

ORIGINAL RESEARCH ORJİNAL ARAŞTIRMA

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# A Turkish Validity and Reliability Study of the Safety Feeling Scale in Hospitalized Adult Patients: A Methodological Study

## Hastanede Yatan Yetişkin Hastalarda Güvenlik Hissi Ölçeği'nin Türkçe Geçerlilik ve Güvenirlilik Çalışması: Metodolojik Çalışma

<sup>1</sup> Tülay KILINÇ<sup>a</sup>, <sup>2</sup> Ayşegül YAYLA<sup>a</sup>, <sup>3</sup> Zeynep KARAMAN ÖZLÜ<sup>a</sup>, <sup>4</sup> Muhammet MÜEZZİNOĞLU<sup>a</sup>

<sup>a</sup>Atatürk University Faculty of Nursing, Surgical Diseases Nursing, Erzurum, Türkiye

**ABSTRACT Objective:** In Türkiye, no valid and reliable scale has been found to evaluate hospitalized patients' feeling of safety. Therefore, the study aimed to verify the validity-reliability of the Turkish version of the Safety Feeling Scale (SFS) in hospitalized adult patients. **Material and Methods:** This methodological study was conducted with 265 patients hospitalized in the internal and surgical clinics of a university hospital in the city of Erzurum. The data were collected between April and July 2024. The "Personal Data Form" and "SFS" were employed to collect the data. Following the language and content validity, the construct validity was ensured by Exploratory and Confirmatory Factor Analyses. The reliability was checked with Cronbach alpha, Spearman-Brown, and Guttman coefficient. **Results:** The Content Validity Index was 0.87. The factor loads of the items were above 0.30. The scale explained 63.43% of the total variance and consisted of 3 sub-dimensions. The Kaiser-Mayer-Olkin value was 0.80 and Bartlett's test value was  $\chi^2=2096.11$ ;  $p<0.000$ . Confirmatory Factor Analysis yielded that  $\chi^2/SD=2.605$ , Goodness of Fit Index=0.963, Comparative Fit Index=0.929, Tucker-Levis Index=0.949, Normed Fit Index=0.941, and Root Mean Square Error of Approximation=0.078. Based on the results, the 3-factor structure was confirmed. The total Cronbach alpha value was 0.85, the Spearman-Brown value was 0.810, and the Guttman Split-Half value was 0.804. **Conclusion:** It has been concluded that the Turkish version is a valid and reliable tool for assessing hospitalized patients' feeling of safety.

**ÖZET Amaç:** Türkiye'de hastanede yatan hastaların güvenlik hislerini değerlendiren geçerli ve güvenilir bir ölçüm aracına rastlanılmamıştır. Bu nedenle çalışmada hastanede yatan yetişkin hastalarda Güvenlik Hissi Ölçeği'nin Türkçe formunun geçerlilik ve güvenilirliğinin doğrulanması amaçlanmıştır. **Gereç ve Yöntemler:** Metodolojik türde yapılan araştırma Erzurum ilinde bulunan bir üniversite hastanesinin dahili ve cerrahi kliniklerinde yatan 265 hasta ile yürütülmüştür. Araştırmanın verileri Nisan-Temmuz 2024 tarihleri arasında toplanmıştır. Verilerin toplanmasında "Kişisel Bilgi Formu" ve "Güvenlik Hissi Ölçeği" kullanılmıştır. Ölçeğin dil ve kapsam geçerliği yapıldıktan sonra yapı geçerliği Açıklayıcı ve Doğrulamalı Faktör Analizleri ile sağlanmıştır. Ölçeğin güvenilirliği Cronbach alfa, Spearman-Brown ve Guttman katsayısı ile değerlendirilmiştir. **Bulgular:** On iki maddelik ölçeğin, kapsam geçerlilik indeksi 0,87 olarak bulunmuştur. Ölçeğin tüm maddelerine ait faktör yükünün 0,30'un üstünde olduğu belirlenmiştir. Ölçek, toplam varyansın % 63,43'ünü açıklamaktadır ve 3 alt boyuttan oluşmaktadır. Ölçeğin, Kaiser-Mayer-Olkin değeri 0,80, Bartlett testi değeri  $\chi^2=2096,11$ ;  $p<0,000$  tespit edilmiştir. Doğrulamalı faktör analizi için ise  $\chi^2/SD=2,605$ , İyilik Uyum İndeksi=0,963, Karşılaştırmalı Uyum İndeksi=0,929, Trucker-Levis İndeksi=0,949, Normlu Uyum İndeksi=0,941 ve Tahmin Hatalarının Ortalamasının Karekökü=0,078 olarak belirlenmiştir. Bu sonuçlara göre ölçeğin 3 faktörlü yapısı doğrulanmıştır. Ölçeğin toplam Cronbach alfa değeri 0,85, Spearman-Brown değeri 0,810 ve Guttman Split-Half değeri 0,804 bulunmuştur. **Sonuç:** Ölçeğin Türkçe versiyonunun hastanede yatan hastaların güvenlik hissini değerlendirmek için geçerli ve güvenilir bir ölçme aracı olduğu belirlenmiştir.

