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Research

Adaptation of Parental Self-Efficacy Scale for Child Autonomy Toward Minor Surgery to Turkish

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A B S T R A C T

Keywords:

Pediatric surgery
 Validity and reliability
 Parents
 Autonomy
 Self-efficacy

Purpose: The purpose of the study was to conduct validity and reliability testing of the Turkish version of the Parent Self-Efficacy Scale for Child Autonomy toward Minor Surgery (PSESCAMS).

Design: The research is a methodological study.

Methods: Data were collected using an Introductory Form and the PSESCAMS. Factor analysis, Cronbach's alpha, and item-total score analysis were used for the data analysis.

Findings: The scale consisted of 18 items and four subscales. The Cronbach's alpha coefficient for the overall scale was 0.95, and the Cronbach's alpha values for the subscales were 0.64–0.92. The total factor loading was > 0.45 for both exploratory and confirmatory factor analyses. GFI, AGFI, and CFI were > 0.90, RMSEA was 0.06.

Conclusion: PSESCAMS was found to be a valid and reliable measurement tool for Turkish culture.

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Hospitalization and surgical interventions can be traumatic for children who have difficulty perceiving complex concepts such as illness and death, and may evoke fear in both children and their parents.^{1–3} Also, the stress and anxiety experienced by parents in the surgical process may affect their children and cause children to avoid healthcare.^{1,4} Therefore, it is essential that nurses collaborate with parents in the care of children who face short-term health difficulties, especially younger children.⁵ Efforts by nurses to prevent problems that parents may experience and to maintain interaction between children and their parents are crucial for ensuring children's autonomy regarding the surgical process.^{2,6}

In minor surgeries, procedural interventions are used for medical diagnosis and treatment.^{7,8} Although these procedures involve little risk and minimal complications, pediatric patients may be more anxious due to numerous factors such as fear of surgery, anesthesia and postoperative pain, separation from family members, and exposure

to strangers.^{2,9} Since these processes are performed in a short period, effective support is necessary for the psychological preparation of children.⁵ Recently, the patient-health professionals relationship has undergone a shift from a paternalistic approach to supporting patient autonomy.^{2,10} In the person-centered care of surgical patients, principles of individual autonomy and the patient's right to self-determination are important.²

Autonomy, which is primarily considered as a cognitive trait within the individual, is generally accepted as supporting decision-making capability.^{11,12} Since, children are often thought to lack such capability, their autonomy is limited and parents act as surrogates.¹¹ During surgery, however, the child must be developmentally involved in an appropriate way. One of the options for involving the child is through parental support.¹¹ Parents must empathize with their children, become aware of their children's attempts to express their needs, and respond to them. In this approach, a child learns that his or her needs are important in as much as they are noticed and addressed, and as a result, they learn to understand and identify with their own feelings and needs.¹¹ Herein, parental self-efficacy, which is described as “the extent to which parents gain improved self-belief in their ability to undertake various parental roles and

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responsibilities,¹³ is essential for supporting and psychologically preparing the children for minor surgery and in supporting the child's autonomy.⁵

It has been reported that if parents' self-efficacy in preparing their children for surgery develops, parents will have less anxiety and concern about their children's anesthesia and surgery, which may positively affect the child and health professionals.⁶ Additionally, parents who are capable in preparing their children for surgery will be supportive of their children in such procedures and will be able to better ensure their child's autonomy in their own illness and treatment. Enhancing parenteral self-efficacy for supporting children's autonomy can be enhanced through preoperative parent education to reduce parents' anxiety and stress about the surgical process.^{2,4} While preparing a preoperative education program for parents, it is necessary to evaluate the self-efficacy of the parents for surgery with reliable measurement tools to determine their capability and support deficits.

Some studies on minor pediatric surgery focus only on the advantages and complications of minor surgery in children and patient satisfaction.^{4,8} However, studies questioning the self-efficacy of parents, which have important responsibilities in developing children's autonomy, are limited.^{11,14} In order to develop child autonomy and help parents in their efforts in this respect, examining the self-efficacy of the parents using standardized tools is suggested in the literature.¹⁵ In Turkey, however, there is no scale to measure the self-efficacy levels of parents for supporting their children's autonomy toward the minor surgery process. Ono and Manabe⁵ developed the parental self-efficacy scale for child autonomy for minor surgery. The scale evaluates the self-ability of the parent to provide the necessary support for preschool children to exhibit autonomy in the process of approaching a medical experience due to minor surgery.⁵ The scale was created to provide a measurement tool for the development of behavior in parents for a child who will experience a medical experience accompanied by pain, and aimed to determine what behaviors parents exhibited to support the child to adapt to the medical condition. The aim of this study was to adapt the "Parental Self-Efficacy Scale for Child Autonomy toward Minor Surgery (PSESCAMS)" to the Turkish population.

