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Research Article

The Development of a General Disaster Preparedness Belief Scale Using the Health Belief Model as a Theoretical Framework

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Abstract: The Health Belief Model (HBM) is one of the oldest and most recognized conceptual framework of health behavior and can be applied to disaster preparedness efforts which focus predominantly on human behavior. The study aims to develop and test the psychometric properties of the General Disaster Preparedness Belief (GDPB) scale based on the HBM. A study group of 286 academic and administrative staff working in a Turkish University located in the city of Yalova completed a GDPB scale instrument containing 60 items. Exploratory Factor Analyses (EFA) was used for the construct validity of scale. Item analysis was assessed using item–total correlations and Cronbach's alpha coefficients. The EFA extracted six factors that jointly accounted for 59.2% of variance observed namely; Self efficacy (8 items), Cues to action (5 items), perceived susceptibility (6 items), perceived barriers (6 items), perceived benefits (3 items) and perceived severity (3 items). Cronbach's alpha coefficient for the subscales ranged from 0.90 to 0.74. The GDPB scale based on the HBM was found to be a valid and reliable tool. Findings from this study can be used to guide intervention aimed at informing and educating people about disaster preparedness.

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Disaster preparedness beliefs,
Health Belief Model,
Reliability and validity,
Scale development

1. INTRODUCTION

Disasters could be natural or man-made emergency events which have negative economic and social consequences for the affected population (Donahue & Joyce, 2001). The 20th century had witnessed an increase in disaster losses, and this has continued in an upward trend in the current century (Guha Sapir, Hoyois & Below, 2013; IFRC, RCS, 2013). Turkey is under the danger of natural disaster as a result of its position which is on a young and active mountain zone called Alp-Himalaya based on a geological point of view (Ersoy & Kocak, 2015). Turkey has also witnessed its own share of disasters ranging from earthquake, landslide, and floods (Gokce, Ozden & Demir, 2008). However, in Turkey, the earthquake disasters that occurred in August 17, 1999 in Kocaeli and November 12, 1999 in Duzce were among the most devastating disasters. The 1999 Kocaeli earthquake alone left 17,000 people dead,

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200,000 homeless, and resulted in a fiscal cost of some US$2.2 billion (Ersoy & Kocak, 2015). To reduce vulnerability and increase mitigation level to disasters in Turkey and other countries, there is a need for effective disaster preparedness.

Disaster and emergency preparedness efforts focus predominantly on human behaviors derived from diverse factors that range from people's risk perception to lessons from direct and indirect past experiences of disaster events and emergencies (Ejeta, Ardalan & Paton, 2015). According to literatures, theories could be used to explain the structural and psychological determinants of behaviour as well as guide the development and refinement of health promotion and education (Painter, Borba, Hynes, Mays & Glanz, 2008).

The Health Belief Model (HBM) is one of the oldest and most widely used models in which theory has been adapted from the behavioural sciences to health problems (Glanz, Rimer & Lewis, 2002; Orji, Vassileva & Mandryk, 2012). The HBM describes the decision-making process that individuals employ when adopting a health protective behavior (Sharma & Romas, 2008). Though the use of the HBM is very versatile (Teitler-Regev, Shahrabani & Benzion, 2011; Akompab et al., 2013; Guvenc, Aygul, Acıkel, 2011; O'Connell, Price, Roberts, Jurs, McKinley, 1985), it can be beneficial when discussing disaster preparedness, because it can be applied to encourage individuals to change a potentially detrimental behavior. In the current study, behavior is seen as an intentional or unintentional lack of preparedness for imminent occurrence of disaster. In the HBM, disaster preparedness will depend on the following predictors: perceived susceptibility of experiencing a disaster, perceived severity of disaster, benefits of being prepared for a disaster, perceived barriers to being prepared, cues to action for disaster preparedness and individual's belief in their own ability to deal with a disaster (Glanz, Rimer, Lewis, 2002; Rosenstock, 1966; Rosenstock, Strecher & Becker, 1988).

