Original Article

TEXTO & CONTEXTO ENFERMAGEM
TEXT & CONTEXT NURSING TEXTO & CONTEXTO ENFERMERÍA

VALIDATION OF THE SCALE FOR THE ENVIRONMENT EVALUATION OF PROFESSIONAL NURSING PRACTICE FOR BRAZIL

Alessandro Rodrigues Perondi[1]
Letícia de Lima Trindade[1]
Olga Maria Pimenta Lopes Ribeiro[2]
Jane Tavares Gomes[3]
Jouhanna do Carmo Menegaz[4]
José Luís Guedes dos Santos[5]

[1]Universidade Comunitária da Região de Chapecó, Programa de Pós-Graduação em Ciências da Saúde. Chapecó, Santa Catarina, Brasil.
[2]Escola Superior de Enfermagem do Porto. Porto, Portugal.
[3]Universidade do Estado de Santa Catarina, Programa de Pós-Graduação em Enfermagem na Atenção Primária à Saúde. Chapecó, Santa Catarina, Brasil.
[4]Universidade Federal do Pará, Programa de Pós-Graduação em Enfermagem. Belém, Pará, Brasil.
[5]Universidade Federal de Santa Catarina, Programa de Pós-Graduação em Enfermagem. Florianópolis, Santa Catarina, Brasil.

ABSTRACT

Objective: to perform the linguistic, cultural and validation adaptation of Scale for the Environment Evaluation *of Professional Nursing Practice (SEE – Nursing Practice)* for Brazil.
Method: a methodological study with a sample of 291 nurses working in eight Brazilian hospitals. Data collection occurred from July to October 2021. Internal consistency of the instrument was evaluated by means of the Cronbach's alpha coefficient, and validity of the structure of the scale by domains was evaluated via exploratory factor analysis with extraction by principal components and Varimax rotation, as well as adequacy and measureability measures.
Results: in the subscale of the Structure dimension, a 6-factor solution explained 63.1% of the total variance, consisting of 40 items, distributed in six factors. In the subscale of the Process dimension, the exploratory five-factor analysis explained 62% of the total variance and consisted of 33 items. The exploratory factor analysis of the Outcome dimension subscale indicated a two-factor solution that explained 67.7% of the total variance and consisted of 13 items. The subscales of *SEE – Nursing Practice* (Structure, Process and Outcome) obtained internal consistency values of 0.956, 0.929 and 0.937, respectively.
Conclusion: the Brazilian version of *SEE – Nursing Practice* is a valid and reliable tool used to assess whether professional Nursing practice environments promote care quality.

DESCRIPTORS: Nursing. Work environment. Professional practice. Hospitals. Validation studies.

HOW CITED: Perondi AR, Trindade LL, Ribeiro OMPL, Gomes JT, Menegaz JC, Santos JLG. Validation of the Scale for the Environment Evaluation of Professional Nursing Practice for Brazil. Texto Contexto Enferm [Internet]. 2024 [cited YEAR MONTH DAY]; 33:e20220298. Available from: https://doi.org/10.1590/1980-265X-TCE-2022-0298en

VALIDAÇÃO DA SCALE FOR THE ENVIRONMENT EVALUATION OF PROFESSIONAL NURSING PRACTICE PARA O BRASIL

RESUMO

Objetivo: realizar a adaptação linguística, cultural e validação da *Scale for the Environment Evaluation of Professional Nursing Practice (SEE – Nursing Practice)* para o Brasil.
Método: estudo metodológico utilizando uma amostra de 291 enfermeiros, atuantes em oito hospitais brasileiros. A coleta de dados ocorreu no período de julho a outubro de 2021. A consistência interna do instrumento foi avaliada pelo coeficiente alfa de *Cronbach* e a validade da estruturação da escala por domínios foi avaliada pela Análise Factorial Exploratória com extração por componentes principais e rotação Varimax e medidas de adequação e de esfericidade.
Resultados: na subescala da dimensão Estrutura uma solução de 6 fatores explicou 63,1% da variância total, ficando constituída por 40 itens, distribuídos em seis fatores. Na subescala da dimensão Processo, a análise factorial exploratória de cinco fatores, explicou 62% da variância total e ficou constituída por 33 itens. A análise factorial exploratória da subescala da dimensão Resultado apontou uma solução de dois fatores que explicaram 67,7% da variância total e constituída por 13 itens. As subescalas da *SEE – Nursing Practice* – Estrutura, Processo e Resultado obtiveram uma consistência interna de 0,956, 0,929 e 0,937, respectivamente.
Conclusão: a versão brasileira da *SEE – Nursing Practice* é uma ferramenta válida e confiável utilizada para avaliar se os ambientes de prática profissional de enfermagem são promotores de qualidade de atendimento.

DESCRITORES: Enfermagem. Ambiente de trabalho. Prática profissional. Hospitais. Estudos de validação.