Methods

Study Design

This study was designed as a methodological and descriptive research study to investigate the validity and reliability of the Turkish version of the Parental Self-Efficacy Scale for Child Autonomy toward Minor Surgery (PSESCAMS).

Setting and Sample

The study was carried out in the pediatric surgery outpatient clinic and pediatric surgery unit of a university hospital in a province located in the northwestern Turkey between December 2018 and November 2019.

The population of the study consisted of 120 parents (only 1 parent per family) of children aged 3 to 6 years who were scheduled for surgery and admitted to the pediatric surgery outpatient clinic. The sample size was calculated following the principle which suggests that sample size should be at least five times and a maximum of ten times greater than the scale items.^{16,17} In this study, the sample size was calculated as 90 children by taking five times the number of items. Considering a possible data dropout, the total number of samples was increased by 20% and amounted to 120 participants (seven times). The inclusion criteria for participation were being literate, speaking the Turkish language, having a child aged 3 to 6 years,

planning minor surgery for their child who has no auditory or visual problems, and volunteering to participate in the study.

Data Collection Tools

Introductory Form

The form was created by the researchers based on a review of the literature.^{5,18,19} The form comprised 10 questions regarding the sociodemographic characteristics of the children (age, gender, health status, the status of hospital experience, number of hospitalizations, and the status of surgery experience), and their parents (age, gender, family patterns, and education degree).

Parental Self-Efficacy Scale for Child Autonomy Toward Minor Surgery (PSESCAMS)

The PSESCAMS was developed by Ono and Manabe⁵ to measure the self-efficacy levels of parents for their children's autonomy. PSESCAMS is a four-point Likert-type scale composed of 18 items and two subscales. It is scored between 1 and 4 (1 = not confident at all, 2 = not confident, 3 = confident, and 4 = quite confident) with the lowest point score being 18 and the highest is 72.⁵ Parents mark the item that best describes their self-efficacy degree for child autonomy toward minor surgery. Higher scores indicate a higher degree of parental self-efficacy.

The scale consists of two subscales. The first subscale is "self-efficacy for support related to child's emotional control for minor surgery" (items numbered 1, 2, 3, 4, 5, 13, and 14), and the second subscale is "self-efficacy for support related to child's understanding of minor surgery" (items numbered 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, and 18). Cronbach's alpha coefficient of the scale was found to be excellent at 0.90. The factor loadings of the items were 0.46 to 0.83. The correlation coefficient between the items was 0.245 to 0.638. All 18 items comprising the scale were found to be valid. It was concluded that the scale is a valid and reliable measurement tool that can be used for assessing parenteral self-efficacy for child autonomy toward minor surgery.

Data Analysis

IBM SPSS Statistics for Windows (Version 22.0. Armonk, NY: IBM Corp) and Lisrel 9.3 package programs were used for data analysis. For the evaluation of descriptive characteristics of the children and parents, numbers and percentages were used for categorical data, while mean \pm standard deviation and median (IQR) were used for quantitative data.

Lawshe's content validity index (CVI) was calculated by obtaining expert opinion for content validity. 'Confirmatory Factor Analysis (CFA)' and 'Explanatory Factor Analysis (EFA)' were conducted to examine the validity of PSESCAMS.

Internal consistency and time invariance were reviewed in this study to assess the reliability of the scale. Internal consistency was evaluated using the Cronbach alpha reliability coefficient, item-total score correlations, and the Hotelling T² test. The test-retest method was used to evaluate time invariance of the scale. The suitability between test-retest means scores were evaluated using the Pearson Product-Moment Correlation Coefficient analysis, and differences between test-retest mean scores were assessed using a dependent t-test.

Procedure

Translation of Scale

After obtaining permission for the Turkish validity and reliability of the study, the scale was translated into Turkish by five academicians who are familiar with the terminology of scale and have

expertise in this subject.^{20,21} All translators were bilingual (English and Turkish), with Turkish as their primary language. Then, the research team evaluated the scale's Turkish translation and created a single form.

Expert Opinions

It is recommended that at least three experts be consulted to assess the equivalence of items on the scale to be translated.^{16,21} A total of ten faculty experts were consulted including four in pediatric surgery, three in pediatric nursing, and three in surgical nursing. Turkish and English versions of the scale were sent to the experts and they were asked to rate the Turkish version of the scale with a score ranging from 1 to 4, and to assess the relevance of the scale items (1 = The item requires major revision, 4 = The item is highly relevant).¹⁶ The content validity index was calculated using Lawshe's content validity index.²²

After obtaining the expert's opinions, the Turkish form of the scale was translated into English by two linguists who are highly competent both in Turkish and English. Both the original version of the scale and its English translation were evaluated by the researchers, who then created the final version of the scale to be used in the pilot study.

