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Psychiatric reactions to continuous traumatic stress: A Latent Profile Analysis of two Israeli samples

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ABSTRACT

Many individuals worldwide are exposed to continuous traumatic stress (CTS). However, the psychiatric sequela of CTS and the relevance of posttraumatic stress disorder (PTSD) diagnostic criteria in this situation have yet to be determined. Filling this gap, the present study assessed psychiatric reactions to CTS and the relationship between such reactions and functional impairment among two representative samples of adults exposed to ongoing shelling over 6 (n = 387) and 9 years (n = 468). Assessment included PTSD symptomatology (i.e., intrusion, avoidance, hyperarousal), anxiety, somatization, and depression. Profile categorization aimed to underscore variations in symptom clustering and severity, and determine whether or not a profile is dominated by PTSD symptoms. Latent Profile analyses (LPA) of sample I revealed four distinct symptoms profiles: (1) 'symptomatically resilient'; (2) 'symptomatically low-moderate'; (3) 'symptomatically moderate-high'; and (4) 'symptomatically overall high'. LPA of sample II revealed three distinct symptoms profiles: (1) 'symptomatically resilient'; (2) 'symptomatically low-moderate'; (3) "symptomatically moderate-high". Moreover, profile variation was implicated in dysfunction. Consistent with studies focusing on single trauma exposure, the findings revealed that the most prevalent profile was the symptomatically resilient, indicating that most people exposed to CTS seem to evince a scarce number of psychiatric symptoms. Moreover, reactions to CTS proved broader than the existing PTSD symptomatology. Examining symptom dominance and severity in relation to impairment and dysfunction, and clinical considerations are discussed.

1. Introduction

Continuous traumatic stress (CTS) is a thirty year old concept (Straker & the Sanctuaries Counselling Team, 1987) which has recently attracted a renewed interest (e.g, Eagle & Kaminer, 2013; Nuttman-Shwartz & Shoval-Zuckerman, 2015; Stevens, Eagle, Kaminer, & Higson-Smith, 2013). CTS denotes the condition of living under circumstances of an ongoing protracted threat, typically lasting several years. Such situations are prevalent worldwide (e.g., Heidelberg Institute for International Conflict Research, 2016), and transpire in various constellations, ranging from life under constant urban violence or in a prison environment (e.g., Roach, 2013), continuous rocket shellings and/or sporadic terror attacks (e.g., Chipman, Palmieri, Canetti, Johnson, & Hobfoll, 2011), or otherwise living in a region infested with war and civil conflict (e.g., Turton, Straker, & Moosa, 1991). Nevertheless, empirical research in this domain remains very preliminary.

The current edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, 2013) endorses only one diagnostic entity wherein longlasting posttraumatic symptoms manifest, namely posttraumatic stress disorder (PTSD). Typically, the psychopathological ramifications of CTS are considered under the conceptual framework of PTSD and are accordingly assessed using PTSD measures (e.g., Schwartz, Bradley, Sexton, Sherry, & Ressler, 2005; Lahad & Leykin, 2010). Notwithstanding, it has been suggested that, as a conceptual framework, PTSD may not be adequate for characterizing the psychological sequelae of the individuals exposed to CTS (e.g., Stein, Wilmot, & Solomon, 2016).

Arguably, as a threat remains relatively constant and unrelenting in CTS, understanding responses to this condition may only partially draw on a concept addressing *past* traumatic experiences. Folowing this line of thought, several scholars have argued that the PTSD construct fails to validly address the complexity of CTS (e.g., Diamond, Lipsitz, & Hoffman, 2013; Lahad & Leykin, 2010). The primary concern has been that while cases of CTS do result in PTSD-like symptomatology (e.g., intrusion, hyperarousal, and avoidance), such symptoms may possess a somewhat adaptive and protective nature in the case of CTS, since the threat in these

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instances remains very real (e.g., Diamond, Lipsitz, Fajerman, & Rozenblat, 2010; Diamond et al., 2013). The argument made by Diamond et al. (2010, 2013) is that both alertness and avoidance, and their concomitant behaviors, may actually be protective when the threat is real (e.g., for civilians who have 15 s to run to a shelter from the moment of siren onset, alertness to sounds and avoidance of no-shelter areas are extremely valuable). Moreover, it has been argued that understanding the ramifications of life under CTS may necessitate a consideration which exceeds that of post-traumatic stress symptoms (PTSS; e.g., Nuttman-Shwartz & Shoval-Zuckerman, 2015). This is because the reaction to CTS seems to include additional emotional, cognitive, and behavioural phenomena, such as anxiety, helplessness, somatization, depression, and constant concern for the future (e.g., Hobfoll, Canetti-Nisim, & Johnson, 2006; Neria, Besser, Kiper, & Westphal, 2010).

To date, however, no systematic effort has been undertaken to delineate the emerging psychopathological sequalae under such conditions, nor have any studies determined the variety of psychological reactions in CTS situations. In beginning to fill this gap, the current study presents a preliminary effort towards such delineations. Prior to embarking on this investigative endeavor, however, the extant lacuna must be more fully explicated.