**Keywords:** Feeling of safety; patient; validity; reliability; scale development

**Anahtar Kelimeler:** Güvenlik hissi; hasta; geçerlilik; güvenilirlik; ölçek geliştirme

**Correspondence:** Tülay KILINÇ

Atatürk University Faculty of Nursing, Surgical Diseases Nursing, Erzurum, Türkiye  
E-mail: tlyhmsre@hotmail.com

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Providing safe healthcare to patients in clinical settings is a fundamental principle for nurses and other health professionals and healthcare organizations.<sup>1</sup> Safety is defined as the need to be met in the 2<sup>nd</sup> place following physiological needs in Maslow's hierarchy of human needs.<sup>2</sup> The fact that safety is one of the basic human needs shows that it has an important effect on determining the quality of life and satisfaction of individuals.<sup>3</sup> Russell defined feeling safe as a state in which the patient is not at risk of physical or emotional harm.<sup>4</sup> Mollon evaluated the feeling safe concept in hospitalized patients and concluded that it consists of 4 characteristics: a sense of trust, feeling cared for, the presence of another person, and knowledge.<sup>5</sup> However, many safety-related studies focus on the provision of safe care and patient safety. Few studies were conducted on the concept of feeling safe and what this means for patients.<sup>5</sup> The care provided to hospitalized patients should meet their need to feel safe.<sup>6</sup> When patients do not feel safe, they may experience some negative emotions such as, anxiety, and stress, which may change the patient's compliance with care and treatment, and negatively affect the healing process and patient safety.<sup>6,7</sup> In a study, it was reported that nurses can contribute to reducing patients' feelings of insecurity and vulnerability to maintain quality health care. It has been emphasized that patients feel insecure not only when errors occur, but also when the quality of service is visibly poor.<sup>8</sup> However, patients want to feel secure that healthcare personnel understand them and meet their needs while they are in the hospital.<sup>9</sup>

Nursing care quality is among the most important factors for patients' perception of feeling safe.<sup>10</sup> Inadequate information, poor communication, lack of individualized care, and failure to identify needs are other factors that cause patients to feel insecure.<sup>8</sup> Nurses should create an environment that will positively affect patients physically and psychologically, provide conditions in which the patient can feel safe through mutual communication and trust, and health services should be carried out following their purpose.<sup>9,11,12</sup> Increased feeling of safety may lead to a decrease in anxiety and fear and an increase in hope, feeling of self-worth, sense of control, and comfort.<sup>12</sup> Nurses' knowing whether the patients they care for

feel safe or not and determining the factors that cause a feeling of insecurity will be a guide for early solutions to problems that may occur. When the literature was evaluated, no valid and reliable special measurement tool was found in our country to evaluate the feeling of safety of hospitalized patients. Therefore, it is thought that a new measurement tool is needed to create a basis for scientific knowledge. The researchers aimed to conduct the validity-reliability of the Turkish Safety Feeling Scale (SFS) in hospitalized adult patients developed by Dabaghi et al.<sup>13</sup>

## MATERIAL AND METHODS

### RESEARCH TYPE

This methodological study's aim was to adapt the SFS in hospitalized adult patients to the Turkish population.