Data Collection

The data were obtained from face-to-face interviews with parents having children who are aged 3-6 years and were undergoing minor surgery. Researchers went to the pediatric surgery outpatient clinic and pediatric surgery unit every day and collected data from volunteering parents. Only one parent per family was expected to complete the scale, and most of them were mothers. The data were collected from parents whose child underwent minor surgery such as circumcision, biopsy, and hernia because only these surgeries are performed at the university hospital where the study was conducted. The collection of data took an average of 5-10 minutes.

Preliminary Test

It is recommended to apply the pilot test to a group of 10 or 20 individuals with similar characteristics, but not to include the obtained data in the study.¹⁷ In this context, after achieving good fitness values regarding the expert opinions, the scale was applied to 30 parents. For this pilot test, parents did not give any negative feedback either on readability and intelligibility or on the clarity of scale. It was determined that each item was comprehensible, and thus no revision was made to the scale. However, the reading level of the PSESCAMS was not calculated. Since the research was conducted with adults and there were no words that would complicate the readability and comprehensibility of the items, the step for determining the reading level was not included in the study procedure. Consequently, the comprehensibility of the scale was found to be appropriate for the pilot test, and its application was then extended to all samples. The findings of these 30 parents were not included in the data set for which the analyses were performed.

Results

Demographic Data

The mean age of the children was 4.22 ± 0.09 , and 51.7% of them were boys. Parental demographic data included the following: 96 (80%) were mothers, mean age was 33.51 ± 4.32 , and 35% were university graduates. The data on family patterns revealed that nuclear family members constituted 86.7% of the sample population. 49.2% of the children had prior hospital experience, 41.7% were hospitalized 1 to 3 times, and 21.7% of them had undergone surgery. A great majority (90.8%) of the children did not have any chronic disease.

Validity Analysis

Content Validity of PSESCAMS

Experts in pediatric nursing, surgical nursing, pediatric surgery, and linguistics were assigned to test the scale's validity. Expert opinions on the items and the scale were measured using the range validity index. Scale content analysis and item content analysis were calculated separately for each item of the scale. The experts ranked each item on a four - point Likert scale (1 = The item is irrelevant – should be omitted, 2 = The item requires revision – as I suggested, 3 = The item is relevant, 4 = The item is highly relevant). It is suggested that items scoring 1 and 2 on the scale be changed,²¹ but in our study, the majority of the items received 3 and 4 points.

The content validity index of each item as well as the content validity indexes of item-level (I-CVI) and scale-level (S-CVI) were calculated. The I-CVI and S-CVI value of the scale was 0.98, demonstrating that the scale was appropriate for Turkish culture, represents the subject to be measured, and provides content validity.

Construct Validity of PSESCAMS

Confirmatory Factor Analysis (CFA). CFA was used to evaluate the PSESCAMS' construct validity. The original scale consists of two factors. The first factor was "self-efficacy for support related to child's emotional control for minor surgery" (items numbered 1, 2, 3, 4, 5, 13, and 14) and the second factor was "self-efficacy for support related to child's understanding of minor surgery" (items numbered 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, and 18).

CFA was performed to test the suitability of the two-factor structure of the scale. The ratio of chi-square to the degrees of freedom was calculated as 3.03. Root Mean Square Error of Approximation (RMSEA) was 0.13, Goodness of Fit Index (GFI) was found as 0.72, Adjusted Goodness of Fit (AGFI) was 0.65, Comparative Fit Index (CFI) was 0.75, and the standardized root means square residual (SRMR) was 0.11. Because SRMR, RMSEA, GFI, AGFI, and CFI values showed a low level of suitability, modifications were performed in line with the values recommended as a result of confirmatory analysis.

Our findings showed that the two-factor structure of data did not fit the model well. In this context, Lisrel 9.3 package program was used to provide information about correction indexes to improve the model.²³ After the analyses were performed for the fit index, it was determined that the scale adapted to Turkish and two-factor structures was not compatible. CFA showed that the scale had four factors; "Information" as the first factor (1, 2, and 3. items), "Supporting" as the second factor (4, 5, 6, and 7. items), "Control" as the third factor (8, 9, 10, 11, and 12. items), "Emotional relief" as the fourth factor (13, 14, 15, 16, 17, and 18. items). In the analysis, we attempted to combine the items, but the four-factor structure showed a better compatibility index in the model than the two-factor structure. Therefore, we decided to use the scale with a four-factor structure. According to the evaluation index, the four-factor model results showed good fit with the data ($X^2/df = 2.22$, SRMR = 0.03, RMSEA = 0.06, GFI = 0.94, AGFI = 0.90, and CFI = 0.99). The researchers shared the confirmatory factor analysis results with the owners of the scale, and it was concluded that the four-factor model could be used for Turkish society. Also, the researchers assigned names for those four-factors and shared them with the owners of scale, as a result of which the names for the factors were determined.