1.1. Nuanced reaction to trauma

Psychiatric symptoms often co-occur (Kessler, Chiu, Demler, & Walters, 2005). This has also been demonstrated by the existence of a “p factor”, a general psychopathological dimension that captures much of the shared variance of psychopathological symptoms (Caspi et al., 2014). Moreover, concerning different reactions to trauma, a rapidly growing body of research now indicates that such reactions must be evaluated in a more nuanced manner than merely assessing the existence of psychopathological symptoms or lack thereof (e.g., Bonanno & Mancini, 2012). For instance, recent studies have indicated that reactions to trauma may evince different pathological profiles, including mild, moderate and severe symptomatic responses and comorbidities (e.g., Contractor et al., 2015). Hruska, Irish, Pacella, Sledjeski, and Delahanty (2014) have studied post traumatic reactions among motor vehicles accident victims and found profiles of individuals who differed not only in the intensity of symptoms but also in the types of symptoms comprising each profile. That is, reactions to trauma cannot be adequately represented using a PTSS severity index, but must be approached as gestalt, which takes into consideration a wider gamut of psychopathological potentialities. Such nuanced investigations, however, have yet to be applied in instances wherein trauma is ongoing (i.e., CTS).

Another domain wherein CTS situations and the detriments they entail may differ from classic PTSD is that of functioning. Dysfunction is a mandatory criterion in any clinically and diagnostically recognized disorder, trauma-related disorders included (American Psychiatric Association, 2013). This is because dysfunction and impairement presumably emanate from the torment encompassed in the other symptoms. However, in CTS, dysfunction can arise not only in light of symptom manifestation but also in the face of actual threat. Indeed, given the protracted threat in CTS circumstances, disturbances to functioning are to be expected. However, while such impediments to functioning have been found in CTS, adaptive functioning is also significantly evident (e.g., Diamond et al., 2013). When considering the psychiatric responses to CTS, it is then important to establish to what extent dysfunction is related to symptom manifestation rather than merely to ongoing stress. Moreover, the investigation of pathology goes hand in hand with the investigation of resilience. Given that resilience is not adequately captured by the clinical symptomatic picture, but is also present in functioning (Bonanno, 2012), adding the assessment of functioning into the picture has the potential of highlighting not only symptomatic resilience and vulnerability (i.e., low vs. high symptomatology), but also functioning resilience and vulnerability (i.e., low vs. high functioning in relation to symptomatic manifestation or regardless of it). This too, however, has yet to be investigated.

Being the first to address these lacunae in the CTS domain, the current study is exploratory in nature. Two main objectives have been set:

1. To identify profiles of psychiatric symptomatology and their prevalence among adult individuals living in conditions of CTS. Seeking to delineate reactions to such traumas in a broad sense, we measured PTSS clusters, anxiety, depression and somatization, all of which have previously been associated with CTS (e.g., Neria et al., 2010).
2. To assess the relation between the various profiles of psychiatric reactions to CTS and functional impairment.

2. Method

A particular case of CTS has been taking place in the south of Israel since 2001. During these years, as part of the Israeli-Palestinian conflict, individuals living in this region have been subject to frequent rocket shelling from Gaza. While there have been relatively quiet periods, several intensive armed conflicts have taken place, each interspersed with a fluctuating amount of shelling, spiking to approximately 3000 rockets and mortars a year right before and during the conflicts. The thousands of rockets and mortars that have been fired into Southern Israel during these years have caused death, injury, damage and disruption to everyday life. During rocket attacks, an electronic audio alert siren is broadcasted signaling to Israeli citizens living near the Gaza strip that they are to run for cover to a nearby safe area (e.g., bomb shelter). In line with official government and military instructions, from the time of siren onset the civilians in this region have 15 s to find cover. In times of intense shelling the civilians are required to stay in shelters and cannot attend school, work or continue their daily routine life.

Data for the current study consisted of representative samples of adults living in this region. For the current study only those who lived in areas that were exposed to CTS were included. Data were collected at two points in time from two different representative samples. The first sample was assessed in 2007, 6 years into their exposure to CTS. The second sample was assessed in 2010, 9 years into their CTS exposure. Both samples consisted of residents of a city located approximately 3 km from the Gaza strip (i.e., Sderot), and additional rural communities on the border with the Gaza strip (i.e., Otef Gaza).

2.1. Procedure

Participants in both samples were recruited through a major polling service using an in-region random digit dialing methodology. Phone numbers were obtained from the national telephone directory which provides regional and community-specific dialing information. Telephone interviews were carried out by experienced interviewers in Hebrew or Russian using a structured questionnaire. Three attempts were made to contact an adult at each telephone number. Participation was anonymous and oral informed consent was obtained at the beginning of the interview. The Helsinki Ethics Committee of the Lev Hasharon Mental Health Medical Center approved the study design and procedures.

2.2. Participants

2.2.1. Sample I (2007)

The sample included 387 adults. City residents comprised 80.5% of the sample and 19.5% were from rural communities; 49.3% were males and 50.7% were females; 29.9% were single, 56.9% were married, and 13% were widowed or separated. The average age was 42.25 (SD = 16.88). Average years of education were 13.24 (SD = 3.28). Seventy-four (21.6%) of the participants met the criteria for PTSD (full diagnosis with F criteria) and 122 (35.7%) without F criteria. One