



The validity and reliability of Turkish version of the self-efficacy scale in nursing care of children with epilepsy

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ABSTRACT

Purpose: This study was conducted to the Turkish validity and reliability study of the ‘Scale of Self-efficacy in Nursing Care of Children with Epilepsy’ (SSENCCE).

Design and methods: The construct validity of the scale was evaluated with explanatory factor analysis (EFA) and confirmatory factor analysis. The reliability of the scales used in the research was examined with composite reliability and Cronbach’s alpha coefficients.

Results: A total of 144 nurses participated in the study. The variance explained in the 12-item scale was 53.6%, and the eigenvalue was found as 6.442. The commonality values of the scale items ranged from 0.304 to 0.712, and the factor loads ranged from 0.552 to 0.844. Cronbach’s α of the SSENCCE was calculated as 0.907.

Conclusion: The Turkish version of the ESSENCE is a valid, reliable, and appropriate tool for assessing the self-efficacy of nurses providing care for children with epilepsy.

Practice implications: Considering that there is no scale that is used to evaluate the self-efficacy of nurses who provide care for children with epilepsy in Turkey, it is thought that this study will guide future research on the subject and the improvement of the clinical experience of nurses.

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Introduction

Epilepsy is childhood's most common neurological disorder (Taktak et al., 2021). Health professionals working in pediatric clinics, emergency, and intensive care units frequently encounter children having seizures (Işler et al., 2011). An epileptic seizure is a common neurological emergency that develops within seconds and requires rapid and simultaneous interventions. In epileptic seizures, it is very important for health professionals to quickly identify the seizure and take appropriate interventions in terms of time management (Işler & Tekgul, 2010). Having a predetermined epileptic seizure intervention plan will facilitate seizure management and prevent delays in interventions (Abend & Loddenkemper, 2014). Nurses, who are the first to notice seizures in patients with epilepsy in the service environment, play an important role in epilepsy management (Buelow et al., 2018; Lee et al., 2019).

Self-efficacy, which was first coined by Albert Bandura, refers to one's belief in his/her ability to perform a task and depends on the

level of confidence (Bandura, 1997). Self-efficacy belief plays a key role in the human competence-building system (Galiana-Camacho et al., 2020). For this reason, different individuals with similar abilities or the same individual under different conditions may exhibit poor, adequate, or superior performance depending on fluctuations in their belief in their individual competence (Bandura, 1997). Self-efficacy is a well-researched concept and an important component of Bandura's social cognitive theory (Bourne et al., 2021). Self-efficacy is important in that it allows an individual to judge his or her ability to organize and perform the actions required to perform a particular task (Bandura, 1986; Shirey, 2020).

Individuals with high self-efficacy can cope with their anxieties and are more capable and comfortable in undertaking many tasks in which they may experience failure (Çiçek & Almalı, 2020). These individuals are extremely confident in their ability to overcome difficult situations (Pragholapati, 2020). Self-efficacy has an important place among the most effective factors affecting nurses' performance (Alavi et al., 2017). When nurses have high self-efficacy, they are less likely to fail (Alavi et al., 2017). In addition, they face various stressful situations daily. Patients' own stress and the wishes of their family members are the most important sources of this stress (Molero Jurado et al., 2019). A nurse with low self-efficacy may experience stress and anxiety

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when faced with difficulties. Stress and anxiety can reduce self-efficacy by affecting performance (Pragholapati, 2020).

Nurses' self-efficacy affects the quality of care in pediatric services, and therefore it is important to investigate the concept of self-efficacy in these services (Yoo & Cho, 2020). It is important to evaluate nurses' self-efficacy using approved tools (Galiana-Camacho et al., 2020). A general self-efficacy scale is not suitable for assessing the care self-efficacy of pediatric nurses, and the results obtained from such a tool may be limited (Bahrami et al., 2021). Recognition of the concept of self-efficacy among pediatric nurses and the development of a reliable and valid tool is very important to undertake. Special scales are valid for assessing professional nursing self-efficacy in the field of nursing, and the number of studies on developing scales specific to various branches of nursing is increasingly growing (Caruso et al., 2016).