VALIDACIÓN DE LA SCALE FOR THE ENVIRONMENT EVALUATION OF PROFESSIONAL NURSING PRACTICE PARA SU USO EN BRASIL

RESUMEN

Objetivo: realizar la adaptación lingüística y cultural y validar la escala *Scale for the Environment Evaluation of Professional Nursing Practice (SEE – Nursing Practice)*para Brasil.
Método: estudio metodológico con una muestra de 291 enfermeros que trabajan en ocho hospitales de Brasil. La recolección de datos ocurrió de julio a octobre de 2021. La consistencia interna del instrumento se evaluó por medio del coeficiente alfa de Cronbach y la validez de la estructura de la escala por dominios se evaluó a través de Análisis Factorial Exploratorio con extracción por componentes principales y rotación Varimax, además de medidas de adecuación y esfericidad.
Resultados: en la subescala de la dimensión Estructura, una solución de 6 factores explicó el 63,1% de la varianza total, con 40 ítems distribuidos en seis factores. En la subescala de la dimensión Proceso, el Análisis Factorial Exploratorio de cinco factores explicó el 62% de la varianza total y constó de 33 ítems. El Análisis Factorial Exploratorio de la subescala de la dimensión Resultado indicó una solución de dos factores que explicaron el 67,7% de la varianza total y estuvo compuesta por 13 ítems. Las subescalas de la escala *SEE – Nursing Practice* (Estructura, Proceso y Resultado) obtuvieron valores de consistencia interna de 0,956, 0,929 y 0,937, respectivamente.
Conclusión: la versión brasileña de la escala *SEE – Nursing Practice* es una herramienta válida y confiable que se utiliza para evaluar se los ambientes de práctica profesional de la Enfermería promueven calidad de asistencia.

DESCRIPTORES: Enfermería. Ambiente de trabajo. Práctica profesional. Hospitales. Estudios de validación.

INTRODUCTION

Despite being an object of study since the 1980s, in the last decade, topics related to the shortage of Nursing professionals, the precariousness of work and technological environments, lack of material resources and budgetary insufficiency have become relevant for researchers, managers and representative entities of nurses around the world[1].

During institutionalization, the Nursing team is responsible for 95% of the care provided to patients in health organizations. Thus, knowing the characteristics found in the work environment, such as the relationship with the medical team, the autonomy and management that nurses have in patient care, should emerge as a priority for managers who are concerned with the excellence of institutional results[2].

The professional practice environment is defined as the set of organizational characteristics that facilitate or hinder development of the work process[3]. It is considered favorable when it contributes to retention of professionals, displays high professional satisfaction[4–5], points to low levels of Burnout Syndrome[6] and favors an improvement in health care quality[7–8]. Such environments present a reduction in errors related to drug administration and lower absenteeism rates, in addition to having a lower proportion of missing Nursing care[9].

The International Council of Nurses (ICN) states that it is of fundamental importance to recognize the determining factors of favorable Nursing practice environments, as they contribute to the promotion of excellent care, enhancing the professionals' health and well-being and improving patient outcomes and organizational performance[10].

It is necessary to assess such environments in order to underpin nurses' managerial practice and ensure the prerogative set forth in Article 7 of the International Labor Organization (ILO), which included safe and healthy working conditions in its framework of fundamental principles and rights at work[11].

A number of studies have been conducted to assess the presence of characteristics that favor the professional Nursing practice[2,12,13,14,15]. A review of the national and international literature[16] showed that the most widely used instruments for such purpose are the *Nursing Work Index – Revised* (NWI-R) and the *Practice Environment Scale* (PES), already validated in Brazil.

In the different countries that conducted methodological studies, the factor analysis of the NWI-R and PES versions varied, possibly due to differences in the organization of health systems and in the infrastructures[16]. Both scales measure structural characteristics of the units, superficially assessing work processes or Nursing practices. In addition, those scales were developed in the USA more than 25 years ago, which implies that their content is insufficient to characterize contemporary work environments[14].

It is known that there are factors that contribute to the improvement of quality in health and, consequently, of the practice environments. According to the theoretical model by Donabedian[17] for the evaluation of such factors, a triad is established: Structure, Process and Outcome. Structure integrates the organizational factors that allow development of the work; Process refers to performing activities inherent to the conception and provision of care; and Outcome expresses the effect of the care provided on clients and professionals alike[17].

In this sense, the Scale for the Environment Evaluation of Professional Nursing Practice (SEE – Nursing Practice) emerges as an important tool for evaluating practice environments, as it makes it possible to reflect on the totality of the Structure, Process and Outcome components of professional practice environments and that impact on the quality of the Nursing care provided[15].

SEE – Nursing Practice was developed by Ribeiro et al.[15] and consists of 93 items scored on a 5-point Likert scale. The items are divided into three subscales: SEE – Nursing Structure, SEE – Nursing Process and SEE – Nursing Outcome. Validity and internal consistency of the scale with the Portuguese population showed good metric properties to assess professional Nursing practice environments that promote care quality[15].

Considering the growing interest of Brazilian researchers in the topic and the nonexistence of validated instruments in the Brazilian culture that allow evaluating the attributes, structure, process and outcome, the objective arose to carry out the linguistic, cultural adaptation and validation of SEE – Nursing Practice for Brazil.

METHOD

This is a study of the methodological type of linguistic and cultural adaptation and validation of SEE – Nursing Practice for the Brazilian culture.

Phase I – Translation and Cultural Adaptation

The Scale for the Environment Evaluation of Professional Nursing Practice (SEE – Nursing Practice) instrument was developed by Ribeiro *et al*[15] and its original version consists of three subscales SEE – Nursing Practice – Structure, consisting of 43 items divided into six dimensions; SEE – Nursing Practice – Process, with 37 items distributed in six dimensions; and SEE – Nursing Practice – Outcome, with 13 items distributed in two dimensions. The answer is measured for each item on a Likert-type scale with five options, where one corresponds to "Never", two is "Rarely", three means "Sometimes", four refers to "Oftentimes" and five represents "Always."

In a validation study of the original instrument carried out in Portugal[15], the Global scale and the Structure, Process and Outcome subscales obtained Cronbach 's Alpha coefficients of 0.968, 0.957, 0.916 and 0.932, respectively.

As it is an instrument that has European Portuguese as its source language, cultural, linguistic and equivalence adaptation procedures were adapted, such as translation, back-translation, semantic and idiomatic comparison and conceptual equivalence recommended by the international scientific literature[17].

