

NATURAL DISASTERS, PSYCHOLOGICAL TRAUMA AND OBSESSIVE BELIEFS AND SYMPTOMS

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Abstract

Psychological trauma arises from experiences that threaten individuals' lives, plunge them into chaos, and disrupt their intellectual, emotional, and behavioral stability. Following disasters, some survivors may develop post-traumatic stress disorder (PTSD) along with comorbid disorders such as OCD. The intense uncertainty stemming from psychological trauma can sometimes lead to obsessive beliefs. These obsessive beliefs play a crucial role in interpreting traumatic experiences from earthquakes and can effectively transform experienced issues into obsessive-compulsive disorder. This study aims to provide insights into the traumatic reactions experienced after the earthquake that struck the Southeastern Anatolia region of Turkey on February 6, 2023, which impacted 11 provinces and resulted in significant loss of life and property. A total of 300 earthquake survivors, 162 females & 138 males participated, with an range age of 18 – 65; $\bar{X}=29.8 \pm 9.28$. All assessments were conducted face-to-face. The research employed several measures: the PTSD Checklist Civilian Version (PCL), the PADUA Inventory – Washington State University Revision of Obsessions and Compulsions (PI-WSUR), and the Obsessive Beliefs Questionnaire (OBQ). The results indicated that seeking reassurance and intolerance of uncertainty leads to numerous obsessive beliefs and compulsions, particularly in scenarios involving exposure. Linear regression analysis indicated that issues arising after experiencing trauma predicted obsessive beliefs, with a statistical significance level of ($\beta = .160, p < .000$). Additionally, the analysis of Chi-square (X^2) revealed a statistically significant correlation between the PTSD Checklist (PCL) and the PADUA Inventory-Washington State University Revision of Obsessions and Compulsions. The results are discussed to shed light on future research on the comorbidity of obsessive-compulsive disorder (OCD) and PTSD.

Keywords: Disaster, Obsessive Beliefs, Obsessive Compulsive Disorder (OCD), PTSD, trauma.

1. Introduction

Psychological trauma arises from experiences that threaten individuals' lives, plunge them into chaos, and disrupt their intellectual, emotional, and behavioral stability. The intense uncertainty stemming from psychological trauma can sometimes lead to obsessive beliefs about enduring uncertainty and chaotic situations following earthquakes. These obsessive beliefs play a crucial role in interpreting traumatic experiences and can effectively transform experienced issues into obsessive-compulsive disorder (Saeed & Gargano, 2022).

Post-traumatic stress disorder (PTSD) and obsessive-compulsive disorder (OCD) are classified as anxiety disorders within mental health classification systems, such as the DSMs. In the last version of DSMs, DSM -5 these two anxiety disorders classified separately (APA, 2022). This new perspective emphasizes the need for distinct treatment procedures and diagnostic criteria for each condition.

Natural disaster experiences may trigger the formation of obsesif compulsif beliefs. These belief may lead to suffering from Obsesif Compulsive Disorder symptoms. The formation of intrusive thoughts in PTSD may find root from these beliefs. How does it happen? To explain the mechanism of these formations, first of all, it is functional to mention about the nature of psychological trauma and the obsessive compulsive disorder.

Psychological trauma is a common response to natural disasters, often manifesting as psychological shock and denial. Epidemiological research has indicated that exposure to multiple traumatic events simultaneously, such as during natural disasters, may lead to the development of acute stress disorder, and then post traumatic stress disorder (PTSD) (Heanoy & Brown, 2024). Earthquakes lead to collective trauma (Fong et al, 2022) and after such traumatic events more frequently an acute

stress disorder and a set of symptoms on post traumatic stress disorder may occur. These symptoms are linked to index trauma which may be one or more traumatic events considered as the main source of traumatic distress. In assessing the diagnosis and severity of PTSD, only the symptoms related to this index trauma are taken into account.

Obsessive-Compulsive Disorder (OCD) often arises from an individual's attempt to make sense of and cope with uncertain, stressful and chaotic life events. Individuals with OCD strive to transform this uncertainty into something more certain in order to gain control over their situations (Stein et al., 2020). In uncertain situations, these individuals may overestimate likelihood of the potential threat (Knowles & Olatunji, 2023). Difficulty in tolerating uncertainty may initiate behaviors to reduce distress with compulsions. Individuals with OCD frequently resort to coping strategies like avoidance and dependency, which may lead to obsessive thoughts and repetitive behaviors known as compulsions. Many struggle to express their thoughts and emotions and often find it difficult to respond appropriately to events as they happen. Those who either cannot or choose not to express their feelings may experience a persistent sense of disconnection from their authentic selves. Consequently, they may relive these events in their minds repeatedly. This tendency can create a fundamental cycle of anxiety, where individuals grapple with a conflict between their true feelings and their inability to express them openly. However, by focusing on their thoughts and learning to express themselves in the therapeutic processes, these individuals may find relief from OCD symptoms. As they become more expressive in response to their obsessions, they may initially notice a reduction in compulsive behaviors, and, over time, their symptoms may completely resolve.

