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The Chinese version of Instrument of Professional Attitude for Student Nurses (IPASN): Assessment of reliability and validity

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ABSTRACT

Background: Professional attitude is of great importance for nursing talents in the modern society. To develop an effective educational program for student nurses in China, an appropriate instrument is required for the assessment of their professional attitude.
Objective: To assess the validity and reliability of the Instrument of Professional Attitude for Student Nurses (IPASN) in Chinese version.
Methods: The original version of IPASN was translated through Brislin model (translation, back translation, culture adaption and pilot study) with the authorization from the developer. A total of 681 nursing students were chosen by stratified convenience sampling to assess construct validity using exploratory factor analysis (EFA). Besides, item analysis, Cronbach's alpha coefficients, test-retest reliability were conducted to test the psychometric properties in this part. A total of 204 nursing undergraduate trainees were selected by cluster convenience sampling to confirm the structure using confirmatory factor analysis (CFA) in another time.
Results: Corrected item-total correlations, alpha if item deleted were between 0.33 and 0.69, 0.906 and 0.913, respectively, indicating no item should be deleted. Cronbach alpha value was 0.91 for the total scale and Cronbach alpha coefficient for subscales ranged from 0.67 to 0.89. Test-retest reliability estimated from intraclass correlation coefficient (ICC) was 0.74 ($P < 0.05$). Differences in item scores between the high-score group (the first 27%) and low-score group (the last 27%) were significant ($P < 0.001$), indicating that the item discrimination ability was good. Seven subscales (contribution to increase of scientific information load, autonomy, community service, continuous education, to promote professional development, cooperation and theory guiding practice) were identified in EFA and confirmed in CFA, and explained 65.5% of the total variance.
Conclusion: It indicated that the Chinese version of IPASN was valid and reliable for the evaluation of nursing students' professional attitude.

1. Introduction

Professionalism in nursing refers to nurses' behaviors such as autonomy and self-regulation, trust in public services, a sense of vocation (Wynd, 2003), and further accountability (Carryer et al., 2007). Attitude towards professionalism have an impact on the learning process, the acquisition of useful professional skills, the enrollment in future occupation, professional behaviors and job satisfaction (Mathew and Aktan, 2014). Moreover, it was said that being aware of the attitudes towards professionalism will help students to exhibit professional attitudes after their graduation, thus conducing to make nursing professionalized (Miller et al., 1993; Weis and Schank, 2000). Nursing has been recognized as a first-level discipline in China since 2011 (Ministry of Education of the People's Republic of China, 2011). The adjustment on discipline catalogue affords its robust development and places increasing demands on a growing number of well-quality professional (Zhang, 2011). It was reported that the training and counseling programs are of value for student nurses' professional attitude (Karadag et al., 2015). To develop an emotional education program on professional attitude, the level should be assessed prior to intervention.

The Instrument of Professional Attitude for Student Nurses (IPASN) was developed in Turkey by Hisar et al. (2010). It is a comprehensive, multi-dimensional instrument to assess the professional attitude for nurse students adopting Miller's "the wheel of professionalism in nursing" model as a framework (Miller, 1984; Miller et al., 1993). It consists of 28 items distributed in 8 factors as following: contribution to the increase of scientific information load (6 items), cooperation (5 items), autonomy (3 items), competence and continuous education (3 items), community service (2 items), participation in professional organizations and professional development (3 items), ethical codes and theory (3 items) and working in committees (3 items). It contains twenty-one positively worded items (e.g., I want to do a Master's in nursing) and seven negatively worded items (e.g., I do not plan to conduct projects). Each item is scored from 1 (completely agree) to 5 (do not agree at all)

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and the total IPASN score is calculated (ranging from 28 to 140). Higher scores represent more positive professional attitude. The IPASN has exhibited adequate reliability and validity in previous studies (Hisar et al., 2010; Celik et al., 2012). The internal consistency and 4 week temporal stability coefficients for the IPASN were 0.90 and 0.91, respectively (Hisar et al., 2010). It has been applied to students nurse in the empirical study on professional attitude in Turkey (Karadag et al., 2015). However, since the IPASN was rooted and developed in Turkey culture, further validation studies in different cultural settings are warranted before it can be applied confidently across cultures.

