



## The relationship between childhood exposure to trauma and intermittent explosive disorder

Angela Nickerson<sup>a,b,\*</sup>, Idan M. Aderka<sup>a</sup>, Richard A. Bryant<sup>b</sup>, Stefan G. Hofmann<sup>a</sup>

<sup>a</sup> *Psychotherapy and Emotion Research Laboratory, Boston University, Boston, MA, United States*

<sup>b</sup> *School of Psychology, University of New South Wales, Sydney, NSW, Australia*

### ARTICLE INFO

#### Article history:

Received 21 December 2010

Received in revised form 9 January 2012

Accepted 11 January 2012

#### Keywords:

Anger

Violence

Aggression

PTSD

Generalized anxiety disorder

Mental health

### ABSTRACT

There has been a paucity of research linking intermittent explosive disorder (IED) to trauma and posttraumatic stress responses, despite evidence that trauma is strongly associated with anger reactions. The present study investigated the relationship between IED and a number of trauma-related factors, including trauma dosage, timing of first trauma, and posttraumatic stress disorder (PTSD). Participants were 4844 trauma-exposed and 731 non trauma-exposed adults who took part in the National Comorbidity Survey-Replication (NCS-R). Findings indicated that IED was associated with greater trauma exposure, PTSD and generalized anxiety disorder (GAD) diagnosis, and first exposure to traumatic events in childhood. Exploratory analyses investigating the link between IED and age at first trauma exposure across trauma types suggested that IED is related to childhood exposure to interpersonal traumatic events. These findings are discussed in the context of developmental trauma and cycles of violence models.

© 2012 Elsevier Ireland Ltd. All rights reserved.

### 1. Introduction

Intermittent explosive disorder (IED) has attracted little research attention since its inclusion in the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III, [American Psychiatric Association \(APA\), 1987](#)). While anger responses play a role in several psychological disorders including depression, post-traumatic stress disorder (PTSD), borderline personality disorder, and antisocial personality disorder ([APA, 1994](#)), IED is the only psychological disorder in the DSM-IV to explicitly focus on aggressive impulses. To meet criteria for IED, one must engage in recurrent assaultive or destructive acts that are out of proportion to triggering stressors ([APA, 1994](#)). Epidemiological research conducted in the United States, Japan and South Africa has suggested that lifetime prevalence rates of IED range from 1.2 to 9.0% ([Kessler et al., 2006](#); [Fincham et al., 2009](#); [Yoshimasu and Kawakami, 2010](#)). Recent research on IED focusing on the correlates of this disorder suggest that IED occurs relatively early in life, often during adolescence or the teenage years, that it is more common in men, among those with low education, and that it is often co-morbid with other psychological disorders ([Coccaro et al., 2005](#); [Kessler et al., 2006](#); [Fincham et al., 2009](#); [Yoshimasu and Kawakami, 2010](#)). Previous investigation of IED in the National Comorbidity Survey-Replication also suggests

that it is associated with impairment in functioning ([Kessler et al., 2006](#)).

There has been a paucity of research investigating factors that may contribute to IED. One factor that has been implicated in the development of this disorder is exposure to traumatic experiences. A study undertaken with a nationally representative sample in South Africa suggested that IED was related to exposure to multiple traumatic events ([Fincham et al., 2009](#)). A second study conducted in Timor-Leste (East Timor) suggested that high levels of trauma exposure was the strongest predictor of explosive anger attacks amongst survivors of human rights violations ([Silove et al., 2009](#)). Findings from these studies are consistent with the growing body of research suggesting that anger is prevalent amongst trauma survivors. Studies undertaken with combat veterans ([Lasko et al., 1994](#); [Novaco and Chemtob, 2002](#); [Jakupcak et al., 2007](#)), victims of crime ([Riggs et al., 1992](#); [Orth et al., 2008](#)), refugees and post-conflict populations ([Hinton et al., 2003](#); [Hinton et al., 2009](#); [Silove et al., 2009](#)), police and emergency service workers ([Jayasinghe et al., 2008](#); [Meffert et al., 2008](#)), and other trauma survivors ([Orth and Wieland, 2006](#)) have documented a strong relationship between trauma, PTSD and anger reactions. Further research is needed to determine the extent to which the link between the dosage of exposure to traumatic events, symptoms of posttraumatic stress and anger reactions extends to the explosive anger attacks defined in the clinical criteria of IED.