In our country, there is no self-efficacy scale that nurses can use in the seizure management of children with epilepsy. Therefore, the aim of this study is to adapt the Self-efficacy in Nursing Children with Epilepsy Scale (SSENCCE) to the Turkish population and undertake validity and reliability analyses.

Method

The Turkish validity and reliability of Self-efficacy in Nursing Children with Epilepsy Scale (SSENCCE) is a methodological study.

Population and sample

It is recommended to recruit 5–10 times the number of items on the scale when the sample size is determined in validity and reliability studies (Bayer & Baykal, 2018). Since the SSNCCE consisted of 14 items, it was planned to include 70–140 nurses in the study. The study data were collected in outpatient clinics, wards, emergency services, and intensive care units where pediatric patients were given care in a state hospital located in a province in the west of Turkey. A total of 144 nurses who worked in these units, and met the inclusion criteria were included in the study. The data were collected by the researchers between February and May 2022 via face-to-face interviews. It took each participant approximately 5–6 min to fill out the data collection tools.

Inclusion criteria

Inclusion criteria were volunteering to participate in the research and working as a nurse for at least 6 months in a department where child care is provided. The exclusion criteria were nurses who do not care for pediatric patients with seizures and nurses who care for adult patients.

Data collection tools

Study data were collected by using a Descriptive Information Form, The Scale of Self-efficacy in Nursing Care of Children with Epilepsy (SSENCCE), and the Self-Efficacy-Scale (SES).

The descriptive information form

This form was created by the researchers following a review of the literature (Yao et al., 2018; Kim & Lee, 2019; Yada et al., 2020; Dehghani et al., 2020; Cheng et al., 2020). There are 8 questions on the form about the personal and professional characteristics of nurses.

The scale of self-efficacy in nursing care of children with epilepsy (SSENCCE)

This scale was developed by Sherer and Adams (1983) and, translated into Korean by Yang in 1999. The content validity of the scale was tested by a professor, a doctoral student in pediatric nursing, and three nurses who worked in pediatric neurological services for >10 years in Korea. The content validity index of each item on the

scale was calculated as 1.00 (Lee et al., 2019). The scale, which was translated into Korean, was adapted to assess nurses' self-efficacy in the care of children with epilepsy and was used by Lee, Ju, and Lee (Lee et al., 2019) in their research. It consists of 14 4-point Likert-type items and a single factor. Each item is scored using the following options: 4, 'strongly agree', 3, 'agree', 2, 'disagree', and 1 'strongly disagree'. Items 6, 9, 10, 12, 13, and 14 on the scale are reverse scored. Scores on the scale range between 14 and 56. The scale has no cut-off point, low scores indicate low self-efficacy, and high scores indicate high self-efficacy. Cronbach's alpha coefficient of the original scale was 0.77.

The self-efficacy scale

This scale was developed by Sherer and Adams (1983) and, adapted into Turkish by Gozum and Aksayan (1999), was used for a similar scale validity study. It is a 23-item 5-point Likert-type scale. Each item is evaluated using the following options: 1-“does not describe me at all”, 2-“describes me a little”, 3-“undecided”, 4-“describes me well”, and 5-“describes me very well”. The answers given to each item are taken as a base, and the 2nd, 4th, 5th, 6th, 7th, 10th, 11th, 12th, 14th, 16th, 17th, 18th, 20th, and 22nd items are reverse scored. A minimum of 23 and a maximum of 115 points can be obtained from the scale. There is no cut-off point for the scale, and a high total score indicates that the individual's perception of self-efficacy is at a good level (Gozum & Aksayan, 1999). Cronbach's alpha internal consistency coefficient for the reliability and validity of the Turkish version of the scale was found to be 0.81, and the test-retest reliability coefficient was 0.92. In this study, Cronbach's alpha value was found to be 0.90.

Ethical consideration

The study was conducted in accordance with the principles of the Declaration of Helsinki. Verbal and written consent was obtained from the volunteers participating in the study. Necessary permissions were obtained from Associate Professor Hyeon-Ok Ju for the use of The Scale of Self-efficacy in Nursing Care of Children with Epilepsy and Professor Sabahat Gözüüm for the use of The Self-Efficacy Scale via e-mail. Also, the approval of the institution where the study was planned to be conducted and the Non-Interventional Research Ethics Committee (Decision No: 2021/20–26) was obtained.

