Psychiatry Research 196 (2012) 133–137

Contents lists available at SciVerse ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

The role of impulsivity in the association between childhood trauma and dissociative psychopathology: Mediation versus moderation

Eli Somer [a,*], Karni Ginzburg [b], Lilach Kramer [a]

[a] School of Social Work, University of Haifa, Mt. Carmel, Haifa 34406, Israel
[b] The Bob Shapell School of Social Work, Tel Aviv University, P.O. Box 39040, Ramat Aviv, Tel Aviv 69978, Israel

ARTICLE INFO

Article history:
Received 18 February 2011
Received in revised form 15 August 2011
Accepted 18 August 2011

Keywords:
Neglect
Abuse
Dysregulation
Dissociation
Impulsiveness
Impulse

ABSTRACT

Previous studies on survivors of childhood trauma documented associations between psychological dysregulation, impulsivity, and both behavioral and emotional manifestations of distress. Yet, the mechanism that links these variables remains unclear. The current study aims to examine the pattern of relations between a history of child abuse, impulsivity and dissociation. More specifically, it examines whether impulsivity serves as a moderator or mediator in the association between childhood trauma and dissociation. Eighty-one inpatients from the acute wards of two psychiatric hospitals participated in this study. Data were collected by clinician-administered questionnaires. A highly significant linear hierarchical regression analysis revealed that both psychiatric comorbidity and childhood trauma made unique contributions to the variance of dissociation. Yet, the significant association between childhood trauma and dissociation decreased when impulsivity was entered into the regression model. Our findings suggest that impulsivity mediates the association between childhood trauma and dissociative psychopathology and imply that the identification and treatment of impulsivity could be a potentially valuable clinical target in individuals with dissociative disorders.

1. Introduction

Impulsivity is a personality trait, or a cognitive–emotional style, characterized by a tendency to act quickly on urges, primarily because of an impaired capacity to regulate negative emotional states. Impulsivity can be viewed on a continuum along which low levels are advantageous in certain circumstances needing quick decisions while high levels are often maladaptive and implicated in the etiology of psychiatric illness. The construct has been identified with a class of psychiatric disorders characterized by behavioral dyscontrol (Brodsky et al., 2001).

Studies among trauma survivors, particularly survivors of childhood trauma, have demonstrated that many survivors report emotional and behavioral adjustment difficulties that are associated with impulsivity and psychological dysregulation. These two concepts are related processes that were seen as jointly contributing to a high frequency of interpersonal conflict, impulsive acts, and self-injurious behavior (Simeon et al., 1992; Bornovalova et al., 2005; Gratz, 2006), gambling (Afifi et al., 2010), eating disorders (Reto et al., 1993), addictive behaviors (Somer, 2003), violence (McCrory and Viding, 2010), and suicidal behavior (Ullman and Najdowski, 2009). In addition, impulsivity was shown to be associated with Post-traumatic Stress Disorder (PTSD) in survivors of childhood trauma (Beers and De Bellis, 2002).

One of the most salient pathological effects of childhood trauma is dissociation (van IJzendoorn and Schuengel, 1996). Traumatic experiences during childhood, when the tendency to dissociate is in its normal peak (Steiner et al., 2003), may prompt the persistent use of this defense to ward off the conscious awareness of sensations, emotions or memories related to the traumatic experiences. The repetitive use of dissociation could develop into chronic pathological dissociation.

Clinical reports on trauma survivors observed a co-existence of dissociative phenomenon and impulsivity (e.g., Stone, 1989). These impressions were supported by studies of psychiatric patients in general (Fehon et al., 2005; Merckelbach et al., 2005), and those with eating disorders (Vanderlinden and Vandereycken, 1997; Fuller-Tyszkiewicz and Mussap, 2008), substance abuse (Zlotnick et al., 1997), borderline personality disorders (Steiger et al., 2000), self-mutilation (Zlotnick et al., 1996) and pathological gambling (Ledgerwood and Petry, 2006), in particular. Nevertheless, the nature of the association between impulsivity and trauma-related dissociation has not yet been conclusively established.

