

Research Article

Speaking Up About Patient Safety Questionnaire: Turkish Adaptation, Validity and Reliability Study



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ABSTRACT

Aim: This study aims to adapt the Speaking Up About Patient Safety Questionnaire into Turkish and conduct a validity and reliability study.

Material and Methods: This study, which has a methodological design, was conducted from March to April 2022 with 333 healthcare professionals working in a university hospital in Ankara. Demographic Data Form and the Speaking Up About Patient Safety Questionnaire were used to collect data. Language, content, construct validity, and reliability coefficients were applied for data analysis.

Results: The content validity rate and total content validity index for all sub-dimensions of the Turkish Speaking Up About Patient Safety Questionnaire were calculated as 1.00. The Kaiser-Meyer-Olkin value was good enough for both subscales (0,834 and 0,881, respectively). Bartlett's test of sphericity was significant. All factor loadings were above 0.3. The total variance explained was found to be 77.856% for the Speak Up-Related Behavior Scale, and 76,009% for the Speak Up Related Climate Scale. Cronbach's alpha (α) values for all sub-scales ranged from 0.77 to 0.92. Test-retest reliability results ($r=0.987$ and $r=0.991$) were statistically significant ($p<0.05$). Based on the statistical analysis, none of the items were removed from the questionnaire.

Conclusion: Turkish Speaking Up About Patient Safety Questionnaire adapted into Turkish, is a valid and reliable tool for measuring speak-up-related behaviors in the context of health services.

Implication for nursing practice/management or policy: By using the scale, speak up-related behaviors of healthcare professionals toward patient safety and the factors that affect the speak up-related climate can be determined and plans can be made to increase patient safety.

Keywords: Healthcare, Malpractice, Nurse, Patient safety, Speak up

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INTRODUCTION

Healthcare has a high-risk and complex structure (Özer, Şantaş, Gün & Şentürk, 2019). The primary goal of healthcare professionals is to ensure patient safety by preventing errors during the care and treatment of patients (Friedman, 2020; Oksay, Kılınc & Sayhan, 2019). Open communication among the healthcare team can reduce risks and possible errors that may threaten patient safety (Gaston, Short, Ralyea & Casterline, 2016; Korkmaz, 2018). However, there may be problems establishing open and direct communication among healthcare professionals (Schwappach & Gehring, 2014a; Umoren et al., 2022). One of the communication problems that healthcare professionals may experience is that when they encounter a situation that threatens patient safety, they do not share it with other team members or express their thoughts verbally (Martinez et al., 2015; Okuyama, Wagner & Bijnen, 2014).

Speaking up is *"the verbal expression of ideas, information, and thoughts"* (Schwappach & Niederhauser, 2019). In health services, speaking up stands out as a crucial element for health professionals to effectively communicate in situations that cause concern about patient safety. When health professionals have important information and ideas about patient safety, they often choose to speak up or remain silent about it (Robbins & McAlearney, 2016; Niederhauser & Schwappach, 2022; Schwappach & Gehring, 2014b; Richard, Pfeiffer & Schwappach, 2021). Remaining silent in cases of medical errors (wrong diagnosis, wrong treatment), violation of rules and failure to comply with standard protocols may threaten patient safety (Niederhauser & Schwappach, 2022). Therefore, speaking up for patient safety concerns is increasingly acknowledged as a critical action to reduce risks (Szymczak, 2016).

