



## Identification of underlying factors of post-traumatic stress disorder in Kermanshah earthquake survivors

Tariq. Xosravi<sup>1</sup>, Mahmoud. Goudarzi\*<sup>2</sup> & Hamzeh. Ahmadian<sup>3</sup>

1. Ph. D student, Counseling Department, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran.

2. \*Corresponding author: Associate Professor, Counseling Department, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran.

3. Assistant Professor, Counseling Department, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran.

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### ABSTRACT

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Corresponding Author's Info

Email: mgsaua@gmail.com

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**Background and Aim:** Earthquake is one of the most destructive and devastating natural events. The present study was conducted with the aim of identifying the underlying factors of post-traumatic stress disorder in earthquake survivors. **Methods:** The current research is practical in terms of its purpose and in terms of method, it is a part of sequential exploratory combined methods (qualitative-quantitative). The current research population includes all women and men who survived the Kermanshah earthquake in the cities of Salas Babajani and Sarpul Zahab located in Kermanshah province, who were exposed to the earthquake. The sample of this research was 378 earthquake victims of Sarpul Zahab and Salas Babajani cities located in Kermanshah province. The questionnaire of the underlying factors of post-traumatic stress disorder is made by the researcher and has 56 questions. The method of analysis of the present study was confirmatory factor analysis using SPSS software, version 24. **Results:** The results showed that the underlying factors of post-traumatic stress disorder in earthquake survivors included economic, environmental, psychological, family, social and cultural factors. The findings have shown that all factors of the questionnaire are positively correlated with each other at a significance level of 0.01. Based on this, it can be said that the factors of the questionnaire of the underlying factors of suffering from post-traumatic stress disorder had an acceptable internal correlation. **Conclusion:** It can be concluded that these factors can be used to predict people who will get this disease in the future.



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## Introduction

Earthquake is one of the most destructive and devastating natural disasters that killed more than 3 million people in the 20th century alone, and is one of the most important disasters that threaten our country. Such an event has always existed as a repeatable phenomenon throughout the life of the planet and has threatened human societies as a serious danger (Rezaei & Nouri, 2018). The existence of many faults in the country and the lack of awareness and preparation can lead to the escalation of the crisis in the country because it occurs without prior notification and unexpectedly. This leads to an increase in casualties and damage caused by it (Hamidi Farahani et al., 2018). Earthquakes have always existed as a repeatable and unavoidable phenomenon throughout the life of the earth. This natural disaster has always threatened human societies as a serious danger, and as a result of its occurrence, many societies may have been separated (Peten, 2010). According to the available statistics, in 2014, as many as 81,954 people died due to natural disasters in the world and more than two-thirds of their settlements were lost (Matoenis et al., 2019). On the other hand, the investigation of the statistics of natural disasters and the casualties caused by these incidents shows that the major part of such incidents is caused by earthquakes. According to the statistics of the World Health Organization, more than 1150 deadly earthquakes have occurred in 75 countries in the last century alone (Wenmaker et al., 2014). 80% of the casualties caused by these earthquakes were in 6 countries of the world, unfortunately, Iran is one of these 6 countries. Therefore, Iran is one of the most active regions in the world in terms of earthquakes. From time to time, a destructive and disastrous earthquake occurs with extensive loss of life and property, for example, earthquakes in Selmas, Durood, Bouinzahra, Tabas, Rudbar-Manjil, Bam Varzeghan and Kermanshah (Aslani et al., 2018).

Trauma or psychological injury is an event that involves a person in feelings such as fear, helplessness and confusion in the face of changes (Schuer et al., 2011). Some of these events include bereavement, serious illness such as cancer, accidents, natural disasters, terrorist attacks, rape, violence, bankruptcy, and unemployment (Renden, 2015). Psychological issues such as post-traumatic stress, depression,

anxiety disorders or even increased suicide rates in older age are among the consequences related to traumatic experiences (Harveri, Sumalanen, Martonen, 2016). Of course, these consequences are not only limited to negative ones, and according to research, some stressful and painful situations can provide a suitable platform for people's progress (Ebrahimi et al., 2014). Traumatized individuals sometimes not only return to their previous state, but also reach a higher level of psychological functioning (Thompson, 2011).