The broad construct of impulsivity has been characterized traditionally as a stable and enduring trait (e.g., Eysenck and Eysenck, 1977; Cloninger et al., 1993). One hypothesis is that this trait is an independent risk factor for psychiatric symptomatology (Duka and Crews, 2009), which, when interacting with exposure to childhood trauma, can contribute to elevated levels of pathological dissociation. This moderating hypothesis is indirectly supported by studies documenting the genetic component in impulsivity (Baca-García et al., 2005; Congdon and Canli, 2008; Oades et al., 2008) with several studies

* Corresponding author at: School of Social Work, University of Haifa, Haifa 31905, Israel. Tel.: +972 4 8360494.
E-mail address: somer@research.haifa.ac.il (E. Somer).

0165-1781/$ – see front matter © 2012 Elsevier Ireland Ltd. All rights reserved.
doi:10.1016/j.psychres.2011.08.010

implicating serotonin deficiencies (e.g., Stein et al., 1996; Siever et al., 1999; Skodol et al., 2002). The moderating hypothesis is also in line with evidence of a significant association between impulsivity and psychopathologies that are not necessarily related to traumatic exposure, such as conduct disorder, various personality disorders or bipolar disorder (see Moeller et al., 2001). In fact, impulsivity is a prevalent psychiatric symptom, featuring in a variety of psychiatric diagnoses (American Psychiatric Association, 2000).

The hypothesized moderating role of impulsivity is further supported by recent findings of Fox et al. (2010), documenting that impulsivity moderated the association between exposure to stress and hazardous alcohol consumption among a community sample of regular drinkers (Fox et al., 2010). More specifically, they showed that a positive significant association between the level of cumulative stress and hazardous drinking was observed only among individuals with high levels of impulsivity, but not among those with low or moderate levels of impulsivity.

A theoretically divergent proposition presented in the literature is that increased impulsivity is an effect of traumatic experiences, resulting in pathological dissociation; thus suggesting that the association between childhood trauma and dissociation is mediated by impulsivity. This hypothesis is supported by studies indicating an association between impulsivity and a traumatic childhood history (e.g., Romans et al., 1995; Kaplan et al., 1995; Zlotnick et al., 1997; Brodsky et al., 2001; Roy, 2005). Similarly, neurobiological studies show dysregulation in hypothalamic–pituitary–adrenal (HPA) axis stress response systems and associated neurotransmitters and neuropeptides among survivors of childhood trauma (Heim and Nemeroff, 2001; Van der Kolk, 2003) as well as among individuals displaying impulsive behavior (e.g., King et al., 1990; Rosenblitt et al., 2001).

The mediation hypothesis has received further support from studies showing that impulsivity and psychological dysregulation mediate the association between child maltreatment and various maladaptive and painful consequences such as bullying behavior and being victimized by peers (Shields and Cicchetti, 2001), emotional distress (Maugham and Cicchetti, 2002), eating disorders (Wonderlich et al., 2001) and psychopathology (Alink et al., 2009). The most specific support for the mediation hypothesis was reported by Briere (2006). In his study, psychological dysregulation, seen as deficits in strategies, coping, and tension-reducing behavior, mediated the association between the level of exposure to traumatic events and dissociation. Brier's conceptualization of dysregulation is grounded in behavioral variables not dissimilar to widely accepted operationalizations of impulsivity (e.g. the Barrett Impulsivity Scale; BIS-11; Patton et al., 1995).

In light of the inconsistent evidence and theorizing concerning the role of impulsivity in the association between childhood trauma and dissociation, we aimed to examine the mechanism that links traumatic childhood history, impulsivity and dissociation. Since childhood trauma, dissociation, and impulsivity are mostly prevalent among psychiatric patients, and most of the researches on the relationships between these constructs were done with clinical populations, we decided to test our research question with a sample of non-chronic psychiatric patients.

Thus, in this study specifically, we examined the hypothesis that impulsivity in a clinical sample would be related to childhood trauma and pathological dissociation and, we explored whether impulsivity moderated or mediated the relationship between trauma and dissociation. Understanding the exact nature of relationship between impulsivity and both the dependent and independent variables in this study is of key importance. A moderating role for impulsivity would shed some theoretical light on why some trauma survivors are more vulnerable to dissociative psychopathology than others and could point clinicians to a potential at-risk group among survivors of childhood trauma. If impulsivity played a mediating role in the relationship between childhood trauma and dissociative psychopathology, it could be identified as an important clinical focus in the treatment of dissociative disorders.

