

RESEARCH PAPER (ORIGINAL)

# Validation of a Nurse Job Satisfaction Scale for the Portuguese population

Validação de uma Escala de Satisfação dos Enfermeiros com o Trabalho para a população portuguesa

Validación de una Escala de Satisfacción de los Enfermeros con el Trabajo para la población portuguesa

Ana Lúcia da Silva João\*; Catarina Pereira Alves\*; Cristina Silva\*\*\*; Fátima Diogo\*\*\*\*; Nadine Duque Ferreira\*\*\*\*\*

## Abstract

**Background:** Professional satisfaction results from an affective and/or cognitive evaluation. It is an important indicator of the organizational climate and a key aspect in the assessment of organizational quality.

**Objectives:** This study aims to validate a Nurse Job Satisfaction Scale (*Escala de Satisfação dos Enfermeiros com o Trabalho* - ESET) for the Portuguese population.

**Methodology:** After a pre-test, the ESET was applied to 382 nurses who worked at an EPE Hospital (Public Corporate Entity) in the southern region of Portugal.

**Results:** After an exploratory factor analysis with varimax orthogonal rotation, 6 dimensions were obtained that explained 68.63% of the total variance. With regard to the analysis of internal consistency, adequate Cronbach's alpha values were obtained for the total scale (.96) and for the dimensions (between .85 and .95).

**Conclusion:** The scale proved to have good validity and reliability and to be an easy-to-apply instrument for nurses.

**Keywords:** job satisfaction; nursing; validation studies; scale

## Resumo

**Enquadramento:** A satisfação profissional é resultante da avaliação afetiva e/ou cognitiva. Ela é um importante indicador do clima organizacional e um elemento determinante na avaliação da qualidade das organizações.

**Objetivos:** Este estudo tem como objetivo validar uma Escala de Satisfação dos Enfermeiros com o Trabalho (ESET).

**Metodologia:** A ESET, após um pré-teste, foi aplicada a 382 enfermeiros que exerciam funções num hospital de Entidade Pública Empresarial (EPE) da região sul de Portugal.

**Resultados:** Após a análise fatorial exploratória com rotação ortogonal varimax foram obtidas 6 dimensões que explicam 68,63% da variância total. No que concerne à análise da consistência interna foram obtidos valores de alfa de Cronbach considerados adequados de 0,96 para a escala geral e de 0,85 a 0,95 para as dimensões referidas.

**Conclusão:** A escala construída demonstrou ser um instrumento de fácil aplicação nos enfermeiros com um bom índice de validade e fiabilidade.

**Palavras-chave:** satisfação no trabalho; enfermagem; estudos de validação; escala

## Resumen

**Marco contextual:** La satisfacción profesional resulta de la evaluación afectiva y/o cognitiva y es un indicador importante del clima organizativo, así como un elemento determinante en la evaluación de la calidad de las organizaciones.

**Objetivos:** Este estudio tiene como objetivo validar una Escala de Satisfacción de los Enfermeros con el Trabajo (ESET).

**Metodología:** La ESET, tras realizar un pretest, se aplicó a 382 enfermeros que desempeñaban sus funciones en un hospital de la Entidad Pública Empresarial (EPE) de la región sur de Portugal.

**Resultados:** Después del análisis factorial exploratorio con rotación ortogonal *varimax* se obtuvieron 6 dimensiones que explican el 68,63 % de la varianza total. En lo que concierne al análisis de la consistencia interna se obtuvieron valores de alfa de Cronbach considerados adecuados, de 0,96 para la escala general y de 0,85 a 0,95 para las dimensiones mencionadas.

**Conclusión:** La escala construida demostró que es un instrumento de fácil aplicación en los enfermeros con un buen índice de validez y fiabilidad.

**Palabras clave:** satisfacción en el trabajo; enfermería; estudios de validación; escala

\*Ph.D., RN, District Hospital of Santarém, 2090-216, Santarém, Portugal [alsjao@hotmail.com]. Contribution to the article: methodological component of the article, data collection, data analysis and interpretation, and article writing.

