

PATIENCE IN NURSES: A SCALE DEVELOPMENT STUDY

HEMŞİRELERDE SABIR: BİR ÖLÇEK GELİŞTİRME ÇALIŞMASI

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ABSTRACT

Aim: The aim of this study is to develop a valid and reliable scale that measures the level of patience nurses have shown during their active working life against the difficulties of their profession.

Material and Method: This study is a methodological research designed to test the validity and reliability of the Patience Scale in Nurses (PSN). In the method part of the study, creating an item pool, obtaining expert opinion, pilot study, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), criterion validity and reliability analysis are included.

Findings: As a result of exploratory factor analysis, 4 sub-dimensions were obtained and the subscales of patience for colleagues, patience for business processes, patience for patients and their relatives, patience for inadequacy. Second level confirmatory factor analysis compliance values were found acceptable. It has been observed that the criteria of validity of the PSN is provided both among other scales and among its dimensions. When Cronbach Alpha coefficients are analyzed, four sub-dimensions It was observed that it took values between 0.832 and 0.892. In addition, the reliability coefficient of the entire scale is 0.840. As a result of the data obtained, the reliability of the scale was found to be high.

Conclusion: Analyzes conducted in this study, a scale consisting of 24 items and four sub-dimensions was obtained. Exploratory and confirmatory factor analyzes showed that the scale is a valid and reliable scale.

Keywords: Nurse, nursing profession, patience, scale development

ÖZET

Amaç: Bu çalışmanın amacı hemşirelerin aktif çalışma hayatları boyunca mesleklerinin zorluklarına karşı göstermiş oldukları sabır düzeylerini ölçen geçerli ve güvenilir bir ölçek geliştirmektir.

Gereç ve Yöntem: Çalışmanın yöntem bölümünde madde havuzu oluşturulması, uzman görüşü alınması, pilot çalışma uygulaması, açıklayıcı faktör analizi (AFA), doğrulayıcı faktör analizi (DFA), ölçüt geçerliliği ve güvenilirlik analizlerine yer verilmiştir.

Bulgular: AFA sonucunda 4 alt boyut elde edilmiş ve çalışma arkadaşlarına duyulan sabır, iş süreçlerine duyulan sabır, hasta ve hasta yakınlarına duyulan sabır, yetersizliğe duyulan sabır alt ölçekleri olarak adlandırılmıştır. İkinci düzey doğrulayıcı faktör analizi uyum değerleri kabul edilebilir düzeyde bulunmuştur. Hemşirelerde Sabır Ölçeği'nin (HSÖ) hem diğer ölçekler arasında hem de kendi boyutları arasında ölçüt geçerliliğinin sağlandığı görülmüştür. Cronbach Alpha katsayıları incelendiğinde dört alt boyutun 0.832 ile 0.892 arasında değerler aldığı görülmüştür. Ayrıca tüm ölçeğin güvenilirlik katsayısı ise 0.840 çıkmaktadır. Elde edilen veriler sonucunda ölçeğin güvenilirliğinin yüksek derece olduğu bulunmuştur.

Sonuç: Yapılan analizler sonucunda; 24 madde ve dört alt boyuttan oluşan bir ölçek elde edilmiştir. Açıklayıcı ve doğrulayıcı faktör analizleri ölçeğin geçerli ve güvenilir bir ölçek olduğunu göstermiştir.

Anahtar Kelimeler: Hemşire, hemşirelik mesleği, sabır, ölçek geliştirme

INTRODUCTION

Patience is the tendency to wait without reacting with high stress to the different intensities that daily life brings to humanity. This concept also means; absence in fulfillment of expectations, or the ability to wait calmly in the face of distress or a painful situation (Schnitker, 2012). Patient people are known for their ability to carry on with their daily lives and maintain their fortitude without demoralizing despite long delays and provocations (Doğan, 2014). Determining the personality of the individual and the factors affecting his/her personality help them in making their choices and decision-making processes throughout their lives. In this way, the individual who can know herself/himself better can be healthier in her/his relations with her/his environment and gains a great advantage in directing her/his behavior and actions (Durna, 2005). Since patience is a personality trait, it can be considered as an inclination that prepares the environment for the action needed and it can be effective in every part of the analysis from the beginning to the end in the individual's analysis stages (Doğan & Gülmez, 2014). People who use the patience in their relationships with human beings can take healthy decisions by considering others' priorities instead of acting on impulses and increasing their desires (Sekerka & Bagozzi, 2007). Along with the necessity of features such as communication skills, anger control, empathy for individuals to be in healthy relationships, interpersonal patience also helps in solving social problems (Schnitker, 2012).