Exploratory Factor Analysis (EFA). The results obtained from the EFA Analysis of PSESCAMS are shown in Table 1. The EFA results demonstrated that the subscale factor loadings ranged from 0.64 and 0.85 (acceptable values > 0.30). The *t*-values of all items in the scale were significant at the level of $P < .05$ (Figure 1).

Also, the explanatory coefficients (R^2) of the items were above the acceptable limit of 0.400 at 0.438 and 0.714 for the “Information” subscale, 0.427 and 0.600 for the “Support” subscale, 0.410 and 0.582 for the “Control” subscale, and 0.436 and 0.631 for the “Emotional relief” subscale (Figure 2).

Reliability Analysis

Internal Consistency Analysis

The Cronbach alpha coefficient of PSESCAMS (18 items) was $\alpha = 0.95$. The scale was determined to have four factors in the study: “Information” (3 items), “Supporting” (4 items), “Control” (5 items) and “Emotional relief” (6 items) subscales. Cronbach alpha coefficients were $\alpha = 0.92$, $\alpha = 0.89$, $\alpha = 0.64$, and $\alpha = 0.83$, respectively.

Test-Retest Reliability

The test-retest analysis was evaluated with 30 parents, and they were asked to share their contact information with the researchers during the pilot test. The parents were then called 2

weeks following the pilot test, and the scales were applied for a second time. A statistically significant positive correlation was achieved between test-retest scores of the scale ($r = 0.97$; $P < .001$) with the “Information” subscale at $r = 0.92$ ($P < .001$); “Supporting” subscale at $r = 1.00$ ($P < .001$); “Control” subscale at $r = 0.99$ ($P < .001$); and the “Emotional Relief” subscale at $r = 0.86$ ($P < .001$).

There was a significant positive and high-level correlation between test-retest scores for the entire scale and its four subscales. To examine whether there was a difference between the first and second measurement mean scores of the scale, a t-test was performed in paired groups and no difference was found between the mean values obtained from two measurements at a 2-week interval (Table 2).

The homogeneity of the parents’ responses was evaluated with the Hotelling T^2 test. Results showed that the mean scores were different (Hotelling $T^2=124.735$ and $P < .001$); the parents displayed different approaches in terms of their responses to the items, and the responses were found to be reliable.

Table 1
Standardized Estimates of PSESCAMS Items According to Subscale, t and R2 Values

Subscales	Item number	Standardized values	t value	R ²
Information (Bilgilendirme)	Item 1. Talk to your children and explain to them what part(s) on their body the physician needs to examine. (Çocuğumla konuşup ve hekimin bedeninde hangi bölüme bakması gerektiğini ona açıkla.)	0.85		0.714
	Item 2. Tell your children they will need to go to a hospital and have surgery in advance. (Çocuğuma, hastaneye gitmesi ve ameliyat olması gerektiğini önceden söylerim.)	0.72	7.3	0.522
	Item 3. Encourage your children to remember their past experiences about the times they were ill or were hospitalized and help them to speak about those feelings. (Çocuğumu geçmiş hastane yatış ve hastalık deneyimlerini hatırlaması konusunda cesaretlendirir ve bunu kelimelere dökmesine yardımcı olurum.)	0.66	6.74	0.438
