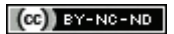


# Cross-cultural Adaptation and Validation of Professional Scale in Iranian Nurses

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## ABSTRACT

**Introduction:** Professionalism is a fundamental concept in nursing. Today's society needs nurses who are able to accept and fulfill their professional roles. Specially, nurses of the Intensive Care Unit (ICU) are one of the most sensitive parts of the hospital and their behaviour is very important. In order to measure their caring professionalism and the leveling of this process, there are instruments used in Iranian culture.

**Aim:** This study was aimed to cross-culturally adapt and validate the Hall's Professionalism Scale (HPS) in clinical setting for Iranian nurses of ICU.

**Materials and Methods:** Methodological study was carried out with 300 nurses of ICU in Iran. The criteria for selection of the participants was limited to the nurses who worked full time in ICU of the mentioned hospitals, were available and interested to respond to data collection instrument. The cross-cultural adaptation of the Professionalism Scale was performed according to international standards, and its validation was carried out to be used in the Iran context by means of factor analysis and Cronbach's alpha as a measure of internal consistency.

**Results:** All nurses who participated in the study worked in ICU with average working experience of  $6.77 \pm 5.99$  years and their mean age was  $34.03 \pm 10.3$  years. The results of the factor analysis revealed six factors including factor 1 (the scope of the Professional Association as reference) with a specific amount of 14.04, factor 2 (believing in the continuing competency) with a specific amount of 14.42, factor 3 (believing in self-regulation) 16.06, factor 4 (sense of commitment to the profession) has a special amount of 11.56, factor 5 (independence) with a special amount of 16.81, and factor 6 (believing in serving society) with a specific amount of 14.02. The correlation coefficient of Cronbach's alpha was used to determine the internal correlation of the instrument, which was 0.89 for all items.

**Conclusion:** This study showed that the translated version of the "Nursing Professionalism Scale" is a useful instrument for helping nurses and nursing authorities to understand the concept of professionalism and its impact on improving the clinical status of nurses, patients and organisations, and even clinical education of nursing students.

**Keywords:** Instrument, Nursing, Professionalism, Translation

## INTRODUCTION

Nurses are the largest provider of services in the health system [1] and quality of patient care seriously depends on their function [2]. Hence, their professional ability plays an important role to achieve this mission [3]. Professionalisation is a process by which individuals acquire knowledge, skills, culture, attitudes, values and ethical nursing standards and then internalise them as a part of their behaviour and image of the profession [4]. Therefore, it can be admitted that being a professional is one of the fundamental concepts in nursing [5].

For many years, nursing due to lack of academic education, autonomy, discipline of theory-research and knowledge was semi-professional [6]. But today, professional associations are moving towards full professionalism, which has been achieved through the development of autonomy and professional commitment, self-regulatory and professional organisations [7]. Status of nursing professionalism is often a matter of discussion. Historians, sociologists and nurses themselves face a challenge and are unsure as to whether professionalism exists in a nursing profession or not [8].

Nurses have many roles and responsibilities. Due to the complexity of their roles, it is a professional activity that requires accuracy and intelligence [9]. Caring behaviours of nurses at the ICU is very important and plays a significant role in restoring the health of high risk patients [10]. In fact, today's society needs nurses to accept their roles and develop their own professional qualities and behaviours, to be able to play their professional roles in different situations [6].

The professionalisation of nurses has many benefits for patients, hospital organisations and nurses themselves [11]. Professionalism is a decisive factor in nurses' decisions to continue them to work

in the profession, stay in the nursing profession, choose a nursing profession as an attractive and valuable position and try to achieve higher levels of education. Also, professionalism improves performance and independence at work, increases the ability of critical thinking, ability of rethinking about their performance and empowers an individual.

