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Özgün Araştırma

Akut Bakım Ortamlarında Aile Katılımını Etkileyen Faktörler Ölçeği'nin Türkçe Geçerlik ve Güvenirlik Çalışması

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Özet

Amaç: Çalışmanın amacı Akut Bakım Ortamlarında Aile Katılımını Etkileyen Faktörler Ölçeği'ni Türk kültürüne uyarlamak ve Türkçe geçerlik ve güvenirlik çalışması yapmaktır.
Gereç ve Yöntem: Çalışma metodolojik bir tasarım kullanılarak yürütüldü. Örneklem, akut bakım ortamlarında çalışan 282 hemşireden oluşturdu. Çalışmanın verileri Mart-Haziran 2024 tarihleri arasında toplandı. Veri toplamada Tanımlayıcı Bilgi Formu ve Akut Bakım Ortamlarında Aile Katılımını Etkileyen Faktörler Ölçeği kullanıldı. Ölçeğin dil eşdeğerliği, içerik geçerliği, Açımlayıcı Faktör Analizi (AFA) ve Doğrulayıcı Faktör Analizi (DFA) yapıldı. Ölçeğin güvenirliğini belirlemek için Cronbach α Katsayısı ve madde-toplam puan korelasyon değerleri değerlendirildi.
Bulgular: Ölçeğin Kaiser-Meyer-Olkin değeri 0,732, Bartlett Küresellik Testi sonucu ise anlamlı bulunmuş ($\chi 2$=1225,920 p<0,001), bu da verilerin AFA için uygun olduğunu göstermektedir. Tekrarlanan faktör analizi sonucunda açıklanan toplam varyans %58,467 olarak bulundu. Yarı-Bölmeli Güvenirlik Katsayısı Analizi sonucunda Spearman-Brown Korelasyon değeri (r=0,520) ve Guttmann Yarı-Bölmeli Güvenirlik Katsayısı değeri (r=0,589) ile iki yarının Cronbach Alfa Güvenirlik Katsayıları yeterli bulundu. DFA uyum indekslerinin kabul edilebilir düzeyde olduğu bulundu (CMIN/DF=3.162, RMSEA= 0,067, CFI= 0,90, TLI= 0,87, NFI=0,95, AGFI=0,94). Seçilen uyum indeksleri faktör modelinin iyi bir uyumunu gösterdi ve AFA sonuçlarını doğruladı.
Sonuç: Akut Bakım Ortamlarında Aile Katılımını Etkileyen Faktörler ölçeğinin geçerli ve güvenilir bir ölçüm aracı olduğu saptandı.

Anahtar Kelimeler: *Akut bakım, aile katılımı, geçerlik, güvenirlik, ölçek uyarlaması.*

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Original Research

Turkish Validity and Reliability Study of the Scale on Factors Influencing Family Engagement in Acute Care Environments

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Abstract

Objectives: The study aimed to adapt the Scale on Factors Affecting Family Engagement in Acute Care Environments to Turkish culture and to conduct a validity-reliability study in Turkish.
Materials and Methods: This methodological study included a sample of 282 nurses working in acute care environments. Data were collected between March-June, 2024. The Descriptive Data Form and *TheScale on Factors Affecting Family Participation in Acute Care Environments* were used for data collection. Language, content validity were assessed, and Exploratory Factor Analysis(EFA), and Confirmatory Factor Analysis (CFA) were conducted. Cronbach's alpha and item-total score correlation values were checked for reliability.
Results: The Kaiser-Meyer-Olkin(KMO) value was 0.732 and the Bartlett Sphericity Test result was significant ($\chi 2$ =1225.920 $p<0.001$), indicating that the data were suitable for EFA. In repeated factor analysis, the explained total variance was 58.467%. After Split-Half Reliability Coefficient Analysis, the Spearman-Brown Correlation (r = 0.520) and the Guttmann Split-Half Coefficient value (r = 0.589), and the Cronbach Alpha Reliability Coefficients were adequate. CFA fit indices were at an acceptable level (CMIN/DF=3.162, RMSEA= 0.067, CFI= 0.90, TLI= 0.87, NFI=0.95, AGFI=0.94). The selected fit indices showed a good fit of the factor model and confirmed the results of the EFA.
Conclusion: It was concluded that the scale on Factors Affecting Family Engagement in Acute Care Environments is a valid and reliable measurement tool.