\*\*MSc., RN, Specialist in Rehabilitation Nursing, Department of Orthopedics, District Hospital of Santarém, 2090-216, Santarém, Portugal [katernalves@gmail.com]. Contribution to the article: literature search, data collection, and article writing.

\*\*\*RN, District Hospital of Santarém, 2090-216, Santarém, Portugal [cristinamariafelixasilva@gmail.com]. Contribution to the article: data collection, data analysis and discussion.

\*\*\*\*RN, Head Nurse, District Hospital of Santarém, 2090-216, Santarém, Portugal [fatima-diogo@sapo.pt]. Contribution to the article: data analysis and discussion.

\*\*\*\*\*RN, District Hospital of Santarém, 2090-216, Santarém, Portugal [nadineferreira@gmail.com]. Contribution to the article: literature search.

Received for publication: 14.09.16

Accepted for publication: 20.01.17

## Introduction

In an organization, it is important to assess not only the clients' needs, but also the workers' level of satisfaction and participation, making them feel satisfied with their activities.

Health and safety are two of the pillars that sustain productivity; therefore, organizations must provide favorable conditions to their employees so that they can develop their activities, ensuring their physical and mental well-being (Chia-venato, 2008).

Studies worldwide suggest that the best practices of socialization provide individuals with a greater understanding of their roles, promote their engagement in their jobs and organizations, and increase their satisfaction. According to Gomes et al. (2008), in the early stages of the individual's life in an organization, it is important for the new employee to have good opportunities to interact and socialize with his or her peers and leaders.

Nurses share a defining attribute: they are committed professionals who embrace a holistic philosophy of care, which, in turn, will shape their expectations (Baumann, 2007).

Focusing on nurses' satisfaction in the workplace, we designed a Nurse Job Satisfaction Scale (*Escala de Satisfação dos Enfermeiros no Trabalho* - ESET) based on a literature search and critical appraisal of other scales on job satisfaction.

The objective of this study was to contribute to the development and validation of an additional instrument to be used by other researchers to assess nurses' level of satisfaction in Portugal.

## Background

According to Baumann (2007), job satisfaction relates to nurses' feelings about their work life. The inadequacy between the work required from nurses and the work that they actually can accomplish within a reasonable timeframe compromises nurses and patients' health. Time pressure, interruptions, contradictory demands, skill and knowledge deficits, and insufficient or unavailable resources are exacerbated by the excessive workloads. According to this author, inadequate remuneration

is one of the major reasons for migration in many parts of the world.

The main stress-inducing aspects within organizations are the changes in the work schedule, overtime work, shift work, tasks with short deadlines, and other situations in which the professional activity is carried out under time pressure (Camara, Guerra, & Rodrigues, 2007).

Stress may be caused by the organization's structure, work overload, the burden of responsibility, remuneration, the absence of career progression, highly-complex tasks, the lack of autonomy, and poor relationships at work (Camara et al., 2007).

Studies on nurses' satisfaction in their professional life, Baumann (2007), João (2013) and Siqueira (1995) found that leadership, autonomy, and teamwork were important aspects that contributed to nurses' satisfaction.

According to Lu, Barribal, Zhang, and While (2011), the following aspects are sources of nurse job satisfaction: working conditions; interaction; relationship with users, co-workers, managers, and the work itself; workload; co-workers; work schedule and shifts; challenging work; routines; task requirements; psychological job demands; remuneration; self-growth and promotion; professional training; opportunities of career advancement; job promotion; personal achievement; psychological rewards; control and responsibility; autonomy and participation in decision-making; job security; leadership style; and organizational policies.

Excessively controlling management practices can result in physical symptoms, such as fatigue, depression, or aggression (Alves, 2007). Managers are responsible for encouraging their employees to perform their challenging tasks, thus improving their productivity (Camara et al., 2007).

Workers' expectations play an important role in the traditional model of job satisfaction and, in turn, satisfaction is related to performance (Lu et al., 2011).

Job satisfaction is an essential condition to improve organizational functioning, and managers play a decisive role by promoting strategies that increase the workers' job satisfaction, with a view to achieving outcomes related to creativity, dedication, and productivity (Castro et al., 2011; Oliveira, 1999).