2. Method

2.1. Participants and data collection

The research staff approached 96 acute psychiatric inpatients from open, low security wards of two psychiatric hospitals. Only individuals who did not have an appointed legal guardian, and who were hospitalized for at least 1 week, were invited to participate in the study. Eighty-one patients (84%) who had also participated in a study on undetected dissociative disorders among psychiatric inpatients (Ginzburg et al., 2010) became respondents in this research.

Fifty-nine percent of the participants were male. Participants ranged in age from 18 to 65 years ($M = 34.18$, standard deviation (S.D.) = 11.3). Most participants were single (61.7%), the rest were either married (12.3%) or separated/divorced (25.9%). Half the sample had 12 years of education (51.9%), 28.4% had fewer years of education, and the rest (19.8%) had completed more than 12 years of education. Most of the inpatients were unemployed at the time of data collection (69.1%).

Half the sample (55.6%) had a diagnosis of schizophrenia, and the records of one third (34.5%) indicated an affective disorder. Fourteen percent of the patients were diagnosed with a personality disorder, with or without a comorbid disorder. Eighty-five percent had a single psychiatric disorder, and the rest (14.8%) had two or more concurrent diagnoses. At the time of data collection patients had been hospitalized for an average of 4.61 weeks (S.D. = 4.12). Mean number of previous hospital admissions was 4.34 (S.D. = 4.82).

The study was undertaken after the approval of the research design by institutional Helsinki and university Institutional Review Board (IRB) committees. Informed consent was obtained from all participants prior to data collection. To ensure comprehension and optimal validity of responses, all research questionnaires were read to the participants in this study, who were then invited to respond orally.

2.2. Measures

2.2.1. Biographical variables

Data regarding gender, age, marital status, number of years of education and occupation were gathered using self-report questionnaires. Data on psychiatric diagnoses, number of admissions and length of current hospitalization were collected from medical records.

2.2.2. The Child Trauma Questionnaire (CTQ; Bernstein et al., 1994)

This self-report childhood trauma measure assesses childhood trauma history, such as emotional abuse or neglect, physical abuse or neglect and sexual abuse. The CTQ has been demonstrated to have strong psychometric properties in both clinical and community samples (Bernstein et al., 1994). Cronbach's alpha in the current sample was 0.84, demonstrating good internal consistency.

2.2.3. Multidimensional Inventory of Dissociation — Hebrew version (H-MID)

This self-report inventory of pathological dissociation, developed by Dell (2006), was translated into Hebrew and validated by Somer and Dell (2005). The H-MID is comprised of 168 dissociation items and 50 validity items. Respondents are asked to indicate how often they experience each symptom when not under the influence of alcohol or drugs. Total score ranges between 0 and 100. A score of 30 and above is considered a cut-off mark indicative of probable dissociative psychopathology (Dell, 2008). Previous studies demonstrated strong psychometric properties for the MID and its Hebrew version (Dell, 2006; Somer and Dell, 2005). Cronbach's alpha in the current sample was 0.99, indicating excellent internal consistency.

2.2.4. Barratt Impulsiveness Scale (BIS-11; Patton et al., 1995)

This self-report impulsivity questionnaire has been validated in both impulsive and normal populations. It consists of attentional (inattention and cognitive instability), motor (motor impulsiveness and lack of perseverance), and non-planning (lack of self-control and intolerance of cognitive complexity) forms of impulsivity. Respondents are asked to indicate the extent to which each item describes them, on a 4-point Likert scale. The BIS-11 has been demonstrated to have strong psychometric properties in both clinical and community samples (e.g., Carrillo-de-la-Peña et al., 1993). Cronbach's alpha in the current sample was 0.85, indicating high reliability.

2.3. Data analyses

First, the relations between participants' biographical variables, including trauma history and impulsivity, were examined by a series of Pearson correlations and t tests.

The examination of the moderation and mediation models was based on Baron and Kenny's (1986) conceptualization. To examine a moderation role for impulsivity in the association between childhood trauma and pathological dissociation, we examined the contribution of the independent variables (childhood trauma and impulsivity) and the interaction between them, to the variance of pathological dissociation, after controlling for participants' demographic variables and psychiatric history (age, gender, age of onset of psychiatric disorder, number of hospitalizations length of current admission, and psychiatric comorbidity). According to this procedure, significant interaction between child trauma and impulsivity would suggest that the association between child trauma and pathological dissociation is affected (i.e., moderated) by the level of impulsivity.

To examine whether impulsivity mediates the association between child trauma and dissociation, we followed a procedure described by Baron and Kenny (1986),