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Disaster Resilience Scale for Health Rescue Workers: Turkish Validity-Reliability Study

Sağlık Kurtarma Görevlileri için Afet Dayanıklılık Ölçeği: Türkçe Geçerlik-Güvenirlik Çalışması

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Abstract

Objective: Healthcare rescuers providing care and treatment to disaster survivors are frequently exposed to traumatic events and experience both direct and indirect impacts of disasters. This study aimed to evaluate the reliability and validity of the "Disaster Resilience Measuring Tool (DRMT)" for healthcare rescuers in Türkiye.

Materials and Methods: A methodological design was employed, involving 247 healthcare rescuers between November 2023 and April 2024. Data were collected using the "Personal Information Form," the "Connor-Davidson Resilience Scale," and the "Disaster Resilience Measuring Tool for Healthcare Rescuers – Turkish Form."

Results: Exploratory factor analysis (KMO=0.876; Bartlett's test of sphericity, $p<0.001$) supported a four-factor solution accounting for 68.67% of the total variance. Confirmatory factor analysis of the 19-item, four-factor structure yielded standardised factor loadings above 0.53 and the following fit statistics: CMIN/DF=1.892, RMSEA=0.050, SRMR=0.061, GFI=0.903, AGFI=0.865, and CFI=0.892. Although the CFI was marginally below the conventional threshold, other indices indicated an acceptable model fit. The overall Cronbach's alpha coefficient was 0.93, and the intraclass correlation coefficient for the total scale was 0.824 (95% CI: 0.380-0.927).

Conclusions: In conclusion, "Turkish version of the Disaster Resilience Measuring Tool for Healthcare Rescuers" demonstrates adequate validity and reliability for assessing resilience among healthcare rescuers in disaster settings. However, the CFI value, which fell below the conventional cut-off, and the wide confidence interval for temporal stability indicate that these findings require confirmation in larger, independent samples.

Keywords: Disaster resilience, healthcare rescuers, reliability, validity

Öz

Amaç: Afet yaşamış topluluklara bakım ve tedavi hizmeti sunan sağlık kurtarma görevlileri, travmatik olaylara sıklıkla maruz kalmakta ve afetlerin hem doğrudan hem de dolaylı etkilerini yaşamaktadırlar. Bu çalışmada, "Sağlık Kurtarma Görevlileri için Afet Dayanıklılığı Ölçüm Aracı"nın Türkçe geçerliğini ve güvenirliğini değerlendirmek amaçlanmıştır.

Materyal ve Metot: Bu metodolojik tipteki çalışma, Kasım 2023–Nisan 2024 tarihleri arasında 247 sağlık kurtarma görevlisi ile gerçekleştirilmiştir. Veriler, "Kişisel Bilgi Formu", "Connor-Davidson Dayanıklılık Ölçeği" ve "Sağlık Kurtarma Görevlileri için Afet Dayanıklılığı Ölçeği-Türkçe Form" kullanılarak elde edilmiştir.

Bulgular: Psikometrik değerlendirmeler sonucunda, ölçeğin 19 maddeden ve dört faktörden oluşan yapısının geçerli ve güvenilir olduğu doğrulanmıştır. Açımlayıcı faktör analizi öncesinde KMO değeri 0,876 olarak hesaplanmış ve Bartlett küresellik testi anlamlı bulunmuştur; dört faktörlü yapı toplam varyansın %68,67'sini açıklamıştır. Doğrulayıcı faktör analizinde 19 madde ve dört faktörden oluşan yapıya ilişkin standartlaştırılmış faktör yüklerinin tamamının 0,53'ün üzerinde olduğu belirlenmiş; uyum indeksleri CMIN/DF=1,892, RMSEA=0,050, SRMR=0,061, GFI=0,903, AGFI=0,865 ve CFI=0,892 olarak bulunmuştur. CFI dışındaki indeksler kabul edilebilir sınırlar içinde yer almış, CFI ise ölçüt değerin altında kalmıştır. Ölçeğin genel Cronbach alfa katsayısı 0,93; toplam puana ilişkin sınıf içi korelasyon katsayısı ise 0,824 (%95 GA: 0,380-0,927) olarak hesaplanmıştır.