Keywords: *Acute care, family involvement, validity, reliability, scale adaptation.*

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Introduction

The increasing elderly population is a serious social hardship for the world, especially in developed countries. The increasing elderly population poses a significant global challenge, particularly in developed countries. By 2050, the proportion of individuals aged over 65 years is expected to exceed 20% worldwide except in Africa and the Middle East classifying many countries as super-aged societies (Inoue et al., 2019). Both the absolute number and proportion of the older adults are steadily increasing globally along with the number of elderly patients admitted to intensive care units (Jones et al., 2020;United, 2022). Previous studies reported that the intensive care mortality rate was higher among the elderly population (Chung, et al., 2023; Fuchs et al., 2012).

Various clinical perspectives, e. g., acute disease, medical history, and age determine which patients must be prioritized in intensive care units (Chung et al., 2023). Short-term results of patients in ICUs (i.e., mortality and 28-day survival) improved significantly, but the long-term prognosis and quality of life of sepsis patients did not improve (Yende et al., 2016). Intensive care units provide advance medical care to patients in life-threatening conditions; however they have also cause physical and mental stress, anxiety, confusion, and fatigue among family members (Nolen & Warren, 2014). Uncertainty, unfamiliar hospitalization setting, and poor communication with nurses may significantly affect families'involvement in patient care and their ability to cope (Wong, et al., 2017).

Guidelines supporting family-centered care were developed, however further improvements in practices are needed to enhance outcomes for both patients and their families. Previous studies have reported that some practices do not adequately reflect nurses' perceptions of carre related to patients' families (Davidson et al., 2017; Mitchell et al., 2015). Studies involving both patient families and nurses have identified several obstacles to patient care, including the presence of patient families in the ICU (Gwaza & Msiska, 2022; Hetland et al., 2018). Neverthless, these studies have also highlighted the benefits of the patient's family engagement in patient care within the intensive care unit (Burns et al., 2017; Burns et al., 2018).

On the other hand, the benefits of family participation are substantial. When families are involved in patient care, they provide emotional support and share personal information about the patient, thereby strengthening nurses' decision-making processes (Mitchell et al., 2015). The literature also shows that active family participation can reduce the risk of delirium in patients, support orientation, and lead to improvements in both short-term and long-term

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clinical outcomes (Davidson et al., 2017; Eghbabi-Babadi et al., 2017). Furthermore, family involvement enhances the quality of nurse–family communication and supports patient safety (Burns et al., 2018). When families are included in the care process, not only the patient's but also the family members' psychological well-being improves; feelings of stress, anxiety, and uncertainty are significantly reduced (Nolen & Warren, 2014; Wong et al., 2017).

The study aimed to adapt the scale on Factors Affecting Family Engagement in Acute Care Environments to Turkish. The literature review indicated that this study is important because there is no measurement tool for nurses in our country and that it addresses a gap in the national literature. In this study, to measure the factors affecting family engagement in acute care environments, the purpose was to add a valid-reliable scale to the literature by conducting the Turkish validity and reliability study.

Materials and Methods

Study Design

This psychometric study employed a methodological design. The research was conducted between March and June 2024 in intensive care units and general hospital wards affiliated with three state hospitals in Turkey. Inclusion criteria were: willingness to participate voluntarily and having at least 3 months of experience working in an intensive care unit, or currently working in these units.