There are many valuable and important issues for human beings. While some of these conditions vary from person to person, some are universal. One of them is health. The health sector has great importance for individual and

implicitly for society. The problems faced by the people working here can be varied and numerous. One of the important occupational groups of health services is nursing. In recent years, the problems experienced by health workers and especially nurses, who are constituent of the majority of the health personnel norm in the health sector, have been growing. Unfortunately, it is inevitable for nurses to feel a sense of inadequacy towards their work, home, and themselves since they have to deal with the problems alone. Their psychological and physical weariness also causes them to have health problems. As a result of these negativities, we can define the nursing profession as a difficult and important profession that has a sense of responsibility, includes the concepts of human love, compassion, tolerance, practicality, knowledge and skill, and requires great patience. Considering the above, it was thought to conduct a study on the patience attitudes of nurses in the face of the difficulties they experienced. When the literature on the subject was scanned, it was decided to develop a scale to measure the patience levels of nurses, since there was not enough scale to support this study. The aim of this study is to develop a valid and reliable measurement tool to measure nurses' patience levels. In addition, with this study, it was aimed to determine the patience levels of nurses working in public and private hospitals.

This research is shaped around the following questions:

- What things do you endure as a nurse?
- What things do you endure in your work environment as a nurse?
- What kind of attitudes of your teammates do you endure as a nurse?

- How do you show your patience when you are wronged as a nurse?
- How do you endure the intensity of your professional life as a nurse?
- How do you endure work stress as a nurse?

METHODS

This study is a methodological research designed to test the validity and reliability of the PSN.

Sample

The sample group for which data was collected in this study consists of 652 nurses working in hospitals in the province of Turkey in Isparta, including public and private hospitals. The nurses working in all units of the hospitals were tried to be reached. The first and second sample groups were asked to fill in the 42-item draft scale form within the scope of the pilot study and EFA, and the third and fourth sample groups were asked to fill in the 24-item scale form within the scope of CFA, criterion validity and test-retest. 45 samples that gave wrong answers to the control question the 31st question, were not included in the study. The study was carried out on 607 questionnaires. Kline (1994) states that it is appropriate for the sample size to be 10 times the number of items. In this context, it can be said that 607 EFA (n=381) and CFA (n=226) personality samples are suitable for factor analysis.

Item Writing and Item Pooling

In the research, one-on-one interviews were conducted with 14 nurses working in different hospitals and different units of hospitals, and these nurses were asked 'What do you have patience for as a nurse?' question was posed. According to DeVellis (2017), the item pool can be a rich source from which the scale can emerge. The item pool should contain a large number of items in accordance with the

researched content. This internal consistency is the basis of its reliability and, ultimately, validity. In this context, the answers given to the research question were analyzed. Considering the relevant literature, a 93-item question pool was obtained. The number of items was reduced to 43 by eliminating similar items and those that could not be understood. Then, the question pool was evaluated by academicians who are experts in their field, and in line with their opinions the number of items was reduced to 41 by eliminating similar items and those that could not be understood. By adding the control question to the final question pool, the 42-item draft scale form was prepared in a 5-point Likert type (1= Strongly Disagree, 2= Disagree, 3= Moderately Agree, 4= Agree, 5= Strongly Agree). After the draft scale form was prepared, 25 nurses were interviewed separately, lasting 20 minutes, out of working hours, for the purpose of pilot application. After this interview, the draft scale form, which was observed to be understandable, was applied to the nurses.

Data Collection Tools

Compassion Fatigue Scale and Type A Personality Scale were included within the scope of the survey application PSN The implementation was carried out by the researcher face-to-face in March-May 2019. The duration to complete each questionnaire is approximately 12-15 minutes. In the first implementation, first of all, one of the questions being a control question a 42-item draft scale form, which was created as a result of interviews with nurses, was used. Afterwards, a 24-item draft scale form, Compassion Fatigue Scale and Type A Personality Scale were used to test CFA and criterion validity. In the selection of nurses for the research, the basic criteria were to have worked in his/her unit for

at least 6 months or more and to be willing to fill in the data collection tool.

Personal information form and "Patience Scale Draft Form for Nurses" were applied by the researcher as data collection tools. In the information form, there are a total of 48 questions, 6 of which are open-ended and 42 of which are closed-ended, determined according to the purpose of the research.

Compassion Fatigue Scale: It was developed by Pommier (2011) and translated into Turkish by Akdeniz and Deniz, 2016). The purpose of the scale is to measure compassion towards others. The scale in question is a 5-point Likert type (1= Strongly Disagree, 2= Disagree, 3= Moderately Agree, 4= Agree, 5= Strongly Agree) 24-item scale. The Cronbach Alpha internal consistency reliability coefficient for the whole scale was found to be 0.85 (Akdeniz and Deniz, 2016).

