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Research paper

Emotion regulation mediates the effect of childhood trauma on depression

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ABSTRACT

Background: Childhood trauma increases the risks of both depression and dysfunctional emotion regulation, which is a factor that has been strongly linked to depression. Because of these demonstrated relationships, it can be hypothesized that dysfunctional emotion regulation is a mediator of the association between childhood trauma and depression.
Methods: To test this hypothesis, we assessed the indirect effect of emotion regulation (Emotion Regulation Skills Questionnaire) on the relationship between childhood trauma (Childhood Trauma Questionnaire) and depression severity (24-item Hamilton Rating Scale for Depression) as well as depression lifetime persistency (i.e., lifetime percentage spent in major depressive episodes; assessed via SCID and Life Chart Interviews) in 269 patients with major depressive disorder (MDD).
Results: Bootstrapping-enhanced mediation analyses indicated that deficits in general emotion regulation mediated the association of childhood trauma to both depression severity and depression lifetime persistency. Further exploratory analyses indicated that specific emotion regulation skills (such as the ability to mindfully observe, accept, and tolerate undesired emotions or the willingness to voluntarily confront situations that prompt negative emotions in order to attain personally relevant goals) significantly mediated the association between childhood trauma and depression severity. Willingness to confront was a mediator for both depression outcomes (depression severity and lifetime persistency).
Limitations: The employed mediation analyses are cross-sectional in nature, which limits any firm conclusions regarding causality.
Conclusions: The findings support the assumption that a sophisticated emotion regulation may help prevent the onset or unfavorable course of depression in individuals who have experienced childhood trauma.

1. Introduction

Research has shown that childhood maltreatment, in terms of abuse and neglect, is disturbingly common (Barnett et al., 1997; Briere and Elliott, 2003; Häuser et al., 2011; Scher et al., 2004). In a nationally representative US-run survey of 4023 American youth, 8% reported lifetime prevalence (LTP) of sexual assault, 17% reported LTP of physical assault, and 39% reported LTP of witnessing violence (Kilpatrick and Saunders, 2000).

Childhood trauma has been associated with a range of negative consequences including physical health problems (Walker et al., 1999) and psychological disorders such as PTSD (Hetzel and McCanne, 2005; Rodriguez et al., 1996; Rowan et al., 1994; Schaaf and McCanne, 1998) or personality disorders (Johnson et al., 1999; Miller and Lisak, 1999; Rogosch and Cicchetti, 2005; Weaver and Clum, 1993). Ample evidence also exists for the assumption that childhood trauma is associated with the onset and recurrence of depressive disorders (Chapman et al., 2004; Ferguson and Dacey, 1997; Lok et al., 2013; Nanni et al., 2012).

However, the causal mechanisms between childhood trauma and the subsequent development of depression have not been sufficiently studied. Potential mediators of the relationship between childhood trauma and depression are divers, but clarifying research is still scarce. In a mediation model, the relation between a predictor variable and an outcome variable can be further explained by their relation to a mediator variable (Field, 2013). A number of potential mediators of the relationship between

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childhood trauma and depression have been identified in the literature so far. Self-criticism has been found to be a mediator of the link between parental verbal abuse and internalizing symptoms (depression and anxiety) during adulthood in a national representative epidemiological survey (Sachs-Ericsson et al., 2006). Other studies indicate negative cognitive styles as mediators of the effect of childhood maltreatment on later depression in college students and young adults (Gibb et al., 2001; Hankin, 2006). Maciejewski and Mazure (2006) identified fear of criticism and rejection as mediators of the relationship between childhood emotional abuse and adult onset MDD in a case-control sample. Further, schemes of vulnerability to harm, shame, and self-sacrifice have been found to mediate the effect of emotional maltreatment on later symptoms of anxiety and depression in college students (O'Dougherty Wright et al., 2009).

Another significant link between childhood maltreatment and later depression may be the suboptimal development of successful emotion regulation following childhood maltreatment (Crow et al., 2014; Raes and Hermans, 2008; Spasojević and Alloy, 2002). Emotion regulation refers to a variety of processes through which individuals attempt to control and manage their spontaneous flow of emotions in order to accomplish their needs and goals (Gross, 2013; Koole, 2009; Thompson, 1994). The Adaptive Coping with Emotions model (ACE; Berking and Lukas, 2015; Berking and Whitley, 2014) conceptualizes effective emotion regulation as the interplay of the abilities to: (1) consciously perceive emotions, (2) utilize sensations to identify emotions, (3) correctly label emotions, (4) understand emotions, (5) accept aversive emotions, (6) tolerate aversive emotions, (7) provide oneself with compassionate support when self-regulating emotions, (8) confront emotionally challenging situations if necessary to attain personally relevant goals, and (9) modify aversive emotions (Berking, 2010; Braams et al., 2012; Gilbert et al., 2006; Kobasa et al., 1982; Marchesi et al., 2005; Margraf and Berking, 2005; Salovey et al., 1995; Southam-Gerow and Kendall, 2002; Subic-Wrana et al., 2005; Vine and Aldao, 2014). The capacity for emotion regulation is developed early in life, and a number of studies indicate that growing up with experiences of maltreatment may adversely affect a child's later emotion regulation capacity (Alink et al., 2009; Burns et al., 2010; Cole et al., 2004). Moreover, it has been shown that deficits in emotion regulation are associated with various mental health problems (Berking and Wupperman, 2012; Burns et al., 2012; Rosenthal et al., 2015).