Participants

In methodological studies, it is recommended that the sample size be 5–10 times the number of scale items or at least 200–300 participants (Andrew et al., 2019; Boateng et al., 2018; Kline, 2023). Since the Scale on Factors Affecting Family Involvement in Acute Care Settings consists of 15 items, the recommended sample size ranges between 75 and 150. A pilot study was conducted with 50 nurses to test the clarity of the scale. No unclear items were identified during the pilot, therefore, the participants were included in the main study. During the main data collection process, the survey was sent to intensive care nurses who met the eligibility criteria, and a total of 282 nurses participated. Participant selection was based on voluntary participation, and no coercive procedures were applied during data collection.

Data Collection Forms

The Descriptive Data Form and the Scale on Factors Affecting Family Engagement in Acute Care Environments were employed to collect the study data.

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Descriptive Data Form

This form consisted of questions on age, gender, marital status, education level, years of work experience, and the unit where the nurse worked.

The Scale on Factors Affecting Family Engagement in Acute Care Environments

Makoto Tsukuda et al. developed the scale in 2023 for factors affecting family participation in acute care environments. Internal consistency and repeatability were verified. Follawing Exploratory Factor Analysis (EFA) Confirmatory Factor Analysis (CFA), a 15-item measurement tool with four factors ("ICU environment," "nurses' attitudes," "nurses' workflow," and "patient acuity") was identified. CFA revealed an overall good fit. Cronbach's α was 0.78 in the overall scale (acceptable internal consistency). In test-retest, the intraclass coefficient was 0.80. The Factors Affecting Family Engagement in Acute Care Environments was reliable-valid and might help identify factors that support or inhibit FCC.

Linguistic and Content Validity

Originally developed in English, the scale was translated into Turkish by two independent translators. The translations were reviewed by researchers, synthesized into a single version, and finalized in Turkish before being back-translated into English. The original and back-translated versions were then compared and sent to the original author for evaluation. Minor editing was made in sentence structure. Following this editing, the author's confirmation of the final version was obtained.

Content Validity

The scale was sent to 10 academicians and experts in different nursing departments to assess the content validity and Turkish comprehensibility, and expert opinions were received. Davis Method was employed for content validity (Davis, 1992) (experts rated each item as "1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, or 4 = extremely relevant") The Content Validity Index (CVI) was calculated by dividing the number of experts who rated each item as 3 or 4 by the total number of experts. The evaluation of the CVI was made for each item (I-CVIs) and the total scale (S-CVI). The CVI was 0.96. Experts stated opinions again during the scoring about inappropriate items. Editing was made regarding the linguistic validity in line with expert opinions and the scale was finalized.

Data Collection

Data were collected between March and June 2024, through an online survey conducted across three state hospitals. The data collection tools were transferred to Google Forms and

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shared with nurses via a link created after obtaining informed consent. Nurses completed the questionnaires electronically. As no unclear items were identified during the pilot study, the main study proceeded accordingly. Nurses who participated in the pilot were excluded from the main data analysis. All collected data were processed anonymously and stored in accordance with confidentiality principles.

Statistical Analysis

The SPSS 27.0 and AMOS 20.0 software were used for analyses. Descriptive statistics e.g., frequency and percentage were employed to describe the characteristics of the participants. In the Exploratort Factor Analysis (EFA), the maximum likelihood method was used to extract factor structures. Factor rotation was performed using the Varimax Rotation Method to facilitate the interpretation of the factor structure. The Kaiser–Meyer–Olkin (KMO) measure and Bartlett's Test of Sphericity were used to assess the suitability of the data for factor analysis Test were employed. In CFA, model fit indices were evaluated using the AMOS 20.0 program. Convergent and discriminant validity were calculated. Reliability was evaluated using Cronbach's alpha, item-total score correlations, and Split-Half Reliability coefficient.

Ethical Considerations

This study was designed and conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. Permission to use the original scale was obtained by contacting the scale's developer via e-mail. Approval and institutional permission were obtained from the Scientific Research and Publication Ethics Committee of a university (Date: 04.01.2024, Decision No: 49). To protect participants' rights, strict adherence to confidentiality and anonymity was maintained throughout the data collection process. The data collection tools were provided to the participating nurses via Google Forms, and they were allowed to respond voluntarily. The purpose of the study, the data collection procedure, and the voluntary nature of participation were clearly explained to participants both verbally and in writing.