The decisions of healthcare professionals to speak up or remain silent are affected by various variables (Richard et al., 2021; Szymczak, 2016; Mawuena & Mannion, 2022; Etchegaray et al., 2020). These factors can be classified as personal, environmental, and institutional, and affective characteristics; it is complicated to concretize (Okuyama et al., 2014; Etchegaray et al., 2020). On the other hand, speaking up about patient safety has more abstract cognitive, social, psychological, and affective characteristics; it is complicated to concretise and reveal through behavioral indicators (Nacioglu, 2016; Brennan & Davidson, 2019; Gray et al., 2022). For example, when a healthcare professional fails to follow hand hygiene protocols, a team member who speaks up can provide direct and real-time feedback to prevent infections (Etchegaray et al., 2020; Schwappach et al., 2018). However, healthcare professionals often choose not to speak out due to various factors, including professional hierarchy, fear of negative feedback, retaliation, and the presence of patients or relatives (Etchegaray et al., 2020; Nacioglu, 2016). For this reason, speaking up for patient safety requires not only personal skills but also a supportive organizational climate that encourages healthcare professionals to report safety concerns (Ahn & Kim, 2024). This situation justifies the efforts to measure speaking up effectively. Ensuring patient safety and patient advocacy are universal responsibilities of healthcare professionals (Agency for Healthcare Research and Quality [AHRQ], 2019). Healthcare professionals need to communicate and collaborate effectively to improve patient safety and the quality of healthcare (Jones & Johnstone, 2019; Morrow et al., 2016; Westat et al., 2018). Therefore, it is necessary to examine the behaviors of speaking up or remaining silent in situations related to patient safety.

A measurement tool is needed to systematically evaluate staff behaviors, experiences, and perceptions of speaking up in healthcare organizations (Morrow, Gustavson & Jones, 2016). Similarly, Gençer (2020) stated that there is a need for an independent measurement tool to measure speaking up in Turkey (Gençer, 2020). When the literature on the subject was reviewed, only one measurement tool focused on the health professionals' speaking up about patient safety was found. The Speaking Up About Patient Safety Questionnaire (SUPS-Q) was developed by Richard et al. (2021) in Switzerland to systematically assess the frequency of physicians' and nurses' speaking up behaviors, the environment affecting speaking up, and its relation to patient safety (Richard et al., 2021). The SUPS-Q systematically assesses the crucial aspects of speaking up about patient safety in healthcare settings. In addition, the developers of this tool stated that adapting the tool to different languages and countries is valuable in contributing to patient safety in an international dimension by providing the opportunity for cross-country evaluations (Richard et al., 2021).

Aim

This study aimed to adapt the SUPS-Q, originally in German and developed by Richard et al., into Turkish and conduct a validity and reliability study. This research sought an answer to the following question:

Is the Turkish version of the SUPS-Q a valid and reliable tool for measuring the voice behaviors of healthcare professionals?

MATERIAL and METHODS

Study Design

This study was conducted using a methodological design.

Study Sample

The research was conducted in a university hospital in Ankara with a bed capacity of 1.028 (960 active) and employed 857 physicians and 942 nurses. Physicians and nurses who had been actively working in the hospital for at least six months and who voluntarily agreed to participate were included using convenience sampling. In the questionnaire adaptation studies, because it was recommended to have 5–10 participants for each item in the questionnaire was recommended (Richard et al., 2021) and data loss about 10% was anticipated during data collection, the minimum size was determined as 340. The study was completed with 333 voluntary participants (163 physicians and 170 nurses).

Data Collection Tools

Demographic Data Form and the SUPS-Q were used for data collection.

Demographic Data Form: The SUPS-Q developers recommended using a Demographic Data Form to collect the participants' introductory data. The form was reorganized by the researchers, literal to the original and according to the population (professional title, a unit of work, etc., by adapting to the country's requirements). The subsequent Demographic Data Form consists of seven questions (for example, age, gender and weekly working hours that include patient care).

The Speaking Up About Patient Safety Questionnaire: The SUPS-Q, originally in German, was developed in Switzerland by Richard et al. at the Swiss Patient Safety Foundation (Richard et al., 2021). The SUPS-Q consists of two scales [(the Speak Up-Related Behavior scale (SURB-S) and Speak Up-Related Climate scale (SURC-S))] and two sections [Barriers Toward Speak Up section (Barriers)] and [Hypothetical Situation section (Vignette)]. The SURC-S in the SUPS-Q includes three sub-dimensions consisting of 11 items in total. The SURC-S is a seven-point Likert-type scale. The SURB-S has three sub-dimensions, consisting of 11 items in total. The SURB-S is a five-point Likert-type scale (Richard et al., 2021) (Figure 1). The Barriers section consists of six potential barriers to speaking up. The Vignettes (VIG) section includes a potential situation that may occur during a patient visit (Richard et al., 2021). It contains four items with seven options.

