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Research article

A daily process examination of the relationship between childhood trauma and stress-reactivity☆

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ABSTRACT

Childhood trauma (CT) has been associated with various forms of emotion dysregulation (ED), including stress-reactivity, which is believed to be one of the mechanisms underlying the link between CT and psychological disorders. The purpose of the present study was to further this line of research by using an intensive longitudinal research design to examine among college students (N = 1634, 53.7% women) whether reports of interpersonal CT, specifically emotional abuse and neglect, uniquely moderate the within-person association between repeated assessments of daily stress and negative affect (NA)(i.e., stress-reactivity). The study also examined whether the link between CT and stress-reactivity is stronger for discrete forms of NA and whether the effects of emotional abuse and neglect CT are unique from other trauma types and distinct from recent life stress and neuroticism. Results indicated that individuals with more severe histories of emotional abuse CT showed stronger stress-reactivity for anxiety, but not for other forms of affect when control variables were introduced. Neglect also moderated this association but in the opposite direction, such that those with more extensive histories of neglect exhibited lower anxiety in response to daily stress. Results highlight the unique and complex associations between various forms of interpersonal CT and stress-reactivity.

1. Introduction

Childhood trauma (CT) has consistently been associated with emotion dysregulation (ED) as well as with the development of psychopathology in adulthood (e.g., Cicchetti, 1989; Cicchetti & Toth, 1995; Silverman, Reinherz, & Giaconia, 1996). Research shows that interpersonal CT – i.e., events involving acts of commission or omission by people – is especially problematic (e.g., Cloitre, Cohen, & Koenen, 2006; Ehring & Quack, 2010; Ford, Stockton, Kaltman, & Green, 2006). However, to date, the majority of studies examining interpersonal CT have focused on the effects of physical and sexual abuse while relatively fewer studies have examined emotional abuse and neglect. The present study advances this line of research by utilizing an intensive longitudinal design to examine whether CTs related to emotional abuse and neglect are uniquely predictive of stress-reactivity in early adulthood.

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1.1. Early life trauma subtypes and emotion regulation

Research indicates that CT has serious long-term implications for psychopathology and maladaptive outcomes (e.g., D'Andrea et al., 2012; Teicher & Samson, 2013). Emotion dysregulation (ED) – that is, problems with identifying, modulating and expressing emotions effectively – is believed to be one of the core mechanisms through which CT affects psychological disorders (e.g., Cicchetti, 1989; De Bellis, 2001; Gratz & Roemer, 2004). Numerous studies have found that CT predicts various forms of ED more so than traumatic stressors occurring later in life (e.g., Bunce, Larsen, & Peterson, 1995; Ehring & Quack, 2010; Manly, Kim, Rogosch, & Cicchetti, 2001). Biological and social learning perspectives have posited explanations for how CT contributes to ED as the immature brain organizes itself during sensitive periods (e.g., Glaser, 2000; Nemeroff, 2004; Twardosz & Lutzker, 2010) and as caregiver-child interactions model and reinforce emotion regulation processes (e.g., Maughan & Cicchetti, 2002; Morris, Silk, Steinberg, Myers, & Robinson, 2007; Shipman et al., 2007).

Research has shown that the effects of CT on emotion regulation can differ with regard to trauma type, such that interpersonal trauma (i.e., physical, sexual and emotional abuse and physical and emotional neglect), particularly experienced from caregivers, may yield more deleterious effects than non-interpersonal types of trauma (e.g., accidents, illness and natural disasters; Cloitre et al., 2006; Ford et al., 2006; Van Dijke, Ford, Frank, Van Son, & Van den Hart, 2013). Although most of this research has focused on physical and sexual abuse, there is some evidence suggesting that emotional abuse and neglect might have distinct effects on pathology (e.g., Ehring & Quack, 2010; Glaser, 2000; Manly et al., 2001). Especially relevant to the current study, Berzenski and Yates (2011) and Burns et al. (2010) found emotional abuse CT uniquely related to self-reports of ED and psychopathology among college students.