## Research Question

How can hospital nurses' satisfaction be measured?

## Methodology

### Scale development process

The scale was designed based on a literature review, a research study on nurses' satisfaction carried out by João (2013), in which the *Escala de Satisfação no Trabalho* - EST (job satisfaction scale) by Siqueira (1995) was validated, and the form developed by the Commission of the Regional Observatory of the Regional Section of the Autonomous Region of the Azores of the *Ordem dos Enfermeiros* (Portuguese Order of Nurses) for Primary Health Care coordinated by Raposo (2011). This resulted in a scale with 40 items.

These items are expressed as statements, in which nurses select their degree of satisfaction towards their workplace. Thus, this scale aims to assess nurses' satisfaction towards aspects related to work dynamics, such as leadership, organization, resources, professional recognition, co-workers, remuneration, and staffing.

This is a Likert-type scale with five choices: "not at all", "slightly", "moderately", "very", and "extremely".

Subsequently, the questionnaire was pre-tested with 30 nurses who did not participate in the study. Three statements were removed after the pre-test because, according to the sample ( $n = 30$ ), these items could raise doubts in the answers. Therefore, the ESET is composed of 37 items.

### Instruments and procedure

Data were collected through a questionnaire delivered to all nurses ( $n = 508$ ) who worked at an EPE Hospital (Public Corporate Entity) in the southern region of Portugal between 14 September and 14 October 2015.

The questionnaire was organized into two parts. The first part included questions aimed at the participants' sociodemographic and professional characterization. The second part included an instrument to assess their satisfaction (the ESET).

After the questionnaires were collected, data

were statistically analyzed using the Statistical Package for the Social Sciences (SPSS), version 21.

### Ethical considerations

The study was conducted after authorization from the hospital management.

During the application of the questionnaire, data confidentiality and anonymity was ensured, and the participants were informed that data would only be used for research purposes. They were also informed that no monetary compensation was planned and that they could withdraw at any time, without any penalties.

### Population and sample

The questionnaires in paper format were delivered to the head nurses of each care unit of an EPE Hospital of the southern region of Portugal. The number of questionnaires corresponded to the number of members of the nursing team ( $n = 508$ ) during the period of study.

The total sample consisted of 382 subjects, which corresponds to a response rate of 75.2%.

The nurses who comprised the sample were predominantly female (83.3%), married (50.7%), and holders of a bachelor's degree (72.3%). With regard to age, 30.8% of the nurses were aged between 30 and 39 years, 25.8% between 40 and 49 years, 23.2% between 20 and 29 years, and 19.3% between 50 and 59 years. With regard to the employment relationship, 49.6% have an employment contract in public functions (*contrato de trabalho em funções públicas* - CTFP), and 49.9% had a contract of indefinite duration (*contrato por tempo indeterminado* - CTI), which revealed that all workers in this study had a stable employment relationship.

Of the study sample, 93.2% of the participants provided direct care. Shift work was the most common work schedule in this sample (79.1%).

## Results

The nurses' answers covered all points of the scale, i.e. from 1 to 5.

Results were also distributed by the various points of the rating scale in the mean, mode, and median values obtained, thus confirming the structural adequacy of the scale to assess the construct under analysis (Table 1).