Results

Introductory Characteristics of the Participants

It was found that 74.5% of the participants were under the age of 30, 51.8% were male, 61.3% were single, 68.8% had bachelor's degrees, and 61.7% had experience of less than five years and 65.2% of them worked in other clinics (Table 1).

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Exploratory Factor Analysis

The KMO was 0.732 and the Bartlett Sphericity Test result was significant ($\chi2 =1225.920$ $p<0.001$), indicating that the data were suitable for EFA. In the first EFA, the 6th and 7th items were removed as they overlapped (Table 2).

In repeated factor analysis, the total explained variance was 58.467%. EFA revealed a three-factor structure with an eigenvalue > 1. It was found that the factor loads were between .651-.824, the first factor consisted of 5 items, and the explained variance was 20.493%. Factor 2 consisted of 4 items and the explained variance was 20.223% and Factor 3 of 4 items and the explained variance was 17.751% (Table 3).

CFA was performed on 13 items and a 3-factor structure. The standardization coefficients of the 13-item scale were above 0.40. CFA fit indices were at an acceptable level (CMIN/DF=3.162, RMSEA= 0.067, CFI= 0.90, TLI= 0.87, NFI=0.95, AGFI=0.94). The selected fit indices showed a good fit of the factor model and confirmed the results of the EFA (Figure 1).

Table 1. Comparison of Descriptive Data of Participants

Characteristics	n*	%
Age Group		
<30	210	74.5
31-45	67	23.8
>46	5	1.8
Gender		
Female	136	48.2
Male	146	51.8
Marital status		
Single	173	61.3
Married	109	38.7
Educational Status		
High school	13	4.6
Associate degree	19	6.7
Undergraduate	194	68.8
Post-graduate	56	19.9
Working Years		
<5	174	61.7
6-10	88	31.2
>11	20	7.1
Unit of Work		
Internal	41	14.5
Surgical	25	8.9
Intensive care	32	11.3
Other	184	65.2

Table 2. EFA 1 Results (n=282)

Item No	Factor 1	Factor 2	Factor 3	Factor 4
I3	0.829			
I2	0.673			-0.39
I1	0.67			-0.216
I5	0.668	0.235		
I4	0.654			0.307
I15		0.87		
I14		0.837		
I13	0.201	0.754		
I11	0.228	0.68		
I9			0.765	
I12			0.734	
I8			0.706	-0.253
I10			0.703	0.262
I7			0.534	0.499
I6			0.745	0.791

Exploratory factor analysis

Table 3. EFA 2 Results (n=282)

Item No	Factor 1	Factor 2	Factor 3
I3	0.824		
I2	0.68	0.209	
I1	0.676		0.224
I5	0.666		-0.215
I4	0.662		
I15		0.868	
I14		0.842	
I13	0.207	0.731	
I11	0.219	0.703	
I9			0.769
I12			0.751
I8			0.75
I10			0.651