Past studies have been carried out with regards to earthquake preparedness at the individual level, some of these studies have used brief measures with 10 items and below (Farley, 1993; Showalter, 1993; McClure, Walkey, Allen, 1999) to assess earthquake preparation, whereas some other studies have used longer measures between 12 and 27 items to examine more than one category of disaster preparedness such as survival, planning, and hazard mitigation (Mileti, Fitzpatrick, 1992; Mulilis, Duval, Lippa, 1990; Spittal et al., 2006). However, there are limited research work with regards general disaster preparedness with some few published researches on specific disaster preparedness topics such as heat waves and climate change; collaborative activities between non-professional disaster volunteers and victims of earthquake disasters; climate change and climate variability; as well as preparation of health care workers for disasters (Haraoka et al., 2012; Akompab et al., 2013; Semenza, Ploubidis, George, 2011; Ogedegbe, 2012). In addition, a review of the literatures revealed that there is a paucity of published papers that attempts to develop and validate instruments aimed at measuring General Disaster Preparedness Belief (GDPB) using the health behavior models as a theoretical framework. This study aims to identify scale items that have a consistent factor structure for measuring GDPB using the HBM as a framework. The findings of this study should guide the development of behaviour change programs as it relates to general disaster preparedness. The scale could also be an important tool in improving the motivation for adaptation and mitigation to related general disaster preparedness risks as well as promoting behaviour change strategies for general disaster preparedness.

2. METHOD

2.1. Study setting

The scale development study was conducted in the city of Yalova, Turkey among Yalova University staffs.

2.2. Instrumentation

An initial 78 instrument items were developed by the researchers based on current literature reviews. The initial items pool was subjected to further review by a panel of nine content experts who had expertise in the field of disaster management (6 individuals), instrument development, health education (2 individuals) and Turkish language (1 individual). The content validity index cut off was set at 0.80 which refers to the proportion of experts who rate an item as a 3 or 4 using a 4-point ordinal rating scale ranging from "1" (not relevant) to "4" (very relevant) (Davis, 1992). The experts had high harmony in terms of the content validity and no new items were recommended, on the other hand, on the basis of the content validity, the items were reduced to 60 items and then administered in a pilot study to a convenience sample of 21 individuals in order to ascertain the degree of difficulty and clarity of the items. The final scale consisted of 60 items according to six subscales namely; Susceptibility, Severity, Barriers, Benefits, Cues to action, and Self-efficacy.

2.3. Data collection

To ensure a conceptually clear factor structure for analysis, existing literature suggest a minimum sample of 3-6 respondent per item (Cattell, 1978). The desired minimum sample size for factor analysis in this study was determined to be 180 (Guilford, 1954; Gorsuch, 1983; Kline, 1979; Akgül, 1997; Tabachnick, Fidell, 2007). The scales were self-administered and were administered between April and July, 2014. The inclusion criterion for this study was willingness to participate in the study and being a staff member of Yalova University. After removal of participants with missing item response, our sample consisted of a total of 286 academic and administrative staff who had usable data for the study. Participants with missing data were removed from the study as they did not answer most of the items. During data collection, the main priority was to achieve a sufficient sample size for the analysis. The sample size of 286 participants included in the study exceeded the minimum threshold of 180 required for the study. Also, during data collection, a balance in the number of academic and administrative staff as study participants was taken into consideration however, academic staff were more willing as compared to administrative staff to participate in the study, thus, most of participants were academic staff.

2.4. Study Group

The mean age of the 286 participants was 32.8 years (±5.4 years). 69.7% of respondents were academic staff whereas 30.3% were administrative staff. A larger proportion of respondents were males (63.3%). Approximately 53% of respondents were currently married and half of the participants had a monthly salary of 2.500-2.999 Turkish lira (TL) (854 $-1025 $).