### POPULATION AND SAMPLE

Population was patients in internal and surgery clinics of a university hospital in Erzurum province (April and July 2024). It is recommended in scale adaptation studies that the sample size be 5-10-fold the number of items on the scale.<sup>14</sup> There are 12 items in the SFS. In the study, more than 10-fold the number of items in the scale was reached and there were 265 patients in the sample. The study included those hospitalized in the internal and surgical clinics of the relevant hospital for at least 3 days, were >18 years of age, could communicate verbally, were conscious, and volunteered to participate.

### DATA COLLECTION TOOLS

Prepared by the researchers, the "Personal Data Form" had the sociodemographic characteristics of the patients, and the "SFS" were employed to collect the research data.

**Personal Data Form:** The form had 6 questions on age, sex, marital status, educational status, hospitalization clinic, and length of hospitalization of the patients.

**SFS:** The scale was developed by Dabaghi et al. to evaluate the feeling of safety of hospitalized adult patients.<sup>13</sup> The scale had 4 sub-dimensions and 12 items, namely effective care (1,2,3,4,5), confidence in the healthcare team (6,7,8), emotional empower-

ment (9,10), and hygiene facilities (11,12). Items 1, 2, 3, 4 and 5 of the 5-point Likert-type scale is graded as always (5), often (4), sometimes (3), rarely (2) and never (1). Other items (6,7,8,9 and 10) is graded as strongly agree (5) agree (4) neither agree nor disagree (3) disagree (2) to strongly disagree (1). In the study by Dabaghi et al. Cronbach alpha was 0.73.<sup>13</sup> The Exploratory Factor Analysis (EFA) conducted in this study showed that the scale consists of 3 sub-dimensions: effective care, confidence in the healthcare team, and hygiene facilities. The 9<sup>th</sup> item in the emotional empowerment sub-dimension shifted to the confidence in the healthcare team sub-dimension and the 10<sup>th</sup> item shifted to the effective care sub-dimension. The 2<sup>nd</sup> item in the effective care sub-dimension shifted to the confidence in the healthcare team sub-dimension. As a result, the effective care sub-dimension of the scale consists of 5 items (1,3,4,5,10), confidence in healthcare team sub-dimension consists of 5 items (2,6,7,8,9) and hygiene facilities sub-dimension consists of 2 items (11,12). When the lowest and highest scores that can be obtained from the sub-dimensions of the scale are examined; effective care sub-dimension is 5-25, confidence in the health team sub-dimension is 5-25 and hygiene facilities sub-dimension is 2-10. The lowest total score that can be obtained from the scale is 12 and the highest score is 60. A high score on the scale indicates that patients have a good sense of security. Cronbach alpha was calculated as 0.85 (total), 0.71 for the effective care, 0.75 for the confidence in the healthcare team, and 0.99 for the hygiene facilities.

## DATA COLLECTION

Data were collected following the necessary permissions using face-to-face interviews with patients hospitalized in the relevant clinics. Our purpose was explained to patients and verbal consent was obtained. The necessary forms were applied by the researcher to the patients who accepted the explanations and gave consent. The interviews were conducted in the patient room and lasted approximately 10 minutes.