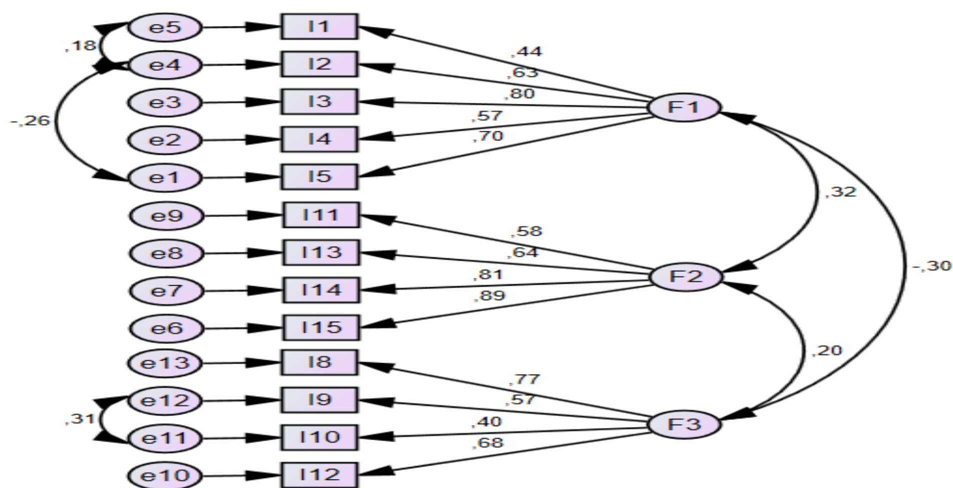

Figure 1. Path Diagram of the 13-Item Scale on Factors Affecting Family Participation in Acute Care Settings

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Average Variance Extracted (AVE) and Composite Reliability (CR) values were calculated to verify convergent and discriminant validity for the scale on Factors Affecting Family Engagement in Acute Care Environments. The AVE values for each factor varied between (0.39-0.54). CR values were between (0.70-0.83) (Table 4).

Table 4. CFA Results on Factors Affecting Family Engagement in Acute Care Settings

Factor	Materials	Standardized Regression Coefficients	Standard error	Critical rate	CR	AVE
1	I5	0.574			0.77	0.41
	I4	0.804	0.099	8.137		
	I3	0.634	0.119	9.866		
	I2	0.443	0.11	8		
	I1	0.892	0.1	6.368		
2	I15	0.812			0.83	0.54
	I14	0.637	0.067	14.544		
	I13	0.576	0.074	11.128		
	I11	0.684	0.07	9.869		
3	I12	0.399			0.70	0.39
	I10	0.567	0.111	5.408		
	I9	0.771	0.114	7.37		
	I8	0.574	0.147	7.987		
Fit index	CMIN/DF	RMSEA	CFI	TLI	NFI	AGFI
Reference value	<5.0	<.08	>0.90	>0.90	>0.90	>0.90
Model	3.162	0.067	0.90	0.87	0.95	0.94

Standardized Regression Coefficients; AVE: Average Variance Extracted, CR: Composite Reliability values on Factors Affecting Family Engagement in Acute Care Settings

Internal Consistency

When the reliability on Factors Affecting Family Engagement in Acute Care Environments was evaluated, the overall internal consistency coefficient for the three-factor scale was .735. The internal consistency coefficients of the sub-dimensions were .767 for the first sub-dimension, .816 for the second sub-dimension, and .729 for the third sub-dimension. Also, when the item-total score correlation was evaluated, it was found that the corrected item-total score correlations items were between 0.308 and 0.555 (Table 5).

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Table 5. Internal Consistency and Homogeneity of the Factors Influencing Family Engagement in Acute Care Settings Scale

Item No	Arithmetic mean	Standard deviation	Corrected Item-Total score correlation	If the item was deleted, the Cronbach's Alpha coefficient
I1	37.8582	43.638	0.392	0.715
I2	38.4858	43.582	0.413	0.712
I3	38.4574	43.957	0.361	0.719
I4	38.1879	43.733	0.401	0.714
I5	38.7128	44.967	0.308	0.725
I8	38.0567	47.634	0.357	0.742
I9	38.7695	46.271	0.457	0.730
I10	38.4574	45.488	0.308	0.725
I11	37.9326	43.686	0.469	0.707
I12	38.3085	48.755	0.394	0.748
I13	37.6312	43.031	0.470	0.705
I14	37.7234	43.283	0.503	0.703
I15	37.5887	43.197	0.555	0.699
Scale	**Arithmetic mean**	**Standard deviation**	**Variance**	**Cronbach Alpha**
	41.34	7.16	51.33	0.735

Arithmetic mean; Standard deviation; Corrected Item-Total score correlation on Factors Affecting Family Engagement in Acute Care Settings and Cronbach's Alpha coefficient if the item was deleted

Split-Half Reliability Coefficient

Following the Split-Half Reliability Coefficient Analysis, the Spearman-Brown Correlation Value (r = 0.520), the Guttmann Split-Half Coefficient Value (r = 0.589), and the Cronbach Alpha Reliability Coefficients of the two halves were adequate (Table 6).

