

ORIGINAL ARTICLE

Turkish version of the revised nursing professional values scale: Validity and reliability assessment

Emine GEÇKIL,¹ Emel EGE,² Belgin AKIN,³ Fügen GÖZ⁴

¹Pediatric Nursing, School of Health, Adiyaman University, Adiyaman, ²Obstetric and Gynecologic Nursing, Faculty of Health Science, Selcuk University, Konya, ³Public Health Nursing, Faculty of Health Science, Selcuk University, Konya and ⁴Medical Nursing, School of Health, Harran University, Şanlıurfa, Turkey

Abstract

Aim: The purpose of this study was to assess the reliability and validity of a Turkish version of the Revised Nursing Professional Values Scale (NPVS-R).

Methods: The sample of this methodological study consisted of 385 participants, including senior undergraduate nursing students ($n = 328$) and clinical nurses ($n = 57$). Data was collected using the NPVS-R. For NPVS validity, content validity and construct validity were analyzed. The content validity index (CVI) was used to determine item validity.

Results: Item CVI ranged from 0.78 to 1.0, and total CVI was 0.93. Construct validity was examined using factor analysis and the five factors were identified as original NPVS-R. Chronbach's alpha was used to assess the internal consistency reliability. The 26-item NPVS had a standardized alpha coefficient of 0.92. Test-retest reliability scale was $r = 0.76$ ($P < 0.001$).

Conclusion: Our analyses showed that the Turkish version of NPVS-R has high validity and reliability.

Key words: nurse, nursing student, professional nursing values, scale adaptation, values.

INTRODUCTION

The AACN attracts attention to the importance of improving nursing values by emphasizing that the values constitute the basis of practice and guide relationships with patients, colleagues, other professionals and society (American Association of Colleges of Nursing, 1998). Only a few studies have been published regarding professional nursing values in Turkey (Altun, 2002; Göz & Geçkil, 2010; Karadağ, Hisar, & Elbaş, 2007). The present study was conducted to test the Turkish version of the Revised Nursing Professional Values Scale (NPVS-R) (Weis & Schank, 2009).

Value means in its most limited sense importance or respect, and it is generally used as “values” when expressing moral standards (Potter & Perry, 2001).

Values form the basis of decisions and affect the decisions and behaviors of an individual significantly (Altun, 2002; Uustal, 1984). A well-formed value system helps reduce conflict in the decision-making process (Altun, 2002; Johnson, Haigh, & Bolton, 2007; Lenners, Roehrs, & Piccone, 2006). Decision-making is the foundation of professional nursing interventions (Uustal, 1984). Professional identity is defined as the beliefs and values that guide the thoughts and actions of nurses and their interactions with patients (Fagermoen, 1997). Gaining, adopting and internalizing professional nursing values will help the profession reach its desired standards and establish an important framework for the development of professionalism (Hoyuelos *et al.*, 2010; Weis & Schank, 2009; Weis, Schank, Eddy, & Elfrink, 1993).

Each individual has his/her own values and these values are gained as a result of education, experience, culture and interpersonal relationships (Lenners *et al.*, 2006; Rassin, 2010; Vezeau, 2006; Weis & Schank, 2000). In nursing, professional values are learned with

Correspondence: Emine Geçkil, Pediatric Nursing, School of Health, Adiyaman University, 02040 Adiyaman, Turkey.
Email: egeckil@adiyaman.edu.tr

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observation and experience during training (Fahrenwald *et al.*, 2005; Martin, Yarbrough, & Alfred, 2003; Potter & Perry, 2001; Rassin, 2010; Shinyashiki, Mendes, Trevizan, & Day, 2006). Previous studies have emphasized the importance of defining, clarifying and developing the values of nursing students (Thorpe & Loo, 2003; Uustal, 1984; Weis & Schank, 2000, 2009). Weis and Schank developed the NPVS to define and clarify professional nursing values and they revised this scale in 2009 as the NPVS-R (Weis & Schank, 2000, 2009). The purpose of the present study was to assess the validity and reliability of the Turkish version of the NPVS.

METHODS

Design and participants

This methodological study was conducted between March and June 2008. The participants ($n = 385$) were senior undergraduate nursing students from nine nursing schools for sampling ($n = 328$) and nurses with a bachelor degree in nursing who worked in a university hospital ($n = 57$). Data was collected using the NPVS-R (Weis & Schank, 2009). Nurses indicated the importance of each item using a 5-point Likert scale, where 1 indicated “not important” and 5 indicated “most important”. These categories were scored as 1, 2, 3, 4, and 5, respectively. The possible range of score was between 26 and 130. Higher scores indicated higher professional values. All items of the scale were in a positive manner and there were no subscales.