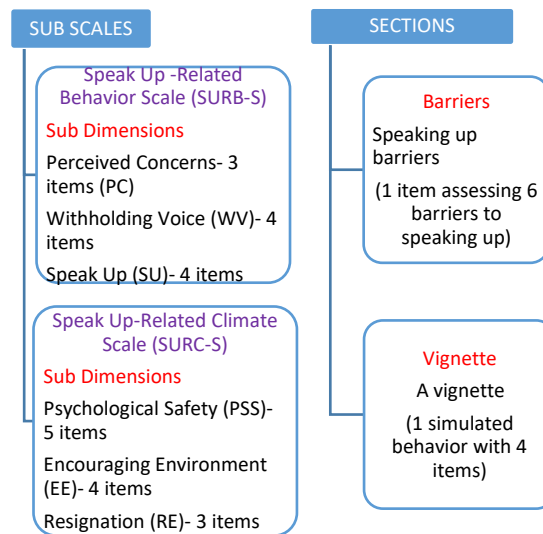


Figure 1: Structure of SUBS-Q

SUPS-Q's scores evaluation is evaluated separately for all subscales (SURB-S-SURC-S) and subdimensions. The total score that can be obtained from SURC-S is 77. Increasing scores SURC-S indicate that the levels of psychological safety, encouraging environment, and resignation increase. The total score that can be obtained from SURB-S is 55. Increasing scores of SURB-S indicate that the levels of perceived concerns, withholding voice, and speak up increase separately. The reliability coefficients of the subscales of this scale are SURB-S (SU: 0.85, WV: 0.76, PC: 0.73) and SURC-S (RE: 0.73, PS: 0.84, EE: 0.74) respectively (Richard et al., 2021).

Procedure

The first step in adapting the SUPS-Q in Turkish and conducting a validity and reliability study was receiving permission (via e-mail) from the developers of the original SUPS-Q. Then, the research procedure was carried out in two stages: cross-cultural adaptation and data collection.

Cross-cultural adaptation

Within the scope of cross-cultural adaptation, translation-back translation and a Committee of Experts Review were conducted. To translate the original SUPS-Q from German into Turkish (translation), two healthcare professionals fluent in both languages and experienced in the subject of the study, and one linguist (sworn translator) did the first translations independently. Three translations were compared with each other by the researcher (L.D.), who is fluent in both languages and has knowledge and experience of the subject of the SUPS-Q. They were redacted into a single Turkish text. This SUPS-Q version was back-translated into German by an independent sworn translator whose native language is Turkish. Finally, a faculty member specializing in German language teaching reviewed a common form with all translations. Accordingly, necessary corrections were made to the SUPS-Q. For the expert panel, a scoring chart with three-choice scoring (Lawshé, 1975) was created for the experts to evaluate the items in the SUPS-Q in terms of linguistic equivalence, conformity to the Turkish language, grammatical structure, and semantic compatibility. Six experts [intercultural communication (1), Fundamentals of nursing (2), history of medicine and ethics (3)] were identified for the expert panel. Then, the experts' opinions were taken, and the Turkish SUPS-Q was finalized by making

the suggested corrections to the SUPS-Q items. To validate the SUPS-Q, the content validity ratio and content validity index were calculated (Lawshe, 1975).

Data Collection

Data was collected from March to April 2022. The researcher, S.G.T., informed the healthcare workers about the study, and the Demographic Data form and the SUPS-Q were applied face-to-face to 333 participants who volunteered to participate. Answering the data-collection tools took an average of 10 minutes. Then, S.G.T. received the data-collection forms.

Data Analysis

The SPSS (Statistical Package for Social Sciences) for Windows 25.0 and AMOS software were used to analyze the study's data. Descriptive statistics (percentage, number, min.–max., mean, and standard deviation) were used to evaluate the data.