Table 1  
*Descriptive analysis of the ESET items*

	Minimum	Maximum	Mean	Standard deviation	Median	Mode
1 - I am satisfied with the moments of dialogue and sharing of information with my co-workers.	1	5	3.34	.79	3	3
2 - I am satisfied with the spirit of collaboration between me and my co-workers.	1	5	3.48	.85	4	4
3 - I am satisfied with the workload at my workplace.	1	5	1.92	.95	2	1
4 - I am satisfied with my co-workers' effort to provide better care.	1	5	3.46	.82	4	4
5 - I am satisfied with my superiors' effort to improve my working conditions.	1	5	3.03	.97	3	3
6 - I am satisfied with my participation in decision-making at my workplace.	1	5	3.01	.89	3	3
7 - I am satisfied with the nurse-to-patient ratio in a shift.	1	5	2.57	1.13	3	3
8 - I am satisfied with the career advancement opportunities.	1	5	1.57	.88	1	1
9 - I am satisfied with the level of trust that I have in my co-workers.	1	5	3.52	.81	4	4
10 - I am satisfied with how my superiors give me the opportunity to participate in training courses/projects.	1	5	3.13	1.01	3	3
11 - I am satisfied with the nurse per shift ratio according to the number of tasks to be performed.	1	5	2.58	1.10	3	3
12 - I am satisfied with the physical conditions of the space where I provide care.	1	5	2.66	.99	3	3
13 - I am satisfied with the routines at my unit.	1	5	3.14	.79	3	3
14 - I am satisfied with the fact that my work is rewarded and/or valued by my superiors.	1	5	2.79	1.00	3	3
15 - I am satisfied with the fact that my work is rewarded and/or valued by the patients.	1	5	3.27	.97	3	3
16 - I am satisfied with how patients and their families value my work.	1	5	3.24	1.00	3	3
17 - I am satisfied with the nursing tasks that I perform at this unit.	1	5	3.69	.88	4	4
18 - I am satisfied with the other health professionals' skills.	1	5	3.20	.78	3	3
19 - I am satisfied with the training opportunities provided at my workplace.	1	5	2.94	.93	3	3

20 - I am satisfied with the level of competence of the colleagues in the same profession.	1	5	3.49	.72	4	4
21 - I am satisfied with the possibility to implement new knowledge at my workplace.	1	5	3.19	.90	3	3
22 - I am satisfied with the equipment/materials at my unit.	1	5	2.99	.96	3	3
23 - I am satisfied with the organization of my workplace.	1	5	3.17	.95	3	3
24 - I am satisfied with my autonomy to provide adequate care to patients according to my skills.	1	5	3.52	.86	4	4
25 - I am satisfied with how protocols are organized and elaborated at my unit.	1	5	3.10	1.01	3	3
26 - I am satisfied with the quality of the care I provide taking into account the context where I work.	1	5	3.68	.81	4	4
27 - I am satisfied with the time that I have to wait to be promoted at my workplace.	1	5	1.63	.92	1	1
28 - I am satisfied with the tasks performed at my unit.	1	5	3.51	.86	4	4
29 - I am satisfied with my superiors' respect for my work.	1	5	3.22	.98	3	3
30 - I am satisfied with the number of protocols on the unit's functioning.	1	5	2.98	.99	3	3
31 - I am satisfied with my salary taking into account the tasks I perform.	1	5	1.38	.74	1	1
32 - I am satisfied with my salary taking into account my skills/knowledge.	1	5	1.41	.80	1	1
33 - I am satisfied with the moments of dialogue and sharing of information with my superiors.	1	5	3.00	.92	3	3
34 - I am satisfied with the patients' perception of my activity.	1	5	2.99	.99	3	3
35 - I am satisfied with my superiors' encouragement to participate in training.	1	5	3.01	.99	3	3
36 - I am satisfied with the patients' respect for my work.	1	5	3.15	.95	3	3
37 - I am satisfied with the other health professionals' respect for the care I provide.	1	5	2.97	.91	3	3

### Validity and reliability of the ESET

The adequacy of the factor analysis was assessed using the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO). The value obtained was 0.94, which, according to Marôco (2010), is an excellent value.

The Bartlett's test value was  $\chi^2(666) = 11259.487$  with statistical significance ( $p < .000$ ), which means that the variables are significantly correlated (Table 2). Therefore, we concluded that the scale is adequate for factor analysis with the available sample.

Table 2  
*KMO and Bartlett's test for ESET*

KMO Measure (Kaiser-Meyer-Olkin Measure of Sampling Adequacy)		.939
Bartlett's Test (Test of Sphericity)	Chi-square	11259.487
	dff	666
	Sig.	.000

### Factor analysis of the ESET

An exploratory factor analysis was performed, resulting in six factors with an eigenvalue

greater than 1 that explained 68.63% of the total variance (Table 3). According to Marôco (2010), the values obtained are acceptable to continue the study.