According to Tedeschi and Calhoun's research, the phenomenon of reaching a higher level of psychological functioning after an unfortunate event was known as post-traumatic growth (Tedeschi & Calhoun, 2004). Post-traumatic growth is characterized by positive psychological changes after coping with challenging life circumstances and has five domains; a) communication with others, which means developing a network of relationships and more intimacy with them; b) new possibilities that indicate the creation of a new path or opportunities; c) Personal strength, which refers to the increase of inner strength and the ability to rely on oneself in difficulties; e) spiritual change, which refers to understanding experiences and strengthening spiritual beliefs; f) Appreciation of life, which means realizing the value of life (Kregorgo, Evans, & Cullen, 2018).

According to previous studies, the risk factors that cause the spread of PTSD after an earthquake among children and adults are divided into three categories: 1. Main characteristics (including: age, gender, education, marital status, religious beliefs, previous injuries, ethnicity, social/economic status and medical history); 2. Characteristics of the injury (including: being in a traumatic situation, injury or bereavement, for example loss of friends and relatives or family members due to an earthquake); 3. Post-injury characteristics including level of social support, employment, capital loss, damage to residential home, and involvement in assistance (Delaney, Nagel, Valentine, Anti, Getto et al., 2018). Studies have been conducted on the causes and predictors of post-traumatic stress disorder and other mental disorders after trauma. Factors such as personal characteristics, characteristics of the accident, severity of physical injury, psychiatric history, factors surrounding the accident,

cognitive factors such as perception of threat and bereavement and acute stress (Brendan, Finola, Murphy, Samuel, O'Neill et al., 2013). However, in Trickey's study, there were different risk and underlying factors and included experiencing post-traumatic stress disorder for the first time, early onset of symptoms, feelings of guilt towards others, dissociation and suppression of thoughts, suffering from simultaneous psychological disorders, such as depression and anxiety. Depression has been proposed as the most important risk factor and a predictive factor (Trickey & Siddaway, 2012). Considering the prevalence of post-traumatic stress disorder in Kermanshah province and the role of the 1996 earthquake in its spread and exacerbation, the question arises, what are the conditions of people who have experienced PTSD? Therefore, the purpose of this research is to identify the underlying factors of PTSD. However, not only in Kermanshah, but also in Iran, this issue has not

been studied scientifically as it should be. The researcher tries to investigate the underlying and dangerous factors in Iran's culture and context. The main question of the current research is what are the underlying factors of post-traumatic stress disorder in earthquake survivors?

### Method

The current research is a descriptive survey research in terms of its practical purpose and in terms of the method of data collection. The statistical population of the present study includes all the clients of addiction treatment centers in Tehran's 4th, 6th, and 22nd districts. According to the report of this center, the number of these people was equal to 2580 people. In this research, according to the nature of the research subject and the statistical population under study, simple random sampling method was used and the number of 388 people was considered as a sample.

### Materials

**1. Researcher-made Questionnaire.** The questionnaire of the underlying factors of the post-traumatic disorder has 56 questions and is as follows:

Table 1. Identified factors underlying post-traumatic stress disorder

Row	affecting factors	The opinion of the correctors using the Delphi method	Theoretical adaptation	Research adaptation
1	Economic factors	The questions of economic factors included 11 years, which were examined by the researcher in 5 scales from very low to very high, and finally 3 years were removed and 8 years were confirmed.	1. Has the loss of your job caused you despair and despair about the future? 2. Has losing your job caused you anxiety and worry? 3. Has the loss of housing caused you anxiety and fear?	(Sadok et al., 2015) (Ganji, 2020)
2	environmental	The questions related to environmental factors included 14 years, which were examined on a very low to very high scale by the Delphi method by the relevant expert, and finally 4 years were removed and 10 years were confirmed.	1. Has moving from house to tent caused you sleep problems? 2. Has the geographical location of your place of residence created a sense of insecurity in you and those around you? 3. Has the lack of access to amenities in remote areas caused violence, extreme anxiety and delinquency?	(American Psychological Association, 2013) (Stein, 2006)

3	psychological	Questions related to psychological factors included 13 years, which were analyzed by the evaluator in 5 scales from very low to very high, and finally 4 years were removed and 9 years were confirmed.	<ol style="list-style-type: none"> <li>1. You feel despair and hopelessness about the future</li> <li>2. You have experienced difficulty in maintaining close relationships</li> <li>3. Memory problems, including remembering important aspects of events related to the time of the earthquake and after it.</li> </ol>	(Strach 2010) (Venor Kolek & McFarlane, 1996) (Mirzaei Qeshlaq, 2015) (Wells, 2009)
4	Social and cultural	The questions related to social and cultural factors included 10 years, which were examined in 5 scales by Delphi method from very little to very much, and finally 1 year was removed and 9 years were confirmed.	<ol style="list-style-type: none"> <li>1. You feel despair and hopelessness about the future</li> <li>2. You have experienced difficulty in maintaining close relationships</li> <li>3. Memory problems, including remembering important aspects of events related to the time of the earthquake and after it.</li> </ol>	(Morris et al., 2004) (Kern et al., 1996)
5	family	The questions related to family factors included 14 years, which were analyzed in 5 scales by Delphi method from very little to very much by the expert in the field of psychology, and finally 3 years were removed and 11 years were confirmed.	<ol style="list-style-type: none"> <li>1. You fight with your spouse over every simple thing, but you were not like this before the trauma</li> <li>2. Numb feeling (emotional indifference) or inability to establish feelings of interest and express feelings among family members</li> <li>3. Increasing tension, conflict and conflict due to the difficulty of meeting the special needs of the elderly and young people in the family</li> </ol>	(Gillespie et al., 2009), (Knott and Stahl, 2010)

### Implementation

The analysis method of the present study was confirmatory factor analysis using SPSS software, version 24. It was approved by the ethics committee of the Islamic Azad University, Sanandaj branch with the code IR.IAU.SDJ.REC.1400.049.

### Results

In this research, there were 378 participants (159 women and 219 men) with an average age and standard deviation of 37.29 and 6.55 years,

respectively. 84 people (22.2 percent) of them were single and 294 people (77.8 percent) were married. Level of education: 218 people (57.7 percent) of participants below diploma; 86 people (22.8 percent) have a diploma; 31 people (8.2 percent) graduate; 39 people (10.3 percent) bachelors; 4 people (1.1 percent) had a master's degree.

The questionnaire of underlying factors of post-traumatic stress disorder included 56 items. It was assumed that it measures six economic factors (8 items), environmental (10 items),

psychological (9 items), cultural-social (9 items), family (11 items) and structural (9 items). Table 2 shows the mean, standard deviation, skewness and kurtosis of each questionnaire item.