While converting the instrument into Brazilian Portuguese, it was sought to obtain a linguistically correct version equivalent to the original one. This stage included a sworn professional researcher/translator native to the Portuguese language with fluency in the European Portuguese, thus obtaining the Brazilian Portuguese version.

Subsequently, a group of two Nursing professors with extensive experience in the area of hospital management and three nurse managers with recognized performance in positions of leadership and hospital administration was asked to perform a critical reading of the questionnaire content with regard to technical, linguistic and semantic aspects, as well as the analysis of the clarity and pertinence of each item, in addition to their relevance and adequacy to achieve the objectives proposed[18].

The next stage comprised the pilot test, performed with a group of 20 nurses working in the hospital environment and with time of experience in the sector equal to or greater than three months. In addition to the answer, an analysis and reflection on the content of the items and their understanding was requested, with the objective of evaluating clarity and adequacy of the questionnaire.

Phase II – Reliability of SEE-Nursing Practice – Brazilian version

After the procedures for cultural adaptation of the instrument, the final version of SEE – Nursing Practice – Brazilian version – was considered approved for application in the Brazilian context.

The final version of the Scale was used in eight hospital institutions located in the Brazilian South region, six in the state of Paraná and two in the state of Santa Catarina. These scenarios were intentionally chosen because they are reference hospitals in the supply of public beds and in medium- and high-complexity care of the health regions where they are located.

The study used non-probability sampling, for convenience, considering 50% heterogeneity, 95% confidence interval, with a 5% sampling error that resulted in a minimum sample of 232 participants, proportionally stratified by each hospital unit. However, data collection increased the sample to 291 nurses.

The study participants were nurses from all sectors of the selected institutions, who: a) provided direct care to patients; b) had a period of experience in the unit equal to or greater than three months; and c) were active during the collection period, that is, not being distanced for any reason.

Data collection occurred from July to October 2021, through *in loco* visits to the selected institutions after prior contact and scheduling. The answers were collected individually and in a private place, preserving their anonymity.

A structured questionnaire was used, consisting of two parts. In the first, diverse information was sought on sociodemographic and professional characteristics, such as age, gender, marital status, professional training, type of institution (public or private), work unit, time of professional practice, and time working in the institution and in the unit. The second part contained the final version of SEE – Nursing Practice – Brazilian version.

From the data collected, statistical tests were performed using the Statistical Package for Social Sciences statistical software, version 21.0. It was sought to verify whether the Brazilian version of the Scale was capable of measuring the phenomenon studied clearly and reliably, allowing understanding the objectives proposed. For this purpose, the evaluation of psychometric properties related to construct validity and reliability was performed according to the literature[19–20].

Internal consistency of the instrument was evaluated by means of Cronbach's alpha coefficient and validity of the structure of SEE – Nursing Practice by domains was evaluated via exploratory factor analysis with extraction by principal components and Varimax rotation. Adequacy measurements were calculated, such as the Kaiser-Meyer-Olkin (KMO) test and Bartlett's measureability test. The Kaiser and Rice guidelines[21] were considered, indicating that, for the good fit of an exploratory factor analysis model, the KMO value should be greater than 0.7.

The quantitative variables were described through mean and standard deviation or median and interquartile range. The categorical variables were described by means of absolute and relative frequencies. In order to create each factor, factor loadings greater than 0.400 were considered[21].

The study was approved by the Ethics Committee on Research Involving Human Beings and followed all the guidelines set forth in Resolution Nº 466/2012.

RESULTS

The participants of this study were 291 nurses working in the eight involved hospitals. The mean age was 34.2 (SD = 8.4) years old, 86.3% were female, 74.2% lived with a partner, 60.5% had some specialization, 72.9% worked in care and 73.9% did so in public and/or philanthropic institutions. The time practicing the profession and the time working in the current service varied from 6 to 12 years and from 1 to 7 years, respectively. In relation to the work area, 25.1% performed their activities in Clinical or Surgical Hospitalization units, 25.1% in Intensive Care units and 11.7% in Emergency Room units.

The analysis of the technical, linguistic and semantic aspects presented an agreement index in 100% of the participants, reporting that they did not have difficulty using the instrument's answer options. In the pre-test, all nurses reported not having any difficulty understanding or ambiguity in interpretation.

Table 1 shows the results of the final exploratory 6-factor analysis with Varimax rotation and Kaiser normalization for the SEE – Nursing Practice – Structure subscale, used for the analysis of the psychometric properties. The sampling adequacy KMO measure was 0.94, with Bartlett's sphericity of $\chi^2 = 7{,}846$; $p < 0.001$. In the Brazilian version, the 6-factor solution explained 63.1% of the total variance and was considered adequate as per the Kaiser rule[21]. The *Cronbach*'s alpha of the Structure dimension was $\alpha = 0.956$.

Based on the results of the Exploratory Factor Analysis, a process of gradual exclusion of the questions that presented low correlations in their factors was carried out, in order to allow grouping the questions, considering as a cutoff point factor loadings greater than 0.400 for the creation of each factor[22]. Two questions were excluded from the Structure dimension, at the end of the analysis, as they had low factor loadings (less than 0.400) and one was excluded because there was no correlation with the saturation factor. Thus, the final version of SEE – Nursing Practice – Structure subscale consisted of 40 items, divided into six factors.

Table 1 – Exploratory Factor Analysis for the Brazilian version of the SEE – Nursing Practice – Structure* dimension. Francisco Beltrão, Paraná, Brazil, 2021.