2.5. Ethics

Permission to conduct the study was obtained from relevant authorities in Yalova. Ethical approval was also taken from the Ethical Committee of Hacettepe University. All university staff who participated in the study were given informed consent letters and informed about the purpose of the study. Furthermore, they were also instructed that withdrawal from the study was optional at any time.

2.6. Measures

Respondents completed sub-scales assessing "susceptibility (9 items)", "severity (5 items)", "benefits (5 items)", "barriers (19 items)", "Cue to action (7 items)" and "self-efficacy (15 items)". All items were scored on a five point Likert scale from 1 (strongly disagree) to 5 (strongly agree). All sub-scales measured General Disaster Preparedness Belief and where negatively worded statements were used, the scores on the items were reverse-scored so that a

higher score represented more positive belief. A total scale score was computed by summing up all the 6 subscales (Self Efficacy + Cues to action + Perceived susceptibility + Perceived low barrier (items were reverse scaled) + Perceived benefits + Perceived severity).

2.7. Statistical analysis

To determine the validity of our scale we conducted an Exploratory Factor Analysis (EFA) with varimax rotation that maximizes variance explained by factors using SPSS 19. This analysis was conducted on the basis of polychoric correlation matrix. If the model includes variables that are ordinal a factor analysis can be performed using a polychoric correlation matrix. The polychoric correlation is a technique for estimating the correlation between two ordinal scales' scores (Olsson, 1979).

The Kaiser-Meyer-Olkin (KMO) was used to assess sampling adequacy while Bartlett sphericity test was used to test whether the data have a multivariate normal distribution. The factor retention criterion included the following: diagonals of the anti-image correlation matrix over 0.5, communalities above 0.3, loadings equal to or greater than 0.40, more than three items per factor, and cross-loading analysis (Fabrigar, Wegener, MacCallum, Strahan, 1999; Child, 2006), in addition, items were permitted to load only on the construct they theoretically represented as the scale was theory driven. If these constraints were not met, each item was examined individually and items were removed one at a time to ensure appropriate removal. The distribution of the total scale and sub-scale scores were described by calculating score range, mean, standard deviation, skewness and kurtosis as well as the floor and ceiling effects. Floor and ceiling effects were considered present if more than 15% of respondents achieved the highest or lowest possible score, respectively (McHorney & Tarlov, 1995). The item-total subscale correlations were assessed to determine the discrimination power of the items. While these correlations were calculated, score of calculated item was removed from total score to prevent heightening the relationship between items and scale. Reliability was assessed using Cronbach's alpha coefficients while stratified alpha was calculated for total scale score. Subscale/total scale score intercorrelations were assessed using Pearson correlation. In addition, test-retest reliability was evaluated for the study. The three week test-retest reliability coefficient for scale on the 60 item was .73. An intraclass correlation coefficient of ≥0.70 was considered as evidence of measurement stability.

3. RESULTS

3.1. Exploratory Factor Analysis

EFA using principal component analysis was used to extract factors. Various rotated analysis was computed which lead to the removal of 29 items and retention of 31 items. During several steps, a total of 20 items were eliminated because they did not contribute to a simple factor structure and failed to meet a minimum criterion of having a primary factor loading of .4 or above. In addition, 9 items had similar factor loadings. The factor loading was approved if it was at least 0.1 higher than the next higher loading (Büyüköztürk, 2002) so the 9 items were inappropriate so were eliminated.

In the final rotated analysis, the KMO value of the data was found to be 0.85. The Bartlett's test was significant (chi square =4351;00 df=496; p=<0.0001). The diagonals of the anti-image correlation matrix though not shown were all over 0.5 supporting the inclusion of each item in the factor analysis. In addition, the communalities were all above 0.3.