1.2. Stress-reactivity and the daily process approach

Previous studies of CT and ED have generally operationalized the latter using traditional self-reports (e.g., multi-item questionnaires) and/or observer ratings of behaviors/interactions (e.g., Gratz, Tull, Baruch, Bornovalova, & Lejuez, 2008; Maughan & Cicchetti, 2002; Shields & Cicchetti, 1998). Although informative, these methodologies are limited in that they (a) do not capture the dynamic temporal processes related to emotional processing as it unfolds in everyday life, (b) may be prone to recall biases and errors of inference (specifically, retrospective self-reports) and (c) represent a rather narrow, state-dependent sampling of such processes (e.g., Affleck, Zautra, Tennen, & Armeli, 1999; Bolger, Davis, & Rafaeli, 2003; Scollon, Kim-Prieto, & Diener, 2003; Smyth & Stone, 2003).

A growing literature has taken a more sophisticated approach in assessing ED via the use of intensive longitudinal research designs (e.g. Bolger et al., 2003; Scollon et al., 2003; Tennen, Affleck, Armeli, & Carney, 2000). In this approach, ED is operationalized as the degree to which relative changes (deviations from mean levels) in momentary or daily stress covary with concurrent affective states, i.e., stress-reactivity (e.g., Almeida, 2005; Schneiderman, Ironson, & Siegel, 2005; Stawski, Sliwinksi, Almeida & Smyth, 2008). In other words, high stress-reactivity is the tendency to react more strongly to stressors with high negative affect (NA) (e.g., Bolger & Schilling, 1991; Marco & Suls, 1993; Smyth et al., 1998). This approach reduces recall error and bias and minimizes researcher reliance on singular, possibly misrepresentative participant responses (e.g., Bolger et al., 2003; Scollon et al., 2003; Smyth and Stone, 2003).

To date, only a few studies have examined the association between CT and daily stress-reactivity using intensive longitudinal designs. For example, Glaser, van Os, Portegijs and Myin-Germeys's (2006) study of adults with histories of somatic complaints, Lardinois, Lataster, Mengelers, van Os and Myin-Germeys's (2011) study of adult patients with recent onset non-affective psychotic disorder and Infurna, Rivers, Reich, and Zautra's (2015) study of middle-aged adult community residents all found that individuals with a history of CT, compared to individuals without CT histories, showed stronger daily stress-reactivity. Although the results of these studies support the notion that CT increases vulnerability to later-life ED, several aspects of measurement require further investigation. First, both Glaser et al. (2006) and Lardinois et al. (2011) used paper and pencil questionnaires for daily reporting, for which compliance verification is problematic (e.g., Bolger et al., 2003; Scollon et al., 2003; Smyth & Stone, 2003). Second, these studies did not examine non-interpersonal trauma or discrete subtypes of interpersonal trauma, such as emotional abuse and neglect. Finally, these studies did not rule out possible confounding effects of neuroticism and recent negative life events, which have been shown to be related to stress-reactivity and may be related to recall of CT (e.g., Bolger & Schilling, 1991; Hankin, 2005; McCrae, 1990; Roy, 2002).

1.3. Present study

The primary goal of our study was to examine the association between specific forms of interpersonal CT – specifically emotional abuse and neglect – and daily stress-reactivity, controlling for other types of CT (physical abuse/family violence, sexual abuse and non-interpersonal trauma), recent major negative life stress and neuroticism. Based on previous research demonstrating a relationship between emotional abuse CT and ED as well as with related adverse adult outcomes (e.g., Berzenski & Yates, 2011; Burns et al., 2010; Sullivan et al., 2006), we hypothesized that emotional abuse CT would be positively related to daily stress-reactivity. In a more exploratory fashion, we examined whether neglect CT was related to stress-reactivity. Although we would expect similar deleterious processes linking neglect CT to increased stress-reactivity based on research connecting neglect CT with adverse adult outcomes (e.g., Widom, 2013), less research has explored neglect CT and ED as compared to other CT subtypes. Further, some research shows that neglect CT is actually related to numbing