## DATA ANALYSIS

SPSS 20 and AMOS were used in the analyses along with descriptive statistics (number, percentage, mean, standard deviation). For the language adaptation of

the scale, the translation-back translation method was employed. The Content Validity Index (CVI) was calculated by the Davis method. Confirmatory Factor Analysis (CFA), EFA, Principal Axis Factoring, and Direct Oblimin Rotation Method were employed for the construct validity. Kaiser-Mayer-Olkin (KMO) and Bartlett's Test were applied to determine whether the sample size was adequate for factor analysis. To evaluate the fit of the factor structure, fit indices [ $\chi^2$ /SD, Goodness of Fit Index (GFI), Normed Fit Index (NFI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Tucker-Lewis Indeks (TLI)] were evaluated and a path diagram was employed. Cronbach alpha internal consistency coefficient, Spearman-Brown correlation, and Gutmann coefficient were employed to evaluate the reliability of the scale. Research findings were evaluated at a 95% Confidence Interval at  $p < 0.05$  significance.

## ETHICAL CONSIDERATIONS

Before the study, Mitra Zandi, one of the authors, was contacted through e-mail for permission to use the scale. The full text was accessed and permission was obtained for adaptation into Turkish. Atatürk University Faculty of Medicine Ethics Committee provided Ethics Committee Approval (date: February 21, 2024, no: 2024/1-59) and written permission was received from the institution for data collection. Volunteering patients were included in the study and their personal identity information was kept confidential. Following the patients were informed about its purpose and possible beneficial results and their verbal consent was received. The study adhered to the Helsinki Declaration of Human Rights.

## RESULTS

Table 1 shows the descriptive data of the patients. A total of 54.3% of patients were male, 53.6% were primary school graduates, 86.8% were married, 63.0% were hospitalized in surgical wards, and 65.7% were hospitalized for 0-7 days. The mean age was  $56.21 \pm 16.31$  years.

The following processes were carried out for the validity-reliability of the SFS in adult patients in the hospital.

| TABLE 1: Patients's descriptive characteristics (n=265) |                      |          |           |
|---------------------------------------------------------|----------------------|----------|-----------|
|                                                         |                      | n        | %         |
| Sex                                                     | Female               | 121      | 45.7      |
|                                                         | Male                 | 144      | 54.3      |
| Education level                                         | Literate             | 62       | 23.4      |
|                                                         | Primary school       | 142      | 53.6      |
|                                                         | High school          | 37       | 14.0      |
|                                                         | University and above | 24       | 9.1       |
| Marital status                                          | Married              | 230      | 86.8      |
|                                                         | Single               | 35       | 13.2      |
| Hospitalized clinic                                     | Surgical clinics     | 167      | 63.0      |
|                                                         | Internal clinics     | 98       | 37.0      |
| Length of hospital stay                                 | 0-7 days             | 174      | 65.7      |
|                                                         | More than 7 days     | 91       | 34.3      |
|                                                         |                      | <b>X</b> | <b>SD</b> |
| Age                                                     |                      | 56.21    | 16.31     |

SD: Standard deviation

## SCALE TRANSLATION PROCESS

For the study, the language validity of the scale was first examined. The scale was translated into Turkish by 3 independent experts fluent in English. The researchers examined all translations and selected the appropriate statements by paying attention to the compatibility of the translated scale with the original text and combined them into a single document. Then, the Turkish version of the scale was back-translated from Turkish to English by a foreign language translator whose native language is Turkish. The English translation and the scale statements were compared and the necessary edits were made in the text and finalized.

