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Childhood maltreatment severity and alcohol use in adult psychiatric inpatients: The mediating role of emotion regulation difficulties☆

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ABSTRACT

Objective: Emotion regulation difficulties are a potentially key mechanism underlying the association between childhood maltreatment and alcohol use in adulthood. The current study examined the mediating role of emotion regulation difficulties in the association between childhood maltreatment severity (i.e., Childhood Trauma Questionnaire total score) and past-month alcohol use severity, including alcohol consumption frequency and alcohol-related problems (i.e., number of days of alcohol problems, ratings of "bother" caused by alcohol problems, ratings of treatment importance for alcohol problems).

Method: Participants included 111 acute-care psychiatric inpatients (45.0% female; *M*age = 33.5, *SD* = 10.6), who reported at least one *DSM-5* posttraumatic stress disorder Criterion A traumatic event, indexed via the Life Events Checklist for *DSM-5*. Participants completed questionnaires regarding childhood maltreatment, emotion regulation difficulties, and alcohol use.

Results: A significant indirect effect of childhood maltreatment severity via emotion regulation difficulties in relation to alcohol use severity (β = 0.07, *SE* = 0.04, 99% CI [0.01, 0.21]) was documented. Specifically, significant indirect effects were found for childhood maltreatment severity via emotion regulation difficulties in relation to alcohol problems (β's between 0.05 and 0.12; all 99% bootstrapped CIs with 10,000 resamples did not include 0) but not alcohol consumption.

Conclusion: Emotion regulation difficulties may play a significant role in the association between childhood maltreatment severity and alcohol outcomes. Clinical implications are discussed.

1. Introduction

Childhood maltreatment includes a broad spectrum of adverse experiences, including abuse (i.e. physical, sexual, and emotional) and parental neglect (i.e. emotional and physical). Exposure to childhood maltreatment is a non-specific risk factor for a variety of types of psychopathology and a significant correlate of alcohol misuse and alcohol use disorder (AUD) in adulthood [1,2]. Indeed, early traumatic life experiences often precede the development of AUD [3]. A history of childhood maltreatment has an impact on the development, severity, and course of AUD [4]. Research has linked a prior history of childhood sexual, physical, and emotional abuse with early-onset drinking, higher levels of alcohol consumption, heavy episodic drinking, and the development of AUD in adulthood [4–12]. Among treatment-seeking adults, childhood abuse and neglect were found to be strong predictors of alcohol dependence severity above and beyond the contribution of childhood physical and sexual abuse and later traumatic experiences in adulthood [13]. Furthermore, exposure to childhood maltreatment has been associated with more severe alcohol use and worse treatment outcomes (i.e. excessive alcohol consumption, alcohol cravings, shorter abstinent rates, and less adherence to treatment) in adults with AUD [4,6,14,15]. Given the associations between childhood maltreatment and alcohol misuse and AUD, more work is needed to understand the cognitive-affective mechanisms underlying childhood maltreatment and alcohol misuse in order to inform cognitive-behavioral intervention and prevention efforts for AUD.

Emotion regulation is a transdiagnostic factor related to various types of psychopathology and maladaptive behaviors [16–18], including AUD [19]. Emotion regulation is thus one promising mechanism by which to better understand the childhood maltreatment-alcohol association. Emotion regulation is conceptualized as the awareness and understanding of emotions, acceptance of emotions, the ability to control impulsive behaviors and behave in accordance with desired goals when experiencing negative emotions, and the ability to

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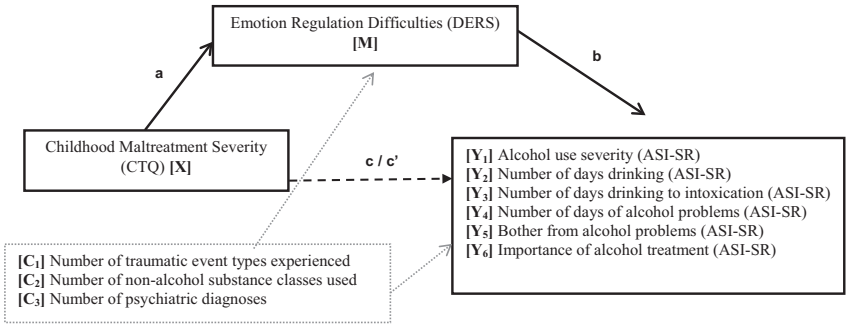

Fig. 1. Proposed model
Note: a = Effect of X on M; b = Effect of M on Y_i; c = Total effect of X on Y_i; c' = Direct effect of X on Y_i controlling for M; a*b = Indirect effect of X on Y via M.

use situationally appropriate emotion regulation strategies flexibly to modulate emotional responses to meet individual goals and situational demands [20]. Difficulties in emotion regulation are defined as an absence or deficiency in any or all of these abilities [20]. Although numerous processes are involved in the etiology and maintenance of psychopathology, including AUD, developmental models suggest that disruptions in emotion regulatory processes are a key mechanism linking childhood maltreatment to the onset and/or maintenance of psychopathology [21].