Although several instruments concerning professional attitude were used in extant studies among Chinese nurse students, it suggests the need for a stringent validation study of the IPASN with a Chinese population. First, some instruments were originally developed for use with nurses, and the items were not highly relevant to the professional attitude for nursing students (Wu et al., 2000; Gong et al., 2011). Second, these studies used different versions of the professional attitude scale for nursing students. For instance, Pei et al. (2012) and Liu et al. (2013) used the same version of the Professional Attitude Scale developed by Wu et al. (2000) and Yang et al. (2015) employed the Chinese version of Nurses Professional Values Scale-Revised (NPVS-R) translated by Gong et al. (2011). Whereas Chen and Xian (2008) and Wang et al. (2011) employed self-developed questionnaires, and the psychometric properties were not investigated systematically and comprehensively. Third, the development processes of the questionnaires were not rigid enough to meet the current standards of scale development, especially lacked of mature theoretical model as a frame (Li and Liu, 2006). Currently since there has been no specific measure on professional attitude for nursing students yet, we cannot make credible and reliable conclusions on this issue.

The goal of this study was to translate the English version of IPASN into Chinese (see the Appendix) and validate its psychometric properties.

2. Method

2.1. Translation of the Instrument

With the permission of the developer of the IPASN, we translated the original version into Chinese guided by Brislin model (translation, back translation, culture adaption and a pilot study). First, two excellent bilingual medical students independently translated the IPASN into Chinese. Then two nursing and psychology professors synthesized the two independent translation versions, and discussed the differences to achieve consensus on the best and most accurate translation. For example, “I plan to be a member of the Turkish Nurses' Association” was translated into “I plan to be a member of the Chinese Nurses' Association”. And “I plan to be a member of special branch associations in my area” was changed into “I plan to be a member of special branch associations in my area (such as a committee member psychiatric department of Guangdong provincial Nursing Association)”. Then to establish semantic equivalence, another bilingual medical student blindly translated the Chinese version of IPASN back to English. Finally, an overseas student in Britain, a native speaker of Chinese who has been abroad for 5 years evaluated the original and back-translated versions. Hence the Chinese version of IPASN matched the original version linguistically and culturally. To test the clarity and intelligibility of each item, the Chinese version of IPASN was distributed to a convenient sample of 10 undergraduate nursing students. The final Chinese version of IPASN formed with the following discussion of the results. All of the students recruited in this translation process held undergraduate-level English competency.

2.2. Participants

2.2.1. Phase 1

Participants were recruited from one medical university in Guangzhou, China by a stratified convenience sampling method. The inclusive criteria for participants were: (1) full-time nursing students; (2) willing to participate in the study. The exclusion criteria included physically and mentally disorder. The sample included 3-year (professional students) and 4-year (undergraduate students) educational system students, among whom there were 360 undergraduate students with a score of 90 for each and 360 professional students with a grade of 120 for each.

2.2.2. Phase 2

The sample consisted of 204 nursing undergraduate trainees. Recruitment of the participants took place at two medical universities in Guangzhou, China using the cluster convenience sampling method. The study was restricted to the full-time nursing students who have taken over 10 months of clinical practice. The exclusion criteria were the same as the former part.

3. Data Collection

3.1. Phase 1

Data was collected between March and April 2015. The ethics committee of the medical university approved the study. The nature of the study and procedures was explained. Participants were informed that the questionnaires would be filled out voluntarily and non-participation would not affect their course scores. The unified instructions were supplied by the trained researchers. And the questionnaires were delivered to the students who voluntarily participated in the research during class. The participants completed and returned the questionnaires in class. To ensure confidentiality, no identifying details were obtained from participants.

3.2. Phase 2

Data collection was carried out between April and May 2016. The procedure of the study was similar to the former part.

4. Statistical Analysis

Data were input into Epidata 3.0. The software SPSS version 20.0 and AMOS version 20.0 were used for statistical analysis. Means, standard deviations, item-total correlations, frequency and percentage were utilized in the descriptive statistic of the scale item and sample characteristic. Bivariate correlation analyses were performed to assess item-total correlation. The internal consistency of the scale was analysed using Cronbach's alpha. The stability was determined using a test–retest procedure by computing the intraclass correlation coefficient (ICC). Independent sample *t*-test was employed to evaluate the item discrimination ability. The construct validity of the instrument was determined by exploratory factor analysis (EFA) using principal component with varimax rotations. Confirmatory factor analysis (CFA) was performed to confirm the structure of IPASN. *P* value below 0.05 was a statistically significant indication.

5. Results

5.1. Demographic Characteristics

5.1.1. Phase 1

A total of 681 (out of a possible 720) nursing students completed the survey, resulting in a rate of return of 94.6%. Participants' mean age was 21.8 (SD = 1.83). Of them, 91.2% were female and 49.2% were undergraduate students. Three respondents didn't identify their gender. And 33.8% of the final sample were junior students and the rest were sophomores (26.9%), freshmen (20.6%) and seniors (18.8%).