The factor analysis extracted six factors that jointly accounted for 59.2% of variance observed. The first factor (self-efficacy) assessed individuals' belief in their own ability to deal with a disaster/emergency and accounted for the highest proportion of scale variance (26.2%) with loadings ranging from 0.781 and 0.676. The second factor (susceptibility) addressed

perceived risk of experiencing an emergency or disaster, and this accounted for 9.8% of variance and the loading ranged from 0.735 to 0.491. The third factor (cue to action) related to events, people, or other exposures that could influence disaster preparedness behaviour, accounted for 8.0% of the variance with loading ranging from 0.795 to 0.629, while the fourth factor (barrier) related to perceived obstacles that could hinder disaster preparedness, this factor accounted for 5.8% of the variance and had a loading of 0.789 to 0.426. The fifth factor (benefit), addressed belief about the benefit of disaster preparedness and accounted for 5.6% of the variance and had a loading range of 0.794 to 0.732 while the sixth factor (severity) relating to fear of disaster and belief about the consequences of disaster accounted for 4.3% of the variance and had a loading range of 0.773 to 0.722 (Table 1).

Table 1. Rotated Factor Solution of General Disaster Preparedness Belief (n = 286)

Items (n = 31)	**Self-efficacy**	**Susceptibility**	**Cues to action**	**Low barrier**	**Benefit**	**Severity**	**Communalities**
eff1	0.781	*	*	*	*	*	0.634
eff2	0.778	*	*	*	*	*	0.715
eff3	0.763	*	*	*	*	*	0.748
eff4	0.745	*	*	*	*	*	0.636
eff5	0.710	*	*	*	*	*	0.546
eff6	0.707	*	*	*	*	*	0.542
eff7	0.703	*	*	*	*	*	0.612
eff8	0.676	*	*	*	*	*	0.637
sus1	*	0.735	*	*	*	*	0.612
sus2	*	0.729	*	*	*	*	0.606
sus3	*	0.687	*	*	*	*	0.556
sus4	*	0.664	*	*	*	*	0.513
sus5	*	0.521	*	*	*	*	0.374
sus6	*	0.491	*	*	*	*	0.356
cue1	*	*	0.795	*	*	*	0.732
cue2	*	*	0.786	*	*	*	0.658
cue3	*	*	0.769	*	*	*	0.620
cue4	*	*	0.762	*	*	*	0.628
cue5	*	*	0.629	*	*	*	0.537
bar1	*	*	*	0.789	*	*	0.686
bar2	*	*	*	0.786	*	*	0.738
bar3	*	*	*	0.562	*	*	0.588
bar4	*	*	*	0.515	*	*	0.384
bar5	*	*	*	0.450	*	*	0.447
bar6	*	*	*	0.426	*	*	0.379
ben1	*	*	*	*	0.794	*	0.738
ben2	*	*	*	*	0.776	*	0.718
ben3	*	*	*	*	0.732	*	0.655
sev1	*	*	*	*	*	0.773	0.667
sev2	*	*	*	*	*	0.760	0.632
sev3	*	*	*	*	*	0.722	0.617
Eigenvalues	8.133	3.039	2.486	1.791	1.730	1.333	
% of variance	26.24	9.80	8.02	5.78	5.58	4.30	

Not: R=Reverse scored, Asterisk (*) is less than 0.40.

3.2. Descriptive statistics for items, internal consistency and descriptive statistics for subscales and total scale

Ceiling and floor effects were negligible for most of the 31 items. Ceiling effects were observed for 3 items in the susceptibility subscale, 3 items in the benefit subscale and for 3 items in the severity subscale. Whereas floor effect was observed for 1 item in the cue to action subscale and 2 items in the susceptibility subscale. Overall, there was no evidence that there was a systematic response pattern which could be interpreted as a sign of the participants' reflection of their thoughts (Appendix 1).