Sonuç: Sonuç olarak, "Sağlık Kurtarma Görevlileri için Afet Dayanıklılığı Ölçüm Aracı – Türkçe Formu" afetlerde görev yapan sağlık kurtarma personelinin dayanıklılığını değerlendirmede geçerli ve güvenilir bir araçtır. Ancak beklenen değerin altında kalan CFI değeri ve zamana ilişkin istikrar için geniş güven aralığı, bulguların daha büyük ve bağımsız örneklemlerde doğrulanması gerektiğini göstermektedir.

Anahtar Kelimeler: Afet dayanıklılığı, geçerlilik, güvenilirlik, sağlık kurtarma görevlileri

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INTRODUCTION

Disasters are major events that occur suddenly, challenge individuals' coping capacities, and can significantly impact their lives.[1] In recent years, disasters have become a global issue due to the increase in both the frequency and variety of disasters experienced worldwide, leading to the 21st century being labelled as the "century of disasters".[2] The rise in disaster occurrences, particularly due to global climate change, is evident in reports stating that 387 major disasters occurred globally in 2022.[3] The frequency and severity of disasters in Türkiye have increased due to climate change and local environmental factors. In particular, forest fires, floods, droughts, and severe storms have become more frequent and destructive, exacerbated by the direct effects of global warming. For example, catastrophic forest fires in the Mediterranean-Aegean region in 2021 destroyed hundreds of thousands of hectares of land. They forced the evacuation of thousands of residents. In 2023, extreme rainfall and subsequent flooding in the Black Sea region submerged numerous settlements and caused significant loss of life. In addition, the 7.7 and 7.6 magnitude earthquakes epicentered in Kahramanmaraş in 2023 caused widespread devastation, claiming tens of thousands of lives and displacing entire communities.[4-6] The increasing recurrence of such disasters underscores the urgent need to prioritize disaster management frameworks and strengthen resilience-building strategies to mitigate future risks.[7]

Several professional groups are actively involved in disaster areas to mitigate loss and destruction, with healthcare workers being among the key responders. As a result, healthcare workers are one of the groups most exposed to the hardships encountered in disaster areas.[7-9] These individuals often work under extreme conditions, making critical clinical decisions while dealing with challenges such as fatalities, injuries, infectious diseases, and severe shortages of resources.[9-11] These difficulties, coupled with traumatic events, impact the mental health of healthcare workers, reducing their resilience and potentially leading to issues such as burnout, anxiety, depression, and post-traumatic stress.[8,9,12-15]

Healthcare workers in disaster areas need to be able to manage negative life experiences to cope with intense stress, make fast, effective decisions, and maintain a high level of professional performance. Although a number of instruments are available for assessing general psychological resilience, no Turkish instrument currently measures resilience to a phenomenon with the multidimensional and traumatic consequences of a disaster. This study aimed to assess the reliability and validity of the “Disaster Resilience Measuring Tool” for healthcare rescuers in Türkiye.

MATERIALS AND METHODS

***Ethical Considerations**:* The study was approved by the Istanbul University Social and Humanities Ethics Committee (Date: 15.11.2023, decision no: 2254916). This research adhered to the ethical standards set forth in the “Helsinki Declaration”. Participants were presented with an online informed consent form at the outset of the survey. Only individuals who provided informed consent were granted access to the survey.

Study Design and Participants: Xiaorong MAO provided written consent via email to implement the “Disaster Resilience Measuring Tool (DRMT)”.[11] This methodological study was conducted to evaluate the psychometric properties of the “DRMT.” The study population consisted of individuals who participated in at least one disaster as members of healthcare rescue teams. In this study, the snowball-sampling technique was employed to access a broad and heterogeneous participant pool. For validity and reliability assessments of scales, it is recommended that the sample size be at least 5-10 times the number of items.[16,17] In studies utilizing advanced statistical techniques such as factor analysis, it is recommended that the sample size be 10-15 times the number of items in the scale.[16] In line with the 10:1 participant-to-item ratio, the 19-item Turkish version of the scale required at least 190 participants. To enhance the statistical power and account for potential data loss, a total of 247 healthcare rescuers were reached through the snowball sampling technique. This sampling method ensured a broad and heterogeneous pool of participants from various disaster response units. For test-retest reliability, a subsample of 57 participants completed the scale again after a 15-day interval. The study included people who were over 18 years of age, who had participated in at least one disaster (earthquake, flood, fire, avalanche, landslide, or storm) as a member of a healthcare team, who had not been previously diagnosed with post-traumatic stress disorder, and who had no history of disaster-related trauma.