In the original scale, Factor 1 consisted of five items (Items 1–5) and was labeled 'Intensive Care Unit Environment'. Factor 2 consisted of five items (Items 11–15) and was labeled 'nurses' attitudes'. Factor 3 consisted of three items (Items 8–10) and was named 'nurses' workflow'. Factor 4 consisted of two items (Items 6 and 7) and was labeled as 'patient acuity'.

Table 6. Findings regarding split-half reliability on Factors Affecting Family Engagement in Acute Care Settings

Cronbach's Alpha	Part 1	Value	.706
		Number of items	7a
	Part 2	Value	.789
		Number of items	6b
	Total Number of Items		13
Correlation value			.520
Spearman-Brown Value	Equal Length		.592
	Unequal length		.593
Guttmann Split-Half Value			.589

a:I1, I2, I3, I4, I5, I8, I9
b: I10, I11, I12, I13, I14, I15

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However, during the Turkish validity and reliability study, Items 6 and 7 were removed from the scale due to low factor loadings and conceptual inconsistency. Consequently, the factor structure of the scale was reduced to three factors, and the factors were renamed based on the remaining sets of items.

The new factor structure is as follows:

- Factor 1 (Items 1, 2, 3, 4, 5): "Intensive Care Environment and Physical Conditions"
- Factor 2 (Items 11, 13, 14, 15): "Nurses' Attitudes and Professional Approach"
- Factor 3 (Items 8, 9, 10, 12): "Nursing Workflow and Care Prioritization"

Discussion

In the present study, the Turkish validity and reliability consisting of 15 item scale developed by Tsukuda et al. (2023) to measure the factors affecting family engagement of nurses in acute care environments were examined. Validity means whether an instrument measures what it intends to measure (Groß, 2021). Expert consensus on the clarity and applicability of items in psychometric instruments is considered a criterion for the content validity (Nora et al., 2017). It is recommended in the literature that the translation be made by two or more independent people who are proficient in the original language and the adapted language and who understand the cultural and linguistic characteristics (Gungor, 2016).

In the present study, KMO and Bartlett Tests were used prior to the analyses. KMO value > 0.5 is considered adequate for normal distribution. The significance of Bartlett's test of Sphericity shows that the data are also adequate for factor analysis (Shrestha, 2021). In the study, the KMO value was calculated as 0.732, and Bartlett's Sphericity Test value was $\chi 2$ =1225.920 ($p<0.001$). Based on these values, it appeared that the data were suitable for factor analysis.

In the first EFA, the 6th and 7th items were removed from the scale because they showed overlapping items. In repeated factor analysis , the total explained variance was 58.467%. In EFA, a 3-factor structure with an eigenvalue > 1 was detected. Factor loads were between .651-.824. The explained variance by Factor 1, which was determined to consist of five items, was 20.493%, and the explained variance by Factor 2, which was determined to consist of four items, was 20.223%. The explained variance by Factor 3, which consists of four items, was 17.751%. In the preliminary EFA, the 6th item (Participation of family members in patient care in critically ill patients must be limited) and 7th item (Family members of patients

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receiving life-sustaining treatments must not be included in patient care) were excluded from the scale because of their overlapping item characteristics. CFA was performed on 13 items and a 3-factor structure. The standardization coefficients of the 13-item scale were > 0.40. It is stated in the literature that the factor loads of the items must be minimum 0.30 (Carpenter 2017; Karaman et al., 2017). In this study, no items with factor loads < 0.30 were found, and therefore, no items were excluded. A Cronbach's Alpha Value between 0.00-1.00 and > 0.70 is acceptable, and reliability increases as this value approaches 1.00 (Çokluk et al., 2010; Kilic 2016). In Tsukuda et al.'s study (Tsukuda, et al., 2023), Cronbach's α was 0.78. In this study, the reliability coefficient of all items of the Cronbach α internal consistency coefficient was above 0.70.

