

Nursing Students Professional Behaviors Scale (NSPBS) validity and reliability

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ABSTRACT

Objective: To test the validity and reliability of Nursing Students Professional Behaviors Scale.

Methodology: This descriptive study has been conducted on eight health schools. Nursing Department 2nd, 3rd and 4th grade students of these (N=895) schools were included in the study. The data have been gathered with 27 itemed Nursing Students Professional Behaviors Scale (NSPBS) prepared by the researchers. The levels of the students to practice professional behaviors have been evaluated in a 5 step likert form. For statistical evaluation percentages, chi-square test and variance analysis were applied by using SPSS packet program.

Result: NSPBS is a three sub dimensioned measuring tool. In consequence of the factor analysis it has been found that the eigenvalues of the items are gathered in three factors exceeding one and that the total variance of these three factors is 57.2 %. Factor loads of the items vary between 0.44 and 0.87 values. The Chronbach alpha internal consistency coefficient is 0.95 (p<0.01), and alpha value has been calculated as 0.95 for factor 1, 0.80 for factor 2 and 0.79 for factor 3. Their item - total correlations have been determined to be between 0.42 and .81 (p<0.01). Results have demonstrated that factor analysis is applicable.

Conclusion: NSPBS has high validity and reliability for measuring the professional behaviors of nursing students.

KEY WORDS: Nursing education, Professional nursing, Nursing Students Professional Behaviour Scale.

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INTRODUCTION

Occupations that self evaluate and self manage themselves are named as 'profession' which gain the trust and respect of the society.¹ Nursing is a profession existing as a community service since the ancient history that has originated from the desire of making humans healthy and comfortable, taking care

of ill people and evoking the feeling that the patient is safe.^{2,3} Professionalization in nursing was started with Florence Nightingale and nursing education has entered into the process of developing a scientific identity.^{1,4}

While 20th century has seen the developments in nursing education, the theories and concepts have brought a new content to the long history of nursing.^{1,5} With nursing education it is aimed to develop the students' free thoughts, clarify their individual values, bring in professional and ethical values and develop vocational consciousness.^{1,2,6,7} In our country studies emphasize on the problems regarding professional nursing and have demonstrated the need for new studies.^{3,8-10}

The objective of this study was to test the validity and reliability of Nursing Students Professional Behaviors Scale (NSPBS).

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METHODOLOGY

This study was conducted between April – July 2008 and on 8 health schools. Nursing Department 2nd, 3rd and 4th grade students of these schools were included in the study (N=895). Due to the fact that they are newly getting vocational conscious, 1st grade students were excluded from the scope of the study.

Educational personnel were informed regarding the objective of making the research on the students and it was ensured that the questionnaires have been filled in class environment. All the students who were contacted accepted to participate in the research.

The data was collected with 27 itemed NSPBS prepared by the researchers. A pool was composed from 86 items indicating professional behaviors, an expert group of three educational personnel evaluated these statements and gave the final shape to the NSPBS. The levels of the students to practice professional behaviors was evaluated in a 5 step likert form (5. Absolutely sufficient, 4. Partially sufficient, 3. Undecided, 2. Insufficient and 1. Absolutely insufficient). The points that can be scored from the scale vary between 27 and 135. As higher points are scored, levels of the students to practice professional behaviors increase.

Regarding the validity of the NSPBS validities of its language, context and construct have been examined. For determining context validity opinions of people who are expert in the area were obtained. For determining its construct validity Main Components Analysis and Varimax rotation method was utilized. For the reliability of the scale suggested internal consistency and item total point correlations have been examined.

RESULT

Table-I highlights students demographics and class distribution. About 87,7 % of the students were female and students distribution among the grades was similar. While pre-factor analysis KMO test result has been found 0.964, Barlett's Test Sphericity analysis result has been determined as 14531,379, and the results of both of these tests have been found statistically important ($p < 0.000$).

Table-II indicates the NSPBS items along with factor construct, factor loads, eigen values, percentage of values they express and Chronbacha alpha values.