## VALIDITY OF SCOPE AND CONTENT

Following the translation process of the "SFS", the validity-reliability of which were tested, was completed, the scale was shared with 8 experts for evaluation, including cultural equivalence control to ensure content validity, and their opinions were consulted. Experts evaluated the appropriateness of the items to the intended purpose or conceptual framework, the comprehensibility of each item, and whether each item contained proper, accurate, clear, and clear expressions. The experts evaluated each item in the scale by selecting the appropriate statement from the options "1=Not appropriate", "2=Appropriate but minor changes are needed in the expressions", "3=Quite ap-

propriate", "4=Fully appropriate" and giving each item in the scale a score between 1 and 4. The scale was finalized based on the feedback of the experts. In this study, the CVI was employed to prove the language and cultural equivalence and content validity of the items based on numerical data and to interpret the recommendations of the experts correctly. The CVI score was calculated as 0.875 and the CVI scores for all items ranged between 0.75 and 1.0, confirming the content validity of the scale. It was concluded that the scale is a suitable measurement tool in terms of content/content validity without the need to remove any item from the scale.

## CONSTRUCT VALIDITY

Construct validity is done to prove to what extent the items in the survey accurately measure the qualities they are trying to answer.<sup>15</sup> In the study, EFA and CFA were conducted to evaluate the construct validity. Principal Axis Factoring and Direct Oblimin Rotation Method approaches were employed for EFA along with the KMO Test and the sample size measurement technique. KMO value was 0.802 (Table 1). Another test used to determine the adequacy of the sample size is Bartlett's Test. Based on the results of Bartlett's Test,  $\chi^2=2096.11$  and  $p=0.000$  (Table 2).

EFA and CFA were used for construct validity of the SFS in adult hospitalized patients. In EFA, the factor loads matrix of the items was evaluated to see the relationship between the items and the factors and how many sub-dimensions the scale consisted of. When the scale was analyzed as 3-factor, it was found that the factor loads were  $>0.30$  and the total variance expressed was 63.436%. As a result, no item was excluded and the scale was accepted as a 3 sub-dimensional structure (Table 3).

| TABLE 2: KMO and Bartlett test values                       |         |         |
|-------------------------------------------------------------|---------|---------|
| Tests                                                       | Results | p value |
| KMO sample adequacy                                         | 0.802   |         |
| Bartlett's test of sphericity-chi-square degrees of freedom | 2096.11 | 0.000   |

KMO: Kaiser-Meyer-Olkin

**TABLE 3:** Factor analysis findings in the original 3-factor structure of the scale

| Item No                      | Items                                                                                    | Factor Loads |        |       |
|------------------------------|------------------------------------------------------------------------------------------|--------------|--------|-------|
|                              |                                                                                          | 1            | 2      | 3     |
| 1.                           | I receive treatment and care on time.                                                    | 0.873        |        |       |
| 2.                           | My nurse introduces herself at the start of her shift.                                   |              | 0.337  |       |
| 3.                           | The nurses answer my questions.                                                          | 0.620        |        |       |
| 4.                           | Health personnel (doctors, nurses, etc.) take my wishes into account.                    | 0.734        |        |       |
| 5.                           | My treatment and care are impeccable.                                                    | 0.569        |        |       |
| 6.                           | The work of health personnel (doctors, nurses, etc.) is strictly supervised.             |              | 0.505  |       |
| 7.                           | I am sure that health personnel (doctors, nurses, etc.) fulfill their duties properly.   |              | 0.535  |       |
| 8.                           | I am sure I will recover.                                                                |              | 0.854  |       |
| 9.                           | The medical staff (doctors, nurses, etc.) give me hope.                                  |              | 0.466  |       |
| 10.                          | The behavior of health personnel (doctor, nurse, etc.) makes me feel that I am valuable. | 0.717        |        |       |
| 11.                          | The toilet in my hospital room is suitable for use.                                      |              |        | 0.998 |
| 12.                          | The bathroom in my hospital room is suitable for use.                                    |              |        | 0.989 |
| Self-value                   |                                                                                          | 4.899        | 1.612  | 1.101 |
| Variance explained (%)       |                                                                                          | 40.828       | 13.433 | 9.176 |
| Total variance explained (%) |                                                                                          | 63.436       |        |       |

## CFA

CFA was applied to verify the structure consisting of 12 items and 3 factors determined as a result of EFA. The fit index values are given in Table 4. The  $\chi^2$ /SD value was 2.605, GFI 0.963, CFI 0.929, TLI 0.949, NFI 0.941, and RMSEA 0.078.