**Table 2. Mean, standard deviation, kurtosis and skewness of questionnaire items**

Item	Mean (SD)	Skewness (kurtosis)	Item	Mean (SD)	Skewness (kurtosis)
<b>Economical</b>	1	(1/19) 3/64 (-0/40) -0/69	<b>Socio-cultural</b>	29	(1/19) 2/98 (-1/44) 0/03
	2	(1/33) 3/06 (0/05) -1/29		30	(1/27) 2/95 (-1/15) 0/09
	3	(1/51) 3/20 (-1/44) -0/20		31	(1/32) 3/11 (-1/42) -0/18
	4	(1/35) 2/55 (-0/89) 0/57		32	(1/46) 3/09 (-0/91) -0/14
	5	(1/47) 3/06 (-1/43) -0/04		33	(1/31) 3/50 (-0/98) -0/57
	6	(1/44) 3/29 (-1/33) -0/28		34	(1/54) 2/96 (-0/61) 0/01
	7	(1/21) 3/04 (-1/47) -0/09		35	(1/33) 2/96 (-0/94) 0/05
	8	(1/50) 3/21 (-0/39) -0/29		36	(1/47) 3/19 (-1/38) -0/17
<b>Environmental</b>	9	3/36 (1/44) (-1/23) -0/40	<b>Family</b>	37	(1/22) 3/25 (-1/30) -0/24
	10	(1/48) 3/10 (-1/45) -0/08		38	(1/49) 3/27 (-1/36) -0/30
	11	(1/52) 2/96 (-0/96) -0/02		39	(1/51) 3/03 (-0/86) -0/04
	12	(1/47) 3/29 (-1/27) -0/38		40	(1/13) 2/78 (-0/90) -0/21
	13	(1/12) 3/36 (-0/87) -0/34		41	(0/97) 2/86 (-0/58) 0/12
	14	(1/18) 3/30 (-0/21) -0/43		42	(0/89) 2/95 (-0/61) 0/03
	15	(1/21) 3/05 (-0/38) -0/01		43	(1/02) 3/04 (-1/12) -0/21
	16	(1/15) 2/94 (-0/53) 0/07		44	(1/34) 3/10 (0/59) -0/07
	17	(1/08) 3/23 (-1/37) -0/24		45	(1/17) 3/19 (0/86) -0/18
	18	(1/36) 3/45 (-0/98) -0/49		46	(1/16) 2/88 (-1/07) 0/14
<b>Psychological</b>	19	(1/12) 3/05 (-0/44) -0/13	<b>Structural</b>	47	(1/37) 2/89 (-1/29) 0/08
	20	(1/37) 3/41 (-1/07) -0/44		48	(1/52) 2/91 (-0/69) -0/02
	21	(1/29) 3/71 (-0/79) -0/60		49	(1/48) 2/96 (-1/11) 0/03
	22	(1/03) 3/08 (-0/73) -0/13		50	(1/14) 3/20 (-1/13) -0/23
	23	(0/98) 3/12 (-0/89) -0/14		51	(1/31) 3/42 (-1/15) -0/43
	24	(1/10) 3/16 (-0/33) -0/14		52	(1/48) 3/17 (-0/95) -0/15
	25	(0/91) 3/21 (-1/13) -0/29		53	(1/17) 3/00 (-0/88) -0/02
	26	(1/31) 2/99 (-1/26) -0/07		54	(1/21) 2/97 (-1/14) 0/13
	27	(1/15) 3/13 (-0/58) -0/17		55	(0/94) 2/83 (-0/78) 0/18
	28	(1/53) 3/02 (-0/51) -0/12		56	(1/24) 2/94 (-1/53) 0/07

As Table 2 shows, the largest average belongs to item 21 and the smallest average belongs to item 4. Table 2 shows that the skewness and kurtosis indices of all the items are in the range of  $\pm 2$  and therefore the distribution of the data related to those items is normal.

In this research, the assumed factor structure of the questionnaire was investigated using the confirmatory factor analysis method and the application of AMOS 24.0 software and maximum likelihood (ML) estimation. An attempt was made to examine and compare the appropriateness indices of the three scale measurement models. The first model was a one-

factor model in which all items were allowed to load on only one factor. The second model was six factors, in which each item was restricted to the desired latent factor and the latent factors were allowed to be correlated with each other. The third six-factor model was a hierarchy, in which each item was restricted to the desired latent factor and the latent factors were allowed to create factor loadings on the more general factor. In the following, Table 3 shows the factor loadings of each of the items in the questionnaire of the underlying factors of suffering from post-traumatic stress disorder.