Type A Personality Scale: It was developed by Batıgün and Şahin (2006), inspired by a list of questions prepared by Rathus and Nevid (1989) using three different sources to determine whether individuals have A-type or B-type personality traits. The scale is five-point likert scale type and consists of 25 items. Individuals are asked to at what level the expressions describe themselves and are asked to evaluate between 0% and 100%. High scores indicate the intensity of A-type personality traits in individuals. The score range is 1-125. Factor analysis was applied to the scale and for the Type-A Personality Inventory; 4 factors were found as the importance given to the job, the distance from social activities, the importance given to speed and the importance given to timing. Cronbach Alpha reliability coefficients of the created subscales; it ranges from 0.40 to 0.90 for the Type A Personality Scale. As a result of the analyzes made, it was determined that the Type A Personality Scale had sufficient validity and reliability coefficients (Batıgün and

Şahin, 2006).

Statistical Analyses

SPSS.22 package program was used for EFA. Priority was given to the columns of the factor loadings matrix in order to reach the simple structure and meaningful factors with the Varimax rotation method. As a result of EFA, CFA was applied to verify the structure consisting of four factors and 24 items, and AMOS 21.0 package program was used for this application. Factor loads were given in detail in the thesis study (Tezcan, 2019).

Ethical Considerations

This study was carried out after obtaining ethics committee approval (Süleyman Demirel University/Issue No: 87432956/050,99/35943) from the relevant institutions and organizations. Participation in the study was on a voluntary basis as face to face and orally. It was stated to the individuals participating in the study that their information would be kept confidential.

Table 1. Demographic Information

Participant Profile	Categories	First Sample Group (n)	Percentage (%)	Second Sample Group (n)	Percentage (%)
Gender	Male	77	20	175	77.40
	Female	304	80	51	22.60
	Total	381	100	226	100.00
Age	25 and below	93	24.40		
	26-31	87	22.80	94	41.60
	32-40	119	31.20	81	35.80
	41 and older	82	21.50	51	22.60
	Total	381	100	226	100.00
Marital Status	Married	235	62	151	66.80
	Single	146	38	75	33.20
	Total	381	100	226	100.00
Units	Intensive Care	195	51.20	163	72.10
	Emergency	43	11.30	21	9.30
	Service	112	29.40	42	18.60
	Other	31	8.10		
	Total	381	100	226	100.00
Income	3700 and below	52	13.60	25	11.07
	3701-4900	203	53.30	145	64.16
	4901 and above	126	33.10	56	24.77
	Total	381	100	226	100.00
Hospital	City Hospital	233	61.20		
	Private Hospitals	80	21.00		
	University Hospital	68	17.80		
	Total	381	100		
Educational Status	High School	53	13.90	13	5.80
	Associate Degree	102	26.80	52	23.00
	Graduation	214	56.20	156	69.00
	Master's Degree	12	3.10	5	2.20
	Total	381	100	226	100.00

FINDINGS

Validity

Content Validity

Studies on content validity and the scope of the feature of the scale item to be measured have been presented. One of the methods used to ensure content validity is to get expert opinions (Büyüköztürk, 2010). In this context, first of all, 5 academicians working in SDU Health Management Department were interviewed face-to-face and the items were consulted and as a result of the consultation, their views on the

structure of the sentences and the intelligibility of the questions were taken and evaluated. Then, the items in the draft scale form were revised according to the expert opinion form and "1- not at all appropriate", "2- partially appropriate", "3- appropriate", options were placed next to each statement and presented to experts for the evaluation of its intelligibility and Turkish language proficiency. Opinions of a total of 8 faculty members who are experts in their fields, such as professors, associate professors, doctoral lecturers, and research assistants, were sought. Academicians were

asked to interpret the questions one by one and make suggestions in the expert opinion form. For this reason, it was seen that the experts stated the corrections they find necessary by explaining rather than filling out the items in the expert opinion forms. As a result of the evaluation of expert opinions, 2 more items were eliminated from the item pool and reduced to 41 items. Some items have been edited and made more meaningful. In line with the suggestions of the experts, a 42-item draft scale form was prepared by adding the control question as "If you have read the question, select option 2". Then, before proceeding to the implementation phase with the draft scale form, to 25 nurses, including the first sample group working in different units, in order to prevent possible mistakes; A pilot application was made by interviewing the researcher one-on-one, and it was confirmed that the items were understandable. After this interview, the draft scale form, which was observed to be understandable, was applied to the nurses.

