

RELATIONSHIP BETWEEN PSYCHOLOGICAL RESILIENCE, EARTHQUAKE FEAR AND TRAUMA AFTER THE EARTHQUAKE IN PSYCHIATRIC OUTPATIENTS

Muhammet Ali Karaca¹, Gokce Elif Alkas Karaca²

¹Department of Psychiatry, Bakırköy Mazhar Osman Mental Health and Neurological Diseases Education and Research Hospital, Istanbul, Türkiye

²Department of Child and Adolescent Psychiatry, Bağcılar Education and Research Hospital, Istanbul, Türkiye

BACKGROUND AND AIM: Natural disasters are major life events that can lead to severe mental health problems. Among these, earthquakes are one of the most significant disasters with mass impact. Although the primary victims are those directly affected in the earthquake zone, individuals who travel to provide aid, those who witness traumatic events through mass media, and individuals with loved ones in the affected region may also experience earthquake-related psychological distress. Mental health disorders such as depression, anxiety, and post-traumatic stress disorder (PTSD) are commonly observed post-earthquake. In addition to diagnostic categories, post-earthquake social adaptation problems, grief reactions, and uncategorized traumatic experiences may also occur. Challenging life events, such as earthquakes, can have varying levels of impact on individuals due to different social and psychological conditions. The reaction of an individual to such stressors is influenced by external factors such as the magnitude, frequency, and timing of the trauma, as well as by personal resilience. There are also studies that have examined the role of individual resilience in mental disorders. Some studies suggest that resilience serves as a protective factor against mental illness, while others indicate a multidimensional relationship between resilience and mental health. The psychosocial effects of an earthquake can persist in the long term. By conducting this study approximately one year after the earthquake, we aim to assess whether individuals' concerns and fears regarding the earthquake persist despite the resolution of its acute effects. This study investigates the effects of individual resilience and sociodemographic differences on post-earthquake traumatic experiences and earthquake-related fear. We aimed to compare resilience, post-earthquake traumatic experiences, and earthquake fear between psychiatric patients who had previously been diagnosed with depression or anxiety disorders (currently in remission) and healthy individuals with no prior psychiatric illness.

METHODS: Patients who volunteered to participate in the study and signed an informed consent form were recruited from a psychiatric outpatient clinic. The inclusion criteria required participants to have been diagnosed with depression or anxiety disorder more than one year prior and to be clinically in remission, as confirmed by the Beck Anxiety Inventory (BAI) and the Hamilton Depression Rating Scale (HAM-D).

Participants completed the Sociodemographic and Clinical Data Form, the Fear of Earthquake Scale (FES), the Level of the Trauma after the Earthquake (TAES) Scale, and the Resilience Scale for Adults (RSA). The psychiatric patient group was compared with a control group consisting of individuals with no psychiatric diagnosis or treatment history, verified through a brief psychiatric interview. The study included a total of 59 patients, consisting of 37 cases with remitted anxiety disorder and 22 cases of remitted depression, and 59 healthy controls. Ethical approval was obtained with the decision of Firat University Non-Interventional Research Ethics Committee dated 01.08.2024 and numbered 2024/11-41.

RESULTS: Pairwise comparisons revealed that the depression group had significantly lower median scores on RSA total ($p=0.019$), family cohesion subscale ($p=0.012$), and self-perception subscale ($p=0.005$) compared to the control group. Additionally, the depression group had significantly higher median scores on FES ($p=0.026$), TAES ($p=0.012$), BAI ($p<0.001$), and HAM-D ($p=0.001$) compared to the control group. Pearson correlation analysis showed a statistically significant positive correlation between FES and BAI scores in the psychiatric population ($r=0.273$, $p=0.036$). A statistically significant negative correlation was found between TAES scores and RSA ($r=-0.263$, $p=0.044$) as well as self-perception ($r=-0.263$, $p=0.044$) scores. Additionally, TAES scores were positively correlated with BAI scores ($r=0.589$, $p<0.001$). Hierarchical linear regression analysis revealed that RSA scores were not significant predictors of FES scores in the psychiatric population ($F=0.01$, $p=0.924$). However, when BAI and HAM-D scores were added to the regression Model 1, 15% of the variance in FES scores was significantly explained by RSA, BAI, and HAM-D scores ($F=3.17$, $p=0.032$). In the final Model 2, only BAI ($p=0.010$, CI: 0.050-0.353) and HAM-D ($p=0.048$, CI: -2.158 to -0.010) scores were significant predictors of FES scores (table1). In the control group, RSA scores were not significant predictors of FES scores ($F=3.04$, $p=0.087$). However, when BAI scores were added to Model 1 of the control group, 20% of the variance in FES scores was significantly explained by RSA and BAI scores ($F=6.77$, $p=0.002$). In Model 2 for the control group, only BAI scores ($p=0.002$, CI: 0.085-0.379) were significant predictors of FES scores (table1). Hierarchical linear regression analysis showed that 7% of the variance in TAES scores

in the psychiatric population was significantly explained by RSA scores ($F=4.24$, $p=0.044$) (table 2). When BAI and HAM-D scores were added to Model 1, 39% of the variance in TAES scores was significantly explained by RSA, BAI, and HAM-D scores ($F=11.47$, $p<0.001$). In Model 2, only BAI scores ($p<0.001$, CI: 0.484-1.082) were significant predictors of TAES scores. In the healthy control group, 6% of the variance in TAES scores was significantly explained by RSA scores ($F=4.44$, $p=0.040$). When BAI scores were added to Model 1, 30% of the variance in TAES scores was significantly explained by RSA and BAI scores ($F=13.26$, $p<0.001$). In Model 2, only BAI scores ($p<0.001$, CI: 0.327-0.846) were significant predictors of TAES scores.

CONCLUSIONS: A negative correlation was found between psychological resilience scores and both earthquake fear and

post-earthquake traumatic experience scores ($p<0.05$). However, hierarchical linear regression analysis in TAES P2 model showed that while resilience was initially associated with traumatic experience scores, this relationship lost its significance when anxiety and depression scores were included in the analysis ($F=11.47$, $p<0.001$). Therefore, psychiatrists should consider individual resilience when addressing post-earthquake mental health, but prioritize assessing and managing depression and anxiety symptoms. This is a promising result, when considering the fact that psychological resilience is harder to ameliorate compared to depression and anxiety in the clinical setting.

Keywords: Depression, anxiety, earthquake, resilience, trauma