Factor 1: People management and service leadership		
1	The nurse-manager guides the Nursing professionals in performance consistent with the quality standards of Nursing care.	0.570
2	The nurse-manager manages the knowledge and skills of the entire Nursing team so that the objectives defined are achieved.	0.650
3	The nurse-manager uses errors as learning opportunities.	0.673
4	The nurse-manager supports the Nursing team professionals in the difficulties that arise in their routine, even when in conflict with other professionals.	0.696
5	The nurse-manager values Nursing professionals' opinion and innovative ideas.	0.783
6	There is balance in the working hours and flexibility to change them.	0.587
7	The nurse-manager provides moments to reflect on the practice.	0.771
8	The nurse-manager creates conditions that enhance the professional development of the members from the Nursing team he/she leads.	0.767
9	The nurse-manager praises the commitment of the Nursing professionals in the team to continuously improve care quality.	0.781
10	Nurses have the opportunity to participate in the elaboration and implementation of the service's action plan.	0.651

Table 1 – Cont.

Factor 2: Nurses' participation and involvement in the policies, strategies and functioning of the institution				
11	The institution provides support/specialized services to Nursing professionals who are faced with problematic situations.†	0.529		
12	The institution has a policy to encourage innovation and research in Nursing.	0.632		
13	The institution promotes the participation of Nursing professionals in commissions/ working groups within the scope of continuous quality improvement.	0.452		
14	The institution defines a safety culture for Nursing professionals.	0.502		
15	The institution presents motivation strategies, as well as rewards and incentives for Nursing professionals.	0.686		
16	The institutional training policy considers Nursing professionals' training needs.	0.695		
17	The institution creates conditions for Nursing professionals to invest in relevant training for their professional development.†	0.735		
18	The institution recognizes nurses' graduate training (residency, specialization, MSc, PhD).†	0.747		
Factor 3: Conditions for the proper functioning of the service				
19	The clinical equipment is adequate to the service needs.		0.738	
20	The Information and Communication Technologies are adequate to the service needs.		0.598	
21	Maintenance of all service infrastructures is approproate.		0.795	
22	Maintenance of the service equipment is appropriate.		0.742	
23	The space available in the service is adequate to the clients' needs.		0.782	
24	The physical environment is pleasant and comfortable for Nursing professionals.		0.631	
Factor 4: Organization and sustainability of the Nursing practice				
25	The institution promotes the internal mobility of Nursing professionals across services, in order to alleviate professional shortages.			0.433
26	The service adopts an integration plan for newly hired Nursing professionals.			0.589
27	The service defines the theoretical Nursing models that should guide the professional practice.			0.582
28	There are protocols and procedures guiding the Nursing practice in the service.			0.718
29	The institution defines Nursing care quality indicators.†			0.518
30	At the institution, continuous quality improvement projects take into account the Nursing care quality standards.†			0.511

Table 1 – Cont.

Factor 5: Institutional policy for professional qualification							
31	There is involvement and participation of the team's nurses in audit processes.†					0.688	
32	The nurse-manager offers feedback to Nursing professionals about the Nursing care indicators, audits and evaluative processes.†					0.601	
33	In-service training has been planned with the collaboration of Nursing professionals.†					0.446	
34	Nursing professionals are consulted for the selection of materials and equipment.†					0.474	
35	The institution promotes the participation of Nursing professionals in the definition of internal policies.†					0.673	
36	Nursing professionals are aware of the institution's strategic planning.†					0.501	
Factor 6: Quality and safety of Nursing care							
37	The service has an appropriate staffing of nursing technicians and assistants/clients.†						0.560
38	The service has an appropriate nurse/client ratio.†						0.587
39	In the service, the distribution of clients by nurses is defined according to care intensity, complexity and continuity.†						0.678
40	The Nursing work methodology adopted at the service promotes care quality and ensures safe practices.†						0.527
% Explained Variance (Total = 63.1)		15.0	13.0	10.6	8.0	7.9	6.1
α (Total = 0.956)		0.92	0.90	0.89	0.81	0.84	0.77

* KMO = 0.94; χ^2 = 7,846; p < 0.001; † Items that changed factor in relation to the original scale.

In the first analysis, the SEE – Nursing Practice – Process subscale obtained a KMO value of 0.93. Six factors emerged from the exploratory factor analysis with Varimax rotation, which explained 60.8% of the variance. As factor six only had 2 items, a factor reduction was forced, as the literature indicates[23] that a factor with only two items is not stable.

In the second analysis, the subscale presented a KMO value of 0.94 with a *Bartlett*'s sphericity test value of χ^2 = 6,318, p < 0.001. The exploratory factor analysis with forced Varimax rotation for five factors explained 62% of the total variance obtained, with explanation values for each component between 9.3% and 17.3% and Cronbach's α = 0.929 (Table 2).

With the final exploratory factor analysis, it was possible to establish the items and their factors. One item was excluded because it had a factor loading of less than 0.400 and three items were removed because they did not correlate with the saturation factor. Thus, the final version of the SEE – Nursing Practice – Process subscale consisted of 33 items organized into five factors.

Table 3 presents the final exploratory factor analysis of the *SEE-Nursing Practice – Outcome* subscale. In this dimension, the sampling adequacy KMO measurement was 0.93 and Bartlett's measure was χ^2 = 2,758, p < 0.001. The result of the exploratory factor analysis with Varimax rotation indicated two factors that explained 67.7% of the total variance, with Factor 1 explaining 35.9% and Factor 2, 31.8%. The Cronbach's alpha of the Structure dimension was α = 0.937.

The results of the exploratory factor analysis grouped the items identically to the original instrument; thus, the final version of the SEE – Nursing Practice – Outcome subscale consisted of 13 items, distributed in two factors.

Table 2 – Exploratory Factor analysis for the Brazilian version of the SEE – Nursing Practice – Process* dimension. Francisco Beltrão, Paraná, Brazil, 2021.