The internal consistency of the total scale and subscales all exceeded 0.70 showing that the scale is reliable, the internal consistency for subscales ranged from 0.74 to 0.90. For the total scale, the stratified alpha was 0.93. The mean score for self-efficacy subscale was 24.7±6.4 and for susceptibility subscale was 22.3±3.8. Ceiling effect was observed for the severity subscale. The mean score for the total scale was 102.3±15.3 (Table 2).

Table 2. Item Total Subscale Correlation, Reliability Coefficients and Descriptive Statistics for Sub Scales and Total Scale

Subscale	No of scale item	Item total subscale correlation	Cronbach alpha	Mean	SD	Skewness	Kurtosis	Range: Observed (Possible)	Floor %	Ceiling %
Self-Efficacy	8	0.69-0.84	0.90	24.69	6,35	-0.20	-0.95	9-38 (8-40)	0	0
Cues to Action	5	0.70-0.84	0.84	13.21	4.03	0.20	-0.68	5-24 (5-25)	1.0	0
Perceived Susceptibility	6	0.59-0.73	0.76	22.31	3,78	-0.48	0.03	11-30 (6-30)	0	2.4
Perceived low Barriers	6	0.57-0.78	0.75	18,58	4,07	0.03	-0.98	10-28 (6-30)	0	0
Perceived Benefits	3	0.83-0.87	0.80	11,93	1.95	-1.13	2.75	4-15 (3-15)	0	9.8
Perceived Severity	3	0.80-0.83	0.74	11,53	2,45	-0.80	0.81	3-15 (3-15)	0.7	15.7
Total scale score (stratified alpha)	31	0.38-0.71*	(0.93)	102.27	15.28	-0.28	-0.22	62-138 (31-155)	0	0

Not: *Item total correlation

3.3. Item-total subscale correlations and total item correlations

The item-total subscale correlations were as follows; Self-Efficacy ranged from 0.69 to 0.84; Cue to Action ranged from 0.70-0.84; Perceived Susceptibility ranged from 0.59-0.78; Perceived low barriers ranged from 0.57-0.78; Perceived Benefits ranged from 0.83-0.87 whereas Perceived Severity ranged from 0.80-0.83. The total item correlation for the total scale score and items ranged from 0.38-0.71 (Table 2).

3.4. Subscale/Total Scale score intercorrelations

The six derived subscales had an intercorrelation range between subscales of 0.22 to 0.46 ($p<0.01$), the correlation were weak or moderate between the subscales highlighting the unique contributions of each subscale in understanding general disaster preparedness beliefs. The total scale score correlations with the 6 subscales all exceeded the .50 level, 5 of the 6 coefficients

exceeded the .60 level, and 2 of the 6 exceeded .70. All correlations were less than 0.01 level of probability, indicating that even the weakest of the relationships was nonetheless significant. The fact that the correlation coefficients were significant between the 6 subscales and the total scale score could be taken as evidence for summing up all the 6 subscales and for using the total test scores (Table 3).

Table 3. Subscale/Total Scale Intercorrelations

	Self-Efficacy	Cues to Action	Perceived Susceptibility	Perceived Benefits	Perceived low Barriers	Perceived Severity	Total scale score
Self-Efficacy	1.000						
Cues to Action	0.291**	1.000					
Perceived Susceptibility	0.258**	0.319**	1.000				
Perceived Benefits	0.364**	0.236**	0.461**	1.000			
Perceived Barriers	0.453**	0.364**	0.381**	0.412**	1.000		
Perceived Severity	0.368**	0.149**	0.217**	0.286**	0.243**	1.000	
Total scale score	0.783**	0.615**	0.634**	0.610**	0.737**	0.507**	1.000

**p<0.01

4. DISCUSSION

In Disaster Risk Reduction, disaster preparedness is seen as one of the basic components. Also, effective preparedness reduces vulnerability, increases mitigation level, enables timely and effective response to a disaster event, shortens the recovery period from a disaster, and increases community resilience (Guha-Sapir, Hoyois & Below, 2013; Gregory et al., 2006). According to previous studies, the determinant of disaster preparedness behaviours include: risk perception (Armaş & Avram, 2008), preparedness perception (Mulilis & Duval, 1995), self-efficacy (McClure, Walkey & Allen, 1999), community participation (Paton, 2006) available resources and demographics (Mileti, Darlington, 1995; Najafi, Ardalan, Akbarisari, Noorbala & Jabbari, 2015).