Table 3  
*Rotated component matrix of the ESET*

	Eigenvalue	Variance (%)	Cumulative Variance (%)	Eigenvalue	Variance (%)	Cumulative Variance (%)
1	15.515	41.932	41.932	7.019	18.971	18.971
2	2.871	7.759	49.691	4.544	12.281	31.252
3	2.524	6.822	56.514	4.438	11.993	43.245
4	1.898	5.129	61.642	3.893	10.522	53.767
5	1.357	3.668	65.310	3.559	9.619	63.386
6	1.228	3.319	68.628	1.940	5.243	68.628

The Table 4 shows the matrix of principal factors obtained through the varimax *rotation* method. No item was deleted in the factor

analysis, and all of them had a correlation value greater than .30.

Table 4  
*Principal components analysis of the ESET*

ESET items	Factors					
	1	2	3	4	5	6
10	.806					
35	.780					
29	.725	.315				
33	.711					
19	.710					
6	.703					
14	.689					
5	.660					
21	.581	.383				
28	.545	.313	.342			
24	.530	.473				
17	.477	.346	.437			
25	.408	.707				
30	.336	.683				
22		.664				
12		.612				.301

23	.424	.603	.303	
13	.394	.576		
18		.533	.373	
26	.395	.427	.347	
16			.879	
15			.874	
36			.848	
34			.802	
37		.409	.482	
9			.809	
4			.768	
2	.326		.751	
1	.327		.736	
20			.691	
32				.901
31				.866
27				.740
8				.670
3			.562	.302
7				.788
11	.308			.777

After obtaining the six factors, and taking into account the theoretical framework, the ESET dimensions were designated as follows: Satisfaction with the leadership, Satisfaction with the organization and resources, Satisfaction with professional recognition, Satisfaction with the co-workers, Satisfaction with recognition and remuneration, and Satisfac-

tion with staffing.

The Satisfaction with the leadership was the first dimension obtained after the factor analysis of the ESET. It consists of 12 items on the satisfaction with the relationship established between workers and their superiors. This first factor explained 41.93% of the total variance (Table 5).

Table 5

*Items and loadings of the dimension Satisfaction with the leadership*

Items	Factor 1 – Satisfaction with the leadership (41.93% of Variance)	Loadings
10	I am satisfied with how my superiors give me the opportunity to participate in training courses/projects.	.806
35	I am satisfied with my superiors' encouragement to participate in training.	.780
29	I am satisfied with my superiors' respect for my work.	.725
33	I am satisfied with the moments of dialogue and sharing of information with my superiors.	.711
19	I am satisfied with the training opportunities provided at my workplace.	.710
6	I am satisfied with my participation in decision-making at my workplace.	.703
14	I am satisfied with the fact that my work is rewarded and/or valued by my superiors.	.689
5	I am satisfied with my superiors' effort to improve my working conditions.	.660



21	I am satisfied with the possibility to implement new knowledge at my workplace.	.581
28	I am satisfied with the tasks performed at my unit.	.545
24	I am satisfied with my autonomy to provide adequate care to patients according to my skills.	.530
17	I am satisfied with the nursing tasks that I perform at this unit.	.477

The second dimension - Satisfaction with the organization and resources - is composed of eight items on the organizational structure and the resources available at the workplace and

explained 7.76% of variance. This dimension takes into account the existence of protocols, equipment/materials, and the physical workplace (Table 6).

Table 6  
*Items and loadings of the dimension Satisfaction with the organization and resources*

Items	Factor 2 – Satisfaction with the organization and resources (7.76% of Variance)	Loadings
25	I am satisfied with how protocols are organized and elaborated at my unit.	.707
30	I am satisfied with the number of protocols on the unit's functioning.	.683
22	I am satisfied with the equipment/materials at my unit.	.664
12	I am satisfied with the physical conditions of the space where I provide care.	.612
23	I am satisfied with the organization of my workplace.	.603
13	I am satisfied with the routines at my unit.	.576
18	I am satisfied with the other health professionals' skills.	.533
26	I am satisfied with the quality of the care I provide taking into account the context where I work.	.427

The third dimension obtained after the factor analysis was Satisfaction with professional recognition. This designation relates to the nature of the items and is associated with the literature search, referring to aspects associat-

ed with the professional recognition by patients/relatives and co-workers and with the professional activity. This dimension is composed of five items that explained 6.82% of variance (Table 7).