Table 3. Measurement model parameters of the questionnaire of underlying factors of post-traumatic stress disorder in confirmatory factor analysis

Factor- Item	b	SE	$\beta$	C.R	Factor- item	b	SE	$\beta$	C.R
<b>Economic - item 1</b>	1		0/812		<b>Social - item 29</b>	0/917	0/064	0/715	14/42**
<b>Economic - item 2</b>	0/825	0/070	0/598	11/79**	<b>Social - Item 30</b>	0/991	0/066	0/743	15/08**
<b>Economic - item 3</b>	1/070	0/077	0/685	13/85**	<b>Social - item 31</b>	0/946	0/062	0/739	15/13**
<b>Economic - item 4</b>	0/683	0/073	0/489	9/40**	<b>Social - item 32</b>	0/924	0/060	0/742	15/04**
<b>Economic - item 5</b>	0/965	0/076	0/634	12/63**	<b>Social - item 33</b>	0/984	0/058	0/822	17/01**
<b>Economic - item 6</b>	1/139	0/072	0/764	15/82**	<b>Social - item 34</b>	0/986	0/066	0/749	15/21**
<b>Economic - item 7</b>	0/962	0/079	0/616	12/21**	<b>Social - item 35</b>	0/956	0/062	0/727	14/69**
<b>Economic - item 8</b>	1/047	0/077	0/674	13/57**	<b>Social - item 36</b>	0/892	0/064	0/714	14/40**
<b>Environment - Item 9</b>	1		0/612		<b>Family - Item 37</b>	1		0/766	
<b>Environment - Item 10</b>	1/096	0/103	0/655	10/60**	<b>Family - Item 38</b>	0/934	0/068	0/679	13/64**
<b>Environment - Item 11</b>	1/193	0/108	0/695	11/08**	<b>Family - Item 39</b>	0/904	0/069	0/653	13/03**
<b>Environment - item 12</b>	1/171	0/105	0/703	11/18**	<b>Family - Item 40</b>	1/024	0/070	0/726	14/72**
<b>Environment - Item 13</b>	1/181	0/103	0/729	11/50**	<b>Family - item 41</b>	1/022	0/070	0/725	14/69**
<b>Environment - Item 14</b>	0/989	0/099	0/606	9/98**	<b>Family - Item 42</b>	1/112	0/071	0/769	15/75**
<b>Environment - item 15</b>	1/140	0/104	0/683	10/94**	<b>Family - item 43</b>	1/099	0/068	0/787	16/19**
<b>Environment - item 16</b>	1/089	0/107	0/619	10/15**	<b>Family - Item 44</b>	1/032	0/069	0/734	14/92**
<b>Environment - Item 17</b>	1/144	0/105	0/682	10/93**	<b>Family - Item 45</b>	1/071	0/067	0/782	16/07**
<b>Environment - Item 18</b>	1/218	0/100	0/793	12/17**	<b>Family - item 46</b>	1/035	0/072	0/712	14/40**
<b>Psychological - item 19</b>	1		0/741		<b>Family - item 47</b>	1/093	0/069	0/770	15/77**
<b>Psychological - item 20</b>	0/823	0/063	0/684	13/15**	<b>Structural - item 48</b>	1		0/705	
<b>Psychological - item 21</b>	0/885	0/059	0/775	15/03**	<b>Structural - item 49</b>	0/973	0/075	0/707	12/97**
<b>Psychological - item 22</b>	1/053	0/072	0/751	14/54**	<b>Structural - item 50</b>	1/033	0/076	0/741	13/59**
<b>Psychological - item 23</b>	1/021	0/072	0/737	14/25**	<b>Structural - item 51</b>	1/066	0/072	0/813	14/84**