Kimball B and O'Neil E expressed that the professional image of nurses in the community is a factor which caused dissatisfaction, causing the nurses to leave the profession and accordingly leading to shortage of the nurses being professional can solve these problems [7,12]. Therefore, in order to assess the professionalism of specialist nurses and level the process, a questionnaire was designed to be used in Iran and adjusted with Iranian culture. One of the most useful instruments in this regard is the HPS in clinical setting designed by Hall and Snizek WE in Florence [13]. The process of translating an instrument from the original language into the target language is a complex and subjective process and provides discussions on the similarities of meanings on scale. However, due to the need for valid instruments for assessing the process of nursing professionalism in Iran, this instrument was done to translate, adjust and adapt this scale cross-culturally by maintaining the simplicity, short form and consideration of important evaluation criteria. Thus, the aim of this study was to culturally adapt and validate the HPS in clinical setting for Iranian nurses of ICU.

## MATERIALS AND METHODS

### Sample

This was a cross-sectional study and the samples of this study were nurses working in the ICU wards. They were selected through

sampling method during the course of six months (May-October) in 2017, from Guilan and Ardabil Universities of Medical Sciences in Iran. The sample size was calculated using the following formula:

$$n = \frac{z^2 \sigma^2}{d^2}$$

The acceptable sample size for factor analysis was 10 people per item, and according to 30 items, 300 nurses working in special departments were selected. The questionnaire was then completed by selected samples.

The ethical considerations in this study included obtaining permission from scale designers and nurses freely participated in the study and maintaining the anonymity of contributors. Ethical Committee of Tehran University of Medical Sciences approved the study (IR.TUMS.FNM.REC.13962989).

### Data Collection Instrument

The final version of the tool for data collection was used in two hospitals in Guilan and Ardabil in Iran.

### Inclusion Criteria

The criteria for selection of the participants was limited to the consenting nurses who worked full time in ICU of the mentioned hospitals and were available on the day of the study.

### Exclusion Criteria

Nurses who participated in similar previous studies and who were not willing to participate in this study were excluded.

The instrument was delivered directly to respondents in an envelope without identification along with an Informed Consent Form. They were taken back after 72 hours. The distribution of the instrument and consents was performed for the scheduling of data collection by setting a maximum of three attempts to each location and to collect the previously delivered instrument as well.

For convenience, the non-probabilistic sampling method was used for the selection of participant's convenience, to make sure all the nurses were working in ICU, and they were in their places of work during the data collection period.

Data collection instrument was delivered to 320 specialist nurses and 300 (93.75%) were recovered. Twenty questionnaires were excluded because they were not completed. The final sample included 300 participants.

The original HPS consisted of 30 questions, answered by means of a five point Likert-type frequency scale, using 1 for "Professional Association as reference", 2 for "Believing in the continuing competency", 3 for "Believing in self-regulation", 4 for "Sense of commitment to the profession", 5 for "Independence", and 6 for "Believing in Serving society". To score the instrument, each item was awarded a score of 1 to 5 so that the minimum and maximum score was 30-150 for each specialist nurse. Then, based on the scores earned on this scale, scores ranging from 30-75 indicated a "very low" professionalisation and scores ranging from 76 to 90 represented "low" and scores between 91 and 105 represented "medium" and grades between 106 and 120 indicated "high" and scores between 121 and 150 indicated a "very high" professionalisation.

### Translation and Cross-cultural Process

Four steps aiming at the complete adaptation of the instrument were followed, maximising the semantic attainment, idiomatic, experiential and conceptual aspects between the original instrument and the adapted instrument:

**1. Forward translation:** At this stage, the English version of the HPS was translated by two translators in Persian. Both translators were faculty members and familiar with the terms

covered by the questionnaire, they translated 30 items independently. Before translating, it was emphasised that translation should focus more on conceptual translation and avoid translating literally.

At the end of this phase, the researchers resolved the non-obvious phrases and concepts of the translation and the differences between the two translations, and eventually a single translation of the English questionnaire was obtained.

- 2. Backward translation:** The Persian translation, summarised at the previous stage by a native speaker who was fluent in both Persian and English, was re-translated into English by a faculty member from the University of Ardabil University of Medical Sciences. Returning independently and emphasising conceptual equation instead of linguistic restoration, the translators did not provide the original version of the questionnaire. At the end of this phase, researchers had a discussion about concepts, words and phrases, then reached a single conclusion and a Persian questionnaire of 30 items was obtained.
- 3. Pre-test:** In this step, in order to determine the psychological and understandable questions, 30 nurses were asked to express what they think about each question. What do they think about when they hear a specific phrase or word? They were asked to explain how to choose responses to identify inaccurate terms and phrases.
- 4.** At this stage, the nurses' suggested changes in the writing of the questionnaires, and their suggestions were used to replace words like "competency" instead of "empowerment".
- 5. Finalisation:** The final version was the result of all the steps that were taken during steps mentioned above and they were reviewed in terms of spelling mistakes and grammar. Appropriate suggestions were made. All procedures for cultural adaptation were documented through appropriate documentation.