Table 7  
*Items and loadings of the dimension Satisfaction with professional recognition*

Items	Factor 3 – Satisfaction with professional recognition (6.82% of Variance)	Loadings
16	I am satisfied with how patients and their families value my work.	.879
15	I am satisfied with the fact that my work is rewarded and/or valued by the patients.	.874
36	I am satisfied with the patients' respect for my work.	.848
34	I am satisfied with the patients' perception of my activity.	.802
37	I am satisfied with the other health professionals' respect for the care I provide.	.482

The dimension Satisfaction with the co-workers is composed of five factors that explained 5.13% of variance (Table 8). All

items make reference to aspects associated with the satisfaction with the relationship with co-workers.



Table 8

*Items and loadings of the dimension Satisfaction with the co-workers*

Items	Factor 4 – Satisfaction with the co-workers (5.13% of Variance)	Loadings
9	I am satisfied with the level of trust that I have in my co-workers.	.809
4	I am satisfied with my co-workers' effort to provide better care.	.768
2	I am satisfied with the spirit of collaboration between me and my co-workers.	.751
1	I am satisfied with the moments of dialogue and sharing of information with my co-workers.	.736
20	I am satisfied with the level of competence of the colleagues in the same profession.	.691

The Satisfaction with recognition and remuneration was the fifth dimension obtained after the factor analysis. It is composed of five items that explained 1.36% of variance (Ta-

ble 9). This dimension is composed of items on the satisfaction with the remuneration and career advancement in the institution.

Table 9

*Items and loadings of the dimension Satisfaction with recognition and remuneration*

Items	Factor 5 – Satisfaction with recognition and remuneration (1.36% of Variance)	Loadings
32	I am satisfied with my salary taking into account my skills/knowledge.	.901
31	I am satisfied with my salary taking into account the tasks I perform.	.866
27	I am satisfied with the time that I have to wait to be promoted at my workplace.	.740
8	I am satisfied with the career advancement opportunities.	.670
3	I am satisfied with the workload at my workplace.	.562

The last dimension obtained - Satisfaction with staffing - is composed of only of two items that explained 1.23 % of total variance (Table 10).

These items refer to the satisfaction with the nurse-to-patient ratio.

Table 10

*Items and loadings of the dimension Satisfaction with staffing*

Items	Factor 6 - Satisfaction with staffing (1.23% of Variance)	Loadings
7	I am satisfied with the nurse-to-patient ratio in a shift.	.788
11	I am satisfied with the nurse per shift ratio according to number of tasks to be performed.	.777

### Interfactor correlation

Interfactor correlations were positive and statistically significant, which is an indicator of

consistency between the construct dimensions and an indicator of the validity or reliability of the instrument (Table 11).

Table 11  
*Interfactor correlation*

		Satis- faction Leader- ship	Satis- faction Organi- zation Re- sources	Satisfac- tion Pro- fessional Recogni- tion	Satis- faction Co-work- ers	Satisfac- tion Rec- ognition Remuner- ation	Satis- faction Staffing
Satisfaction Leadership	Pearson Correlation	1	.79*	.54*	.62*	.41*	.55*
	Sig. (2-tailed)		.00	.00	.00	.00	.00
Satisfaction Organi- zation Re- sources	Pearson Correlation	.79*	1	.54*	.59*	.41*	.54*
	Sig. (2-tailed)	.00		.00	.00	.00	.00
Satisfaction Professional Recogni- tion	Pearson Correlation	.54*	.54*	1	.45*	.36*	.45*
	Sig. (2-tailed)	.00	.00		.00	.00	.00
Satisfaction Co-workers	Pearson Correlation	.62*	.59*	.45*	1	.27*	.30*
	Sig. (2-tailed)	.00	.00	.00		.00	.00
Satisfaction Recogni- tion Remu- neration	Pearson Correlation	.41*	.41*	.36*	.27*	1	.40*
	Sig. (2-tailed)	.00	.00	.00	.00		.00
Satisfaction Staffing	Pearson Correlation	.55*	.54*	.45*	.30*	.40*	1
	Sig. (2-tailed)	.00	.00	.00	.00	.00	

Note.\* Correlation is significant at .01 (2-tailed).