Supporting (Destekleme)	Item 4. Give your children the chance and information about their condition and surgery upon their request. (Çocuğuma istediğinde, durumunu ve ameliyatını öğrenmesi için ona fırsat ve bilgi veririm.)	0.65		0.427
	Item 5. Help your children to check their condition and take responsibility for their illness and surgery. (Hastalık ve ameliyat ile ilgili kendi durumunu kontrol etmesi ve sorumluluk alması konusunda çocuğuma yardımcı olurum.)	0.77	6.77	0.600
	Item 6. Help your children to be eager for staying positive about their illness and surgery. (Çocuğuma, hastalık ve ameliyatla ilgili pozitif olma yönünde istekli olmasına yardımcı olurum.)	0.73	6.5	0.533
	Item 7. Know when you should speak about surgery and hospitalizing to your children to hear about what they really want to say. (Çocuğumun gerçekte ne söylemek istediğini duymak için ameliyat ve hastaneye yatışla ilgili ne zaman konuşacağını bilirim.)	0.71	6.35	0.500
Control (Kontrol Etme)	Item 8. Understand your children if they don't want to have surgery and show your empathy. (Çocuğumun ameliyat olmak istememesini anlarım ve anlayış gösteririm.)	0.64		0.410
	Item 9. Cooperate with your children to help them observe restrictions (on a diet, preschool attendance, etc.) about their illness or surgery. (Çocuğumun hastalık ve ameliyatla ilgili kısıtlamaları (diyet kısıtlamaları veya anaokuluna gitme gibi) gözlemlemesinde çocuğumla işbirliğini sağlarım.)	0.76	6.84	0.582
	Item 10. Correct your children's misunderstandings about their illness or surgery. (Çocuğumun hastalık ve ameliyatla ilgili yanlış anlamalarını düzeltirim.)	0.75	6.77	0.567
	Item 11. Help your children in setting realistic goals for healing from their illness and making decisions for themselves. (Çocuğumun hastalığını iyileştirmek için gerçekçi hedefler belirlemesine ve kendisi için karar vermesine yardım ederim.)	0.72	6.54	0.516
	Item 12. Relief to your children about their fears related to surgery or suffering. (Çocuğumun ameliyat ve acı çekmeyle ilgili korku duygularını rahatlatırım.)	0.74	6.71	0.554
Emotional Relief (Duygusal Rahatlatma)	Item 13. Answer your children's "Why do I have to go to the hospital?" question. (Çocuğumun "Niçin hastaneye gitmek zorundayım?" sorusuna yanıt veririm.)	0.66		0.436
	Item 14. Answer your children's "What is surgery?" question. (Çocuğumun "Ameliyat nedir?" diye sorduğunda yanıtlarım.)	0.69	6.54	0.472
	Item 15. Modify your responses to your children's actions and feelings about their illness or surgery. (Çocuğumun hastalık ve ameliyatla ilgili davranış ve duyguları doğrultusunda vereceğim yanıtları şekillendiririm.)	0.76	7.11	0.578
	Item 16. Convey to your children that you understand how they feel when they express their emotions about illness and surgery. (Hastalık ve ameliyat hakkındaki duygularını ifade ettiğinde nasıl hissettiğini anladığımı çocuğuma aktarırım.)	0.79	7.36	0.631
	Item 17. Anticipate your children's feelings and reactions toward the illness and surgery. (Çocuğumun hastalığa ve ameliyata karşı nasıl hissedeceğini ve nasıl tepki vereceğini öngörürüm.)	0.72	6.83	0.524
	Item 18. Help your children to get used to the new environment or new people around them. (Çocuğumun alışık olmadığı ortama ve yeni kişilere alışmasına yardımcı olurum.)	0.68	6.45	0.457