Statistical analysis

Analyses were conducted on SPSS 26.0 and AMOS 24.0 statistical software packages. The scale's construct validity was evaluated with explanatory factor analysis (EFA) and confirmatory factor analysis (CFA). The reliability of the scales used in the research was examined with composite reliability (CR) and Cronbach's alpha (CA) coefficients. In the study, descriptive findings were presented by using minimum/maximum values, mean, standard deviation, median, and interquartile range values (IQR). Statistical significance was taken as $p < 0.05$ in the analyses. The scale score is normally distributed according to the kurtosis and skewness values according to the mean and total scores. It is appropriate to be in the range of ± 1 ($\text{Max} \pm \text{Min} = 17.0 \pm 48.00$; $\text{Mean} = 37.58$; $\text{Std Deviation} = 6.99$).

Validity analysis

In the study, language equivalence, content validity, and construct validity were examined to determine the validity of the scale.

Language validity and translation process

The language validity study of the scale was conducted. For the language and content validity of the scale, first of all, the original version of the scale was translated from Korean to Turkish by three independent translators who were proficient in both Korean and Turkish languages. The Turkish scale was translated into English by three different

translators who were fluent in both languages. Then, it was translated back from English to Turkish by three different translators.

Davis technique (Davis, 1992) was used for the content validity of the scale. In this technique, each item on the scale is evaluated with the following options: (a) “appropriate”, (b) “needs slight revision”, (c) “needs considerable revision”, and (d) “not appropriate”. Also, the content validity indexes, which are calculated by dividing the number of experts who have marked options “a” and “b” for each item by the total number of experts, are expected to be above 0.80. After the necessary corrections were made by comparing the back-translation text with the original scale expressions, the Turkish form, which was obtained by translation and back-translation, was translated into Turkish and it was submitted to the opinions of seven expert nurse academicians for content validity evaluation (1 from pediatric nursing, 4 from public health nursing, 1 from psychiatric nursing, and 1 from internal medicine nursing). The experts were asked to examine the items in terms of their discriminatory power, intelligibility, and suitability for the purpose and culture. The experts were asked to assess each item on the scale using the following options on a form: (a) “appropriate”, (b) “needs slight revision”, (c) “needs considerable revision”, and (d) “not appropriate”. The item-level content validity indices (I-CVI) of the scale items ranged from 0.85 to 1.0. The I-CVI value was calculated as 0.92. Necessary corrections were made on the scale items in terms of meaning and grammar considering expert opinions and discussing the Turkish version of the scale, and it was given its final form.

Pilot study

After the language validity process of the study was completed, a pilot application was conducted to evaluate the intelligibility, readability, and response time of the scale items. The scale was applied to 15 nurses who were not included in the main sample and who met the sampling criteria. As a result, it was decided that the scale items did not need any changes.

Results

Sociodemographic and work characteristics

Of the participants, 92.4% were female, 69.4% were married, and 75.7% had a bachelor's degree. The mean age of the participants was 38.61 ± 8.81 years, and the total work experience was 17.64 ± 12.48 years. It was determined that 56.9% of the nurses worked in the emergency department, 35.4% in the service, 7.6% in the intensive care unit, and 91.7% worked shifts (Table 1).

Table 1
Sociodemographic and work characteristics of the participants.

		Descriptive statistics	
		Mean \pm SD	Median (Min-Max)
Age		38.61 \pm 8.81	40.5 (23–53)
Total work experience		17.64 \pm 12.48	16.5 (0–35)
Total work experience in the present unit		6.36 \pm 7.75	3 (0–20)
		n	%
Gender	Female	133	92.4
	Male	11	7.6
Marital status	Married	100	69.4
	Single	44	30.6
Education	High school	4	2.7
	Associate	24	16.6
	Undergraduate	109	75.7
Work schedule	Graduate	7	5.0
	Permanent day shift	12	8.3
Unit	Shift work	132	91.7
	Emergency department	82	56.9
	Intensive care	11	7.6
	Wards	51	35.5

Validity analysis

Explanatory factor analysis was used to examine the construct validity of the scale. Before the analysis, Kaiser-Meier-Olkin (KMO) and Bartlett's tests were conducted.