Validity Analysis

The content validity index (CVI) was calculated for content validity. A factor analysis was conducted to evaluate the construct validity of the Turkish form. The KMO test was applied before the factor analysis, and the Bartlett's sphericity test was used to check whether the data came from a multivariate normal distribution. With the explanatory factor analysis, the percentage of the total variability explained by the factors was calculated, and the total variance was determined. After determining the number of factors with exploratory factor analysis, confirmatory factor analysis fit indices (IFI, GFI, AGFI, CFI, TLI, CMIN/Df, RMSEA) were calculated separately for the SURB-S & SURC-S.

Reliability Analysis

For reliability, the internal consistency of the two scales and sub-dimensions in the SUPS-Q was evaluated by calculating Cronbach's Alpha coefficients and item analysis of item-total correlation. Pearson correlation analysis was calculated for test-retest reliability. The test-retest results and the correlation coefficient between the two measurements were calculated to determine the invariance of the SUPS-Q over time. The retest was conducted with 55 participants two weeks after the data collection phase (Büyükoztürk, 2018). Test-retest reliability results are statistically significant at $p < 0.05$ (Büyükoztürk, 2018).

Ethical Considerations

This study was conducted following the principles of the Helsinki Declaration (Dünya Tıp Birliği, 2025). Written approval was obtained from the authors of the SUPS-Q to adapt the original SUPS-Q to Turkish. Ethics committee approval of the study was obtained from a university's Non-Interventional Clinical Research Ethics Committee (number 19979). Written permission was obtained from the University Administration where the study was conducted. Written informed consent was obtained from healthcare professionals who voluntarily agreed to participate.

RESULTS

Cross-cultural Adaptation

The Turkish SUPS-Q's content validity ratio was 1.00 for all sub-dimensions, and the total content validity index of the SUPS-Q was 1.00. In line with these analysis results, it was determined that all the SUPS-Q items were necessary.

Cross-sectional and Descriptive Results

Demographic characteristics of participants

The ratio of nurses [51% (170)] and physicians [49% (163)] in the participant group of 333 volunteers was relatively similar. The mean age of the participants was 33.99 ± 7.74 , and 69.7% were female. 25.5% of the participants had worked at the hospital for 6 months to 2 years, and 30.3% for 3–5 years. Most (85.6%) participants worked more than 40 hours per week in patient care.

Mean scores of the SUPS-Q

The overall mean score of the SURB-S was calculated as $\bar{x} = 2.28$; $SD = 0.47$. The SURB-S sub-dimension mean score were calculated as SU: $\bar{x} = 2.83$; $SD = 0.85$ (highest score) and WV: $\bar{x} = 1.64$; $SD = 0.64$ (lowest score).

The overall mean score of the SURC-S was calculated as $\bar{x} = 5.51$; $SD = 1.00$. The SURC-S sub-dimensions' mean scores were calculated as PS: $\bar{x} = 5.62$; $SD = 1.07$ (highest score) and EE: $\bar{x} = 5.33$; $SD = 1.29$ (lowest score)(Table 1).

Table 1. Mean score results of the subscales and sub-dimensions of the SUPS-Q.

SUB SCALES AND SUB-DIMENSIONS	Min.	Max.	\bar{X}	SD
Speak Up- Related Behavior Scale	1.33	3.94	2.28	0.47
Speak Up	1.00	5.00	2.83	0.85
Withholding Voice	1.00	4.00	1.64	0.64
Perceived Concern	1.00	6.00	2.36	0.75
Speak Up- Related Climate Scale	1.78	7.00	5.51	1.00
Resignation	1.33	7.00	5.58	1.17
Psychological Safety	2.00	7.00	5.62	1.07
Encouraging Environment	1.67	7.00	5.33	1.29