The data collection tool was sent to the school managers, and a lecturer from each school enabled the application of these surveys to fourth-grade nursing students and the return of the filled surveys to the researchers. For working nurses, survey forms were distributed to the nurses and collected after they had filled them in.

Statistical analysis

Statistical analysis was performed using Statistical Package for the Social Sciences (SPSS), version 15.0 (SPSS Inc., Chicago, IL, USA).

Validity

For NPVS validity, content validity and construct validity were analyzed. For content validity, a method recommended by Brislin, Lonner, and Thorndike (1973) was taken as the basis during the translation of the scale into Turkish (Basım, Tatar, & Hisli Şahin, 2006; Gözümlü & Aksayan, 2002). This method is a model that includes five main steps composed of the phases translating to the

target language, evaluating the translation to the target language, retranslating to the source language, evaluating the retranslation to the source language and final evaluation by experts.

The NPVS-R was translated into Turkish by six independent academics. After the translations were analyzed by the researchers, the Turkish version of the scale was formed and the text was retranslated into English by a bilingual English instructor. Then the Turkish version of the scale was presented to obtain the expert opinions on its content validity. For this purpose, the opinions of nine experts (nursing professors) were taken. The item-objective relevance with a content validity index (CVI) was used to determine content validity (Lin & Wang, 2010; Polit & Beck, 2006a). For construct validity, principal components analyses (PCA) with varimax rotation was used (Akgül, 2003; Gözümlü & Aksayan, 1999; Özgüven, 1999; Polit & Beck, 2006b; Tavşancıl, 2002).

Reliability

Chronbach's alpha was used to assess internal consistency reliability. The mean, standard deviation, item-total correlation, and alpha if an item was deleted, were examined to provide information about item endorsement level and item discrimination (Gözümlü & Aksayan, 2002; Lin & Wang, 2010; Tezbaşaran, 1996). Test-retest reliability for instrument stability was conducted two weeks following the scale on 43 of the student participants.

Permits

For the validity and reliability of NPVS-R, permission was obtained from Professors Weis and Schank who developed the scale. The study was approved by nine schools and one hospital institutional review board. The nurses and students voluntarily participated in the study.

RESULTS

As shown in Table 1, half of the subjects (50.1%) were aged between 20 and 22 years and the mean age was 23.05 years (SD: 2.26). Most of the subjects were female (90.1%) and senior students (85.2%). The sample mean scores of the NPVS was 106.45 (SD: 13.61) and females had high scores (stronger professional values) ($t = 2.904$, $P < 0.001$).

Content validity

The content validity index was used to determine item validity. Nine experts were asked to rate each item

Table 1 Demographic characteristics and Revised Nursing Professional Values Scale (NPVS-R) mean score ($n = 385$)

	%	Mean score	SD
Age (years) (range 20–36, mean 23.0) 5 (SD 2.26)			
20–22	193 (50.1)	106.31	13.71
23–25	150 (39.0)	106.69	13.84
26 and over	42 (10.9)	106.24	12.64
Gender			
Female	347 (90.1)	107.11*	13.59
Male	38 (9.9)	100.42	12.42
Status			
Nurse	57 (14.8)	107.93	12.24
Senior student	328 (85.2)	106.20	13.84
<i>n</i>	385 (100.0)	106.45	13.61

* $t = 2.904$, $P = 0.004$. SD, standard deviation.

of the Turkish version of the NPVS on relevance, clarity, and simplicity as 1 (not relevant), 2 (somewhat relevant), 3 (quite relevant), and 4 (highly relevant). CVI was computed as the number of experts who gave a rating of either 3 or 4, divided by the total number of experts. The item CVI ranged from 0.78 to 1.0, and the total CVI was 0.93.

Construct validity

Construct validity was examined using factor analysis. Sample adequacy was assessed prior to factor analysis. The Kaiser-Meyer-Olkin (KMO) measure of sampling was 0.921, and Bartlett's test of sphericity was statistically significant ($\chi^2 = 3840.46$, $P < 0.001$), indicating sample adequacy. Table 2 shows the NPVS items and their factor loading on PCA-derived scales.

The criterion for the number of factors was an eigenvalue of >1 . Using this criterion, five factors were identified as original NPVS-R (Table 2). The five factors accounted for a total of 54.5% of initially extracted common variance. Factor 1, with an eigenvalue of 8.7, accounted for 33.5% of variance. Factor 2, with an eigenvalue of 1.8, explained an additional 6.9 % of variance. Factor 3 had an eigenvalue of 1.4 and added 5.5% of variance. Factor 4, with an eigenvalue of 1.2, explained 4.5% of variance. Finally, factor 5, had an eigenvalue if 1.1, and added 4.1% of variance. All 26 items loaded greater than the 0.30 criterion, and the factor loading of items ranged from 0.38 to 0.80 (Erickson *et al.*, 2004; Tavşancıl, 2002).