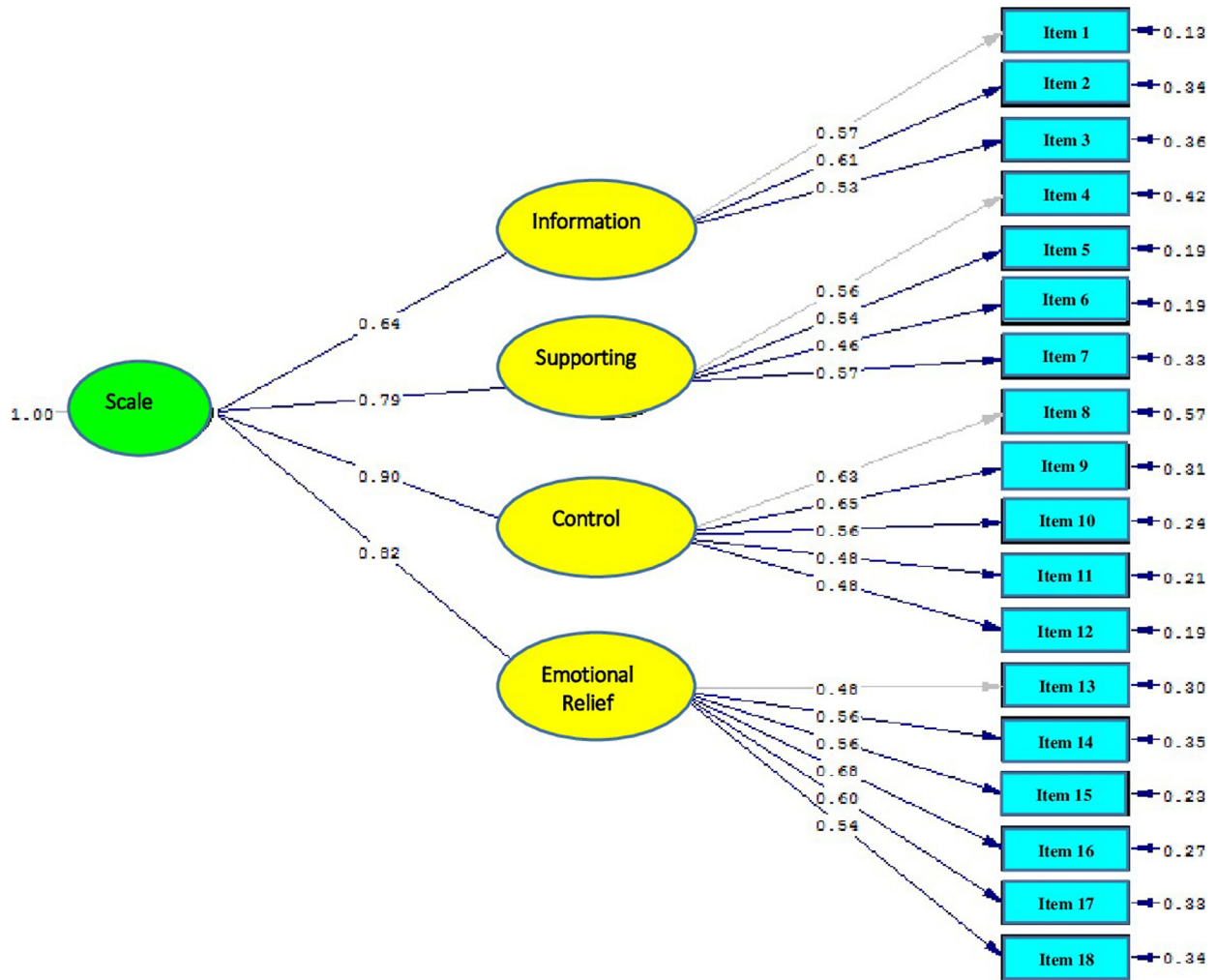


Figure 1. Standardized coefficients, path diagram and factor loads of the four factor models of the scale. This figure is available in color online at www.jopan.org.

Discussion

Self-efficacy in parents is important to maintain the balance between uncertainty and acceptance during clinical procedures.²⁴ Within these procedures, supporting the self-efficacy of the parents could improve the child’s autonomy. Evaluating the self-efficacy levels of parents is important to provide the necessary support for child autonomy. In this study, we aimed to develop an instrument that can be used in clinical settings and scientific research by modifying the Parental Self-Efficacy Scale for Child Autonomy toward Minor Surgery (PSESCAMS) for use with Turkish populations. The instrument measures self-efficacy levels of parents for child autonomy toward

minor surgery. For this purpose, the language and content validities of the scale were examined, and then psychometric properties of the scale were assessed by analyzing internal consistency, test-retest, reliability, and construct validities.

The translation-back translation method, which is frequently used in scale adaptation studies, was used for the language validity of the scale. Translation practices for this method were conducted by experts of pediatrics and surgery.^{20,25} In this method, the translators should be experts in their field and should have mastery in the translated language.^{26,27} This study’s translation-back translation phase was completed by academics who are fluent in English and experienced in scales. In line with these results, this research fulfilled the language validity criterion, which is accepted as the main criterion in the intercultural adaptation of scales.

Content validity of a scale should be evaluated to determine whether the items in a draft scale translation generated after the translation-back translation process are comprehensible and relevant to sampling.^{28,29} In this evaluation method based on expert opinions, the scores given by the experts to the scale items are used.^{21,30} In the present study, the Lawshe technique was used to calculate the content validity of our scale items, and the CVI of the items was calculated according to expert opinions.³¹ According to this technique, the opinions of at least five experts should be taken, and each item should have a CVI score of 80% and above and be rated with a score of

Table 2

Test-Retest Mean Scores on the Subscales of PSESCAMS (n = 30)

Subscales	First test Median (IQR)	Second test Median (IQR)	Test*	P
Information	15.00 (13.53-14.67)	15.00 (13.57-14.69)	0.577	.564
Supporting	18.00 (16.63-17.90)	18.00 (16.63-17.90)	0.000	1.000
Control	9.00 (8.03-8.83)	9.00 (8.04-8.82)	0.000	1.000
Emotional Relief	12.00 (10.83-11.90)	12.00 (11.02-11.98)	1.633	.102
Total	53.00 (49.27-53.06)	53.00 (49.45-53.21)	1.414	.157

Test = Wilcoxon Signed Ranks Test.