In the original study, EFA was performed for the one-dimensional SSENCE. It was carried out by using the principal component analysis method. As a result of the first analysis, item 6 with a communality value of 0.081 and a factor load of 0.285 was removed from the analysis, and the analysis was re-applied. As a result of the second analysis, item 3 with a communality value of 0.207 and a factor load of 0.455 was removed from the analysis, and the analysis was re-applied. When the KMO (0.846) value and Bartlett's sphericity test value ($\chi^2 = 1268.142$; $p < 0.001$) were examined in the final analysis, it was seen that the data were suitable for factor analysis. The variance explained in the 12-item scale was 53.684%, and the eigenvalue was found as 6.442. The commonality values of the scale items were in the range of 0.304–0.712, and the factor loads ranged from 0.552 to 0.844 (Table 2).

CFA was performed by the structure of the scale obtained after EFA. The unweighted least squares-ULS method was used as the estimation method in the CFAs. The CFA model for the scale is given in Fig. 1.

The fit index values of the model obtained as a result of CFA are shown in Table 3. All factor loads were >0.30 , and most of the fit indices were >0.80 (GFI = 0.96, AGFI = 0.94, NFI = 0.94, RMR = 0.06), all of which indicated that the items on each subscale adequately defined their factor (Table 3).

Resampling was performed by using the bootstrap method in CFA, factor loads were evaluated within a confidence interval of 95%, and statistical significance was examined. The CFA findings regarding the factor loads of the items on the scale are given in Table 4. According to these findings, factor loads were found to be statistically significant ($p < 0.05$).

Reliability analyses

Calculation of Cronbach's alpha coefficient is frequently used by researchers in scale adaptation studies. Cronbach's α of the SSENCE was calculated as 0.907. The scores obtained from the SSENCE and SES, which were applied simultaneously, were analyzed by using the Spearman correlation analysis, and a strong and significant positive correlation was found between the two scales ($r = 0.635$, $p = 0.001$), (Table 5).

Response bias in the scale was evaluated with the Hotelling T-square test. As a result of the test, it was determined that there was no response bias ($p < 0.001$).

Table 2
The explanatory factor analysis findings of the scale of self-efficacy in nursing care of children with epilepsy.

Kaiser-Meyer-Olkin (KMO) sampling adequacy criterion		Approximate Chi-Square value
Bartlett's Test of Sphericity		Degree of freedom
		Significance
Items		Communality
Item 1		0,519
Item 2		0,599
Item 4		0,470
Item 5		0,712
Item 7		0,514
Item 8		0,580
Item 9		0,445
Item 10		0,594
Item 11		0,450
Item 12		0,664
Item 13		0,304
Item 14		0,590
Eigenvalue		6442
Explained variance (%)		53,684