In consequence of the factor analysis it has been found that the eigenvalues of the items are gathered in three factors exceeding one and that the total

variance of these three factors is 57.2 %. Factor loads of the items vary between .44 and .87 values.

The Chronbach alpha internal consistency coefficient is .95 ($p < 0.01$), and alpha value has been calculated as .95 for factor 1, .80 for factor 2 and .79 for factor 3 (Table-II). Their item – total correlations have been determined to be between .42 and .81 ($p < 0.01$). The total scale points of the students vary between the minimum value of 32 and maximum value of 135 and the average point has been found as 113.49 ± 18.47 . The average point of female students (114.55 ± 18.31) has been found expressively higher ($t = 4.608$, $p < 0.001$) than the average point of male students (105.98 ± 17.99). It has been determined that there is no expressive correlation between the points scored by the students and their ages ($r = .017$, $p > 0.05$). An expressive difference has been found between the points scored by the students and the universities they attend ($F = 4.39$, $p < 0.001$) and their grades ($F = 8.91$, $p < 0.001$), and it has been determined that the scale points of 4th grade students are higher than the points of others.

DISCUSSION

The size of the sample should be at least five times, or even ten times of the number of items.¹¹ In this study the number of samples is higher than and the results of pre-factor analysis KMO and Barlett's Test Sphericity analysis ($P < 0.000$) have demonstrated that the sample is adequate and that the data are according to the normal distribution.

While deciding on the number of factors and eliminating the items that do not measure the same construct in factor analysis and the items having one

Table-I: Some descriptive characteristics of students

<i>Students (n= 895)</i>	<i>N</i>	<i>%</i>
<i>Gender</i>		
Female	785	87.7
Male	110	12.3
<i>University</i>		
Harran	74	8.3
Adiyaman	114	12.7
Sutcu Imam	92	10.3
Dicle	146	16.3
Elazig	114	12.7
Gaziantep	189	21.1
Mustafa Kemal	87	9.7
Artuklu	79	8.8
<i>Class</i>		
II.	320	35.8
III.	318	35.5
IV.	257	28.7

Table-II: Factor construct, factor loads, item - total correlations, eigenvalues and percentages of variance they express of Nursing Students Professional Behaviours Scale.

<i>NSPBS Items (Scale Chronbach alpha = 0.95)</i>	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>	<i>r*</i>
1. I focus all my attention on the patients while caring them	0.54	--	--	0.63
3. I cooperate with health team members	0.54	--	--	0.65
4. I provide service for fulfilling peoples needs regardless of their personal attributes	0.60	--	--	0.65
6. I establish relations with health team members without any discrimination	0.44	--	--	0.62
8. I assist to create positive profession image with my personality and behaviours	0.77	--	--	0.77
9. I establish a harmonious environment for myself and others	0.63	--	--	0.73
10. I respect the right of the individual to refuse treatment and care	0.64	--	--	0.62
12. I can observe the problems of the patient	0.59	--	--	0.70
16. I respect and protect the privacy of the individual	0.87	--	--	0.80
17. I protect the confidentiality of the patient related information	0.85	--	--	0.80
18. I provide the service in a respectful manner	0.87	--	--	0.81
19. I show empathy	0.75	--	--	0.74
20. I serve out the resources equally	0.66	--	--	0.69
21. I do not act against ethics	0.76	--	--	0.72
23. I do not act against the laws	0.73	--	--	0.70
25. I keep care taking and treatment records accurately and completely	0.66	--	--	0.74
26. I make decisions by gathering adequate and correct data regarding the facts	0.58	--	--	0.75
27. I protect the society from false information regarding the profession and professional practices	0.65	--	--	0.75
2. I generate ideas on social matters affecting healthcare	--	0.57	--	0.61
5. I generate ideas in line with developing healthcare and nursing	--	0.75	--	0.54
7. I arrange the environment in a way that can please the patient	--	0.44	--	0.62
11. I establish an environment in which vocational problems can be discussed	--	0.74	--	0.46
13. I can determine the problems of the patient	--	0.50	--	0.65
14. I decide by considering my vocational knowledge, skills and experiences on patient healthcare	--	0.53	--	0.71
15. I practice the care I plan for the patient	--	0.46	--	0.67
22. I report unethical practices	--	--	0.86	0.42
24. I report illegal practices	--	--	0.86	0.44
Eigenvalue	12.386	1.89	1.17	--
Percentage of variance it expresses (Total; 57,2 %)	45.9	7.0	4.3	--
Chronbach alpha value	0.95	0.80	0.79	--