Factor 1: Collaboration and teamwork			
1	Nurses demonstrate autonomy in decision-making about care.	0.540	
2	Care plans for all clients are systematically updated by nurses.	0.552	
3	Communication between team members is accurate and ensures adequate care planning.	0.658	
4	The electronic information system responds to documentation needs and contributes to care continuity.	0.642	
5	There are collaborative relationships between the different members of the health team.	0.757	
6	The working relationship between physicians and Nursing professionals eases the assistance provided to the clients.	0.754	
7	The nurses' clinical opinion is considered when planning the clients' discharge.	0.655	
8	The teamwork that exists in the service among Nursing professionals allows responding to the care needs.†	0.696	
9	Within the scope of the multiprofessional team, there is understanding and appreciation of the respective roles and responsibilities among the different professionals.†	0.614	
10 ‡	Nursing professionals' practice is fundamentally centered on preventing complications.†	0.540	
Factor 2: Strategies for ensuring care quality			
11	There are moments when knowledge and experiences about customer assistance are shared in the team.		0.501
12	While delegating tasks to functionally dependent professionals, nurses perform appropriate supervision.		0.551
13	Nursing care supervision is a planned and systematized activity.		0.611
14	The assessment of Nursing care is performed based on the Nursing care quality standards.		0.562
15	There is reflection on the Nursing care quality indicators, so that the objectives defined are achieved.		0.680
16	There is reflection on Nursing care audits and evaluation processes, in order to promote improvement in care quality.		0.624
17	In the initial evaluation, nurses rigorously collect data relevant to the conception of Nursing care.†		0.509
18	Nurses promote client involvement in Nursing care planning.†		0.621

Table 2 – Cont.

Factor 2: Strategies for ensuring care quality						
19	Nurses evaluate the outcomes of Nursing interventions.†	0.707				
Factor 3: Autonomous practices in the professional practice						
20	In the Nursing practice, there is a significant focus on human responses to real and potential problems.			0.604		
21	Nurses show concern in valuing their interventions.			0.637		
22	Nurses focus their attention on people's capabilities, to the detriment of a perspective centered on their replacement.			0.694		
23	In potential clients, the nurses' practice is centered on the reconstruction of autonomy.			0.760		
24	Assisting clients in the transition processes is the most important role of nurses.			0.680		
25	In their professional practice, nurses adopt care models centered on the clients and, consequently, on care individualization.			0.587		
26	When designing the care to be provided, nurses focus on the clients rather than on the disease process.			0.550		
Factor 4: Theoretical and legal aids for the professional practice						
27	The Nursing professionals' practice is based on theoretical Nursing frameworks.				0.716	
28	Nursing professionals act in line with the regulatory instruments of the professional practice.				0.616	
29	The Nursing team strives to sustain their professional practice on the best scientific evidence.				0.807	
30	In the professional practice, nurses value knowledge of the Nursing domain.				0.722	
Factor 5: Interdependence in the professional practice						
31 ‡	The Nursing professionals' practice is fundamentally centered on managing signs and symptoms of the disease.					0.766
32 ‡	Nursing professionals are essentially focused on responding to prescriptions from other professionals, in a clear appreciation of interdependence.					0.842
33 ‡	Nursing professionals have the perception that, with the implementation of interdependent interventions, work is carried out.					0.777
% Explained Variance (Total = 62.0)		17.3	13.5	12.2	9.7	9.3
α (Total = 0.929)		0.85	0.91	0.87	0.82	0.82

* KMO = 0.94; χ^2 = 6,318; p < 0.001; † items that changed factor in relation to the original scale; ‡ Items with inverted score.

Table 3 – Exploratory Factor Analysis for the Brazilian version of the SEE – Nursing Practice – Outcome* dimension. Francisco Beltrão, Paraná, Brazil, 2021.

Factor 1: Systematic evaluation of Nursing care and indicators			
1	The safety culture is systematically monitored.	0.778	
2	The quality of Nursing care is systematically monitored.	0.829	
3	The clients' satisfaction with the care provided is systematically monitored.	0.783	
4	Nursing indicators are monitored, with a view to continuous quality improvement.	0.769	
5	The indicators corresponding to the prevention of complications are systematically monitored.	0.823	
6	The indicators corresponding to health gains are systematically monitored.	0.712	
7	Missed care (care measures yet to be performed) is systematically monitored.	0.595	
Factor 2: Systematic evaluation of nurses' performance and supervision			
8	Nursing professionals' satisfaction is systematically monitored.		0.725
9	The nursing professionals' performance evaluation is precise and rigorous, revealing their real performance.		0.710
10	Nursing professionals' absenteeism is systematically monitored.		0.703
11	Occupational accidents involving Nursing professionals are systematically monitored.		0.504
12	Nurses' work overload is systematically monitored.		0.846
13	Nurses' turnover in the service is systematically monitored.		0.851
% Explained Variance (Total = 67.7)		35.9	31.8
α (Total = 0.937)		0.93	0.88

* KMO = 0.93; χ^2 = 2,758; p < 0.001.

DISCUSSION

The promotion of environments that are favorable for the Nursing practice has generated concern and growing interest from professionals, managers and institutions alike[9] since, in the last decade, there has been a notorious effort to identify subsidies to improve the working conditions in hospitals, essentially to keep professionals satisfied and ensure care quality[24].

Although health systems in different countries are influenced by economic changes promoted by recessions and by the substantial pressure imposed on hospitals, investing professional Nursing practice environments can make a difference, as it is an effective way to improve care quality and safety[25–26]. With this, studies that promote broadening the set of valid instruments for the evaluation of professional Nursing practice environments in different countries become necessary and urgent.