The use of the HBM can encourage individuals to promote positive disaster preparedness habits. Accordingly, if disaster is perceived as a health threat, then the components of the HBM might be able to predict preparedness behavior. It is believed that beliefs might influence behaviour (Fabrigar et al., 2006). There are studies showing that differences in household preparedness behaviors were correlated with beliefs about preparedness (Thomas, Leander-Griffith, Harp, Cioffi, 2015; Becker et al., 2013). The HBM predicts that, "if individuals regard themselves as susceptible to a condition, believe that condition would have potentially serious consequences, believe that a course of action available to them would be beneficial in reducing either their susceptibility to or severity of the condition, and believe the anticipated benefits of taking action outweigh the barriers to (or costs of) action, they are likely to take action that they believe will reduce their risks'' (Glanz, Rimer, Viswanath, 2008). Previous studies have applied the HBM to study disaster preparedness, for instance, disease outbreak preparedness (Teitler-Regev, Shahrabani & Benzion, 2011), and preparedness for climate change and heat waves (Akompab, Bi, Williams, Grant, Walker & Augoustinos). However, in the literatures there are no studies to the best of our knowledge that have developed and evaluated a scale for GDP using the HBM as a theoretical frame work. This study attempted to evaluate a newly

developed theory driven instrument for assessing GDPB using the HBM as a framework. The study followed an established scale development process such as current literature review for the selection of items, content validity, pre-testing, scale administration and EFA.

The content validity of the items were found to be acceptable, and the EFA was able to accounted for 59.2% of the variance observed. The EFA is suitable for use on Likert-type of scale and extracted six factors measuring the following; individuals' belief in their own ability to deal with a disaster, perceived susceptibility of experiencing a disaster, perceived severity of disaster, benefits of being prepared for a disaster, perceived barriers to being prepared, and cues to action for disaster preparedness. The KMO value of the data was meritorious and above the recommended value of 0.60 (Fabrigar, Wegener, MacCallum & Strahan, 1999). The communalities confirmed that each item shared some common variance with other items (Child, 2006). Skewness and kurtosis values of each subscale were acceptable as recommended by Kline who suggest that skewness values should be lower than 3 and kurtosis values should be lower than 10 (Kline, 1998). The subscale internal consistency as estimated by Cronbach's alpha was high which in turn suggest that the items in each scale were homogeneous.

The study is not without some limitations, the participants came from a groups that had a higher than average educational and socioeconomic status, for instance, based on comparison of demographic characteristics between our study respondents and the general population, our study participants were comparatively younger males and consisted of academic and administrative staff working in a government university and earning a more or less adequate incomes. In addition, we were limited to EFA as our sample size was not large enough to split the sample into two split - half samples which would have permitted us to conduct EFA analysis on one half of the sample and Confirmatory Factor Analysis on the other half of the sample. Also, there is a need for a more detailed testing before the utility this scale can be firmly established, for example, validity and reliability could be performed in other groups using a larger sample and the scale verified by using a confirmatory factor analysis to determine the utility of the scale.

5. CONCLUSION

The result indicate that the 31 items model is a reliable and valid instrument for measuring GDPB, furthermore, the study has been able to demonstrate the application of the test and it would be interesting to applicate it in future research. Knowledge gained from this study can be used to guide intervention aimed at informing and educating people about disaster preparedness.

