



# The cross-cultural (transcultural) adaptation and validation of the nursing image questionnaire

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## ABSTRACT

Education of nurses in the Republic of Croatia is being developed as a result of compliance with education in the European Union and the implementation of nursing research that leads to the growth of the whole profession. However, prejudice against the nursing profession is still present and therefore it is necessary to explore the attitudes of the general population and the population of nurses in the nursing profession in order to discover the causes of such prejudices and act on them. Therefore, the aim of this paper was to present transcultural adaptation and validation of the Nursing Image Questionnaire, which was created by Toth and associates (1998). The questionnaire, which includes 30 items and measures how an individual looks at the roles, values, and professional activities of nurses, was conducted as part of a preliminary study and was culturally adapted. The final study included 905 students who in 2011 and 2012 enrolled in the first year of full-time and part-time nursing study; the questionnaire was completed by 725 students. Toth and associates assumed that the attitude toward nursing is expressed as the sum of the responses of all the items, which would mean a factor structure with high item intercorrelation, but they also split the questionnaire into five thematic units. Results showed that, contrary to expectations, intercorrelations of items were extremely low and that following the completion of factor analysis, no satisfactory construct validity was established. From the obtained results, it can be concluded that it is not justified to create a latent dimension as established by research of Toth and associates, and the items, although there is a correlation between some of them, should be interpreted and analysed as independent constructs.

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## 1. Introduction

Nursing in the Republic of Croatia is rapidly developing as a result of changes in education (i.e. the harmonisation of education in Croatia with the education of nurses in EU countries, education of an increasing number of nurses in higher educational institutions, education based on theories of nursing care, nurses making diagnoses and interventions, focus on evidence-based education, and research in nursing and its application to education and practice).

Despite the rapid development directed toward professionalisation, nursing is still struggling with the problems of the public perception of nursing and presentation of nurses' contributions while providing care to patients. Still, almost two-thirds of nurses employed in the health system are nurses with secondary education and a lower competence, compared to those with bachelors of nursing, which affects the perception of nursing and work that nurses perform. Research shows

that raising the level of education affects the professional status of nurses (Yazdannik et al., 2012). Positive public perception is extremely important because public recognition is a crucial component of professional recognition (Takase et al., 2002). Positive perception of the nursing profession can result in higher self-confidence, higher job satisfaction, and higher quality of nursing care. A small amount of nursing research has been conducted in Croatia aimed at determining the attitudes of the general population, nurses, other health care workers, and nursing students toward nursing. Among the general population, the nursing profession is perceived as heavy and stressed, underpaid, and not respected (Gavranic et al., 2015). Although the work of nurses is considered difficult and demanding, there are still candidates for enrolment into nursing study because of job security, possibilities of finding jobs in the European Union, and more recently because of greater advancement opportunities after completing graduate studies. It is important to gain insight into attitudes toward nursing in order to, if necessary, affect those attitudes by additional education to the general population and nurses.

The purpose of this paper is to present cross-cultural adaptation and validation of the Nursing Image Questionnaire.

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### 1.1. The Cross-Cultural Adaptation

Although in Croatia nursing is rapidly evolving, there is still a small amount of research nursing instruments developed right here in Croatia. Nurses in Croatia take on many experiences from the practice of nurses in Europe and the United States of America, and data from the literature is adapted to the conditions in nursing in Croatia.

The implementation of the research requires the development of an instrument or adjustment of the instrument that was previously used in other studies. Translation and adaptation of the instrument allow comparison of the results obtained. In conducting the research, it is not possible to translate and use a questionnaire developed and validated in another language, because of cultural and language differences. Although the translation and language adaptation is the simplest way to adapt a questionnaire, this is considered a simple and often insufficient adaptation of the questionnaire (Maneesriwongul and Dixon, 2004).

Each culture has unique values, organisational systems, and environment (Beauford et al., 2009). That is why it is necessary when translating, but before applying, to pay a lot of attention to linguistic and cultural adaptation of the instrument. The above is particularly important if we want to compare research results collected on the basis of the same questionnaire and in different environments. If during takeover of the questionnaire it is necessary to linguistically and culturally adapt the questionnaire, then we shall talk about cross-cultural adaptation. During linguistic adaptation, the questionnaire is translated; during cultural adaptation, it is adapted for use in a specific new environment (Beaton et al., 2000; Guillemin et al., 1993).