Reliability

Reliability analyses showed good internal consistency for the NPVS-R. The 26-item NPVS had a standardized alpha coefficient of 0.92. The standardized Cronbach's alpha coefficients for the PCA-derived subscales were factor 1 (8 items) 0.84; factor 2 (7 items) 0.78; factor 3 (5 items) 0.81; factor 4 (3 items) 0.66 and factor 5 (3 items) 0.53 (Table 2). Corrected item-total correlation coefficients ranged from 0.38 to 0.69. The coefficient alpha if the item was deleted ranged from 0.915 to 0.921 (Table 3). Test-retest reliability measured over 15 days interval was $r = 0.76$ ($P = 0.000$).

DISCUSSION

Professional nursing values are accepted as the basis of professional nursing practices by the AACN (Altun, 2002; Weis & Schank, 2009). A total of 328 nursing students and 57 nurses were included in the present study. The sample mean score of NPVS-R was 106.45 (SD 13.61) and this score was higher than that found by Lin and Wang (2010). In this study, women's NPVS-R scores were high than men's scores. Similarly, Martin *et al.* (2003) found that women had significantly higher NPVS score (Martin *et al.*, 2003). Hendel, Eshel, Traister, and Galon (2006) also found that women had higher scores than men for personal and professional values (Hendel *et al.*, 2006). On the contrary, Lin and Wang (2010) found that males had high scores (Lin & Wang, 2010). As in previous studies, only 38 persons (9.9%) of participants were male (Hendel *et al.*, 2006; Lin & Wang, 2010). The conflict probably related to score differences as a result of the small number of male participants.

Validity

For NPVS validity, content validity and construct validity were analyzed. Content validity concerns adequacy of coverage of the content area being measured (Polit & Beck, 2006b). The item CVI ranged from 0.78 to 1.0, and the total CVI was 0.93 in the final version, indicating adequate content validity (Lin & Wang, 2010; Polit & Beck, 2006a).

For construct validity, the result of KMO test conducted before factor analysis was 0.921 and the result of Bartlett's test of sphericity was 3840.46. These values, which are statistically significant ($P < 0.000$), showed that the sampling is sufficient and that the data showed normal distribution (Akgül, 2003; Weis & Schank, 2009).

Table 2 Factor analysis of Revised Nursing Professional Values Scale (NPVS-R) ($n = 385$)

Item	Factor and loading				
	1	2	3	4	5
21. Safeguard patient's right to privacy.	0.80				
25. Maintain confidentiality of patient.	0.78				
20. Provide care without prejudice to patients of varying lifestyles.	0.71				
24. Practice guided by principles of fidelity and respect for person.	0.59				
22. Confront practitioners with questionable or inappropriate practice.	0.52				
14. Accept responsibility and accountability for own practice.	0.49				
15. Maintain competency in area of practice.	0.39				
17. Refuse to participate in care if in ethical opposition to own professional values.	0.38				
5. Participate in peer review.		0.70			
4. Participate in public policy decisions affecting distribution of resources.		0.69			
6. Establish standards as a guide for practice.		0.63			
1. Engage in on-going self-evaluation.		0.59			
3. Protect health and safety of the public.		0.52			
2. Request consultation/collaboration when unable to meet patient needs.		0.48			
23. Protect rights of participants in research.		0.44			
10. Advance the profession through active involvement in health related activities.			0.73		
9. Seek additional education to update knowledge and skills.			0.73		
8. Initiate actions to improve environments of practice.			0.56		
11. Recognize role of professional nursing associations in shaping health care policy.			0.54		
7. Promote and maintain standards where planned learning activities for students take place.			0.53		
16. Protect moral and legal rights of patients.				0.59	
13. Assume responsibility for meeting health needs of the culturally diverse population.				0.59	
12. Promote equitable access to nursing and health care.				0.50	
18. Act as a patient advocate.					0.73
26. Participate in activities of professional nursing associations.					0.46
19. Participate in nursing research and/or implement research findings appropriate to practice.					0.41
Eigen values	8.7	1.8	1.4	1.2	1.1
% of variance; total 54.5%	33.5	6.9	5.5	4.5	4.1
Cronbach's alpha	0.84	0.78	0.81	0.66	0.53

In the factor analysis, a 5-factor structure with an eigenvalue of over 1 similar to the original scale was obtained (Table 2). The fact that the items in the factor structure obtained from the Turkish version were distributed differently to the original scale may have been caused by the cultural differences (Weis & Schank, 2009). Similarly Lin and Wang (2010) found that the factor structures and distribution of the items to the factors were different in the Chinese version of NPVS (Lin & Wang, 2010). Considering that the NPVS is a scale which does not have subscale and which is used as a whole, factors were renamed.