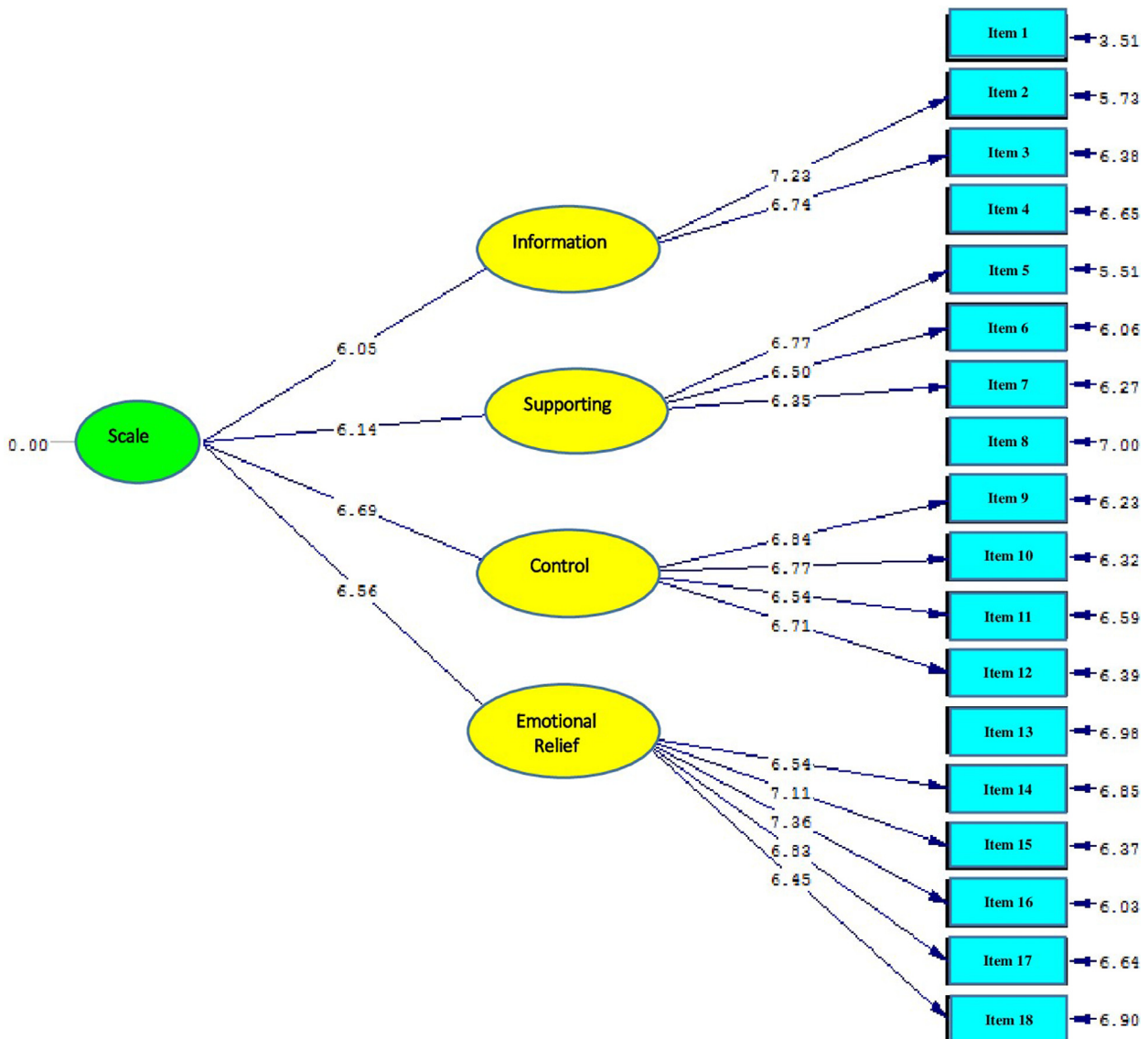


Figure 2. Path diagram of four factor models of the scale and t values. This figure is available in color online at www.jopan.org.

3 and 4.¹⁶ In this study, I-CVI and S-CVI values of the scale were found to be 0.98 (98%), indicating that scale items were comprehensible, represented the subject to be measured, and were valid in content.

For the evaluation of the internal consistency of scales, item solutions are made, Cronbach alpha coefficient is recommended in Likert type scales, and the internal consistency coefficient should be above 0.70.³¹⁻³³ In this study, the Cronbach's alpha reliability coefficient was good ($\alpha = 0.83-0.95$) for the first, second, and fourth subscale, and moderate ($\alpha = 0.64$) for the third subscale. In the literature, it is argued that the Cronbach alpha coefficient may be relatively low due to a decrease in the number of items, especially in multidimensional scales.^{17,34} In nursing research, on the other hand, a Cronbach's alpha coefficient between 0.60 and 0.80 can be considered as a highly reliable value range in internal consistency evaluations.³⁵ In this study, the Cronbach alpha coefficient was 0.95 for the whole scale, which was similar to the results of the original scale.⁵ Consequently, the values obtained from this study indicate that the internal consistency of the Turkish version of the scale is sufficient.

In scale adaptation studies, test-retest analysis is used to ensure that the measurement tool does not change over time. The time interval to be used in the application of the test-retest analysis should not be less than 2 weeks or more than 4 weeks.^{16,33,36} In this study, a

high-level relationship between mean scores was found for the entire scale and all its subscales at 2-week intervals. The results of this study and the original scale study showed similarities, and a high correlation was found between the test-retest scores. This indicates that the reliability of test-retest tests is high, the features in scale items have a time invariance over time, and the measurement does not change over time.³⁶