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Table Appendix 1. Item Responses to Statements on General Disaster Preparedness Belief

		Percentage (%)				
		SA	A	U	D	SD
eff1	I can not create an emergency /disasters evacuation plan with the people who live around my neighbourhood (R).	9.4	33.2	21.7	32.5	3.1
eff2	I can do basic first aid.	3.1	32.5	21.0	35.0	8.4
eff3	I can specify the hazards which can cause a fire.	6.3	38.8	18.5	31.5	4.9
eff4	I can not conduct search and rescue even at the basic level (R)	4.9	36.0	21.3	35.0	2.8
eff5	I can fix the furniture that need to be fixed at home.	5.9	55.6	18.5	18.5	1.4
eff6	After an emergency situation/disaster, I can access the necessary services needed for psychological support.	9.4	39.9	28.3	18.2	4.2
eff7	I can not use a fire extinguisher (R).	8.7	29.4	21.0	33.2	7.7
eff8	I can determine a safe place at home/in the building to stay during an earthquake.	2.8	40.6	25.2	27.3	4.2
cue1	The policies on emergency situation/disaster encourage me to be prepared for emergency situations/disasters.	3.1	22.0	21.7	39.2	14.0
cue2	My friends enlighten me about the necessity of making individual preparations for emergency situations/disasters.	0.3	12.9	22.0	46.2	18.5
cue3	Booklets, newspapers, brochures do not inform me enough (R).	8.7	42.0	18.5	26.2	4.5
cue4	The people to whose opinion I pay much importance to guide me on the subject of emergency /disaster preparedness.	3.1	26.9	20.3	38.5	11.2
cue5	My family members do not inform me about the necessity of making individual preparations for emergency situations/disasters (R).	7.0	37.8	27.3	22.7	5.2
sus1	I do not attach importance to preparing emergency/disaster kit for emergency situations/disasters preparation (R).	0.7	14.7	21.7	44.4	18.5
sus2	I take into consideration that I may experience an emergency situation/a disaster at some point in my life	15.4	59.4	12.6	12.6	0.0
sus3	It is important for me to enhance building durability in the case of emergency situations/disasters preparation.	36.0	49.3	10.8	3.8	0.0
sus4	My possibility of experiencing an emergency situation/a disaster is very high in the next couple of years.	15.4	49.7	23.1	7.7	4.2
sus5	I find it unnecessary to fix the furniture that need to be fixed at home(R).	0.0	6.3	13.3	56.3	24.1
sus6	I do not talk about necessary emergency contact numbers during emergency situations/disasters in my neighbourhood (R).	7.7	42.3	12.6	25.5	11.9
bar1	It takes too much time of mine to make individual preparations for emergency situations/disasters.(R)	4.2	42.3	15.0	33.2	5.2
bar2	I have responsibilities more important than making preparations for emergency situations/disasters.(R)	0.0	38.8	11.2	45.1	4.9
bar3	I do not have enough information on individual emergency/disaster preparedness (R).	8.7	54.2	17.1	16.4	3.5
bar4	I do not have enough money to make preparations for emergency situations/disasters.(R)	0.0	17.5	15.7	61.2	5.6
bar5	If it is my destiny to die as a result of emergency situations/disasters, I will die (R).	3.1	38.1	15.7	31.1	11.9
bar6	I find it difficult to understand the family disaster plan(R).	3.5	22.7	20.6	44.4	8.7
ben1	My making individual preparations for emergency situations/disasters will also save my family members.	19.9	63.3	10.5	3.1	3.1
ben2	Making preparations for emergency situations/disasters is helpful for my needs during emergency situations/disasters	19.6	61.9	15.7	2.1	0.7
ben3	Making individual preparations for emergency situations/disasters may decrease the risk of death after emergency situations/disasters.	21.7	65.0	7.7	4.9	0.7
sev1	An emergency situation/a disaster experience would not change my life (R).	4.9	6.3	5.9	60.5	22.4
sev2	I am afraid of dying as a result of emergency situations/disasters.	23.8	52.8	9.1	8.4	5.9
sev3	The idea of disasters scares me	19.6	59.1	11.9	4.9	4.5