Instruments

Personal Information Form: This form, prepared by the researchers based on the literature[7,9] consists of 12 questions about the descriptive characteristics of the individuals and their disaster experiences.

Disaster Resilience Measuring Tool for Healthcare Rescuers (DRMT): DRMT was developed by Mao et al. in 2021 to evaluate the resilience of healthcare professionals engaged in disaster response.[11] The scale comprises 19

items distributed across four sub-dimensions, namely Self-efficacy, Social support, Positive growth, and Altruism. Items are rated on a 4-point Likert scale, and a total score of 61 or above indicates a higher level of disaster resilience. The original validation study reported a Cronbach's alpha of 0.92 for the full scale and subscale alphas ranging between 0.85 and 0.95.

Connor-Davidson Resilience Scale (CD-RISC): This scale was developed by "Connor and Davidson" in 2003, this scale measures individual resilience. The Turkish adaptation was validated by Karaırmak in 2010.[18] The scale comprises 25 items measuring resilience across three sub-dimensions. Higher scores reflect greater resilience. The original version of the scale demonstrated a Cronbach's alpha of 0.92, whereas the present study yielded a reliability coefficient of 0.91 for the "CD-RISC", indicating similarly high internal consistency.

Data Collection Procedure: This study was structured in accordance with a seven-stage methodological framework widely recognized in scientific literature (Figure 1):

1- Translation: The translation process involved two independent bilingual translators whose first language is Turkish.

2- Translation Synthesis: The two translators collaboratively reviewed and synthesized their versions. Discrepancies in terminology and expressions were resolved through consensus, resulting in a harmonized Turkish draft of the instrument.

3- Back-Translation: Two native English-speaking bilingual translators independently performed the back-translation of the synthesized Turkish version.

4- Expert Committee Review: A multidisciplinary committee consisting of 13 experts, including nurses, academics, physicians, and midwives, assessed the scale through the Davis Technique. Final refinements to the scale were made based on this expert feedback.

5- Pre-testing: The pre-final version of the scale was administered to a pilot group of n=33 healthcare rescuers who were not included in the main sample to evaluate the linguistic clarity, cultural relevance, and overall comprehensibility of the items. Participants were asked to indicate any expression that they found ambiguous. No item required further modification following this stage, and the resulting version was adopted as the final Turkish form of the instrument.

6- Scale Administration: After receiving ethical approval and permission to conduct reliability and validity assessments, data were collected from 247 participants between November 2023 and April 2024. Self-report data were gathered using an online "Google Form". Completion of the form required approximately 10–15 minutes, and only one submission was permitted per participant.

7- Test-Retest Reliability: To examine temporal stability, the scale was re-administered to a subsample of 57 participants after a 15-day interval. Participants were instructed to create a unique identifier (nick-name) for matching their responses across both time points. The responses from both administrations were subsequently paired and analyzed.