In regard to depression, several correlational (Brockmeyer et al., 2012; Ehring et al., 2008; Garnefski and Kraaij, 2006), prospective (Arditte and Joormann, 2011; Berking et al., 2014; Wang et al., 2014), experimental (Campbell-Sills et al., 2006; Diedrich et al., 2014; Ehring et al., 2010; Joormann and Gotlib, 2010; Liverant et al., 2008), treatment outcome (Berking et al., 2008b, 2013; Radkovsky et al., 2014) and neuroscience (Farb et al., 2012; Heller et al., 2013; Kanske et al., 2012; Ritchey et al., 2011; Rive et al., 2013) studies have indicated that deficits in emotion regulation contribute to the development and maintenance of depression.

A small number of preliminary studies with homogeneous samples (e.g., college samples) have examined emotion regulation as the mechanism between childhood maltreatment and later depression. For instance, in a mostly low-income African American sample, emotion dysregulation has been found to mediate the relationship between childhood emotional abuse and depressive symptoms (Crow et al., 2014). In addition, in a college sample, rumination (a specific dysfunctional emotion regulation skill related to depression; Nolen-Hoeksema, 2000) has shown to partially mediate the relationship between emotional maltreatment and the number of major depressive episodes experienced by participants during a follow-up period of 2.5 years (Spasojević and Alloy, 2002). Among the females of Spasojević and Alloy (2002) study, rumination fully mediated the relationship between sexual maltreatment and the number of major depressive episodes. This has been replicated in a subsequent study in students who experienced emotional abuse, which found that brooding (a subtype of rumination, a dysfunctional emotion regulation skill) partially mediates the relationship between childhood emotional abuse and depressive symptoms (Raes and Hermans, 2008).

To date, no studies have investigated general emotion regulation as the mediating mechanism between childhood trauma and depression in a clinical sample or investigated general emotion regulation as the mediating mechanism between childhood trauma and depression experienced over a lifetime. Moreover, research has been focused thus far on only general emotion regulation or only single dysfunctional emotion regulation strategies (i.e., rumination), not taking a variety of different emotion regulation skills into account.

The aim of this study was to examine emotion regulation as a mediator of the relationship between childhood maltreatment and depression. Our hypothesis was that general emotion regulation mediates the effect of childhood trauma on adult depression severity. Further, we explored whether specific emotion regulation skills of the ACE model (awareness, sensations, clarity, understanding, acceptance, tolerance, self-support, willingness to confront, and modification; Berking and Lukas, 2015; Berking and Whitley, 2014) could be identified as particularly important in explaining the relationship between childhood maltreatment and depression severity. Finally, we expected all these relations to exist not only for adult depression severity but also for depression lifetime persistency.

2. Method

2.1. Design and procedures

The study's participants have all been treated for MDD in nine German clinics that offer standard psychotherapeutic treatment. All subjects provided written informed consent to participate in the study. Ethics approval was obtained from the responsible ethics boards. Diagnoses for the study were assessed with the Structured Clinical Interview for DSM-IV-TR (SCID; German version; Wittchen et al., 1997) at the beginning of the hospital treatment by experienced clinicians or diagnostic raters with extensive training in conducting this interview. The outcomes of interest were subsequently assessed using observer-based interviews and self-report measures.

2.2. Study population

To participate in the study, patients needed to have received treatment in one of the collaborating mental health clinics and be a part of an aftercare study that began after the clinic stay (DRKS-ID: DRKS00004811). Inclusion criteria for this study were: (1) diagnosis of MDD according to DSM-IV-TR criteria (Dilling et al., 1991; Wittchen et al., 1997), (2) 18–70 years of age, (3) German as first language or fluent, and (4) access to the Internet and telephone. Patients were excluded if they had a history of bipolar disorder, a current psychotic disorder, a current substance dependence, a primary substance abuse, a severe and current high risk of suicide, a primary eating disorder, a diagnosis of schizotypal personality disorder, a substance-induced or organically caused affective disorder, or a severe cognitive impairment. The exclusion criterion of severe cognitive impairment was checked with the interviewer's subjective impression during the interview (e.g., attention deficits, executive dysfunctioning, memory problems).