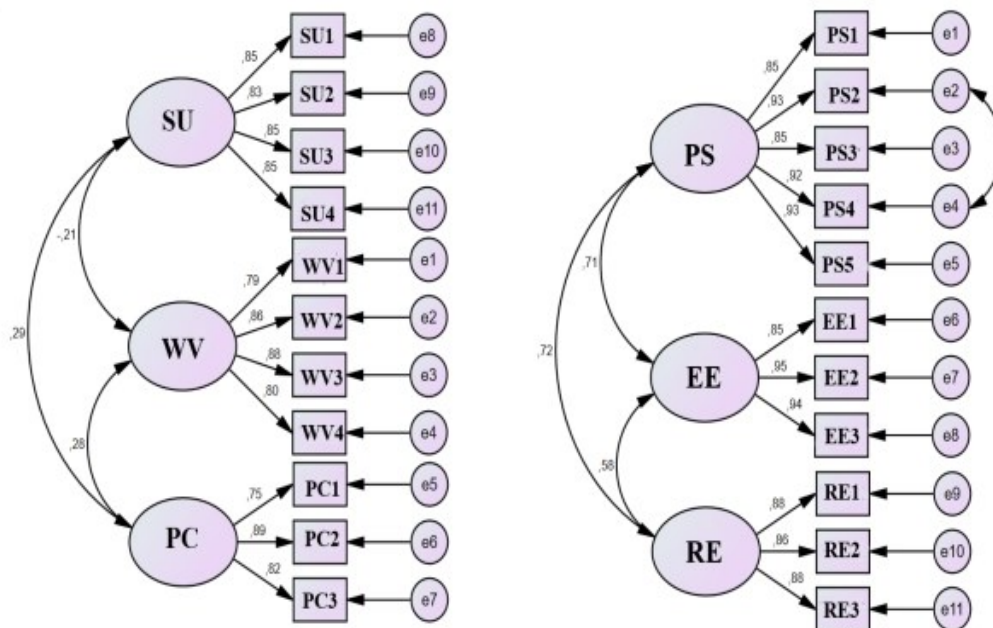
Min: Minimum, Max: Maximum, \bar{X} : Mean, SD:Standard Deviation

Construct Validity

Table 2: The Sampling Adequacy for The Subscales and Sub-Dimensions in the SUPS-Q

SURB-S	SU	WV	PC	SURC-S	PS	EE	RE
SU1	0.870			PS1	0.816		
SU2	0.858			PS2	0.789		
SU3	0.890			PS3	0.712		
SU4	0.869			PS4	0.713		
WV1		0.832		PS5	0.790		
WV2		0.878		EE1		0.849	
WV3		0.884		EE2		0.841	
WV4		0.868		EE3		0.832	
PC1			0.837	RE1			0.785
PC2			0.877	RE2			0.816
PC3			0.873	RE3			0.820
Eigenvalues	3.705	3.394	1.465	Eigenvalues	6.131	1.167	1.063
Total Variance Explained %	28.471	28.059	21.326	Total Variance Explained %	30.835	23.456	21.717
Total of Variance	77.856			Total of Variance	76.009		
Kaiser-Mayer Olkin measure of sampling Adequacy	0.834			Kaiser-Mayer Olkin measure of sampling Adequacy	0.881		
Barlett's test of sphericity	Chi-Square	2228.688		Barlett's test of sphericity	Chi-Square	2546.052	
	SD	55			SD	55	

SURB-S: Speak Up -Related Behavior Scale, SURC-S: Speak Up-Related Climate Scale, SU: Speak Up, PS: Psychological Safety WV: Withholding, EE: Encouraging Environment, PC: Perceived Concerns, RE: Resignation, , SD:Standard Deviation



SU: Speak Up, PS: Psychological Safety WV: Withholding, EE: Encouraging Environment, PC: Perceived Concerns, RE: Resignation

Figure 2. Multi-factor structure (path analysis) of the Speak up -Related Behaviors Scale (SURB-S) and the Speak up-Related Climate Scale (SURC-S)

Construct validity of the questionnaire was evaluated through exploratory factor analysis and confirmatory factor analysis methods for both scales (SURB-S and SURC-S), each of which includes a total of 11 items in 3 subscales.