SA = 5=Strongly Agree (SA), 4 = Agree (A), 3 = Uncertain (U), 2= Disagree (D), 1= Strongly Disagree (SD). R=Reverse coded

Table A2. Item Responses to Statements on General Disaster Preparedness Belief (Turkish Version)

eff1	Mahallemde yaşayanlarla birlikte Acil durumlar/Afetler ile ilgili tahliye planı oluşturamam.
eff2	Temel ilk yardım uygulayabilirim.
eff3	Yangın çıkmasına neden olacak tehlikeleri belirleyebilirim.
eff4	Basit düzeyde olsa dahi arama-kurtarma yapamam.
eff5	Evde sabitlenmesi gereken eşyaları sabitleyebilirim.
eff6	Acil durum/afet sonrası ihtiyacım olursa psikolojik destek almak için gerekli hizmete erişebilirim.
eff7	Yangın söndürme cihazını kullanamam.
eff8	Depremden korunmak için yaşadığım evde/binada güvenli yer belirleyebilirim.
cue1	Acil durum/Afet konusundaki politikalar beni Acil Durumlar/Afetler konusunda hazırlıklı olmaya teşvik ederler.
cue2	Arkadaşlarım Acil durumlara/Afetlere bireysel hazırlık yapmanın gerekliliği konusunda beni aydınlatırlar.
cue3	Kitapçıklar, gazeteler, broşürler beni yeterince bilgilendirmezler.
cue4	Fikirlerine önem verdiğim insanlar acil durumlara/afetlere hazırlıklı olma konusunda beni yönlendirirler.
cue5	Aile üyelerim Acil durumlara/Afetlere bireysel hazırlık yapmanın gerekliliği konusunda beni bilgilendirmezler.
sus1	Acil durumlara/Afetlere hazırlıkta acil durum/afet çantası hazırlamayı önemsemem.
sus2	Yaşamımın herhangi bir döneminde Acil durum/Afet yaşayacağımı göz önünde bulundururum.
sus3	Acil durumlara/Afetlere hazırlıkta bina dayanıklılığını artırmak benim için önemlidir.
sus4	Önümüzdeki birkaç yıl içinde Acil durum/Afet yaşama ihtimalim çok yüksektir.
sus5	Evdeki sabitlenebilecek eşyaları sabitlemeyi gereksiz buluyorum.
sus6	Yakın çevrem ile acil durumlarda/afetlerde gerekli acil iletişim numaraları hakkında konuşurum.
bar1	Acil durumlara/Afetlere bireysel hazırlık yapmak çok fazla zamanımı alır.
bar2	Acil durumlara/Afetlere hazırlık yapmaktan çok daha önemli sorumluluklarım var.
bar3	Acil durumlara/Afetlere bireysel hazırlık yapmak için yeterli bilgim yok.
bar4	Acil durumlara/Afetlere hazırlık yapmak için yeterli param yok.
bar5	Kaderimde Acil durumlarda/Afetlerde ölmek varsa ölürüm
bar6	Aile için afet planının anlaşılması zordur.
ben1	Acil durumlara/Afetlere bireysel hazırlık yapmam aile bireylerimi de koruyacaktır.
ben2	Acil durumlara/Afetlere hazırlık yapmak acil durumlarda/afetlerde ihtiyaçlarıma karşılık verecektir.
ben3	Acil durumlara/Afetlere bireysel hazırlık yapmak acil durumlar/afetler sonrası ölüm riskini azaltabilir.
sev1	Acil durum/Afet yaşarsam hayatımda hiçbir şey değişmeyecek.
sev2	Acil durumlar/Afetler sonucunda ölmekten korkarım.
sev3	Acil durum/Afet yaşama ihtimalini düşünmek beni korkutur.