Considering the typically early onset of IED ([Kessler et al., 2006](#); [Coccaro, 2010](#); [Yoshimasu and Kawakami, 2010](#)), it is possible that traumatic events occurring early in life may have a particularly strong impact on the development of this disorder. Childhood trauma may

\* Corresponding author at: School of Psychology, University of New South Wales, Sydney, NSW, Australia 2052. Tel.: +61 2 9385 3595.

E-mail address: [a.nickerson@unsw.edu.au](mailto:a.nickerson@unsw.edu.au) (A. Nickerson).

interfere with normal biological and psychological developmental processes, and thus impair the ability of the survivor to successfully navigate the social environment as an adult. This may then manifest in emotion regulation and interpersonal difficulties in adulthood (Bremner and Vermetten, 2001; De Bellis, 2001; De Bellis et al., 2002; van der Kolk, 2003; Kinniburgh et al., 2005; Santa Ana et al., 2006; Cloitre et al., 2009; Walter et al., 2010). Many studies have documented the association between childhood trauma and negative mental health outcomes, including depression and anxiety (Hovens et al., 2010), drug and alcohol use (Tucci et al., 2010; Wu et al., 2010), suicidality (Sarchiapone et al., 2009), and borderline personality disorder (Herman et al., 1989; McLean and Gallop, 2003). The timing of trauma, and particularly trauma occurring during childhood, may thus impact the development of IED. Further, research has highlighted the heterogeneous impact of various types of traumatic events on PTSD reactions. Studies have suggested that military traumas, as well as interpersonal traumatic events, such as sexual and physical assault, have stronger relations with PTSD than other types of traumatic events, such as motor vehicle accidents and crime (Amir et al., 1996; Frans et al., 2005; Hapke et al., 2006; Naifeh et al., 2008; Kelley et al., 2009). Therefore, it is possible that the impact of age of first exposure to a traumatic event on IED may differ according to trauma type.

The aim of the present study is to examine the impact of trauma exposure, PTSD and timing of trauma on IED in traumatized adults who had taken part in the National Comorbidity Survey-Replication (NCS-R). This study builds on past research to determine the extent to which trauma dosage, PTSD and timing of first exposure to trauma is related to IED in a nationally representative sample. We hypothesized that a) greater trauma exposure (i.e., dosage) would be related to increased likelihood of developing IED; and b) individuals who had first been exposed to trauma in childhood would be more likely to have a diagnosis of IED compared to those who had first experienced trauma in adulthood (controlling for trauma dosage effects and PTSD). We also explored the relationship between various types of traumatic events and IED.

## 2. Methods

### 2.1. Participants

The objective of the National Comorbidity Survey-Replication (NCS-R) was to assess the mental health of persons residing in the United States. Data collection was conducted between February 2001 and April 2003. The method and design of this survey have been described in detail elsewhere (Kessler and Merikangas, 2004; Kessler et al., 2004a, 2004b). This survey was designed to replicate the first National Comorbidity Survey, undertaken in 1993 (Wittchen et al., 1994). In the NCS-R, 11,222 households were initially screened, with individuals who were institutionalized, did not speak English or lived on military bases being excluded from this survey. Part I of the NCS-R, which focused on core psychological disorders, was administered to a nationally representative sample consisting of 9282 adults (18 years and older) residing in the United States (excluding Alaska and Hawaii). This represented a 70.9% follow-up rate. Part II of the NCS-R, which focused on certain types of psychopathology, risk factors and correlates of mental disorders, was administered to 5692 persons (see below). Participants who took part in Parts I and II of the NCS-R were included in the present analyses. The present sample encompassed a total of 5575 individuals. Of these, 4844 had experienced at least one traumatic event and 731 had not been exposed to trauma. Of the 4844 who had been exposed to trauma, 1453 had first been exposed to trauma during adulthood, and 3312 had first been exposed to trauma during childhood. For 79 participants, no information regarding the timing of the first trauma exposure was available.

### 2.2. Measures

The World Health Organization (WHO) Composite International Diagnostic Interview (CIDI) developed for the WHO World Mental Health (WMH) Survey Initiative, (known as the WMH-CIDI (Kessler et al., 2004a, 2004b)) was implemented in the NCS-R. In the current study, we used demographic information including age, sex, race and level of education.