Several personal vulnerability factors contribute to the development of OCD, including having a parent or family member with severe obsessive-compulsive behaviors, experiencing significant stress from ongoing or severe life events, holding obsessive-compulsive beliefs about the world (Yorulmaz et al, 2013), enduring childhood trauma (Vaquez et al., 2024), and possessing cluster-C personality traits such as fearfulness and anxiety.

Psychological trauma and obsessive compulsive disorder(OCD) may be interconnected in several ways. The need to regain a sense of control after experiencing a destabilizing traumatic event, earthquake, may trigger the onset of obsessive beliefs (Brown et al, 2023; Yorulmaz & Gençöz, 2010; Yorulmaz et al., 2013; Yorulmaz & Gençoz, 2008) which can initiate OCD-related symptoms. Ojalehto et al. (2023) found that specific index traumas were related to obsessive compulsive symptoms in their obsessive compulsive symptom profile study. Current research on the relationship between OCD symptoms and post traumatic stress disorder is limited, with insufficient studies that consider obsessive beliefs and trauma types as well as clear conceptualization of OCD symptoms (Pinciotti et al., 2020). Dealing with the index trauma Foa et al. (2016) developed the post traumatic stress disorder symptom scale interview for DSM 5 (PSSI-5). Participants are asked to select the most stressful or the worst traumatic incident they have experienced. Using this instrument, individuals exposed to multiple traumatic events, such as earthquakes, can be effectively examined the chosen index trauma for both the severity of PTSD and the diagnosis itself. Due to insufficient research, the definition and impact of index trauma on therapeutic outcomes remain unclear.

The present study aims to provide insights into the traumatic reactions experienced following the earthquake that struck the Southeastern Anatolia region of Turkey on February 6, 2023. The earthquake affected 11 provinces: Kahramanmaraş, Gaziantep, Kilis, Hatay, Adana, Adıyaman, Osmaniye, Elazığ, Diyarbakır, Malatya, and Şanlıurfa, resulting in significant loss of life and property. Additionally, the study aims to inform about the obsessive beliefs of disaster survivors and to offer preliminary information regarding the relationships between disaster experiences, post-traumatic stress disorder (PTSD), and obsessive-compulsive disorder (OCD).

2. Method

2.1. Participants

Data was collected a total of 300 earthquake survivors; 162 females & 138 males from city of Pazarcık/Kahramanmaraş (epicenter of the earthquake) including the effected 11 cities such as Hatay, Adıyaman, Diyarbakır, Adana etc. The age of the sample $\bar{X}=29.8 \pm 9.28$ with the range was 18 – 65 (Table 1).

2.2. Measures

2.2.1. Information collection form: It consist of 10 yes-no and open-ended questions created by the researcher to gather socio-demographic information as well as details about traumatic experiences and the treatments received.

2.2.2. The Obsessive belief questionnaire (OBQ-44;OCCWG, 2003, 2005). It consists of 44 items, each scored on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). The items assess dysfunctional beliefs across three subdimensions: importance/control of thoughts, responsibility/threat perception, and perfectionism/certainty. OBQ-44 was adapted to Turkish population by Yorulmaz et al. (2019). The Turkish version of the OBQ-44 has satisfactory internal consistency.

2.2.3. The Padua Inventory- Washington State University Revision (PIWSUR; Burns, 1995). The Padua Inventory-Washington State University Revision consists of 39 items with 5-point Likert type options evaluating OCD symptoms. Psychometric properties of the abbreviated version, frequently used in OCD literature. The PI-WSUR was adapted to the Turkish population by Yorulmaz et al. (2007), and was shown to have satisfactory internal consistency and correlations with other symptoms and cognitive factors related to OCD.

2.2.4. Post Traumatic Stress Disorder control list (civilian version) (PTSD-PCL;Dobbie, 2002). This is a 17 item 5-point Likert-type scale which the PTSD diagnostic criteria of DSM-IV is directly asked. The scale was adapted to Turkish by Kocabaşoğlu et al.(2005). The scale can effectively distinguish the PTSD group from other psychiatric disorders and normal populations affected by earthquake-type specific trauma with satisfactory internal consistency.