KMO test results were 0.834 for the SURB-S and 0.881 for the SURC-S and were sufficient for both scales. Bartlett's sphericity test result was calculated as $X^2(55) = 2,228.688$, $p < 0.05$ for the SURB-S and $X^2(55) = 2,546.052$, $p < 0.05$ for the SURC-S. The total variance explained was 77.856% for SURB-S and 76.009% for SURC-S. (Table 2). The eigenvalue of SURB-S was between 3.705 (SU) and 1.765 (PC). The eigenvalue of SURC-S was between 6.131 (PS) and 1.063 (RE). The eigenvalue of all items on the scales is above 1 ($p < 0.001$) (Table 2). Confirmatory factor analysis results showed that the scale has an acceptable goodness of fit (Yaşlıoğlu, 2017) (Table 3). The path analysis found it to be an 11-item and three-factor structure of both the SURB-S and the SURC-S (Figure 2).

Table 3. Multilevel Confirmatory Factor Analysis fit indicates

Multilevel factor analysis fit indices	SURB-S	SURC-S	Acceptable compliance*
CMIN/Df	1.387	1.978	$0 \leq \chi^2/df \leq 3$
GFI	0.971	0.871	$0.90 \leq GFI$
AGFI	0.954	0.786	$0.90 \leq AGFI$
CFI	0.993	0.854	$0.95 \leq CFI$
RMSEA	0.034	0.054	$0 \leq RMSEA \leq 0.05$
TLI	0.990	0.862	$0.90 \leq TLI$
IFI	0.993	0.862	$0.95 \leq IFI$

SURB-S: Speak Up -Related Behavior Scale, SURC-S: Speak Up-Related Climate Scale, (CMIN/df: chi-square/degrees of freedom), (GFI: Goodness of Fit Indices), (AGFI- Adjusted Goodness of Fit Index), (CFI: Comparative Fit Index), (RMSEA: Root Mean Square Error of Approximation), (TLI: Tucker-Lewis Index), (IFI: Incremental Fit Index) *(Yaşlıoğlu, 2017)

Table 4. Factor Loading of SURB-S and SURC-S

SURB-S	Factor Loading	SURC-S	Factor Loading
WV1	0.793	PS1	0.855
WV2	0.856	PS2	0.932
WV3	0.878	PS3	0.850
WV4	0.804	PS4	0.921
PC1	0.748	PS5	0.929
PC2	0.885	ES1	0.845
PC3	0.818	ES2	0.953
SU1	0.849	ES3	0.940
SU2	0.829	RE1	0.882
SU3	0.846	RE2	0.860
SU4	0.846	RE3	0.880

SURB-S: Speak Up -Related Behavior Scale, SURC-S: Speak Up-Related Climate Scale, SU: Speak Up, PS: Psychological Safety WV: Withholding, EE: Encouraging Environment, PC: Perceived Concerns, RE: Resignation

Factor loadings were higher than 0.3 for both subscales and subdimensions. All factor loadings were found between 0.748 (PC1) and 0.953 (EE2) (Table 4).

Reliability

The item-total correlation values for all sub-dimensions varied between 0.284 and 0.744. The Cronbach's Alpha coefficient of the SURB-S was 0.77. The reliability coefficients of the subscales of this scale were found at SU: 0.907, WV: 0.899, and PC: 0.856. The SURC-S Cronbach's alpha value was 0.919. The reliability coefficients of the SURC-S sub-dimensions with the lowest Cronbach's alpha value were 0.85 (RE: 0.850, PS: 0.888, EE: 0.905) (Table 5).

When the test-retest results were analyzed, it was found to be $r = 0.987$ for the SURB-S and $r = 0.991$ for the SURC-S. A high level of correlation was obtained between the test-retest results. It was determined that there was a highly significant relationship between the first and repeat measurements (Tavşancıl, 2005) (Table 5).