In this study, the linguistic and cultural adaptation and validation of SEE – Nursing Practice was carried out for the Brazilian culture. As the instrument was originally described in European Portuguese, no difficulties were found in the cultural and linguistic adaptation process, not observing problems understanding or ambiguities in interpretation and reaching 100% agreement in the analysis of technical, linguistic and semantic aspects by the participants. The ease of understanding and interpretation and the high agreement index can be justified by the existence, since the 1990s, of an international treaty to unify Portuguese spelling in all countries that officially adopted the language, this agreement covering 98% of the words[27].

In the Brazilian version of SEE – Nursing Practice, the Kaiser-Meyer-Olkin (KMO) sample adequacy index was 0.94 for the Structure subscale, 0.94 for the Process subscale and 0.93 for the Outcome subscale; therefore, it was concluded that the recommendation regarding exploratory factor analysis is very good[20] and that the data matrix is adequate to carry it out. Bartlett's sphericity test (p < 0.001) was considered significant for all three subscales.

The instrument validated for the Brazilian context consisted of 86 items and the three subscales were maintained. Structure consisted of 40 items distributed into six factors, Process had 33 items in five factors and Outcome presented 13 items in two factors. The Brazilian version showed strong internal consistency, with Cronbach alpha values of 0.956, 0.929 and 0.937, respectively.

The exploratory factor analysis of the Structure subscale with Varimax rotation using the 6-factor solution explained 63.1% of the total variance. The arrangement of the factors was adjusted according to their relevance to explain the phenomenon, which varied from 6.1 to 15%; consequently, the Brazilian version was ordered as follows: Factor 1 – People management and leadership in the service; Factor 2 – Nurses' participation and involvement in the institution's policies, strategies and functioning; Factor 3 – Conditions for the proper functioning of the service; Factor 4 – Organization and sustainability of the Nursing practice; Factor 5 – Institutional policy for professional qualification; and Factor 6 – Quality and safety of Nursing care. All factors presented internal consistency values assessed by Cronbach 's alpha coefficient above 0.77. It is important to infer that *Cronbach*'s alpha values greater than 0.70 are recommended to ensure internal consistency of a measure[19–21].

In relation to the items of the Structure subscale, some of them did not coincide with those obtained by the authors, regarding the factors of the original version; thus, the items with the highest factor loadings were maintained. Three items were excluded, two because they had low factor loadings and one because there was no correlation with the saturation factor. Such situations can be associated with structural and organizational differences between the institutions and the Brazilian health system[28].

The items that make up the Structure subscale refer to organizational factors, factors related to training, innovation and research in Nursing, factors related to care quality and safety, factors related to the management of people and material resources and factors related to organization and sustainability of the Nursing practice, as well as factors related to management and leadership in the service[14].

The internal consistency analysis of the Process subscale obtained a Cronbach's alpha of 0.929, which corresponds to very good internal consistency, according to the literature[19], being higher than the value achieved by the original subscale, which was 0.916[15]. According to Kaiser's rule, a 5-factor solution was appropriate, explaining 62% of the total variance.

Regarding the original version of the Process subscale, four items were excluded from the final Brazilian version: one for having a low factor loading and three for not being correlated with the saturation factor. The small differences in the distribution of items by factors can be related to issues linked to the professional training model and to the Brazilian Nursing workforce since, in Brazil, Nursing teams are predominantly comprised by mid-level Nursing professionals, assistants and technicians, unlike in Portugal and other European countries, where the training process is linked to the Treaty of Bologna and training is exclusively offered at the Higher Education level, organized into three cycles: Bachelor's degree, MSc and PhD[29].

The factors of the Brazilian version of the Process subscale presented internal consistency values considered strong (above 0.82) and were organized into Factor 1 – Collaboration and teamwork; Factor 2 – Strategies for ensuring care quality; Factor 3 – Autonomous practices in the professional practice; Factor 4 – Theoretical and legal aids for the professional practice; and Factor 5 – Interdependence in the professional practice. For some authors[14], the Process subscale encompasses issues related to the development of the professional practice, factors related to Nursing care models, factors related to the scientific methodology adopted in care provision, factors related to the communication process and care continuity, factors related to collaborative practices and multiprofessional relationships and factors related to nursing care supervision and evaluation processes.

The arrangement for the Brazilian version of the Outcome scale remained unchanged when compared to the original version, both in terms of factors and of number of items. The exploratory factor analysis with Varimax rotation indicated that two factors explained 67.7% of the total variance, reaching a total Cronbach's alpha of 0.937, which is very high and shows very strong internal consistency. Individually, the two factors that make up the subscale also presented very high Cronbach alpha values (between 0.88 and 0.93) and were organized into Factor 1 – Systematic evaluation of Nursing care and indicators and Factor 2 – Systematic evaluation of nurses' performance and supervision.

The authors indicate that, in the Outcome subscale, the focus is on desirable or undesirable changes in relation to the institution, care, clients and professionals. Its items refer to the relevance of monitoring the results related to the institution, care and clients and nurses[14].

Despite the methodological rigor applied in validation of the instrument, the following is acknowledged as a study limitation: the fact that the SEE – Nursing Practice – Brazilian version – was applied in essentially public and/or philanthropic hospital institutions in a non-probability sample, which does not allow generalizing the findings. There is also the failure to carry out the time or stability analysis, as well as concurrent or convergent analysis. Such facts indicate the need to carry out new and more comprehensive empirical studies in different contexts of professional practice environments.

CONCLUSION

The results of this study suggest that the Brazilian version of SEE – Nursing Practice is a reliable and valid scale to assess whether professional Nursing practice environments promote care quality.

The global scale, consisting of the Structure, Process and Outcome subscales, obtained internal consistency values of 0.956, 0.929 and 0.937, respectively, meeting psychometric validity and high internal consistency criteria.

