and/or dreams of the trauma, disassociation, prolonged distress, psychological and physiological reactions to trauma-related stimuli, mood alterations, avoidance of persons and places that prompt memories or thoughts about the traumatic event, and cognitive distortions (APA, 2013). Estimates of PTSD among children and youth with abuse histories are variant, ranging from 21% to 55% (Yehuda, Spertus, & Golier, 2001) which is likely due to the different definitions of PTSD (Linning & Kearney, 2004). The risk for heightened PTS symptoms among child welfare-involved youth has been well