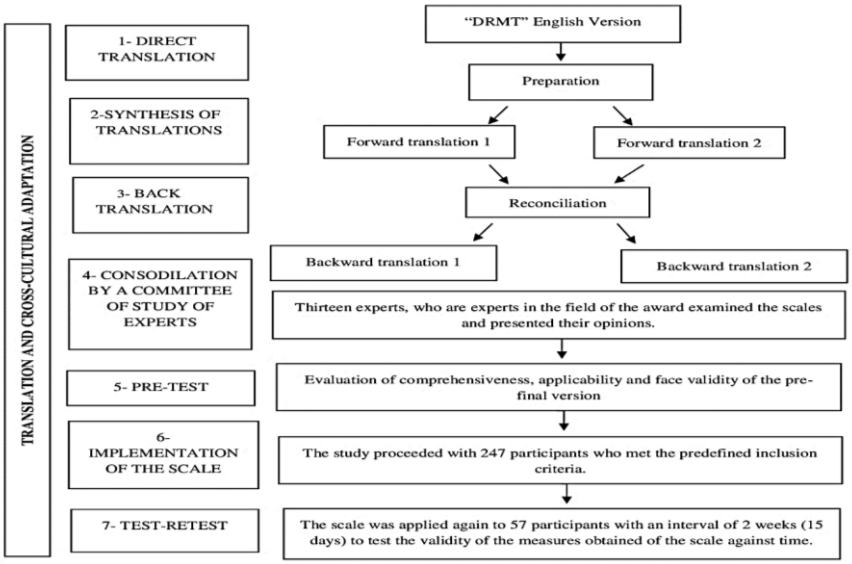


Figure 1. Flowchart stages of "DRMT" into Turkish

Sequence of the Psychometric Analyses: The psychometric evaluation followed a fixed chronological order. Content validity was established first, based on expert committee ratings obtained using the Davis technique (Stage 4). Following the expert review for content validity, the Content Validity Index (CVI) for items ranged from 0.821 to 1.000, and the overall scale CVI was 0.952. After a pre-test administered to 33 individuals, the final Turkish form was administered to the main sample (N=247). Construct validity was then examined in two consecutive steps within this sample: exploratory factor analysis (EFA) was performed first, followed by confirmatory factor analysis (CFA) to test the fit of the resulting four-factor model. Before EFA, sampling adequacy was confirmed (KMO=0.876); Bartlett's test of sphericity was significant ($p<0.001$), and the four-factor solution accounted for 68.67% of the total variance. Convergent validity was thereafter assessed against the "CD-RISC" in the same sample. Reliability was evaluated last, through internal consistency (Cronbach's alpha and corrected item-total correlations; N=247) and temporal stability (test-retest; n=57; 15-day interval). Because the EFA and the CFA were conducted on the same data set, this constraint is acknowledged as a limitation in the Discussion section.

Statistical Analysis: The psychometric evaluation was conducted using SPSS- 26, and AMOS-24. Data distribution was examined through "Skewness & Kurtosis" values, defined as within ±1.5. Descriptive analyses summarized key characteristics of the sample. The suitability of the data for factor analysis was assessed using the KMO measure of sampling adequacy and Bartlett's test of sphericity. Construct validity was then examined through EFA, followed by CFA, in which model fit was evaluated using CMIN/DF, RMSEA, SRMR, CFI, GFI, and AGFI. Convergent validity was assessed by means of Pearson's correlation coefficient between the total scores of the "DRMT" and the "CD-RISC". Reliability was determined using Cronbach's alpha coefficients, corrected item-total correlations, and test-retest analysis, with intraclass correlation coefficients (ICCs) reported along with their 95% confidence intervals.

RESULTS

A total of 247 healthcare rescuers participated in the study. Of these, 55.1% were female with an average age of 34.16±6.72 years, and 35.2% of the participants were employed in ambulance services. Of these participants, 55.9% had a bachelor's degree, 31.6% were paramedics, 52.2% had five years or more of professional experience, and 46.6% had participated in disaster missions once. Furthermore, 95.9% had responded to earthquakes, 70.4% reported that their most recent deployment lasted one week, and 94.7% believed that healthcare workers in disaster areas require psychological support (Table 1).

Table 1. Socio-demographic characteristics of participants (n:247).