<b>Psychological - item 24</b>	0/937	0/069	0/707	13/63**	<b>Structural - item 52</b>	0/993	0/075	0/720	13/21**
<b>Psychological - item 25</b>	0/949	0/067	0/733	14/16**	<b>Structural - item 53</b>	1/023	0/079	0/731	13/40**
<b>Psychological - item 26</b>	0/930	0/070	0/693	13/34**	<b>Structural - item 54</b>	1/002	0/072	0/691	12/69**
<b>Psychological - item 27</b>	1/030	0/071	0/749	14/49**	<b>Structural - item 55</b>	1/027	0/075	0/733	13/44**
<b>Social - item 28</b>	1		0/769		<b>Structural - item 56</b>	1/021	0/078	0/716	13/14**

**Note: The unstandardized factor loadings (b) of items 1, 9, 19, 28, 37 and 48 were recorded with the number 1, so the standard error (SE) and critical ratio (CR) were not calculated for them.**

Based on the results presented in Table 3, the standard factor loading of all indicators is greater than 0.32. The largest factor loading belonged to item 33 ( $\beta=0.747$ ) and the smallest factor load belonged to item 4 ( $\beta=0.489$ ). Based on this, it can be said that all the items had the ability to measure six economic, environmental,

psychological, cultural-social, family and structural factors of the questionnaire of the factors that cause post-traumatic stress disorder. Table 4 shows the fit indices related to the measurement models of the questionnaire of underlying factors of post-traumatic stress disorder.

**Table 4. The fit indices related to the measurement models of the questionnaire of underlying factors of post-traumatic stress disorder**

Index	One-factor model	Six-factor model	Hierarchical six-factor model
<b>Chi-square</b>	7606/73	1936/28	2015/49
<b>Df</b>	1484	1469	1478
<b>df<sup>2</sup>χ</b>	5/13	1/32	1/36
<b>GFI</b>	0/383	0/906	0/893
<b>AGFI</b>	0/338	0/852	0/946
<b>CFI</b>	0/441	0/957	0/951
<b>RMSEA</b>	0/105	0/029	0/031

Table 4 shows that none of the fit indices support the acceptable fit of the one-factor model of the questionnaire with the collected data. Although the fit indices obtained from confirmatory factor analysis for both six-factor models ( $df/2\chi=1.32$ ,  $CFI=0.957$ ,  $GFI=0.906$ ,  $AGFI=0.852$  and  $RMSEA=0.029$ ). Six hierarchical factors ( $df/2\chi=1.36$ ,  $CFI=0.951$ ,  $GFI=0.983$ ,  $AGFI=0.946$  and  $RMSEA=0.031$ ) indicate the acceptable fit of the two models with the data. Despite this, as Table 3 shows, the obtained fit

indices for the six-factor model are somewhat better than the hierarchical six-factor model. Based on this, it was concluded that the six-factor model of the questionnaire of the underlying factors of suffering from post-traumatic stress disorder has a better fit with the collected data. Table 5 shows the average, standard deviation, Cronbach's alpha coefficient and correlation coefficients between the factors of the questionnaire of the underlying factors of post-traumatic stress disorder.

**Table 5. Mean, standard deviation, Cronbach's alpha coefficient and correlation coefficients between the factors of the questionnaire of the underlying factors of post-traumatic stress disorder**

Variable	1	2	3	4	5	6
<b>1. Economic factor</b>	-					
<b>2. Environmental factor</b>	0/44**	-				
<b>3. Psychological factor</b>	0/20**	0/46**	-			
<b>4. Cultural-social factor</b>	0/38**	0/42**	0/40**	-		
<b>5. Family factor</b>	0/30**	0/29**	0/31**	0/42**	-	

<b>6. Structural factor</b>	0/35**	0/29**	0/19**	0/21**	0/43**	-
<b>Average</b>	21/85	32/06	25/62	27/71	29/78	27/44
<b>The standard deviation</b>	4/99	6/48	6/05	6/54	7/67	5/31
<b>Cronbach's alpha coefficients</b>	0/86	0/89	0/91	0/88	0/93	0/91