### Reliability of the ESET

The internal consistency of the ESET was assessed using Cronbach's alpha coefficient. The alpha value for the total scale was .96, which is an excellent value according to Hill and Hill (2009).

Excellent Cronbach's alpha values were obtained in the first, third, and sixth dimensions. In the other dimensions, Cronbach's alpha coefficients were very good, in accordance with Marôco (2010). Thus, in view of the above, the values confirm an adequate internal consistency to the development of this study (Table 12).

We found that if item 37 of the third dimension was deleted, Cronbach's alpha val-

ue would increase from 0.77 to 0.78. However, we decided to maintain the item "I am satisfied with the other health professionals' respect for the care I provide.", because, if deleted, the value would only increase by .01.

With regard to the sixth dimension, the value of internal consistency obtained was .95, which is considered excellent. However, since the dimension only has two items, the Cronbach's alpha coefficient if item deleted was not calculated.

The items of each dimension showed significant correlations (greater than .40) with the total score of the corresponding dimension (Table 12).

Tabela 12

*Coefficientes alfa de Cronbach das dimensões do ESET e correlações item-total*

Dimension	Items	Discriminative power of the item (Item-total correlation)	Cronbach's alpha if item deleted
Dimension 1 (alpha = .94)	10	.77	.94
	35	.79	.94
	29	.81	.94
	33	.79	.94
	19	.70	.94
	6	.75	.94
	14	.79	.94
	5	.76	.94
	21	.72	.94
	28	.67	.94
	24	.67	.94
Dimension 2 (alpha = .89)	17	.66	.94
	25	.80	.86
	30	.72	.87
	22	.65	.88
	12	.58	.89
	23	.77	.87
	13	.72	.88
Dimension 3 (alpha = .92)	18	.61	.88
	26	.52	.89
	16	.83	.89
	15	.84	.88
	36	.88	.88
Dimension 4 (alpha=.89)	34	.82	.89
	37	.55	.94
	9	.75	.86
	4	.76	.85
	2	.72	.86
Dimension 5 (alpha = .85)	1	.73	.86
	20	.67	.87
	32	.79	.78
	31	.74	.80
	27	.65	.82
Dimension 6 (alpha = .95)	8	.62	.83
	3	.53	.85
	7	—	—
	11	—	—

## Discussion

This study validated the application of the ESET to a population of Portuguese nurses working at an EPE Hospital in the southern region of Portugal. We found that the mean, median, and mode scores are distributed by the intervals of the response scale, revealing sensitivity in construct assessment.

The KMO value obtained was .94, which is also considered as excellent. When compared to the job satisfaction scale (EST) developed by Siqueira (1995) and validated in Portugal by João (2013), the KMO value (.941) is slightly lower.

Cronbach's alpha coefficient for the total scale was .960, which is higher than the val-

ue obtained by Ng (1993) in the application of the Multi-Faceted Nursing Job Satisfaction Scale (.86) and also higher than that obtained by João (2013) in the application of the *Escala de Satisfação no Trabalho* (.93) by Siqueira (1995).

With regard to the reliability of the dimensions of the *Escala de Satisfação no Trabalho* designed by Siqueira (1995) and applied by João (2013), Cronbach's alpha values ranged from .86 to .95, which are higher than those found in the ESET. With this in mind, we concluded that satisfactory results were obtained in all dimensions, allowing for the study development.