Construct Validity

Exploratory Factor Analysis

In order to ensure construct validity, firstly EFA and then CFA was performed. For the EFA application, 400 nurses, including the second sample group, were reached out of working hours. After removing the incompletely answered forms, 381 forms were included in the analysis. Before starting the factor analysis, the Kaiser-Meyer-Olkin (KMO) value was checked to measure the suitability of the data and it was found as 0.911. It is an index that compares the magnitude of the observed correlation coefficients with the magnitude of the partial correlation coefficients. The KMO ratio should be above 0.50. It can be said that the higher this value, the better the data set for factor analysis (Kalaycı, 2006). 0.50 poor, 0.60 moderate, 0.70 good, 0.80 very good, 0.90 excellent are known as values (Tavşancıl, 2002). According to these

values, the KMO value of the PSN can be called excellent. Therefore, as seen in Table 2, the sample size of the study is sufficient. EFA was applied to the data set after testing the suitability of the data set in order to carry out factor analysis. Operations are carried out to find factors based on the relationships between variables in EFA (Yıldırım & Sarı, 2018). Item 31, the control question, was not included in the analysis. The columns of the factor loadings matrix are given priority in obtaining the simple structure and meaningful factors with the Varimax rotation method. Rotation is done so that the factor variances with fewer variables are maximized (Kline, 1994). Of the remaining 41 items, items 32, 23, 38, 2, 33, 15, 11, 12, 1, 10, 27, 34, 36, 35, 37, 19, 22 were extracted using the varimax rotation technique. Items 34, 37 and 19 do not comply with the structure; and the 1st item remained alone in the grouping, the other items were taken out of the form since they were overlapping. Any item that has more than one factor with a difference of less than 0.10 is considered overlapping (Büyüköztürk, 2010). After the item removal process, it was observed that a total of 24 items gathered under four dimensions was formed. It was observed that the factor load values of the items varied between 0.511 and 0.803, and this situation was at the intended level.

Table 2. Factor Load Values of PSN

Articles	Factors			
	1	2	3	4
A18. I am patient when the incompetence of my teammates turns to me as a workload.	0.714			
A14. I am patient with my colleague who is trying to shuffle of a job.	0.707			
A16. I am patient with my nurse friend's incomplete delivery of the patient and patient information.	0.694			
A21. I am patient with the gossip my colleague makes about my other teammate.	0.665			
A20. I am patient when my teammates reflect me their private life problems.	0.617			
A17. I am patient with the physicians getting points for the work done by the nurse.	0.616			
A13. I am patient with the cleaning staff that I cannot reach when I call.	0.511			
A7. I endure frequent shifts.		0.753		
A6. I am patient while staying away from my family for 24 hours.		0.728		
A8. I am patient to spare little time for my social life.		0.673		
A4. Due to the workload, I am patient to go out after working hours.		0.673		
A3I am patient with the stress of work life.		0.636		
A5. I am patient to work longer than the monthly working hours.		0.619		
A9. I am patient with not being able to do housework.		0.584		
A25. I am patient for the relatives of the patients to reflect their sadness on me.			0.768	
A26. I am patient with the dissatisfaction of some patients and their relatives.			0.761	
A24. I am patient when more than one patient asks questions at the same time.			0.707	
A28. I am patient when I am between patients and their relatives and physicians.			0.610	
A30. I am patient for patients and their relatives to reflect their anger on the nurse in the face of the pain they experience.			0.594	
A29. I am patient when patients and their relatives see nurses as someone who can fulfill all their wishes.			0.564	
A40. I am patient with our insufficient salary.				0.803
A42. I am patient with the unequal distribution of health performance supplement.				0.784
A39. I am patient about the staff shortage is not completed.				0.710
A41. I am patient about vacillate between home and work place.				0.653
Variance Explained by Factor	15.18%	% 14.91	% 13.31	1.68%
Total Variance Explained	56.09%			

At the end of the analysis, 4 sub-dimensions were obtained. The first sub-dimension was named "Patience for Colleagues" PC; It included items 18, 14, 16, 21, 17, 20, and 13, factor loading values of the items were 0.511-0.714 and internal consistency; found 0.833, second dimension; It was named as "Patience for Work Processes" PWP and included items 7, 6, 8, 4, 3, 5, 9, factor loading values of 0.584-0.753, internal consistency; found 0.824, third dimension; It was named "Patience for Patients and their Relatives" PPR, included items 25, 26, 24, 28, 30, 29, factor loadings of 0.564-0.768, internal consistency; found 0.832, fourth dimension; It was named "Patience for Inadequacy" PI and included items 40, 42, 39, 41, factor loads were determined as 0.653-0.803 and internal consistency was determined as 0.846. The total variance explained by these four factors was found to be 56.09.