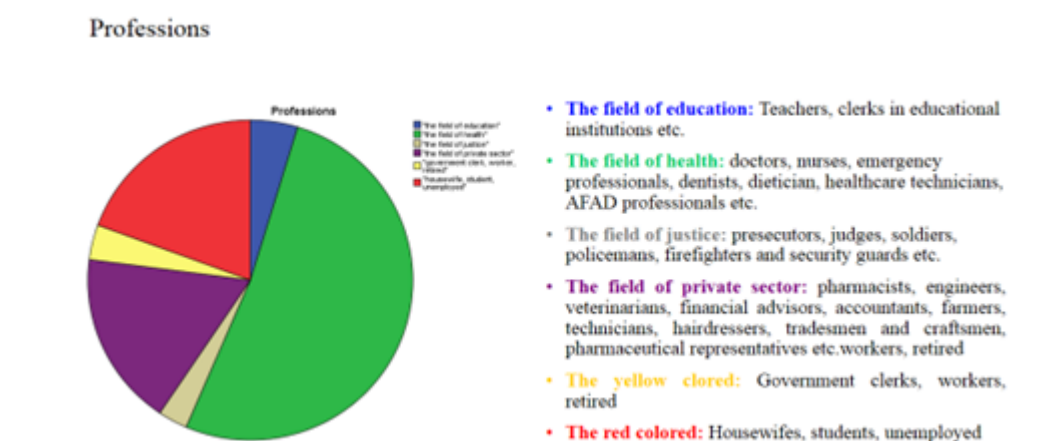
3. Procedure

The applications were completed in person, where participants were asked to fill out four different self-report scales. Descriptive statistics were applied. Data analysis was performed using SPSS version 22.

4. Results

Three age categories were identified from the sample. The primary characteristics of the sample were identified as follows: 162 Females and 138 Males constitute the sample. The average age is 29.8 ± 9.28 , with a range of 18 – 65. High school, associated degree and university degree have reached a peak in the education level. Table 1 provides details of the socio-demographic characteristics and the mean and standard deviation of the three measures. The professions of the sample were given in figure 1.

Figure 1. The Professions of the Sample



Pearson's correlation coefficient was calculated to examine the relationship between trauma scores and the scores from the Padua Inventory and the Obsessive Beliefs Questionnaire. The 2 tailed significant correlation were found PTSD score and Obsessive Belief Questionnaire (OBQ-44) score ($r = .16$, $p < .01$). There is a two tailed negative significant correlation between the Education level and PADUA score ($r = -.22$, $p < .01$). The pearson r pointed out a statistically significant negative correlation between Education and PTSD score ($r = -.12$, $p < .05$). The OBQ-44 has 3 subscales; 1. Responsibility / Threat Estimation (RT), 2. Importance / Control of thoughts (ICT) and 3. Perfectionism / Certainty (PC). The Pearson r pointed out a two tailed statistically significant correlation between PTSD score and the importance/control of thoughts subscale of OBQ-44 score ($r = .18$, $p < .01$). There are negative significant correlation between profession and the subscale «Responsibility/Threat estimation (RT)» ($r = -.24$, $p < .01$) and the subscale «importance/control of thoughts (ICT)» ($r = .237$, $p < .01$). There is a two tailed negative significant correlation between the professions and OBQ-44 score ($r = -.27$, $p < .01$).

Chi-Squared analysis was conducted to examine the relationship between PTSD scores and PADUA scores. The results revealed a statistically significant correlation between PTSD scores and PADUA scores ($p < .05$). Linear regression analysis was utilized to examine the impact of traumatic experiences and issues caused by the earthquake on the emergence of obsessive beliefs. The linear regression model revealed that traumatic issues experienced after such events significantly predicted obsessive beliefs ($\beta = .160, p < .000$).

Table 1. The socio-demographical characteristics and the descriptive values of the three measures.

	\bar{X}	SD	N (%)
PTSD Score	24.9	± 8.9	298 (99.3)
OBOQ-44 Score	175.6	± 31.6	241 (80.3)
PADUA Score	41.7	± 21.09	200 (66.6)
Age (2 missing)	29.8	± 9.28	298 (99.3)
18 – 30 yrs			195 (65)
31 – 45 yrs			80 (26.7)
46 – 65 yrs			23 (7.7)
Gender			
Female			162 (54)
Male			138(46)
Education level (5 missing)			
Primary			33(11)
Secondary			125(41.7)
Associated&University/			137(45.7)
Marital status(4 missing)			
Married			134(44.7)
Single			136(45.3)
Engaged			21(7)
Widowed			2(.7)
Divorced			3(1)

5. Discussion

The study findings put forth that uncertainty and life-threatening situations in and after earthquakes may provoke not only thought processes but also how the survivors try to help themselves survive in these life-threatening situations. The statistically significant high scores at OBOQ-44 may come from a trying for finding certainty and control. This finding, along with other results from the present study, aligns with existing literature on the subject. The survivors who exhibit intolerance to uncertainty and controlling traits may be more susceptible to OCD following disaster experiences. As such, it is important to be aware of the need for mental health support geared toward alleviating OCD symptoms.

Finally, it is crucial to emphasize that the present study's findings are descriptive, indicating that future studies are needed to explore the causal interactions.

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