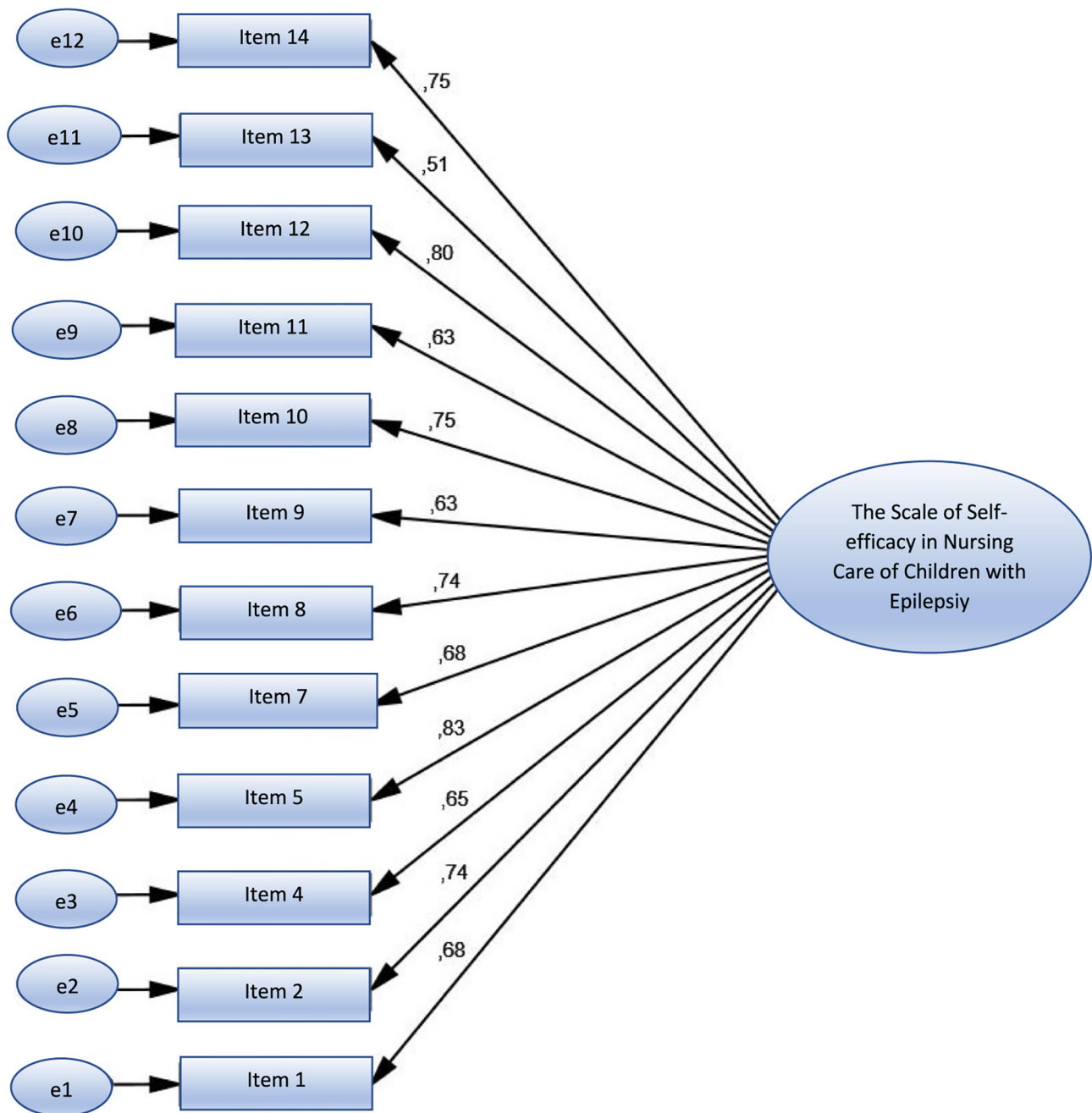


Fig. 1. Confirmatory factor analysis of the Scale of Self-efficacy in Nursing Care of Children with Epilepsy.

Items in the scale; When the first 6 expressions and the last 6 expressions are divided into two, the alpha values are close to each other and high. These values indicate that the expressions are consecutive. In this model, the correlation between forms, Gutmann split half,

equal, and unequal Spearman-Brown coefficients are checked for the reliability of the scale. According to these values, it is seen that the reliability of the scale is high (Table 6).

Table 3
Fit indices of the scale of self-efficacy in nursing care of children with epilepsy.

Fit indices	Good fit	Acceptable fit	Model
χ^2/df	≤ 3	≤ 5	0,93
GFI	$0,95 \leq GFI \leq 1,00$	$0,90 \leq GFI < 0,95$	0,96
AGFI	$0,90 \leq AGFI \leq 1,00$	$0,85 \leq AGFI < 0,90$	0,94
NFI	$0,95 \leq NFI \leq 1,00$	$0,90 \leq NFI < 0,95$	0,94
RFI	$0,95 \leq RFI \leq 1,00$	$0,90 \leq RFI < 0,95$	0,93
RMR	$0 < RMR \leq 0,05$	$0,05 < RMR \leq 0,08$	0,06

Source: Bayram, 2010; Gürbüz, 2019; Karagöz, 2016; Meydan ve Şeşen, 2011.

Discussion

Nurses who are the first to notice epileptic seizures in children in the clinic should benefit from guidelines or protocols for nursing interventions and evidence-based epilepsy management practices (Işler et al., 2011). It is important for them to provide safe and systematic nursing care to children with epilepsy in cases of seizure (Lee et al., 2019). No instrument is used to measure the self-efficacy of nurses who provide care for children with epilepsy in Turkey. This study was conducted to adapt the SSENCE into Turkish and determine its validity and reliability.