Confirmatory Factor Analysis

CFA is a test method used to control factor structures obtained from EFA, factor structures determined using the relevant literature, generally accepted factor structures predetermined in the original scales, or factor structures put forward predictively (Özdamar, 2016). CFA models are generally used to test whether some observed variables constitute a latent variable or whether there are relationships defined among many latent variables (Karagöz, 2017). CFA was performed for factor analysis to evaluate construct validity and structural equation modeling of item distribution in subgroups. According to Costello and Osborn (2005), EFA serves to understand the structure and CFA serves to test the structure. In this context, CFA was applied to confirm the structure consisting of four factors and 24 items as a result of exploratory factor analysis, and AMOS 21.0 package program was used for this application. This stage was carried out on the

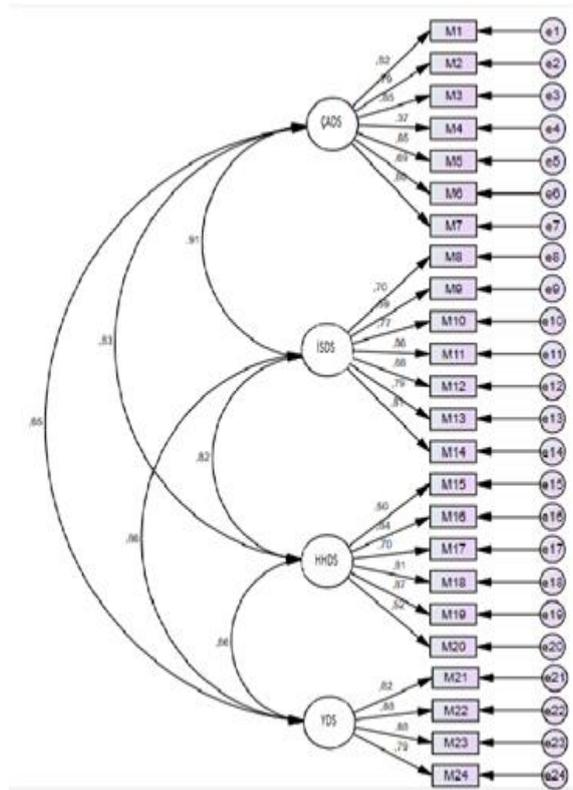
second sample group, the nurses living in the province of Isparta and working in public hospitals. After the exploratory factor analysis, the draft scale form, which decreased from 41 items to 24 items, was applied to 252 nurses, who constituted the third sample group, in order to perform CFA. A control question such as "If you have read this question, mark option 2" was added to the form directed to the participants, and the forms of 26 participants who gave the wrong answer to the control question were not included in the analysis.

The first level model fit indices χ^2/sd (chi-square/degree of freedom) value was found to be 2.705, and it can be said that the result shows that the model has a good fit. Along with the degree of freedom is an important criterion in the chi-square test, the chi-square/degrees-of-freedom ratio is used as a criterion of fit. If this value is less than 5, it is accepted as a good fit indicator of the model (Erkorkmaz et al., 2011). The CFI value of the PSN was found to be 0.896. The acceptable fit value is 0.90 and above, and the CFI value of the model indicates poor fit.

The RMSEA value of the model was found to be 0.087. A RMSEA value of less than 0.08 indicates an acceptable fit, and the value found at 0.087 indicates a moderate fit at the border, and is at an acceptable level. The GFI value is between 0 and 1. Values close to 1 indicate a good fit (Erkorkmaz et al., 2011). The GFI value of the model was found to be 0.808. Along with the obtained value is close to acceptable fit between 0.90-0.95, it stays below 0.90 and indicates poor fit. The RMR index takes values between 0 and 1. A value close to 0 indicates good fit. The RMR value obtained corresponds to 0.069 and the acceptable fit value of 0.05-0.08. The IFI index, known as Bollen's increasing fit index, takes values between 0 and 1. The closer it gets to 1, the

better it fits (Erkorkmaz et al., 2011). The IFI value of the model was found to be 0.897, close to the range of 0.90-0.95 and has closed to acceptable fit values. The TLI value of the model was found to be 0.883, and the TLI index takes values between 0 and 1. Along with the obtained value approaches the acceptable fit values of 0.883 and 0.90-.095, it is concluded that it has a bad fit.

Figure 1. First Level Path Diagram



The path diagram according to the confirmatory factor analysis results obtained is presented in Figure 1.

Gürbüz and Şahin (2018) found it necessary to apply additional correction suggestions if the values of goodness of fit were above the threshold values. Modifications were made because some of the first level CFA fit indices of the PSN were outside the reference range. After the fit values, the most examined values are the modification values.