Figure 1 shows the sub-dimensions and the factor loads of the items (0.50-1).

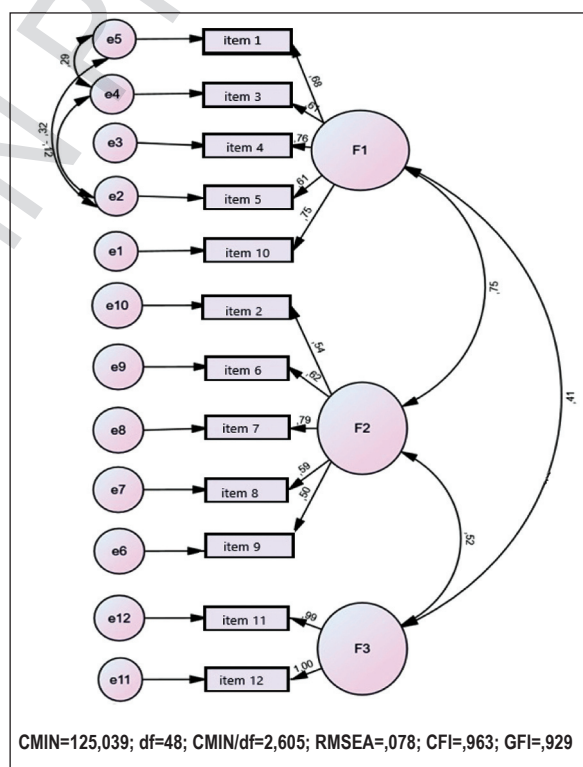
## RELIABILITY ANALYSIS

The Cronbach alpha coefficient, Spearman-Brown, and Guttman Split-Half tests were used to determine the reliability of the SFS in hospitalized adult patients. In the study, the Cronbach alpha value of the total scale was 0.851, the Spearman-Brown value was 0.810, and the Guttman Split-Half value was 0.804

**TABLE 4:** Fit index values, normal, acceptable values

| Index        | Normal value | Acceptable value | Found value |
|--------------|--------------|------------------|-------------|
| $\chi^2$ /SD | <2           | <5               | 2.605       |
| GFI          | >0.95        | >0.90            | 0.963       |
| NFI          | >0.95        | >0.90            | 0.941       |
| CFI          | >0.95        | >0.90            | 0.929       |
| RMSEA        | <0.05        | <0.08            | 0.078       |
| TLI          | >0.95        | >0.90            | 0.949       |

GFI: Goodness of Fit Index; NFI: Normed Fit Index; CFI: Comparative Fit Index; RMSEA: Root Mean Square Error of Approximation; TLI: Tucker-Lewis Index



**FIGURE 1:** Path diagram

CMIN/df: Relative chi square index; RMSEA: Root mean square error of approximation; CFI: Comparative fit index; GFI: Goodness of fit index.

(Table 5). Cronbach alpha was 0.713 for the effective care sub-dimension, 0.759 for the confidence in the healthcare team sub-dimension, and 0.996 for the hygiene facilities sub-dimension (Table 5).

**TABLE 5:** Cronbach alpha coefficients and 2-half reliability values of the SFS

| Sub-dimensions                    | Split-Half Rel. |                |         |
|-----------------------------------|-----------------|----------------|---------|
|                                   | Cronbach alpha  | Spearman-Brown | Guttman |
| F1: Effective care                | 0.713           |                |         |
| F2: Confidence in the health team | 0.759           |                |         |
| F3: Hygiene facilities            | 0.996           |                |         |
| Total                             | 0.851           | 0.810          | 0.804   |

## DISCUSSION

The SFS in hospitalized adult patients developed by Dabaghi et al. was adapted into Turkish in the present study.<sup>13</sup> After the analyses, the Turkish version with 12 items and 3 sub-dimensions was found to be valid-reliable.