Table 5. Internal Reliability Results/ Test-retest reliability results

SCALES AND SUB DIMENSIONS	Item total score correlations	Cronbach Alfa	Test/ Re-test	R	\bar{X}	SD
SURB-S		0.770	Test	0.987	2.28	0.49
			Re-Test		2.38	0.47
SU	0.423 0.471 0.420 0.477	0.907	Test	0.979	2.83	0.87
			Re-Test		2.97	0.85
WV	0.284 0.319 0.292 0.315	0.899	Test	0.993	1.64	0.63
			Re-Test		1.67	0.64
PC	0.508 0.564 0.528	0.856	Test	0.977	2.36	0.85
			Re-Test		250	0.80
SURC-S		0.919	Test	0.991	5.58	0.85
			Re-Test		5.60	0.86
RE	0.627 0.744 0.741	0.850	Test	0.986	5.58	1.03
			Re-Test		5.59	1.02
PS	0.661 0.623 0.659 0.676 0.677	0.888	Test	0.997	5.62	0.88
			Re-Test		5.71	0.88
EE	0.721 0.654 0.732	0.905	Test	0.992	5.33	1.23
			Re-Test		5.50	1.25

\bar{X} : Mean, SD: Standard Deviation, r: Pearson correlation coefficient,* p< 0,05

SURB-S: Speak Up -Related Behavior Scale, SURC-S: Speak Up-Related Climate Scale, SU: Speak Up, PS: Psychological Safety WV: Withholding, EE: Encouraging Environment, PC: Perceived Concerns, RE: Resignation

DISCUSSION

When the multidimensional structure of the SUPS-Q was examined, it was observed that the climate and the behaviors of the healthcare workers towards speaking up about patient safety concerns were examined in separate scales. Therefore, the SUPS-Q was analyzed separately for the SURB-S and SURC-S assessments. The barriers toward Speaking Up section was not a Likert-type scale, and the “hypothetical situation section (4 items)” was designed to examine a hypothetical event; it was not included in the analyses (Richard et al., 2021). Content validity indicates the degree to which the content of a scale represents the structure being measured and increases construct validity (Polit, 2015) It is recommended that the expert group selected to determine content validity should be between 5 and 40 experts (Lawshe, 1975).

In this study, the content validity was provided as a result of the evaluation of six experts for content validity (CVI:1.00). The mean scores of the SURC-S were similar to those in the study conducted by authors, and the mean scores in both studies were above five points, especially for the PS sub-dimension (Richard et al.,2021) (Table 1). The results of our study were also similar, and it was concluded that the results of the PS sub-dimension of the SURC-S were similar despite cross-cultural differences.

The adequacy of the sample for factor analysis is evaluated with the KMO and Bartlett’s sphericity test (Koyuncu & Kılıç, 2019). The KMO value above 0.60 is considered sufficient (Howard, 2016). The KMO test results (SURB-S: 0.834 and SURC-S: 0.881) were sufficient for both scales. The statistical significance of Bartlett’s sphericity test confirmed the suitability of the scale for factor analysis (Koyuncu & Kılıç, 2019). Construct validity of the questionnaire was evaluated through exploratory factor analysis and the confirmatory factor analysis method for both of the two scales (SURB-S and SURC-S). In exploratory factor analysis, each item with an eigenvalue of 1 and above is accepted as a factor (Büyüköztürk, 2018; Yaşlıoğlu, 2017). It was found suitable because all eigenvalues were greater than 1. The lowest eigenvalue was found in the RE sub-dimension (1.063).

It is emphasized that the variance explained as a result of exploratory factor analysis should exceed 50% of the total variance, and it is reported that this value is an important criterion in terms of content validity (Yaşlıoğlu, 2017).

Total explained variance values were sufficient for both subscales (SURC-S: 77.856% and SURBS: 76.009%). In the original study in which the questionnaire was developed, the total explained variance values were calculated as SURC-S: 65% and SURBS: 60% (Richard et al., 2021).

With confirmatory factor analysis, in the SURC-S, there was a poor fit in terms of two indices (AGFI and TLI) (Yaşlıoğlu, 2017). In the study conducted by Niederhauser et al. (2022), in evaluating the fit indices of the SUPS-Qs' SURC-S, the CFI value showed good fit (0.95) and the RMSEA value showed inadequate fit (0.079) (Niederhauser & Schwappach, 2022). Our study found CFI (0.85) and RMSEA (0.055) values to be an acceptable fit (Yaşlıoğlu, 2017). Because the acceptable lower limit of AGFI and TLI values is 0.80, it was observed that the SURC-S showed a low fit in terms of the two indices. However, because this value was close to the limit value (Table 3), it was concluded that the fit indices were generally acceptable. The structure path analysis confirmed the 11-item and three-factor structures of both the SURB-S and the SURC-S (Figure 2). Factor loadings were higher than 0.3 and all items were accepted. The factor analyses confirmed the construct validity of the subscales of the SUPS-Q (Table 4).