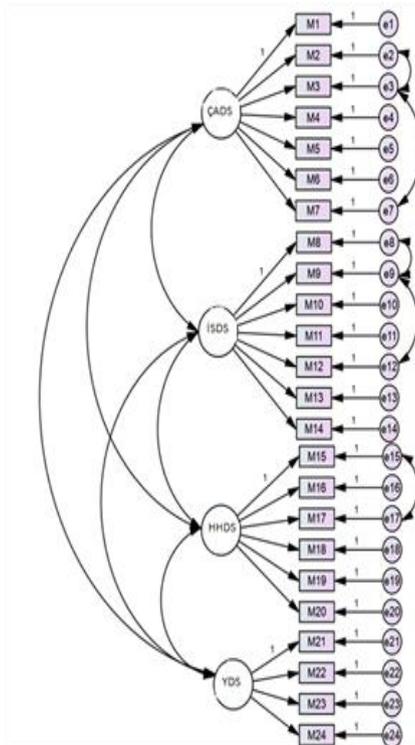
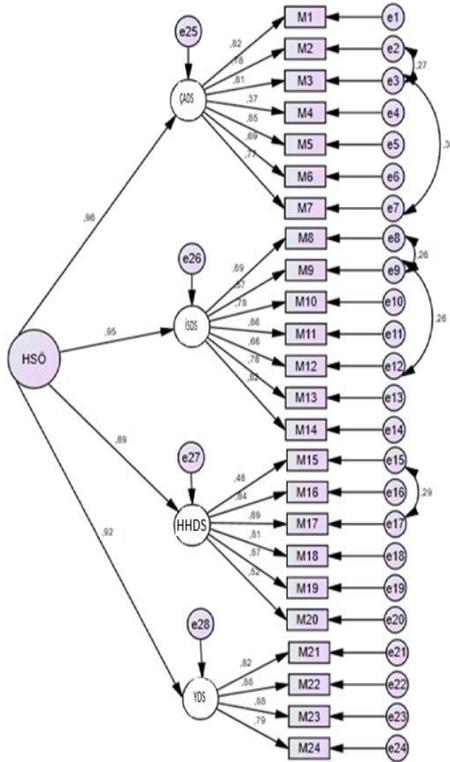
By looking at the covariance among the variables whose modification fit is observed, modifications of the model are produced. Any modification to be made on the basis of modification compliance must be based on a theoretical framework (Sümer, 2000). In this context, modification was applied 5 times in order to correct the first level CFA fit indices of the PSN and the fit values after the modification are given in Table 3 below.

Table 3. First Level CFA Compliance Index, Modified

Fit Indexes	Normal Value (Good Fit)	Acceptable Value (Fit)	Measurement value	Fit
X2/sd	<2	<5	2.391	Acceptable
CFI	>0.95	>0.90	0.917	Acceptable
RMSEA	<0.05	<0.08	0.079	Acceptable
GFI	>1	>0.80	0.829	Acceptable
RMR	<0.05	<0.08	0.065	Acceptable
IFI	>0.95	>0.90	0.918	Acceptable
TLI	>0.95	>0.90	0.905	Acceptable

After the modification, it can be said that all of the CFA fit indices values are in acceptable fit. The path diagram with modifications according to the results of the CFA obtained is presented in Figure 2.

Figure 2. Path Diagram with First and Second Level Modifications



Criterion Validity

Table 4. Correlation Results Among PSN and Compassion Fatigue and Personality Scale

	PC	PWP	PPR	PI
Compassion Fatigue	-.251**	-.238**	-.167**	-.167**
Emphasis on Speed	-.337**	.382**	.378**	.350**
Alienation From Social Activities	.304**			

PC (Patience of Colleagues)

PWP (Patience for Work Processes)

PPR (Patience for Patients and Their Relatives)

PI (Patience for Inadequacy)

In order to ensure criterion validity, this part of the research was carried out on the second sample group. One of the measurement tools used was used to determine the relationship between nurses' patience levels and compassion fatigue, and the other was used within the scope of criterion validity in order to determine nurses' patience levels and personality type. In this context, in order to test the criterion validity of PSN to 252 nurses, the relationship among PSN, compassion fatigue scale (Pommier, 2011), Type A personality scale (Batıgün and Şahin, 2006) was examined with Pearson Correlation Analysis. As a result of the analysis, as can be seen in Table 4, between the compassion fatigue scale and the PC ($r=.251$ $p<.05$), among the sub-dimensions of the PSN ($r=.251$ $p<.05$), among the PWP ($r=-.238$, $p<.05$), PI ($r=-.167$, $p<.05$) a significant positive correlation was found. When the correlation results of the sub-dimensions of the Type A personality scale, "importance given to speed" (IGS), and the sub-dimensions of the PSN are examined, between PC and IGS ($r=-.337$), between IGS and PWP ($r=.382$), between IGS and PPR ($r=.378$), and between IGS and PI ($r=.350$), between another sub-dimension of the Type A personality scale, "withdrawal from social activities" (WSA) and PC ($r=.304$) has been observed. Therefore, it can be said that there is a significant positive relationship.