Characteristics		**Data**
Age, Mean±SD (Min-Max)		34.16±6.72 (23-51)
Gender, n (%)	Female	136 (55.1)
	Male	111 (44.9)
Unit, n (%)	Ambulance service (112)	87 (35.2)
	Hospital emergency department	80 (32.4)
	Intensive care unit	37 (15)
	A clinic in the hospital	43 (17.4)
Education Level, n (%)	Associate's degree	48 (19.4)
	Bachelor's degree	138 (55.9)
	Postgraduate degree	61 (24.7)
Profession, n (%)	Paramedic	78 (31.6)
	Physician	43 (17.4)
	Nurse	74 (30)
	Emergency medical technician	52 (21.1)
Professional experience	Less than 5 years	118 (47.8)
	5 years or more	129 (52.2)
Number of missions in disaster area, n (%)	1 time	115 (46.6)
	2 times	101 (40.9)
	3 and more	31 (12.6)
Type of disaster*, n (%)	Earthquake	237 (95.9)
	Fire	18 (7.3)
	Flood	39 (15.8)
Duration of deployment in the most recent disaster mission, n (%)	1 week	174 (70.4)
	2 weeks	37 (15)
	3 weeks	21 (8.5)
	4 weeks and above	15 (6.1)
Belief that disaster-area healthcare workers need psychological support, n (%)	Yes	234 (94.7)
	No	13 (5.3)

* More than one choice has been selected; SD: Standard Deviation; Min: Minimum; Max: Maximum.

Internal consistency reliability of the "DRMT" was examined through Cronbach's alpha and item-total correlation coefficients. The corrected item-total correlation ranges from 0.550 to 0.730. The overall Cronbach's alpha for the scale was 0.93. Subscale Cronbach's alpha values were 0.899 for "Self-efficacy," 0.891 for "Social support," 0.890 for "Positive growth," and 0.856 for "Altruism." In the total sample (n: 247), the mean "DRMT" score was 54.88±11.19 (Table 2).

Table 2. DRMT item statistics (n:247).

DRMT Items	Mean±SD	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*α*
Item-1	2.97±0.81	0.645	0.925	
Item-2	2.81±0.78	0.612	0.926	
Item-3	2.88±0.90	0.705	0.923	
Item-4	2.82±0.95	0.688	0.924	
Item-5	2.84±0.91	0.590	0.927	
Item-6	2.89±0.88	0.720	0.922	
Item-7	2.86±0.89	0.655	0.925	
Factor 1 - Self-efficacy	20.07±4.84			
Item-8	2.89±0.87	0.715	0.923	
Item-9	2.84±0.90	0.695	0.924	0.899
Item-10	2.87±0.91	0.730	0.922	
Factor 2 - Social support	8.60±2.43			
Item-11	2.83±0.94	0.640	0.925	
Item-12	2.85±0.90	0.610	0.926	0.891
Item-13	2.73±0.90	0.685	0.924	
Item-14	2.87±0.95	0.702	0.923	
Factor 3 - Positive growth	11.29±3.20			
Item-15	2.96±0.96	0.585	0.927	
Item-16	2.92±0.95	0.550	0.928	0.890
Item-17	2.92±0.91	0.625	0.926	
Item-18	2.92±0.84	0.660	0.925	
Item-19	3.19±0.60	0.595	0.927	
Factor 4 - Altruism	14.92±3.43			0.856
DRMT Total	54.88±11.19			0.93

DRMT: Disaster Resilience Measuring Tool; SD: Standard Deviation; α: Cronbach's Alpha.

Within the test-retest subsample (n:57), the mean score at the first administration was 55.44±8.27, and the mean score at the second administration, 15 days later, was 51.44±6.53. For the total scale, the intraclass correlation coefficient (ICC) was 0.824 (95% CI: 0.380-0.927), Cronbach's alpha (α) was 0.888, and the inter-item correlation (IIC) was 0.821. For the "Self-efficacy" subscale, the mean score at the first administration was 20.40±3.16, and the retest mean was 19.30±3.53 (ICC=0.750; α=0.772; IIC=0.632). The "Social support" subscale had a mean score of 8.40±2.01 and a retest mean of 7.77±1.93 (ICC=0.812; α=0.834; IIC=0.716). For the "Positive growth" subscale, the corresponding values were 11.44±2.37 and 10.67±2.54 (ICC=0.781; α=0.802; IIC=0.671), and for the "Altruism" subscale 15.19±3.16 and 13.70±3.09 (ICC=0.774; α=0.824; IIC=0.700) (Table 3).