SEE – Nursing Practice translates well the complexity and magnitude of professional Nursing practice environments. Using this tool in the Brazilian culture should allow managers to assess the presence of characteristics that promote the professional practice and improve both care quality of care and nurses' well-being.

REFERENCES

1. Riboldi CO, Gasparino RC, Kreling A, Júnior Oliveira NJ, Barbosa AS, Magalhães AMM. Environment of the professional nursing practice in Latin American countries: A scoping review. OBJN [Internet]. 2021 [cited 2022 Mar 9];20(1):e20216473. Available from: https://doi.org/10.17665/1676-4285.20216473
2. Ribeiro OMP, Trindade LLT, Sousa CN, Pereira SCA, Reis ACRS, Silva JMAV, et al. Ambientes de trabalho de enfermagem durante a COVID-19: contribuições para desenvolver uma ferramenta tecnológica. Rev Baiana Enferm [Internet]. 2022 [cited 2021 Oct 3];36:e48621. Available from: https://doi.org/10.18471/rbe.v36.48621
3. Lake ET. Development of the practice environment scale of the nursing work index. Res Nurs Health [Internet]. 2002, [cited 2021 Feb 15];5(3):176-88. Available from: https://doi.org/10.1002/nur.10032
4. Paulino GME, Matta ACG, Camilo NRS, Simões AC, Nishiyama JAP, Oliveira JLC, et al. Satisfação profissional e ambiente de trabalho da equipe de Enfermagem em unidades de terapia intensiva. Rev Min Enferm [Internet]. 2019 [cited 2021 Mar 3];16(23):e-1271. Available from: https://doi.org/10.5935/1415-2762.20190119
5. Dutra CKR, Guirardello EB. Nurse work environment and its impact on reasons for missed care, safety climate, and job satisfaction: A cross-sectional study. J Adv Nurs [Internet]. 2021 [cited 2021 Nov 3];77(5):2398-406. Available from: https://doi.org/10.1111/jan.14764

6. Möller G, Oliveira JLC, Dal Pai D, Azzolin K, Magalhães AMM. Ambiente de prática de enfermagem em terapia intensiva e burnout profissional. Rev Esc Enferm USP [Internet]. 2021 [cited 2021 Nov 3];25(25):e20200409. Available from: https://doi.org/10.1590/1980-220X-REEUSP-2020-00409

7. Farias KCL, Ribeiro RV, Souza JRB de, Gouveia AO de, Monteiro CN, Oliveira DS de, et al. The perception of patients in relation to the quality of care and assistance received in hospital institutions: Integrative literature review. RSD [Internet]. 2022 [cited 2022 Mar 9];11(10):e77111032444. Available from: https://doi.org/10.33448/rsd-v11i10.32444

8. Ball JE, Bruyneel L, Aiken LH, Sermeus W, Sloane DM, Rafferty AM, et al. Post-operative mortality, missed care and nurse staffing in nine countries: A cross-sectional study. Int J Nurs Stud [Internet]. 2018 [cited 2021 Mar 3];78:10-5. Available from: https://doi.org/10.1016/j.ijnurstu.2017.08.004

9. Liu X, Zheng J, Liu K, Baggs JG, Liu J, Wu Y, et al. Hospital nursing organizational factors, nursing care left undone, and nurse burnout as predictors of patient safety: A structural equation modeling analysis. Int J Nurs Stud [Internet]. 2018 [cited 2021 Mar 3];86:82-9. Available from: https://doi.org/10.1016/j.ijnurstu.2018.05.005

10. Gasparino RC, Ferreira TDM, Carvalho KMA, Rodrigues ESA, Tondo JCA, Silva VA. Evaluation of the professional practice environment of nursing in health institutions. Acta Paul Enferm [Internet]. 2019 [cited 2021 Mar 3];32(4):449-55. Available from: https://doi.org/10.1590/1982-0194201900061

11. International Labour Organization. Issues relating to the inclusion of safe and healthy working conditions in the ilo's framework of fundamental principles and rights at work: Draft Resolution, GB [Internet]. 344/INS/6, 344th Session, Geneva, March 2022 [cited 2022 Aug 10]. Available from: https://www.ilo.org/ilc/ILCSessions/110/committees/general-affairs/lang--en/index.htm

12. Dorigan GH, Guirardello EB. Effect of the practice environment of nurses on job outcomes and safety climate. Rev Lat Am Enfermagem [Internet]. 2018 [cited 2022 Aug 10];26:e3056. Available from: https://doi.org/10.1590/1518-8345.2633.3056

13. Azevedo Filho FM, Rodrigues MCS, Cimiotti JP. Ambiente da prática de enfermagem em unidades de terapia intensiva. Acta Paul Enferm [Internet]. 2018 [cited 2022 Jun 15];31(2):217-23. Available from: https://doi.org/10.1590/1982-0194201800031

14. Ribeiro OMPL, Vicente CMFB, Martins MMFPS, Trindade LL, Sousa CN, Cardoso MFPT. Scale of evaluation of the environments of professional nursing practice: Construction and content validation. Rev Baiana Enferm [Internet]. 2020 [cited 2022 Jun 15];34:e37996. Available from: https://doi.org/10.18471/rbe.v34.37996

15. Ribeiro OMPL, Vicente CMFB, Sousa CN, Teles PJFC, Trindade LL, Martins MMFPS, et al. Scale for the environment evaluation of professional nursing practice: Construct validation. J Nurs Manag [Internet]. 2021 [cited 2022 Jun 15];29(6):1809-18. Available from: https://doi.org/10.1111/jonm.13290