## STATISTICAL ANALYSIS

The descriptive statistics of the socio-demographic variables were calculated using the statistical software SPSS v.22. Factor analysis was carried out using the statistical software R (R Development Core Team, 2008). Statistical significance for the hypothesis tests were defined at  $p < 0.05$ .

## RESULTS

[Table/Fig-1] demonstrates the descriptive characteristics of participants: they were mostly female (95.3%), the mean age was  $34.03 \pm 10.3$  years, 66.1% of participants were married. The mean work experience was  $6.77 \pm 5.99$  years. In this study, 52.6% of nurses had a low level of professionalism and only 12.5% had high level of professionalism. The possible total score ranges from 25 to 125, and a higher score indicates stronger professionalism.

Characteristics		N (%)
Gender	Female	285 (95)
	Male	15 (5)
Marital status	Single	102 (34)
	Married	198 (66)
Education status	B.Sc.	276 (92.3)
	M.Sc.	24 (7.7)
Job satisfaction score	Low	80 (26.6)
	Moderate	197 (65.7)
	High	23 (7.7)
Licensed nurse	Yes	197 (65.7)
	No	103 (34.3)
Desire to leave the profession	Yes	112 (37.3)
	No	188 (62.7)

[Table/Fig-1]: Participants' characteristics (N=300).

Factor analysis was performed in order to deduce and summarise the data, aiming at the formation of factors [Table/Fig-2]. The principal component analysis was defined as extraction method, by applying the Varimax orthogonal rotation to better discriminate the relevance of the variables to the components identified. The formation of the factors followed two criteria: degree of the association among the variables, found using the factor loadings (>0.400); and their degree of subjectivity. The KMO index (Kaiser-Meyer Olkin) was calculated for sample size 0.92 and Bartlett test ( $p < 0.01$ ).

### Validity

Regarding the validity of the construct, 30 questions of the instrument were submitted to exploratory factor analysis (between clusters), in order to verify the discriminant validity of the instrument [14]. The first cluster suggested the formation of 12 constructs, which made the categorisation difficult, in accordance with the context proposed. Accordingly, there was a process of gradual exclusion of every question presenting low correlation rates in its cluster or non-adherence to the conceptually formed constructs, in order to facilitate the grouping of the questions, considering factor loading slower than 0.400 as cut-off.

The six dimensions of the instrument explain the variation of 86.91% in relation to the original questions, representing a suitable degree of data synthesis, which facilitates the interpretation.

Hence, in its final version, the instrument consisted of 30 items and presented six constructs: professional association as reference has

a special amount of (14.04), believing in the continuing competency (14.42), believing in self-regulation (16.06), sense of commitment to the profession (11.56), independence (16.81) and believing in serving society (14.02).

### Reliability

The reliability of the six constructs of the instrument was evaluated using the Cronbach's alpha calculation. The instrument presented Cronbach's alpha value of 0.89, and the coefficients of the five constructs ranged from 0.53-0.76.

In addition, all 30 questions were confirmed by calculating Content Validity Ratio (CVR) for instrumental questions. Also, Content Validity Index (CVI) was 0.96 and indicated that the CVI of this questionnaire was acceptable.

## DISCUSSION

Six factors extracted from the original Professionalism Scale were confirmed by the factor analysis in specialist nurses of ICU, which matched the main instrument. This study showed that the translated version of the "Nursing Professionalism Scale" could be a useful instrument for assessing the impact of professionalism on nursing practice to improve the clinical function of nurses, patients and organisations, and even clinical education of nursing students.