Building emotion regulation skills is a complex developmental task that is influenced by biological (e.g., genetic influences) and environmental risk factors (e.g., parental invalidation of child's emotions, parenting modeling, hostile social and family environments) [22–24]. Emotion regulation skills development may be strongly influenced and compromised by childhood experiences [25,26]. Indeed, emotion regulation difficulties or skills may precede childhood maltreatment or result from and/or worsen following childhood adversities [25]. Substantial literature has noted that exposure to childhood abuse or maltreatment is associated with deficits in emotion regulation [27,28] and related processes, such as anxiety sensitivity (i.e., fear of anxiety and related sensations) [29–35]. Many individuals with a history of childhood maltreatment report severe emotion regulation disturbances that include difficulty recognizing and identifying emotions and/or letting go of distressing affective states [25,36]. For example, when compared to healthy controls, maltreated children who experienced neglect and sexual abuse were less able to understand negative emotions and manifested fewer adaptive emotion regulation skills [37,38].

While biological (e.g., genetic) and environmental factors account for significant variance in the risk for AUD, a considerable body of research points to the self-medication model to conceptualize the high rates of co-occurrence between childhood maltreatment, trauma exposure, or posttraumatic stress disorder (PTSD) and AUD [39–44]. The self-medication hypothesis posits that individuals may consume alcohol or other substances to cope with psychological distress, thereby alleviating negative emotional states and evoking positive emotions [1,3,45–47]. Childhood maltreatment may lead to alcohol or drug consumption in order to avoid or reduce negative mood states due to deficits in more adaptive emotion regulatory skills [7,34,47–49]. Alcohol use may act as a strategy to regulate emotion due to its mood dampening pharmacological effects [50]. Furthermore, the consumption of alcohol to cope and reduce stress is a risk factor for increased alcohol use and the development of AUD [10,50]. Indeed, alcohol dependent individuals report greater difficulties with adaptive regulation compared to healthy controls [19,51]. Thus, childhood maltreatment may be related to alcohol misuse through heightened emotion regulation difficulties. That is, elevated emotion regulation difficulties may account for (i.e., help to explain) the well-established association between childhood maltreatment and alcohol misuse. A recent study supported the mediating role of emotion dysregulation, assessed via the Emotional Dysregulation Scale, in the association between childhood abuse and self-reported substance use (i.e., alcohol and illicit drug use) in adulthood, among a primarily urban, African American population [52].

However, at least two significant gaps have been noted in the extant literature. First, most extant studies examining childhood maltreatment-alcohol relations have focused upon undergraduate samples [53–55], community adults [56,57], or adults attending residential treatment programs for substance use disorders [5,34]. Extensions of this work with clinical acute-care psychiatric populations are necessary. Second, although the link between childhood maltreatment and alcohol use in adulthood has been well established, only one study to date has explicitly tested the role of emotion regulation difficulties in the association between severity of childhood maltreatment and alcohol misuse [52]. No studies have tested this model in psychiatric inpatients or by examining specific facets of alcohol use (e.g., frequency of alcohol use, alcohol use problems). Relatedly, published studies have mostly focused on AUD [4,5], while neglecting the range of other alcohol-related outcomes (e.g., alcohol consumption, alcohol-related problems). Research in this area could aid in the development of preventative strategies and targeted therapeutic approaches to reduce the risk of developing problematic drinking patterns and alcohol dependence in at-risk populations.

Thus, the aim of the current study was to examine the association of childhood maltreatment severity and alcohol use through emotion regulation difficulties in a sample of acute-care psychiatric inpatients (Fig. 1). First, we hypothesized that greater difficulties in emotion regulation mediate, or underlie, the association between childhood maltreatment severity and the severity of past-month alcohol use, including alcohol consumption frequency and alcohol-related problems. Second, a series of five post hoc models were conducted to examine whether this pattern would manifest more strongly in relation to alcohol-related problems (i.e., number of days of alcohol problems, ratings of "bother" caused by alcohol problems, and ratings of treatment importance for alcohol problems) as opposed to alcohol consumption (i.e., number of days drinking alcohol, number of days drinking to intoxication). This pattern of findings was hypothesized as consistent with recent work in the area of emotional vulnerability factors and alcohol problems/consumption [58,59]. All effects were expected after considering the variance contributed by theoretically-relevant covariates (please see Data Analytic Plan).

2. Method

2.1. Participants

The sample was comprised of 111 psychiatric inpatients (45.0% women; *M*age = 33.5, *SD* = 10.6) at a public, university-affiliated, acute-care psychiatric inpatient hospital in a large metropolitan area in the southern United States. Individuals 18–65 years of age who reported a history of trauma exposure, consistent with *DSM-5* PTSD Criterion A [60], as indexed by the Life Events Checklist for *DSM-5* (LEC-5) [63], were eligible; participants were not required to meet full diagnostic criteria for PTSD [60]. Potential participants were deemed ineligible if they were unable to provide verbal and written informed