In the literature, it is stated that a minimum of 3 and a maximum of 20 expert opinions are needed for the calculation of the CVI.<sup>16</sup> Following the language validity, the scale was shared with 8 experts to ensure content validity, and their opinions were obtained. Some items were edited in line with the suggestions and the scale was finalized. CVI was employed in the evaluation of expert opinions. The CVI score was calculated as 0.875. A CVI of 0.80 is an acceptable level.<sup>17</sup> In line with the calculations made, no item was excluded from the scale because no score was below 0.80. These results show that the language structure and content were appropriate for the adaptation to Turkish society.

KMO was used to see if the dataset was suitable for factor analysis and Bartlett's Test was used to see if the variables were correlated with each other.<sup>18</sup> In the study, KMO and Bartlett's Test were employed to determine the adequacy of the sample size and the fit of the data to factor analysis. KMO values range between 0.00 and 1.00 and are calculated for each measured variable as well as the total correlation matrix. In the literature, KMO values are required to be  $\geq 0.70$ , and KMO values lower than 0.50 show that the correlation matrix is not suitable for factor analysis. The KMO value was 0.802 and the sample size was adequate for factor analysis. Also, Bartlett's Test  $\chi^2$  value was determined as 2096.11 and  $p=0.000$ .

The fact that Bartlett's Test value is statistically significant ( $p<0.05$ ) explains that the dataset shows normal distribution.<sup>19</sup>

EFA and CFA were applied to reveal and confirm the factor structure, respectively. In the literature, EFA analysis is recommended to determine how many items (variables) in a measurement tool can be grouped under a certain number of subheadings and what kind of relationship exists between them. With EFA, the items in the measurement tool are expected to be collected in certain sub-factors or sub-dimensions.<sup>20</sup> The eigenvalue coefficient of the sub-factors determined as a result of EFA is recommended to be one or above.<sup>18</sup> The relations of items with sub-dimensions is explained by factor load value.<sup>21</sup> It is stated that the minimum acceptable value in the load values of the relationship between the item and the factor in EFA is 0.30.<sup>22</sup> In the study, the factor load was 0.30 (ranged between 0.33 and 0.99). In addition, based on the EFA, a shift was observed in the distribution of the items to the factors, unlike the original scale. In the original scale, item 10 in the emotional empowerment sub-dimension was shifted to the effective care sub-dimension and item 9 to the confidence in the healthcare team sub-dimension; and item 2 in the effective care sub-dimension was shifted to the confidence in the healthcare team sub-dimension. In scale adaptation studies, the comprehensibility of the items is affected by cultural and linguistic differences.<sup>16</sup> The shift of the items to different dimensions in the Turkish version can be explained by this situation.

In the literature, a total explained variance exceeding 50% is an important criterion for factor analysis.<sup>18</sup> In Dabaghi et al.'s study, the structure was found to have 4 factors and it explained 51% of the total variance.<sup>13</sup> Following the analysis, the Turkish version had a 3-factor structure with eigenvalues above 1, explaining 63.436% of the total variance. The factors obtained were named "effective care, confidence in the healthcare team, and hygiene facilities". In this context, it can be argued that the construct validity was achieved. In addition, it is very important to consider cultural differences in the development of measurement tools. For this reason,

scale studies should be conducted by adapting the scale to the country where the research is conducted.<sup>21</sup> The original version has 12 items and 4 sub-dimensions. The 12 items were matched with 3 sub-dimensions in the Turkish form of the “SFS”. A difference in the factor structure was determined in the Turkish adaptation. This may be due to the geographical and cultural characteristics of people in different countries.