Table 3. DRMT reliability test-retest (n=57).

	Mean±SD	R-test Mean±SD	ICC (95%-CI)	*α*	IIC
DRMT	55.44±8.27	51.44±6.53	0.824 (0.380-0.927)	0.888	0.821
Self-efficacy	20.40±3.16	19.30±3.53	0.750 (0.558-0.856)	0.772	0.632
Social support	8.40±2.01	7.77±1.93	0.812 (0.651-0.895)	0.834	0.716
Positive growth	11.44±2.37	10.67±2.54	0.781 (0.610-0.875)	0.802	0.671
Altruism	15.19±3.16	13.70±3.09	0.774 (0.488-0.887)	0.824	0.700

SD: Standard Deviation; α: Cronbach Alfa; ICC: Intraclass Correlation Coefficient; IIC: Inter-item Correlation; CI: Confidence Interval

Following the EFA, CFA was performed in order to test the fit of the four-factor model within the same sample. All standardised factor loadings were statistically significant and exceeded 0.53. The fit statistics obtained were CMIN/DF=1.892, RMSEA=0.050, SRMR=0.061, GFI=0.903, AGFI=0.865, and CFI=0.892 (Table 4).

Table 4. Fit index values of CFA.

Fit Index Values	Good Fit	Acceptable Fit	Model Fit Indices
CMIN/DF	0≤ CMIN/DF ≤2	2≤ CMIN/DF ≤3	1.892
RMSEA	0≤RMSEA≤0.05	0.05≤RMSEA≤0.08	0.050
SRMR	0≤SRMR≤0.05	0.05≤SRMR≤0.10	0.061
CFI	0.97≤CFI≤1.00	0.95≤CFI≤0.97	0.892
GFI	0.95≤GFI ≤1.00	0.90≤GFI≤0.95	0.903
AGFI	0.90≤AGFI≤1.00	0.85≤AGFI≤0.90	0.865

CMIN: Minimum of Discrepancy Function; DF: Degrees of Freedom; RMSEA: Root Mean Square Error of Approximation; SRMR: Standardized Root Mean Square Residual; CFI: Comparative Fit Index; GFI: Goodness of Fit Index; AGFI: Adjusted Goodness of Fit Index.

Convergent validity was examined by correlating the total scores of the "DRMT" and the "CD-RISC". Pearson's analysis revealed a positive and statistically significant association between the two instruments ($r=0.57$; $p<0.001$) (Table 5).

Table 5. Convergent validity analysis.

Variable	r	p
DRMT Total Score & CD-RISC Total Score	0.57	**<0.001**

DRMT: Disaster Resilience Measuring Tool; CD-RISC: Connor-Davidson Resilience Scale; r: Pearson Correlation Coefficient.

DISCUSSION AND CONCLUSION

This study aimed to assess the validity and reliability of the "DRMT" by conducting a cross-cultural adaptation for healthcare rescuers. This study fills a critical gap by providing the first validated tool to assess disaster resilience among healthcare rescuers in Türkiye. Furthermore, to our knowledge, only one further study has adapted and validated this instrument in another language and cultural context among healthcare rescuers.

For the content analysis, the scale was reviewed by 13 experts using the Davis technique. The overall scale demonstrated excellent content validity, with a value of 0.952. According to the literature, a CVI exceeding 0.800 is considered acceptable, while values above 0.900 are considered excellent.[16,17,19] Thus, the high CVI of the "DRMT" confirms that it has strong content validity.

Prior to the EFA, the appropriateness of the data was assessed using the "KMO test and Bartlett's test" of sphericity. A KMO value exceeding 0.6, together with a statistically significant Bartlett's test, indicates that the sample size is adequate and the data are suitable for factor analysis.[20,21] The value obtained in the present study corresponds to a meritorious level of sampling adequacy and, together with the significant Bartlett's test, confirms that the data set was appropriate for factor analysis.