The first factor was caring, which consisted of eight items, and reflected the respect, protection and safeguard of patient's rights. The second factor was professionalism, which contained seven items and reflected the qualities characteristic of a professional. The third factor was activism, which comprised five items reflect-

ing participation in health-related activities and policy. The fourth factor was justice, which had three items and reflection equality and diversity issues. The fifth factor was truth, which contained three items and reflected responsibility and rationality.

Reliability

As can be seen in Table 2, Cronbach's alpha coefficient for integral consistency was 0.92 and this result was the same as the original (0.92) and similar to the Chinese versions (0.90) (Lin & Wang, 2010; Weis & Schank, 2009). The alpha values obtained for the factors were 0.84 for factor 1, 0.78 for factor 2, 0.81 for factor 3, 0.66 for factor 4 and 0.53 for factor 5. The alpha values of factors 4 and 5 were below 0.70. However, because the scale has no subscales and the total Cronbach's alpha coefficient of the entire scale is high, the homogeneity of the scale is sufficient and its reliability is

Table 3 Item means, standard deviation (SD), corrected item to total correlation and alpha if item deleted for the Revised Nursing Professional Values Scale (NPVS-R) ($n = 385$)

Item	Mean	SD	CITC	AID
1. Engage in on-going self-evaluation.	3.94	0.95	0.51	0.92
2. Request consultation/collaboration when unable to meet patient needs.	4.29	0.79	0.52	0.92
3. Protect health and safety of the public.	4.47	0.73	0.51	0.92
4. Participate in public policy decisions affecting distribution of resources.	3.46	0.97	0.52	0.92
5. Participate in peer review.	3.62	0.99	0.55	0.92
6. Establish standards as a guide for practice.	3.93	0.95	0.67	0.92
7. Promote and maintain standards where planned learning activities for students take place.	4.20	0.90	0.67	0.92
8. Initiate actions to improve environments of practice.	4.20	0.86	0.61	0.92
9. Seek additional education to update knowledge and skills.	4.05	0.96	0.62	0.92
10. Advance the profession through active involvement in health-related activities.	4.35	0.84	0.63	0.92
11. Recognize role of professional nursing associations in shaping health care policy.	3.91	1.01	0.60	0.92
12. Promote equitable access to nursing and health care.	4.17	0.83	0.66	0.92
13. Assume responsibility for meeting health needs of the culturally diverse population.	3.80	0.99	0.55	0.92
14. Accept responsibility and accountability for own practice.	4.23	0.91	0.62	0.92
15. Maintain competency in area of practice.	4.05	0.90	0.69	0.92
16. Protect moral and legal rights of patients.	4.04	0.77	0.60	0.92
17. Refuse to participate in care if in ethical opposition to own professional values.	4.09	1.08	0.52	0.92
18. Act as a patient advocate.	3.62	1.05	0.38	0.92
19. Participate in nursing research and/or implement research findings appropriate to practice.	4.01	0.91	0.61	0.92
20. Provide care without prejudice to patients of varying lifestyles.	4.34	0.79	0.58	0.92
21. Safeguard patient's right to privacy.	4.56	0.67	0.59	0.92
22. Confront practitioners with questionable or inappropriate practice.	4.10	0.94	0.60	0.92
23. Protect rights of participants in research.	3.92	0.97	0.61	0.92
24. Practice guided by principles of fidelity and respect for person.	4.35	0.79	0.67	0.92
25. Maintain confidentiality of patient.	4.62	0.70	0.58	0.92
26. Participate in activities of professional nursing associations.	3.79	1.04	0.52	0.92

AID, alpha if item deleted; CITC, corrected item-total correlation; SD, standard deviation.

satisfactory. The result of the test-retest analysis was $r = 0.76$, which reveals there is a significant high correlation and support that the stability of the scale is high (Akgül, 2003; Gözüm & Aksayan, 2002; Tezbaşaran, 1996).

CONCLUSION

The Turkish version of the scale can be used as a pretest or final test to determine the status before and after the training program that aims to develop nursing values or to evaluate the effectiveness of the program. The NPVS is a scale that can be used in studies conducted to screen professional values in senior bachelors of nursing and nurses with a bachelor degree. It can be recommended to test the validity and reliability of the Turkish version of NPVS for nursing students at different grades and nurses with different educational levels.

In conclusion, our analyses showed that the validity and reliability of the Turkish version of the NPVS are

high. NPVS can contribute to an increase in the awareness level of nursing professional values and ethical codes and thus to the development of values.

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