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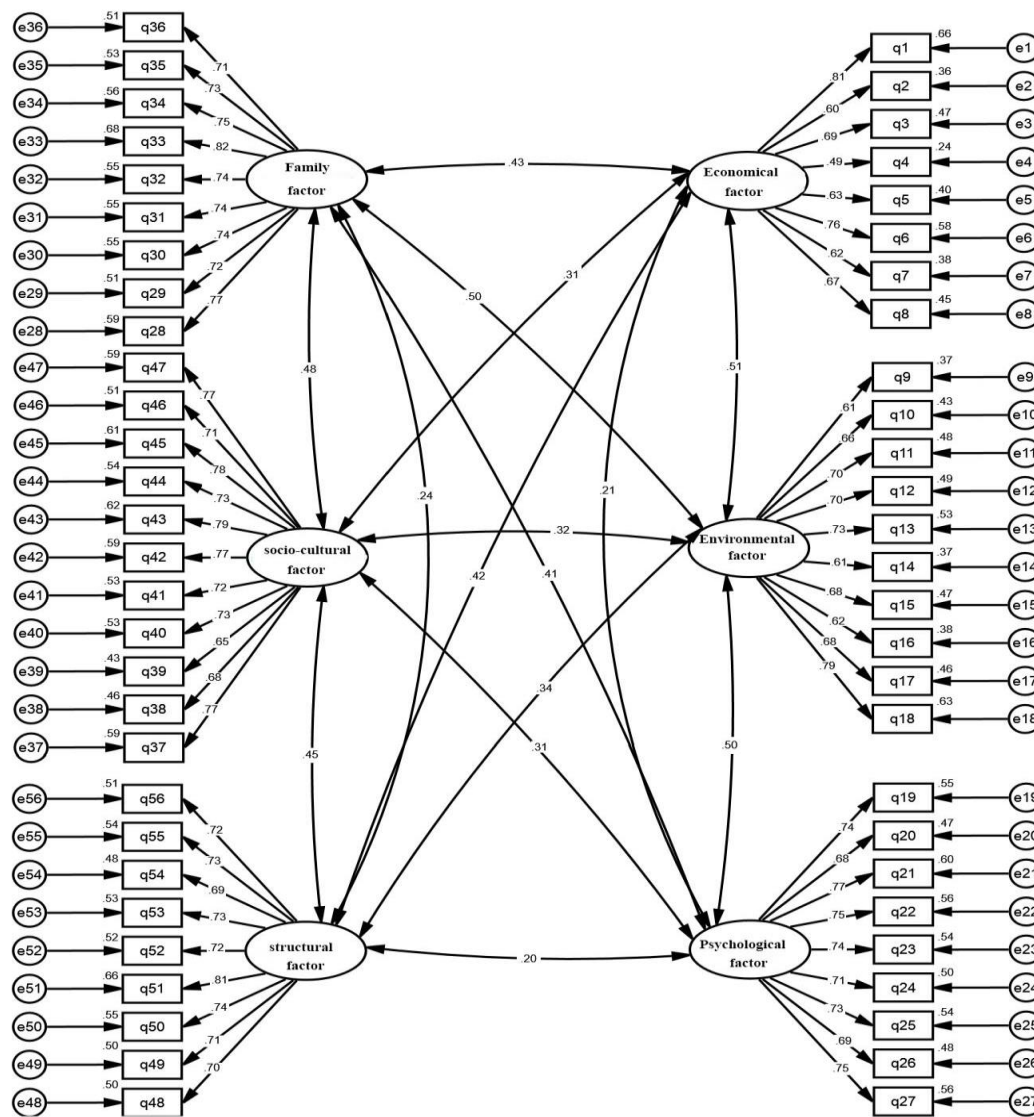