Reliability Analysis

A high Cronbach Alpha coefficient indicates that the items in the scale consist of items that are consistent and close to each other. According to DeVellis (2017), the high correlation between the items of the scale makes the internal consistency of the scale so high. When the Cronbach Alpha coefficients in Table 4 were examined, it was seen that the four sub-dimensions took values between 0.832 and 0.892. In addition, the reliability coefficient of the whole scale is 0.840. As a result of the data obtained, it was found that the reliability of the scale was high. As stated in Tezcan's thesis study (2019), PSN is a scale that can be evaluated over the total score. This is seen in the second-level CFA.

Table 5. Cronbach Alpha Coefficient for Sub-Dimensions of PSN

Sub-Dimensions	Cronbach Alpha Coefficient
PC	0.892
PWP	0.859
PPR	0.832
PI	0.846
PSN Cronbach Alpha Coefficient	0.944

Table 6. Test-Retest Reliability Coefficients of the PSN

	PFC2	PWP2	PPR2	PI2	Total2
PC1	0.749**				
PWP1		0.791**			
PPR1			0.827**		
PI1				0.778**	
Total1					0.840**

One of the methods used to determine the stability of the scale in a certain time interval is the test-retest method (Diener et al., 2009). The test-retest method is the application of a measurement tool to the same sample group twice when the conditions are the same and within a certain time interval, and the correlation coefficient of the measurement values obtained from the two applications and the reliability coefficient of the scale (Ercan and Kan, 2004). In this context, in order to determine the test-retest reliability of the PSN, the PSN was administered to 60 nurses constituting the fourth sample group twice, with an interval of 10 days, and all data were accepted as valid. The test-retest reliability coefficients for the sub-dimensions were 0.749 for the PC 0.791 for the PWP 0.827 for the PPR and 0.778 for the PI.

The test-retest reliability coefficient for the overall scale was found to be 0.840 and this result showed that the scale was reliable.

Patience Levels of Nurses

Table 7. Patience Levels of PSN Dimensions

	Medium	Standard Deviation
Patience with Colleagues	2.584	0.928
Patience in Work Processes	3.060	0.905
Patience to Patients and Their Relatives	2.880	0.925
Patience for Inadequacy	2.521	1.050

Patience levels of PSN dimensions are given in table 7. The lowest score given to the items by the participants is 1, and the highest score is 5. If we consider moderate patience as 2.5, we can say that, the patience towards colleagues, the first factor of the patience scale in nurses, was scored 2.584, and nurses show moderate patience towards their colleagues, and the

patience for work processes has a score of 3.060, and nurses are patient with their work processes, patience with patients and their relatives subscale was 2.880 points, and nurses showed a little more than moderate patience towards patients and their relatives, and patience for inadequacy sub-dimension, on the other hand, showed moderate patience with a score of 2.521.

DISCUSSION

In this section, the stages of creating the scale developed by the researcher in order to measure the patience levels of nurses and the results of the analysis are presented. When the necessary literature was reviewed, it was seen that there was no scale measuring nurses' patience levels. Considering that there is no study measuring nurses' patience levels, the researcher decided to develop a scale as a data collection tool. It was thought that this scale could be used in studies on the subject.

Scales are measurement tools that determine the rules and restrictions to be followed in order to classify, order or determine the amount and degree of the features subject to measurement (Karakoç and Dönmez, 2014). While the scales facilitate the measurement process, they also enable determine the quality of the results. Scientific progress is based on measurement, and measurements made with sensitive measurement tools increase this development (Tavşancıl, 2002). Before starting the scale development study, it was investigated whether there was an up-to-date scale on the subject and no study was found. Considering that there is no previous study, the scale development stages were carefully examined after the decision was made to develop the scale. If a new scale study is to be done, the first step to be taken should be to search the relevant literature. While scanning, it is necessary to pay attention to which questions and subjects should be evaluated for

the scale subject (Karakoç and Dönmez, 2014). When the relevant literature was scanned, the similarity of the processes of the developed scales was determined. Other steps followed in the study; preparation of the question pool, getting expert opinion, conducting the pilot study, applying the criterion validity, reliability study and test-retest management.