16. Ribeiro OMPL, Vicente CMFB, Martins MMFPS, Vandresen L, Silva JMAV. Instrumentos para avaliação dos ambientes da prática profissional de enfermagem: revisão integrativa. Rev Gaúcha Enferm [Internet]. 2020 [cited 2022 Jun 15];41:e20190381. Available from: https://doi.org/10.1590/1983-1447.2020.20190381

17. Donabedian A. An Introduction to quality assurance in health care. New York, NY(US): Oxford University Press; 2003.

18. Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. Spine (Phila Pa 1976) [Internet]. 2000 [cited 2022 Jul 7]; 25(24):3186-91. Available from: https://doi.org/10.1097/00007632-200012150-00014

19. Souza AC, Alexandre NMC, Guirardello EB. Psychometric properties in instruments evaluation of reliability and validity. Epidemiol Serv Saude [Internet]. 2017 [cited 2022 Jul 7];26(3):649-59. Available from: https://doi.org/10.5123/S1679-49742017000300022

20. Cohen B, Lea B. Essentials of statistics for the social and behavioral sciences. John Wiley & Sons; 2004.

21. Kaiser HF, Rice J. Little Jiffy, Mark IV. Educ Psychol Meas [Internet]. 1974 [cited 2022 Jul 7]; 34(1):111-7. Available from: https://doi.org/10.1177/001316447403400115

22. Cohn EG, Jia H, Larson E. Evaluation of statistical approaches in quantitative nursing research. Clin Nurs Res [Internet]. 2009 [cited 2022 Jul 7];18(3):223-41. Available from: https://doi.org/10.1177/1054773809336096

23. Waltz CF, Strickland OL, Lenz ER. Measurement in nursing and health research. 5th ed. New York, NY(US): Springer Publishing Company; 2017.

24. Kaya A, Boz I. The development of the professional values model in nursing. Nurs Ethics [Internet]. 2019 [cited 2022 Jul 7];26(3):914-23. Available from: https://doi.org/10.1177/0969733017730685

25. Ribeiro OMPL, Trindade LL, Fassarella CS, Pereira SCA, Teles PJFC, Rocha CG, et al. Impact of COVID-19 on professional nursing practice environments and patient safety culture. J Nurs Manag [Internet]. 2022. [cited 2022 Aug 4];30(5):1105-14. Available from: https://doi.org/10.1111/jonm.13617

26. Neves TMA, Parreira PMSD, Graveto JMGN, Rodrigues VJL, Domingos JPM. Practice environment scale of the nursing work index: Portuguese version and psychometric properties. J Nurs Manag [Internet]. 2018 [cited 2022 Aug 4];26(7):833-41. Available from: https://doi.org/10.1111/jonm.12606

27. Guimarães E. A língua portuguesa no Brasil. Cienc Cult [Internet]. 2005 [cited 2022 Jul 9]; 57(2):24-8. Available from: http://cienciaecultura.bvs.br/scielo.php?script=sci_arttext&pid=S0009-67252005000200015&lng=en

28. Cantante APSR, Fernandes HIVM, Teixeira MJ, Frota MA, Rolim KMC, Albuquerque FHS. Sistemas de saúde e competências do enfermeiro em Portugal. Ciênc Saúde Coletiva [Internet]. 2020 [cited 2022 Jul 10];25(1):261-72. Available from: https://doi.org/10.1590/1413-81232020251.27682019

29. Saraiva AKM, Oliveira MAC, Cabrito BG. Ensino de enfermagem no Brasil e em Portugal: contexto, semelhanças e diferenças. Rev Educ Questão [Internet]. 2020 [cited 2022 Jul 10];58(57):e-21222. Available from: https://doi.org/10.21680/1981-1802.2020v58n56ID21222

NOTES

ORIGIN OF THE ARTICLE

Article extracted from the thesis – Nursing practice environments in hospitals from southern Brazil, presented at the Graduate Program in Health Sciences of *Universidade Comunitária da Região de Chapecó* – Unochapecó, in 2022.

CONTRIBUTION OF AUTHORITY

Study design: Perondi AR, Trindade LL, Ribeiro OMPL.
Data collection: Perondi AR, Trindade LL, Gomes JT.
Data analysis and interpretation: Perondi AR, Ribeiro OMPL, Trindade LL.
Discussion of the results: Perondi AR, Trindade LL, Ribeiro OMPL,
Writing and/or critical review of the content: Perondi AR, Ribeiro OMPL, Trindade LL, Santos JLG, Menegaz JC.
Review and final approval of the final version: Trindade LL, Ribeiro OMPL.

FUNDING INFORMATION

This paper was carried out with the support of the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (CAPES – Brazil) – Funding Code 001; and of the Institutional Teacher Training Program (*Programa Institucional de Capacitação Docente*, PICD) of *Universidade Paranaense*.

APPROVAL OF ETHICS COMMITTEE IN RESEARCH

Approved by the Ethics Committee in Research of the *Universidade Comunitária da Região de Chapecó*, under opinion Nº.4,722,300/2021, and Certificate of Presentation for Ethical Appraisal No. 45728721.7.0000.0116.

CONFLICT OF INTEREST

The authors Letícia de Lima Trindade and José Luís Guedes dos Santos are Associated Editors of Texto & Contexto Enfermagem, but did not participate in any of the article's evaluation and approval stages.

EDITORS

Associated Editors: Bruno Miguel Borges de Sousa Magalhães, Ana Izabel Jatobá de Souza.
Editor-in-chief: Elisiane Lorenzini.

TRANSLATED BY

Leonardo Parachú.

HISTORICAL

Received: December 9, 2022.
Approved: February 28, 2023.

CORRESPONDING AUTHOR

Alessandro Rodrigues Perondi
alessandroperondi@prof.unipar.br