Figure 1. Measurement model of the underlying factors of post-traumatic stress disorder and its factor loadings using standard data



### Conclusion

The present study was conducted with the aim of identifying the underlying factors of post-traumatic stress disorder in earthquake survivors. The results of the present study showed that the factors of the questionnaire of the underlying factors of suffering from post-traumatic stress disorder have good internal consistency. These results are in agreement with the research findings of Roshan Nia et al. (2021), Kazemi Gilan et al. (2022), Naem et al. (2016), Asgari et al. (2018), Dagan and Yager et al. (2019). Senat et al. (2018) is consistent. In explaining this finding, it can be stated that post-traumatic stress disorder occurs after a traumatic event occurs in which a person believes that he is physically in danger or that his life is in danger. Intrusive thoughts about real-time harm prepare the individual to execute simulations to deal with the threat, thereby leading to functions for behavioral control programs. In this way, repeated jump reactions and biased attention lead to the strengthening of attention control programs. This process usually progresses smoothly over time. However, PTSD symptoms become persistent when personal coping processes and strategies interfere with the reflective adaptation process. A specific style of thinking, called cognitive-attentional syndrome, disrupts this process and perpetuates PTSD symptoms (Ba, Huen, & Ra, 2015). This syndrome includes: disorder-specific cognitive processing (repetitive states of thought such as rumination or preoccupation); ineffective attempts at seeking solutions (such as avoidance); Attention processes are inefficient (such as selective attention to alleged risks) (Abassi, Mohki, & Saberi, 2016). Roshannia et al. (2021) have shown in their research that there is a positive and significant correlation between the symptoms of this disorder and all the components of emotional schemas, except for the two components of agreement and mental rumination. The components of being uncontrollable and expressing emotions have the ability to predict the symptoms of post-traumatic stress disorder in people who refer to forensic medicine centers in Khorram Abad city. People with tenacity are able to efficiently solve challenges and interpersonal stress and use it as a source of resistance like a protective shield when faced with accidents. These people are more committed to what they do, spend their time on

the goal, have a sense of mastery over the situation and consider themselves to be an important factor in making life changes. Instead of considering events as a threat to their lives, they believe that life events can be controlled and predicted. Therefore, they cope better with anxiety and stress, on the other hand, psychological toughness is a skill that prepares a person to deal with life's problems (Cheng et al., 2017). Stubborn people do not only consider themselves victims of change, but also consider themselves to be the determinants of the results of change. The characteristic of psychological tenacity makes life events like an opportunity for growth and development, rather than giving in to the characteristic of optimism, which causes people to expect pleasant and desirable things in the future. Therefore, it seems justified that psychological toughness is an effective mediator in controlling anxiety and depression in people with post-traumatic stress disorder (Yokoyama et al., 2017). One of the limitations of the current research is that it was conducted in the statistical population of Kermanshah earthquake victims in the cities of Salas, Babajani, Sarpol Zahab, and as a result, one should be cautious in generalizing its results to other similar cases. Despite the limitations mentioned above, our study has implications for the theoretical understanding of PTSD in earthquake survivors. First, since earthquakes are increasingly occurring around the world, this research will help psychiatrists to effectively identify vulnerable populations, which in turn will help them provide timely treatment. Second, our results suggest that PTSD in trauma survivors may persist over time. Hence, there is a need for practical interventions at the community level or the level of primary mental health care. It is suggested to establish a support association for patients suffering from post-traumatic stress disorder in Kermanshah province to prevent the spread and spread of the destructive effects of this disorder. This research should be carried out on a larger sample in order to be more generalizable, and the variables of the current research can be carried out on different strata of society and in different age groups and compared with the results of the current research. One of the most important uses of this research is that: It can help nurses who are dealing with post-traumatic stress disorder patients to provide better and more favorable nursing services while paying attention to the level of depression, anxiety and psychological toughness of these

people and to accelerate their treatment and cognitive improvement.

### Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

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