The EFA confirmed the four-factor structure of the "DRMT", consistent with the original scale.[11] Collectively, these four factors accounted for 68.67% of the total variance, indicating robust construct validity. This aligns with existing literature, which suggests that scales explaining between 40% and 70% or more of the variance demonstrate strong construct validity.[17,20,21] This result supports the structural equivalence of the Turkish version with the original scale.

The CFA was subsequently conducted to determine whether the four-factor model derived from the EFA fit the data. CMIN/DF, RMSEA, SRMR, GFI, and AGFI were all within the ranges accepted in the literature, indicating that the Turkish version adequately represents the four dimensions of disaster resilience among healthcare rescuers. The CFI, however, was 0.892 and thus fell short of both the criterion of 0.95 adopted in the present study and the more permissive threshold of 0.90. Since incremental indices like the CFI are sensitive to sample size and model complexity, values slightly below 0.90 are not uncommon for a 19-item, four-factor model with this sample size. Nonetheless, these indices suggest an acceptable, rather than optimal, fit, indicating that the structural validity should be further confirmed in larger, independent samples. The instrument also demonstrated strong content validity (CVI=0.952) and high internal consistency ($\alpha=0.93$).

Cronbach's alpha coefficient of less than 0.40 indicates poor reliability; 0.40-0.60 suggests low reliability; 0.60-0.80 indicates good reliability, and 0.80-1.00 indicates high reliability.[21] In this study, the total Cronbach's alpha coefficient for the "DRMT" was 0.93, demonstrating high internal consistency and closely matching the value of 0.92 reported for the original instrument.[11]

In this study, the "CD-RISC", a validated scale for resilience, was used to obtain evidence of convergent validity. Pearson's analysis revealed a positive and statistically significant correlation between the total scores of the two instruments ($r=0.57;p<0.001$), indicating that the "DRMT" captures a construct that converges with, without being redundant to, general psychological resilience. A comparable association was reported in the original validation study, which lends further support to the construct validity of the Turkish adaptation.[11]

Test-retest reliability was assessed by re-administering the scale 15 days later. The ICC for the total scale was 0.824, and the subscale values ranged from 0.750 to 0.812, all exceeding the generally accepted criterion of 0.70 for adequate time invariance. The original validation study reported an intraclass correlation coefficient above 0.85 over a two-week interval.[11] The coefficient obtained in the present study is therefore somewhat lower than that reported for the original instrument, which may reflect the smaller size of the retest subsample and the shorter interval between the two administrations. These point estimates should nevertheless be read alongside their confidence intervals. The 95% CI for the total scale was wide (0.380-0.927), and the widest subscale interval was obtained for "Altruism" (0.488-0.887). An interval of this width is compatible with anything between poor and excellent reliability and is attributable primarily to the limited size of the test-retest subsample (n=57).

In conclusion, the findings support the reliability and validity of the "DRMT" as a useful instrument for evaluating disaster resilience among healthcare rescuers. Strengthening rescuer resilience is essential not only for their psychological well-being but also for ensuring patient safety, clinical precision, and continuity of care in disaster contexts. However, this study has limitations. First, the EFA and the CFA were performed on the same data set, which may have inflated the correspondence between the two solutions; therefore, cross-validation on an independent sample is required. Second, the width of the confidence interval for the ICC, which depends on the size of the test-retest subsample, limits the precision of the estimate of temporal stability. Third, the CFI fell below the conventional cut-off, so that the four-factor model should be regarded as acceptable rather than optimal. Finally, the discussion was constrained by the scarcity of previous research on this topic. Future studies should re-examine the instrument's psychometric properties in larger, independent, and more representative samples and extend the evaluation to additional languages and cultural settings.

Ethics Committee Approval: Ethical approval for this study was obtained from the "Istanbul University Social and Humanities Ethics Committee" (Date: 15.11.2023, decision no: 2254916). The study was carried out in full compliance with the ethical standards of the Declaration of Helsinki.

Conflict of interests: The author declares no conflicting interests.

Author Contributions: Concept – TÇİ; Supervision – TÇİ; Materials – TÇİ; Data Collection and/or Processing – TÇİ; Analysis and/or Interpretation – TÇİ; Writing –TÇİ.

Peer-review: Externally peer-reviewed.

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