It has been reported that it is necessary to test the construct validity as well as the content validity to determine the validity of measurement tools.^{37,38} In this study, CFA was used to analyze the construct validity of the scale. The test was carried out on the two-factor structure proposed in the original scale study by Ono and Manabe.⁵ Several indexes were used to test the compatibility of the model by using the data: X^2/df , SRMR, RMSEA, GFI, AGFI, and CFI.^{16,39} Acceptable values are: ratio of chi-square to the degree of freedom ($X^2/df \leq 3$; RMSEA, normal value: < 0.06 ; acceptable values: < 0.08); goodness-of-fit index (GFI, normal value: > 0.95 ; Acceptable values: > 0.90), comparative fit index (CFI, normal value: > 0.95 ; acceptable values: > 0.90), and adjusted goodness-of-fit index (AGFI, normal value: > 0.95 ; acceptable values: > 0.90).^{16,40} Since the fit index of the model obtained for the two-factor structure in the original of scale did not fit into the model well, correction indexes were used to

improve the model. Results showed that the model adapted to the Turkish language was compatible with a four-factor structure.²³ In the scale adaptation studies, incompatibility between the subscales of a model adapted using the original measuring tool is a frequently encountered problem, and the model can be harmonized with CFA improvement applied to the model.²⁵ The fit indices of the model obtained in this study were similar to the two-dimensional model in the original scale, the factor loads describing the relationship of the items with factors were above the lowest limit of 0.30, and the overall fit coefficients of the four-dimensional theoretical model were high (RMSEA = 0.06).^{41,42}

The RMSEA value used as a fit index was below 0.08, which indicates that the model is acceptable. GFI (0.94) and AGFI (0.90) values were 0.90 and above, suggesting that the fit indices were acceptable. The conformity indices of the original scale were: RMSEA value of 0.042, GFI of 0.977, and an AGFI of 0.958. An RMSEA value below 0.08 used as a fit index indicates that a model is acceptable, and GFI (0.94) and AGFI (0.90) values of 0.90 and above suggest that fit indices are acceptable.⁴³ According to these indexes, the scale model obtained in four dimensions was compatible and applicable for Turkish society. Additionally, these results confirmed that there was a high goodness of fit for the optimum PSESCAMS model consisting of four dimensions.

Factor load value is a coefficient that explains the relationship of the items with factors.¹⁷ In the original scale, there were two subscales, and the results of EFA demonstrated that the factor loads of the items were higher than 0.30. Similarly, in this study, subscale loadings ranged between 0.64 and 0.85. It has been reported that the factor load values obtained as a result of EFA should be above 0.30, which indicates that the factor structure of the scale is strong.³² In line with these recommendations, the reliability of all items of Turkish PSESCAMS were at appropriate values and could be explained by the subscales they are related to.

The homogeneity test is applied in scale validity and reliability studies to determine whether the desired concept(s) can be effectively assessed with the measurement instrument.^{17,44} In this study, the homogeneity of the sample in which the instrument was applied was evaluated with the Hotelling T² test, showing that the sample was homogeneous.¹⁷ This indicated that the parents did not change in terms of the self-efficacy assessment of their children's autonomies, and there is no bias in the instrument.

Limitations

Despite the numerous strengths of this study, it has several limitations. First, the participants enrolled in the study via convenience sampling from a university hospital, which might have affected the generalizability of the study. Second, the research data were collected from parents who came to the children's health and diseases outpatient clinic rather than an inpatient clinic. We speculate that this might have influenced the data obtained from the parents. Third, the data was collected while parents were waiting for their appointment to have their children examined by a doctor, which may have caused them to answer questions very quickly.

Implications for Nursing Practice

This study offers healthcare professionals in pediatric clinics in Turkey a valid and reliable instrument for assessing parents' self-efficacy related to child autonomy toward minor surgery. This study was conducted with parents who had children aged 3 to 6 years; therefore, it is recommended that further studies be conducted with other age groups, or scale adaptations should be made for different age groups.

Conclusion

These results indicate that the Turkish version of the PSESCAMS is a valid and reliable instrument for assessing parents' self-efficacy related to child autonomy toward minor surgery. Using this scale in clinical practice could help health professionals determine parenteral self-efficacy to prepare children for surgical procedures. Since children are generally afraid of surgery, parents should prepare their child physically and psychologically for surgery. However, it is necessary to determine whether parents have self-efficacy to prepare their children for surgery. It is posited that use of the PSESCAMS may help nurses to determine parents' self-efficacy related to child autonomy toward minor surgery. When nurses are able to prepare the parents in accordance with the items in PSESCAMS, the parents will then be able to better prepare their children for surgery. In addition, reinforcing parents' self-efficacy related to child autonomy toward minor surgery could contribute to diminishing the fear and anxiety of parents and children about surgery.

Authors' Contributions

R.S., S.Ü. and S.Y.T. contributed to the conception and design of this study. R.S., S.Ü. and F.N.T performed the statistical analysis and R.S., S.Ü. and S.Y.T. drafted the manuscript and critically reviewed the manuscript and supervised the whole study process. M.A.K. and Ü.F. Y. authors read and approved the final manuscript.

Note: This study was presented in the 42th Pediatrics and 21th Pediatric Nursing Days, September 13-16/2020 in Istanbul, Turkey. The study was awarded first prize among oral presentations.

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