The professionalisation was defined as a dynamic process whereby many occupations can be observed to change certain crucial

Items (Dimension)		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Special amount
1	I believe that reading Journals related to our profession, is important.	0.67						14.04
2	I believe that professional organisations should be supported.	0.82						
3	I feel myself committed to regular attendance at the local meetings about my profession (nursing).	0.81						
4	Professional organisations do not do a lot for their ordinary members.	0.84						
5	Although I love this position, I do not think reading journals has much priority.	0.72						
6	I can maintain an adequate standard in my work without participating in constant education programs.		0.71					14.42
7	Continuous training like self-learning or seminar is essential in my profession.		0.74					
8	The profession doesn't really encourage continued training.		0.53					
9	Continuing education is less important in my daily work.		0.67					
10	If I do not participate in continuing education programs, I will ruin my career.		0.77					
11	My colleagues make very good comments about each other's qualifications.			0.67				16.06
12	A problem in this profession is that no one really knows what his colleagues are doing.			0.75				
13	We have no way to judge each other's competency.			0.76				
14	There isn't much possibility to make judgements about how others work.			0.90				
15	My colleagues know very well how well all of us (nurses) do our position.			0.67				
16	Nurses have a sense of belonging to their work				0.71			11.56
17	Commitment to the nursing profession is undeniable.				0.67			
18	It is encouraging to see the people in this profession (nursing) are idealists.				0.76			
19	Most people still stay in this job if their salaries are reduced.				0.75			
20	There are few people (nurses) who really do not have faith in their work.				0.88			
21	I myself make decisions about what I should do.					0.90		16.81
22	It is easier when someone else takes responsibility for decision making.					0.89		
23	I revisit and review the decisions that I have made.					0.67		
24	I make decisions on almost everything that is related to me.					0.81		
25	Most of my decisions are reviewed by other people.					0.53		
26	Other professions are, in fact, more vital for the society than my career.						0.62	14.02
27	I think my profession is more essential than other professions in the society.						0.71	
28	The importance of my profession is sometimes over stressed.						0.78	
29	It is impossible to say that any occupation is more important than any other.						0.71	
30	If there is only an important position, it is the very position.						0.84	

[Table/Fig-2]: Factor loading for each item under factor 1-6.

Factor 1: Professional Association as reference, 2: Believing in the continuing competency, 3: Believing in self-regulation, 4: Sense of commitment to the profession, 5: Independence, 6: Believing in serving society.

characteristics in direction of a profession. Such characteristics may either be structural or attitudinal. The latter, that is, the attitude and ideology held by practitioners, denotes the degree of professionalism characteristic of an occupation [12]. In this viewpoint, nursing is beyond a collection of activities and skills [15].

Also, in the context of intensive care nursing, various situations may constitute moral dilemmas requiring a choice between undesirable alternatives or conflicts between different values [16]. Such difficulties, dilemmas or conflicts are usually related to practical situations in which the defining attributes are involvement, equally unattractive alternatives, the need for a decision and uncertainty about which action to take [17]. In fact, it is the effect of a professional nurse who has the right in decision-making power and a high level of problem-solving empowerments. Acquiring clinical experience and professional growth and recovery, as well as ensuring the quality of nursing care, are the hallmarks of nursing professionalisation [18].

In other words, using the present tools, the level of professionalism of nurses can be measured and according to the complexities of patients and the care needs of hospitalised patients in the ICU, professional nurses can be used to minimise the existing problems. This will also have positive consequences such as understanding the patient's condition, providing quality care and reducing clinical problems. The HPS of nurses was obtained through the stages of translation, cross-cultural adjustment, assessing validity and reliability to measure it; it could enhance the ability of critical thinking, autonomy, empowerment, and ability to rethink the nursing performance.

### Limitation(s)

One of the limitations of the present study was the lack of generalisability of the results. In order to ensure the reliability of the test, it is necessary to study in more diverse environments with larger sample sizes.

### CONCLUSION(S)

This study found that the professionalism scale was reliable for Iranian nurses who were working at ICUs to evaluate their quality of care and professionalism levels. It is suggested that in future studies, the credibility and reliability of a standardised scale with other scales in Iran should be compared. In order to complete the scale, it is also suggested that other types of validity and reliability that are not measured should be considered.

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