After reviewing the relevant literature, it was decided to develop the scale based on Schnitker's (2012) patience scale model, and the phase of creating an item pool was started.

After the similar answers from the 93 items collected were separated and compiled, 5 experts from Süleyman Demirel University were consulted, and the draft scale form, which was reduced to 42 items after necessary additions, deletions and adjustments, was submitted to the expert's opinion. The expert opinion form was prepared and the opinions of 8 faculty members who are experts in their fields were consulted. In line with the suggestions of the experts, the items were arranged and the content validity was ensured. Afterwards, the pilot study phase was carried out by interviewing 25 nurses separately, lasting 20 minutes, out of working hours. In order to ensure construct validity, first EFA and then CFA was performed. EFA application was carried out on 381 actively working nurses. According to the results of the EFA, it was seen that the PSN explained 56.09% of the total variance and a total of 24 items gathered under four dimensions was formed. It was observed that the factor load values of the items varied between 0.511 and 0.803, and this situation was at the intended level.

CFA, which is the second stage of construct validity is done in order to prove the accuracy of the structure created by exploratory factor analysis. The 24-item structure obtained after EFA was applied to 252 nurses. When the fit

values obtained as a result of CFA were examined, it was understood that some values showed unacceptable fit, and modification was applied 5 times. The data obtained after the modification; It was seen that $\chi^2/sd=2.391$, CFI=0.917, RMSEA= 0.079, GFI=0.839, RMR=0.065, IFI= 0.918, TLI=0.905 and all values showed acceptable agreement.

Since some of the second-level CFA fit indices of the PSN were outside the reference range, modifications were applied 5 times. In this context, the fit values after modification are as follows: $\chi^2/sd= 2.416$, CFI= 0.915, RMSEA= 0.079, GFI= 0.828, RMR= 0.068, IFI= 0.915 ve TLI= 0.903. As a result of the analysis, the second level CFA model fit values were found at an acceptable level.

In order to test the criterion validity of the PSN; Compassion Fatigue Scale (Pommier, 2011) and Type A Personality Scale (Rathus and Nevid, 1989) were used. Negatively significant with the "compassion fatigue scale" of PSN; it can be said that the "Type A personality scale" has a positive and significant relationship with the dimensions of "importance given to speed" and "getting away from social activities". Therefore, it is seen that the criterion validity of the PSN has been achieved.

The level of validity and reliability of the scales used in the field of health is an important factor that may cause errors or biases in the interpretation of both clinical practices and research results. A scale that does not have the desired validity causes different results from the measurements in studies, either reducing the power of statistical tests and preventing a significant difference among groups, or by forcing many more samples to participate in the research, it causes cost increase and loss of time. Therefore, it is an important requirement in the field of health to know the validity and reliability of the scales used, and even to take

care that the selected tests are tests with high validity and reliability (Karakoç and Dönmez, 2014). After it was seen that the validity of the scale was ensured, the reliability study was started. The Cronbach Alpha coefficient, which is a internal consistency measure for all sub-dimensions and entire scale, was calculated. The Cronbach Alpha value of the dimensions; varies between 0.832-0.892 and with the determination of whole scale as 0.944, it can be said that the PSN is a highly reliable scale. The test-retest method was used to determine the reliability and internal consistency of the PSN. According to the analysis results of the test administered to 60 nurses with 10-day intervals, the test-retest reliability coefficients for the sub-dimensions were found to be 0.749 for the PC, 0.791 for the PWP, 0.827 for the PPR, and 0.778 for the PI. The test-retest reliability coefficient for the overall scale was found to be 0.840 and this result showed that the scale is reliable.

CONCLUSION

Finally, as a result of the analyzes made in this study, which was carried out to determine the patience levels of nurses and to develop the patience scale in nurses; a scale consisting of 24 items and four sub-dimensions was obtained. EFA and CFA showed that the scale is a valid and reliable scale. Sub-dimensions of the scale; patience with colleagues, patience with work processes, patience with patients and their relatives, and patience with inadequacy. The lowest score to be obtained from the scale is 24, and the highest score is 120. Getting a high score from the scale is considered as a high level of patience.

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Conflict of Interest

Regarding this study, the authors and/or their family members do not have a potential conflict of interest, scientific and medical committee membership or

relationship with its members, consultancy, expertise, employment in any company, shareholding or similar situations.

Authorship Contributions

Design of Study: Necla Yılmaz; **Analysis and Collection of Data:** Necla Yılmaz, İsmahan Tezcan; **Preparation of Manuscript:** İsmahan Tezcan, Necla Yılmaz

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