or higher Eigenvalue have been determined as important factors.¹² The fact that expressed variance rate is high indicates that it measures the relative construct well. For having the factor measure the item it defines it is preferred that the factor load value indicating its relating with that factor is 0.45 and higher. However for small number of items load value may be reduced down to 0.30.¹²⁻¹⁴

In the factor analysis of the scale three factors of which their eigenvalues exceed one have been obtained and their factor load varies between 0.44 and 0.87. According to this it is possible to say that the factor loads of the items are at the preferred level. In consequence there have been no items that needed to be removed from the scale. Eighteen items have been gathered in factor one and when conceptually examining these items it has been determined that they are related with healthcare concept. Therefore it has been considered that factor one can designated as "Healthcare Practices" sub-dimension. Seven

items have been gathered in factor two and it has been determined that the expressions are generally related with professional activities. This factor has been designated as "Activity Practices". It has been observed that the practices of the two items falling in factor three are related with reporting and this factor has been designated as "Reporting".

Chronbach alpha method is suggested for examining the reliability of Likert type scales and the measurement tool is a measurement of the internal consistency of the items involved.^{13,14} Chronbach alpha internal consistency coefficient of the scale has been calculated to be 0.95. Chronbach alpha values of the sub dimensions have been determined to be respectively .95, .80 and .79. With such a construct it is safe to say that the scale is substantially reliable. However, NSPBS is a scale that has no sub dimensions and it has been considered that the application of the scale as a whole would be convenient.

As it can be seen from Table-II, item total point correlations that show the relation of each item constituting the scale with the total scale value have been found between 0.42 and 0.81. The literature states that the items having item total point correlation less than 0.15-0.20 reduces the reliability of the scale and should be removed from the scale.^{11,14,15} The fact that the item total point correlations of NSPBS are higher than these values (0.42-0.81) has indicated that there is no item that is required to be removed. The adequate level of item total point correlations may be evaluated as a finding that supports the reliability of the scale.

The scale total points of the students are considerably above the average. In Karadag et al. study, the professionalism of Turkish nurses was found to be quite low compared to findings in other studies.¹⁰ In addition Boughn found nursing students ranked lower on autonomy and masculinity scales than students in the other educational programs.¹⁶ It is considered that the differences in the education experiences of the students have an effect on our findings being contradictory with the literature. For example Livsey study results revealed a direct relationship exists between student perceptions of structural empowerment in their clinical learning environment and professional nursing practice behaviors among students.¹⁷

It is considered that, the fact that in our country there are some recent changes in the perception of nursing as a profession since also men are nowadays engaged in nursing, may be one of the reasons why in most areas no statistical differences between the sexes and the grades of the students have been found.¹⁸ Vocational consciousness of nursing students develops more with each year, from the time when they start to obtain the knowledge regarding their profession until they graduate. Therefore their practices of professional behaviors exhibit differences by the years.¹⁹⁻²²

CONCLUSION

It has been considered that the three sub dimensioned NSPBS is a measuring tool that has high validity and reliability for measuring the professional behaviors of nursing students. Despite the fact that the reliability levels of all three sub dimensions of NSPBS have been found high, it is still considered that its use as a whole would be convenient. NSPBS may be used for evaluating the effectiveness of an education before or after the education, with the purpose of evaluating the professional behaviors of the students during their education. NSPBS may also be considered as a scale that can be used for evaluat-

ing the effectiveness of various education methods on developing professional nursing behaviors.

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