In this study, the SURC-S Cronbach's alpha value of 0.919 was highly reliable (Tavşancıl, 2005). The reliability coefficients of the SURC-S sub-dimensions were quite high, with the lowest Cronbach's alpha value of 0.85 (RE: 0.850, PS: 0.888, EE: 0.905) (Table 5). In the original study in which the questionnaire was developed, Cronbach's alpha values for SURB-S (SU: 0.85, WV: 0.76, PC: 0.73) and SURC-S (RE: 0.73, PS: 0.84, EE: 0.74) were found to be similar to this study (Richard et al., 2021). In our study, when the item total score correlations of the questionnaire were examined, no item was below 0.20, which is the minimum value required for item total correlation (Bandalos & Finney, 2018). In the study conducted by Niederhauser et al. with SUPS-Q, it was found that the item total correlation coefficients were higher than 0.6 for all sub-dimensions of SURB-S and higher than 0.4 for all sub-dimensions of SURC-S except for two items (Niederhauser & Schwappach, 2022).

When the item-total score correlations of the SUPS-Q were examined, similar to previous studies, there was variation between sub-dimensions (Niederhauser & Schwappach, 2022). It was observed that the test-retest method was not used in studies in which the SUPS-Q was developed and used. Test-retest results confirmed that repeated measurements were related to each other and were consistent in the intervening time.

Strengths and limitations

The strengths of this study include the fact that it is the first tool that can easily and quickly measure speaking up about patient safety. The validity and reliability of this tool have been ensured by being adapted to the Turkish. The fact that speaking up about patient safety has become increasingly important in recent years may allow the SUPS-Q to be used in future studies.

A criterion-related validity study is not conducted because no other measurement tool measures this variable. Because the original SUPS-Q was developed recently, its comparison with similar studies is limited. The fact that the SUPS-Q still needs to be adapted to different languages, cultures, and countries supports the importance and necessity of this study.

Recommendations for further research

The Turkish version of SUPS-Q can be used to determine healthcare professionals' speak-up-related behaviors toward patient safety. Adapting the SUPS-Q to Turkish and verifying its validity and reliability will enable it to be compared in different countries and cultures. Using the SUPS-Q, speak-up-related behaviors of healthcare professionals toward patient safety and the factors that affect the speak-up-related climate can be determined, and plans can be made to increase patient safety. Through the SUPS-Q, healthcare professionals' thoughts, attitudes, and behaviors when faced with situations that may threaten patient safety can be evaluated. The systematic evaluation of speaking up will enable the identification of situations that may affect patient safety. In this way, it guides the planning of the necessary interventions following the factors to increase speaking up and contribute to increasing patient safety. The adaptation of standardized measurement tools for speaking up about patient safety in different cultures and testing their validity and reliability will provide valid, comprehensive, and reliable information that is internationally comparable.

Implication for nursing practice/management or policy

The Turkish Speaking Up About Patient Safety Questionnaire (SUPS-Q) can be used to determine the speak up-related behaviours toward patient safety of healthcare professionals.

By using the scale, speak up-related behaviours of healthcare professionals toward patient safety and the factors that affect the speak up-related climate can be determined, and plans can be made to increase patient safety.

The adaptation of standardised measurement tools for speak up-related patient safety to different cultures and testing their validity and reliability will provide valid, comprehensive and reliable information that is internationally comparable.

CONCLUSION

The SUPS-Q was adapted to Turkish as the first measurement tool to assess health professionals' speaking up on patient safety, and its validity and reliability were verified.

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Author contributions

Study design: SGT, SSK, LD

Data collection: SGT, SSK, LD

Literature search: SGT, SSK, LD

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