Table 4
Confirmatory factor analysis findings of the scale of self-efficacy in nursing care of children with epilepsy.

Items	Factor loads (β)	%95 confidence interval (β)	
		Lower	Upper
Item 1	0,683	0,566	0,775
Item 2	0,742	0,628	0,827
Item 4	0,647	0,450	0,796
Item 5	0,829	0,720	0,909
Item 7	0,684	0,538	0,810
Item 8	0,744	0,626	0,846
Item 9	0,633	0,481	0,763
Item 10	0,746	0,665	0,824
Item 11	0,629	0,478	0,749
Item 12	0,801	0,709	0,873
Item 13	0,510	0,320	0,674
Item 14	0,751	0,647	0,838

Validity refers to whether a tool measures what it intends to measure (Groß, 2021). The agreement of experts on the intelligibility and applicability of the items on psychometric tools is accepted as a criterion for the scale's content validity (Dalla Nora et al., 2017). The translation phase of the scale aims to obtain the Turkish equivalent of each expression on the scale (Capik et al., 2018). A scale should be adapted appropriately so that it can be used in the target culture instead of the culture for which it has been developed originally (Capik et al., 2018).

In the literature, it is recommended that two or more independent individuals who know the original language of the scale and the cultural and linguistic characteristics of the language to which it is adapted should do the translation (Gungor, 2016). In the next step, a back translation method is applied by an expert who does not know the original version of the scale (Dalla Nora et al., 2017). The team of individuals who will do the translation should consist of linguists or experts who know the relevant subject (Coster & Mancini, 2015; Gungor, 2016). In this study, the original version of the scale was first translated from Korean to Turkish by three independent translators who knew both Korean and Turkish very well. The Turkish scale was translated into English by three different translators who were fluent in both languages. Later, it was translated from English to Turkish by three different translators. A high degree of similarity was found between the original Korean version of the scale and the back-translation of the Turkish version.

After the scale was translated into Turkish, the scale and item content validity were examined. While the I-CVI value is expected to be ≥ 0.80 , as stated in the literature (Davis, 1992), according to Lynn (1986), this value should not be < 0.78 . Polit et al. (2007) state that the I-CVI value should be at least 0.83 if six experts are consulted. In this study, the I-CVI value was calculated as 0.92, which was higher than the desired values in the literature. It showed that the scale is suitable for the Turkish population.

If a measurement tool includes all the important sub-components of the subject under examination, it can be said that it has content validity (Basturk et al., 2013). Determining content validity by consulting

Table 5
Correlation analysis of the scores obtained from the scale of self-efficacy in nursing care of children with epilepsy and the self-efficacy scale.

Scale scores ($n = 144$)	Mean \pm SD	Median (Min-Max)	Cronbach's alpha
The Self-Efficacy Scale	90,83 \pm 15,61	95 (53–111)	0,903
The Scale of Self-efficacy in Nursing Care of Children with Epilepsy	43,36 \pm 7,56	42,5 (23–55)	0,907

Table 6
Reliability statistics analysis of the scale of self-efficacy in nursing care of children with epilepsy.

	Value	n of items
Cronbach Alpha		
First Half	0.88	6 ^a
Second Half	0.85	6 ^b
Correlation Between Forms		
Spearman-Brown Coefficient		
Equal Length	0.85	
Unequal Length	0.85	
Gutman Split-Haf Coefficient		
	0.85	

6^a: Item 1, Item 2 Item 4, Item 5, Item 7, Item 8.

6^b: Item 9, Item 10 Item 11, Item 12, Item 13, Item 14.

experts is an effective approach. The quality and number of experts (between 5 and 40) are of great importance in obtaining objective results in the calculations made to determine the content validity (Ayre & Scally, 2013; Basturk et al., 2013; Lawshe, 1975). In this process, each expert is asked to evaluate whether the test items cover the relevant area, whether they represent the feature to be measured, and whether the items are expressed simply and clearly. In line with expert opinions, it can be said that the Turkish version of the SSENCE is a suitable measurement tool in terms of language and content validity.

Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) techniques are widely used in scale adaptation or development processes (Orcan, 2018). Confirmatory factor analysis is a structural equation model that helps determine the relationship between observed and latent variables (Polit et al., 2007). The construct validity of the scale was examined by using explanatory factor analysis. Exploratory factor analysis is a statistical technique that is used to explain a measurement with a small number of factors by bringing together the variables that measure the same structure or quality (Alabdulkarim, 2022). This study applied Kaiser-Meier-Olkin (KMO) and Bartlett's tests before the analysis. KMO values of > 0.5 are considered enough to accept that the data have a normal distribution and therefore suitable for explanatory factor analysis (Alabdulkarim, 2022; Upamannyu et al., 2014). A significant Bartlett's test of sphericity indicates that the data are adequate in terms of factor analysis (Alabdulkarim, 2022). In this study, the KMO value was found as 0.846 and Bartlett's test of sphericity value was calculated as $\chi^2 = 1268.142$ ($p < 0.001$) in the final analysis after the 3rd and 6th items of the scale were removed. According to these values, the data were found to be suitable for factor analysis.

The CFA was performed in accordance with the scale structure obtained after EFA. Whether the fit index values of the model were at an acceptable level in CFA was evaluated according to the goodness of fit indices in Table 3, and it was found that they were at an acceptable level (Gurbuz, 2019). There are several methods for assessing construct validity. These methods are factor analysis, internal consistency analysis, hypothesis testing, similar scale validity, structural equation modeling, multitrait matrix, and pattern matching theory (Karakoc & Dönmez, 2014). In this study, a similar scale validity method was applied.

The SES, which was developed by Sherer and Adams (1983) and adapted into Turkish by Gozum and Aksayan (1999) was used for a similar scale validity analysis. The scores obtained from the SSENCE and SES, which were applied simultaneously, were analyzed using Spearman correlation analysis. A strong and significant positive correlation was found between these two scales ($r = 0.635$, $p = 0.001$). According to these results, it can be said that the 12-item and single-factor SSENCE is a valid scale.

Reliability is how consistent a variable is in terms of what is being measured (Basturk et al., 2013). Calculation of Cronbach's alpha coefficient is frequently used by researchers in scale adaptation studies. This coefficient shows whether items on a scale express a homogeneous whole and whether they are suitable for the purpose of the scale

(Karakoc & Dönmez, 2014; Taber, 2018). If Cronbach's alpha value is between 0.80 and 1.00, it can be said that the scale is highly reliable (Özdamar, 2008). Cronbach's α for the SSENCE was calculated as 0.907. According to these results, it can be said that the 12-item and single-factor SSENCE is a reliable scale.

Limitations of the research

Although the sample size of the study is sufficient, the inclusion of only nurses working in a hospital in a specific region and the fact that the assessments of the scale are based on nurses' self-reports are the limitations of this study.

Implications to practice

Considering that there is no scale that is used to evaluate the self-efficacy of nurses who provide care for children with epilepsy in Turkey, it is thought that this study will guide future research on the subject and the improvement of the clinical experience of nurses.

Conclusion

This study was carried out to adapt the SSENCE into Turkish to determine its validity and reliability. The results show that the translated version of the SSENCE is a valid, reliable, and appropriate tool for assessing the self-efficacy of nurses providing care for children with epilepsy in Turkey. Considering that there is no scale that is used to evaluate the self-efficacy of nurses who provide care for children with epilepsy in Turkey, it is thought that this study will guide future research on the subject and the improvement of the clinical experience of nurses.

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Ethics of the research

The study was conducted in accordance with the principles of the Declaration of Helsinki. Verbal and written consent was obtained from the volunteers participating in the study. Necessary permissions were obtained from Assoc. Prof. Dr. Hyeon-Ok Ju for the use of the SSENCE and Prof. Dr. Sabahat Gözüm for the use of the SES via e-mail. Also, the approval of the institution where the study was planned to be conducted and the Non-Interventional Research Ethics Committee (Decision No: 2021/20-26) was obtained.

CREDIT Statement

Zehra Çapa: Data curation, Conceptualization, Methodology, Formal analysis, Writing – original draft, Visualization. **Gülendam Karadağ:** Methodology, Formal analysis, Writing – original draft, Visualization, Supervision, Writing – review & editing. **Seval Kul:** Formal analysis, Conceptualization, Supervision, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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