In this study, the validity and reliability analyses conducted for the Turkish adaptation of the scale resulted in a three-factor structure, which differs from the original four-factor structure(Tsukuda, et al., 2023). The removal of Items 6 and 7 which constituted the "patient acuity" factor in the original scale due to low factor loadings and conceptual inconsistency indicates that cultural and contextual differences can influence measurement properties. This finding is commonly observed in adaptation studies in the literature and can be interpreted as a natural outcome of adapting the scale to the Turkish healthcare system and clinical workflow. Clinically, these items are not consistent with Turkish cultural norms, as Turkish nurses generally view family involvement in patient care positively. Specifically, item 6 ("Family caregivers of hemodynamically unstable patients should not be included in patient care") and item 7 ("Family caregivers of patients receiving life-sustaining treatments should not be involved in the care process") conflict with the approach commonly used in Turkish intensive care settings, which encourages family engagement. This provides a rationale for the exclusion of these items and emphasizes the importance of cultural adaptation before applying scales in different cultural and clinical contexts.

When the reliability on Factors Affecting Family Engagement in Acute Care Environments was evaluated, the internal consistency coefficient for the 3-factor scale was .735, the internal consistency coefficient of the sub-dimensions was .767 for the first sub-dimension, .816 for the second sub-dimension, and .729 for the third sub-dimension. The analysis results showed that all item-total score correlation coefficients were significant ($p \leq 0.001$) and the item-total correlation coefficients of the items were between 0.308 and 0.555. It is stated in the literature that the acceptable value for the item-total correlation coefficient must be ≥ 0.30

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(Büyüköztürk, 2014). These results showed that there were no problems with any items and that the scale was reliable.

The AVE values for Factor 1 (0.41) and Factor 3 (0.39) were below the accepted threshold of 0.50. This indicates a limitation in the convergent validity of the scale. Low AVE values may suggest that the items do not correlate strongly enough with their respective factors or that some items have weaker conceptual relationships. However, the factor loadings were generally adequate, and other validity indicators (e.g., CR values, factor structure) were robust, indicating that the overall structure of the scale is still meaningful and usable. In future studies, it is recommended to review or reformulate the items in Factor 1 and Factor 3 to strengthen convergent validity.

Limitations of the Study

This study was conducted exclusively with nurses working in three state hospital intensive care units in Turkey. As a result, the findings may not be generalizable to nurses working in other clinical settings, private hospitals, or different regions. Additionally, data were collected through self-reported online questionnaires, which may introduce response bias or limit the depth of information obtained. The cross-sectional design of the study also prevents establishing causal relationships between the factors affecting family involvement and nurses' perceptions. Despite these limitations, the study provides valuable insights into the factors influencing family participation in acute care settings and highlights areas for future research and practical interventions.

Conclusion

The Turkish version of the Factors Affecting Family Engagement in Acute Care Environments scale, consisting of 13 items and 3 subscales, demonstrated strong compatibility with the original version in both Exploratory Factor Analysis and Confirmatory Factor Analysis analyses. The 3-factor structure was confirmed, and the scale showed adequate internal consistency (Cronbach's α) and item-total correlations. These findings indicate that the scale is a valid and reliable tool for assessing factors affecting family engagement in acute care environments. By providing a culturally adapted and psychometrically tested instrument, this study fills an important gap in the Turkish literature and offers researchers and clinicians a standardized measure for evaluating family involvement. Additionally, the scale can guide

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interventions aimed at enhancing family-centered care and may be applicable in other healthcare research contexts focused on family engagement.

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