During transcultural adaptation of the Nursing Image Questionnaire, we were guided by the recommendations for cross-cultural adaptation from authors Beaton et al. (2000). The recommended steps are two-way translation, discussion, testing a prefinal version of the questionnaire on a small group of examinees, cognitive testing, and production of the final version of the questionnaire and application. After each stage, it is necessary to draw up a report with a detailed description of each stage. Some authors state that in multi-center studies the report should be sent to the author or the main examiner (Beaton et al., 2007), whereas in cases of smaller research, this recommendation is not stated (Wild et al., 2005).

The Nursing Image Questionnaire, seventh version (NIQ-7), was created by Toth et al. (1998) and consists of 30 items that assess how an individual looks at the roles, values, and professional activities of nurses. Replies to these items were in the form of a Likert scale, wherein the points in each item are in the possible range of 1 to 5, depending on the degree of agreement with these statements. The items that make up the NIQ-7 represent the nursing roles, values, and professional activities and responsibilities of nurses. The range of the total number of points ranges from 30 to 150, with higher scores representing a more positive attitude toward nursing and lower scores more negative attitude.

Content of the NIQ-7 is based on the content of Hoskins questionnaire, literature review, clinical experience, and the recommendations from an 11-member panel of experts in medical-surgical nursing, psychiatric nursing, and maternal-child nursing. Content areas are the roles of nurses (10 items), values (7 items), social stereotypes toward nursing (6 items), professionalism (4 items), and the characteristics of nurses/nursing (3 items) (Toth et al., 1998).

Content validity was confirmed by experts who analysed NIQ-7 twice to determine the representativeness and relevance of the items. The

construct validity was determined by the method of group differences, using the results of the 45 examinees who belonged to a group known to be different in terms of attitudes toward nursing/nurses and 45 examinees of the general population. Examinees in the group known to be different from the general population, according to the theory of roles and socialisation, achieved higher scores ( $t = 6,7; p < 0.001$ ). The construct validity was also determined by analysing the correlation of each item with an overall score, and it showed that all the correlations were between 0.15 and 0.70 (Toth et al., 1998).

Reliability, measured by Cronbach's alpha coefficient, was 0.80 in a sample of 115 graduated nurses and 0.75 in 388 students in undergraduate nursing study. Test-retest reliability tested on students 4 weeks after the first measurement was  $r = 0.77$  (Toth et al., 1998).

After obtaining approval for the use of the questionnaire by the author (Toth), translation of the questionnaire was completed. Two people independently of each other translated the questionnaire from English into Croatian, a so-called forward-translation. Then the synthesis of translation and discussion of the applicability and intelligibility of certain items of the questionnaire was made. Two interpreters translated the final version of the questionnaire back into English, a so-called back-translation. Then the translations were compared and aligned, and the prefinal version of the questionnaire was made. The prefinal version of the questionnaire was completed by twenty examinees. After completing the questionnaire, the participants reported on the comprehensiveness and clarity of items listed in the questionnaire. Since the prefinal version of the questionnaire was clear, it could have been considered as the final version of the questionnaire. (See Fig. 1).

When translating the questionnaire, it was necessary to adapt items 4 and 26. In the original questionnaire, item 4 reads "Nurses should wear the white uniform in order to be recognized." In Croatia, during the 1920s and 1930s of the last century, the standard nursing uniform was regulated by a light blue uniform, white apron, and a white cap, and then a dark blue uniform with a white apron and a white cap (Dugac and Horvat, 2013). Later, in the 1960s and 1970s, the exceptions were nurses in intensive care units and on the operating block, who wore green uniforms. During the 1990s, nurses ceased to wear an apron and cap, and in most health institutions they wore a light blue or dark blue uniform. At the beginning of the 21st century, uniforms in other colours began to be used, but nurses are still associated with blue uniforms. Therefore, the final item in adapted translation reads: "Nurses should wear the blue uniform in order to be identified."

Direct translation of the item 26 would read: "Nurses who have completed advanced levels of education significantly contribute to patient care." According to the Law on Nursing in the Republic of Croatia, a basic level of education for nurses is at the secondary school level. By 2005, education of nurses ended at the bachelor level of study. Since then, after completing bachelor study, nurses can continue their studies at specialist professional graduate studies, and since 2010, at university graduate studies. In order to make this item more clear for examinees, the translation listed advanced levels of education and in the questionnaire. Now, the item reads: "Nurses with completed undergraduate nursing studies and graduate studies significantly contribute to patient care." After translation and adaptation, it is necessary to re-determine the psychometric properties of the questionnaire (Beaton et al., 2000, 2007).

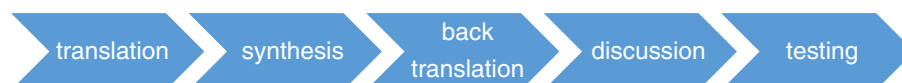


Fig. 1. Steps of transcultural adaptation.

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