CFA was conducted to test and verify the 3-factor structure. The factors determined by CFA are verified and investigated with fit indices.<sup>15</sup> As a result of CFA, the  $\chi^2/SD$  value was calculated as 2.605, the GFI value as 0.963, the CFI value as 0.929, the TLI value as 0.949, the NFI value as 0.941 and the RMSEA value as 0.078. In the literature, it is recommended that the fit indices (GFI, CFI, TLI, and NFI) should not be below 0.90, RMSEA should be below 0.08 and  $\chi^2/SD$  should be below 3.<sup>23,24</sup> In this study, the model showed good fit and the model was confirmed with the path diagram. In conclusion, it is possible to argue that the construct validity was achieved.

To test the reliability, Cronbach alpha and half-test reliability were evaluated. It is reported in the literature that a Cronbach alpha between 0.00-1.00 increases reliability as the value approaches 1.00, and values of 0.70 and above are acceptable.<sup>18,19,25</sup> In the study of Dabaghi et al., the Cronbach alpha coefficient for the total scale was 0.73.<sup>13</sup> In the study, the Cronbach alpha coefficients were 0.85 for the total scale, 0.71 for the effective care sub-dimension, 0.75 for the confidence in the healthcare team sub-dimension and 0.99 for the hygiene facilities sub-dimension. The Cronbach alpha value showed that the Turkish version had an acceptable internal consistency.

The internal consistency reliability coefficient can be evaluated with the semi-test reliability. In semi-test reliability, the scale items are divided into 2 equal parts and the correlation between the measurement results is calculated. It is stated that a high correlation with the halving method shows that the measurement tool is consistent within itself. However, the split-half reliability coefficient is expected

to be above 0.70.<sup>26</sup> In the study, the Guttman Split-Half reliability coefficient was 0.804 and the Spearman-Brown value was 0.810. Reliability values of 0.70 and above show that the scale has adequate reliability in scale development and adaptation processes.<sup>27</sup> It is important that Cronbach alpha, Spearman-Brown, and Guttman values for the entire Turkish version and its sub-dimensions are 0.70 and above, and the results show that the scale consists of closely related questions, has high internal consistency, and is reliable.

## LIMITATIONS

The study had some limitations. First of all, the most important limitation of the study is that EFA and CFA were conducted on the same sample. Another limitation was that the reliability was not tested over time. In addition, the data were obtained from patients hospitalized in internal and surgical clinic of a university hospital in Erzurum. For this reason, the findings cannot be generalized.

## CONCLUSION

It was concluded in the study that the SFS in hospitalized adult patients is a valid-reliable scale to evaluate if patients feel safe or not. The Turkish version consists of 12 items and 3 sub-dimensions and has a 5-point Likert style. This scale can be a source for future studies and can be easily applied. In addition, the use of the developed scale as a measurement tool in clinical practice or descriptive-experimental research will increase the awareness of healthcare professionals in caring about patients' perceptions of safety.

### Source of Finance

*During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.*

### Conflict of Interest

*No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.*

## Authorship Contributions

**Idea/Concept:** Tülay Kılınç, Ayşegül Yayla, Zeynep Karaman Özlü, Muhammet Müezzinoğlu; **Design:** Tülay Kılınç, Ayşegül Yayla, Zeynep Karaman Özlü, Muhammet Müezzinoğlu; **Control/Supervision:** Tülay Kılınç, Zeynep Karaman Özlü; **Data Collection and/or Processing:** Muhammet Müezzinoğlu; **Analysis**

**and/or Interpretation:** Tülay Kılınç, Ayşegül Yayla; **Literature Review:** Tülay Kılınç, Ayşegül Yayla, Muhammet Müezzinoğlu; **Writing the Article:** Tülay Kılınç, Ayşegül Yayla, Zeynep Karaman Özlü, Muhammet Müezzinoğlu; **Critical Review:** Tülay Kılınç, Zeynep Karaman Özlü; **References and Fundings:** Tülay Kılınç, Ayşegül Yayla; **Materials:** Tülay Kılınç, Ayşegül Yayla.

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