An exploratory factor analysis with varimax rotation was performed, and, as a result,

the 37 items of the ESET were divided into six dimensions, according to the literature search conducted: 1) Satisfaction with the leadership; 2) Satisfaction with the organization and resources; 3) Satisfaction with professional recognition; 4) Satisfaction with co-workers; 5) Satisfaction with the recognition and remuneration; and 6) Satisfaction with staffing. The dimensions in the final version of the instrument (ESET) explained 68.63% of the total variance, which is a higher value than that obtained by Ferreira and Sousa (2006) in the validation of the *Escala de Satisfação Global* with a sample of 303 nurses working in a Portuguese hospital.

In this study, the cross-sectional research design may be considered as a limitation to the extent that we were unable to test the instrument's stability, i.e. its ability to produce the same results in subsequent applications.

## Conclusion

The workers' satisfaction is correlated with the organizations' productivity. Therefore, workers' satisfaction should be assessed in order to promote better working conditions based on their needs and, simultaneously, ensure their physical and mental well-being. This study aimed at describing the process of development and validation of the ESET. This scale consists of 37 items organized into six factors, and allows assessing nurses' job satisfaction.

The ESET had good reliability and validity, and proved to be easy to apply. Therefore, it can be a valuable tool for studies assessing nurses' job satisfaction.

## References

- Alves, C. (2007). *Comportamento organizacional: A gestão de crise nas organizações*. Lisboa, Portugal: Escolar editora.
- Baumann, A. (2007). *Ambientes favoráveis à prática: Condições no trabalho = cuidados de qualidade*. Geneva, Switzerland: Internacional Council of Nurses.
- Camara, P., Guerra, P., & Rodrigues, J. (2007). *Humanator: Recursos humanos & sucesso empresarial*. Lisboa, Portugal: Publicações Dom Quixote.
- Castro, J., Lago, H., Fornelos, M., C., Novo, P., Soleiro, R., M., & Alves, O. (2011). Satisfação profissional dos enfermeiros em Cuidados de Saúde Primários: o caso do Centro de Saúde de Barcelos/Barcelinhos. *Revista portuguesa de saúde pública*, 22(9), 157-172.
- Chiavenato, I. (2008). *Recursos humanos: O capital humano das organizações*. São Paulo, Brasil: Atlas.
- Ferreira, M., & Sousa, L. (2006). Satisfação no trabalho e comportamentos estratégicos. *Revista Portuguesa de Enfermagem*, 6, 37-46.
- Gomes, J., Cunha, M., Rego, A., Cunha, R., Cabral, Cardoso, C., & Marques C. (2008). *Manual de gestão de pessoas e do capital humano*. Lisboa, Portugal: Edições Sílabo.
- Hill, M., & Hill, A. (2009). *Investigação por questionário*. Lisboa, Portugal: Edições Sílabo.
- João, A. (2013). *Mobbing: Agressão psicológica na profissão de enfermagem*. Loures, Portugal: Lusociência.
- Lu, H., Barribal, K., Zhang, X., & While, A. (2011). Job satisfaction among hospital nurses revisited: A systematic review. *International Journal of Nursing Studies*, 49(8), 1017-1038. doi:10.1016/j.ijnurstu.2011.11.00
- Marôco, J. (2010). *Análise estatística com utilização do SPSS (3ª ed.)*. Lisboa, Portugal: Edições Sílabo.
- Ng, S. (1993). A job satisfaction scale for nurses. *New Zealand Journal of Psychology*, 22, 46-53. Retrieved from <http://www.psychology.org.nz/wp-content/uploads/NZJP-Vol221-1993-5-Hung-Ng.pdf>
- Oliveira, S. (1999). *Sociologia das organizações*. São Paulo, Brasil: Editora Pioneira.
- Raposo, M. S. (Coord.). (2011). *A satisfação dos enfermeiros que exercem as suas funções em centros de saúde da Região Autónoma dos Açores*. Retrieved from <http://www.ordemenfermeiros.pt/sites/acoes/informacao/Documents/estudo%20CROOECSP.pdf>
- Siqueira, M. (1995). *Antecedentes de comportamentos de cidadania organizacional: Análise de um modelo pós-cognitivo* (Unpublished Doctoral). Universidade de Brasília, Brasil.