Participants were asked if they had been exposed to 26 different types of traumatic events; these types of events were subsumed into five major trauma categories: war-related trauma (including participating in combat, peacekeeping, being an unarmed civilian in war, being a civilian in ongoing terror, being a refugee); accident-related

trauma (being exposed to a toxic chemical, being involved in a life-threatening motor-vehicle accident (MVA), being in another life-threatening accident); disaster-related trauma (experiencing a major natural disaster, experiencing a man-made disaster); interpersonal trauma (being kidnapped or held captive, being badly beaten by parents, being badly beaten by a partner, being badly beaten by someone else, being mugged, held up or threatened with a weapon, being raped, being sexually assaulted, being stalked, witnessing serious physical fights at home as a child, seeing someone badly injured/killed or unexpectedly seeing a dead body) or other trauma (experiencing a life-threatening illness, having someone very close die unexpectedly, having a child with a life-threatening illness or injury, having someone close experience an extremely traumatic event, seeing atrocities or carnage). For each category, a dichotomous score was calculated (0 = not exposed to this trauma type, 1 = exposed to this trauma type). A count of number of individual types of traumatic events was also calculated to represent trauma exposure.

For each traumatic event experienced, participants were asked to identify the age at which they were first exposed to this event type. For each trauma type, this was coded such that 0 = never exposed to this trauma type, 1 = first exposed in adulthood (18 years or older), and 2 = first exposed in childhood (17 years or younger). An overall measure of first trauma exposure was also calculated, such that the earliest age at which the individual was exposed to any type of trauma was coded into 1 = first exposed in adulthood (18 years or older), and 2 = first exposed in childhood (17 years or younger).

We employed the lifetime mental disorders modules for PTSD, generalized anxiety disorder (GAD) and IED, which were coded to represent the presence (1) or absence (0) of each disorder.

### 2.3. Procedure

The NCS-R utilized a four-stage area probability sample. At the first step, a representative probability sample of 62 primary sampling units was identified and stratified for geographic variations. At the second step, these primary sampling units were divided into areas consisting of between 50 and 100 housing units. At the third step, the addresses of all residences in housing units were recorded. At the fourth step, an informant visited each residence and obtained a household listing of occupants who were over 18 years of age and spoke English. One or two residents from each household were selected to be interviewed using a probability procedure. Weights were calculated to take into account the probability of being selected to take part in the survey and to adjust for non-response bias.

The interviews were administered using laptop computer-assisted personal interview (CAPI) methods in participants' homes. Study procedures were outlined for participants and written informed consent obtained. Interviews were administered by trained interviewers, with a random sample being re-interviewed by supervisors for data validation. The interviews were administered in two parts, with Part I, which was administered to all participants, investigating core psychological disorders. Part II focused on the assessment of additional disorders, as well as other mental health correlates and other variables of interest. Part II was administered to a sub-sample of persons who took part in Part I ( $N = 5692$ ), with those exhibiting psychopathology being oversampled. Participants in Part II were drawn from three strata based on their responses to Part I. Firstly, all participants who met lifetime criteria for a disorder, had sub-clinical levels of psychopathology for which they had sought treatment and/or had experienced significant suicidality were interviewed. Secondly, a probability sample (59%) of participants who had lifetime subthreshold clinical symptoms, had sought treatment for such problems, had ever experienced suicidal ideation or used psychotropic medications over the past year were interviewed. Finally, 25% of all other participants were administered Part II. Data from both Parts I and II of the NCS-R was used in the current study.

### 2.4. Statistical analysis

We used the complex samples module of SPSS 17.0 to undertake analyses while implementing weights to correct for selection and non-response bias as described above. Demographic frequencies and the prevalence of psychological disorders were calculated for all participants. A multivariate logistic regression was undertaken to examine the impact of number of types of traumatic events and timing of first trauma exposure (no exposure vs. first exposure in childhood vs. first exposure in adulthood) on lifetime IED, controlling for age, sex, race and level of education. We also investigated the relationship between GAD (a non-trauma related anxiety disorder), PTSD, and IED. In order to render odds ratios interpretable in the context of hypothesized relationships, older age, higher education and first trauma exposure in adulthood served as reference groups. Thus, odds ratios of greater than one would suggest that IED was related to younger age, less education and first exposure to trauma in childhood. To elucidate the relationship between various types of traumatic events and IED, univariate logistic regression analyses were then conducted comparing individuals exposed to each type of traumatic event with non-trauma exposed participants on IED. As multiple comparisons were utilized, a Bonferroni adjustment was implemented ( $p = 0.05/5$  comparisons), such that  $p < 0.01$  was adopted as the significance threshold. Multivariate logistic regression analyses were undertaken to examine the relationship between first exposure to each type of traumatic event in adulthood vs. childhood and IED. Finally, exploratory univariate logistic regression analyses were then undertaken for interpersonal trauma sub-types to elaborate the significant relationship between

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات