Implementation of the Nurse Professional Competence Scale in the Republic of Croatia

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Abstract
The purpose of this study was to evaluate the psychometric properties of the Nurse Professional Competence Scale in Croatia in order to use it as a valid and reliable instrument for assessing nurses’ competence. Methodological study. Content and construct validity as well as internal consistency and confirmatory factor analysis (CFA) was conducted. The six-factor structure of the Nurse Professional Competence Scale in the Republic of Croatia was confirmed by CFA. The six-factor model showed a satisfactory fit to the data (RMSEA = 0.085, CFI = 0.84). All factor loadings were significant at p < 0.05. Cronbach’s alpha for each scale ranged from 0.76 to 0.92. The psychometric properties of the Nurse Professional Competence Scale in the Republic of Croatia show that the scale is a reliable and valid measurement tool and as such can be used in research to assess the quality of professional competencies of nurses. The Scale consists of 35 items distributed in six competence areas.

Keywords
education, nursing, professional competence, psychometric properties, validation

Introduction
With the accession of the Republic of Croatia to European Union and in accordance with the recommendations on harmonization of the education system and competencies of nurses, coordination projects (IPA “Improving the knowledge and skills of nurses and midwives and harmonization of their curricula with Directive 2005/36/ EC,” “Development of professional standards/qualifications with improvement of health care study programs HR 3.1.15-0051” and “Training of mentors for nurses and midwives in the Croatian health care system and implementation of the training program in accordance with Directive 2005/36/EC”) were carried out with the involvement of all relevant educational and health care systems in Croatia. After the harmonization of the education program with the Directive and after the creation of the national curriculum for nurses and the implementation of the program in the last 5 years, the need for an assessment of professional competencies and education of nurses in Croatia arose. After reviewing the available scientific works and since there is no validated scale in Croatia, the Nurse Professional Competence Scale was chosen because it is based on the national competencies as well as the competencies of nurses in Croatia. The aim of the research is to standardize and implement Nurse Professional Competence Scale in Croatia.

Background
Education and competencies of nurses are one of the most important issues in the field of human resources in all health care systems in the world (Feliciano et al., 2019).

Competencies are a set of demonstrable knowledge and skills that enable and improve the efficiency or success of a particular activity. The term “competency” first appeared in a 1959 article by R. W. White as a concept for motivation (White, 1959). The development of competencies is the goal of any educational program and is established at different levels of education. Some competencies are specific to a particular subject area, while others are the same for all educational programs. The development of competencies usually occurs in cycles and in an integrated manner throughout education (Franklin & Melville, 2015).

Competencies are essential to the nursing profession as they ensure high quality and efficiency of health care (Nilsson et al., 2014) and maintain the social value and status of the nursing profession.

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Basic competencies of the nursing profession include basic behavioral guidelines and mastery of advanced practical skills. Nursing competencies primarily include qualities such as tenderness, helpfulness, careful observation and judgment, efficiency, skill, and responsibility. Other competencies include nursing, communication and collaboration skills, management, self-development, innovation, research and stress management (Šepec, 2011). In the professional development of nurses, it is desirable to encourage and develop moral judgment, critical thinking, and social adaptability, but nurses should also be enabled and prepared to recognize and respond appropriately to ethical dilemmas in health care (Zabalegui et al., 2006).

The World Health Organization requires all member states to submit and implement plans to improve nurses’ knowledge and programs to improve their professional competence (European Commission, 2013; World Health Organization [WHO], 2016).

Several reforms in nurse education have been implemented in Europe with the aim of harmonizing the curricula and education programs of all members of European Union in order to facilitate workforce mobility and meet the demands of supply and demand in the dynamic labor market of European Union. However, there are still differences in nursing education across Europe (Cabrera & Zabalegui, 2020).

As a member of the EU, the Republic of Croatia through various harmonization projects, has adopted a national curriculum that complies with the Standards for Higher Education of Nurses (Croatian Classifications Framework) and Directive 2005/36/EC. Directive 2005/36/EC sets the minimum requirements for the education of nurses and stipulates that the education should include 4600 hours of theoretical and clinical training. However, the scope of professional competencies of nurses in terms of education is not specified in the Directive, but must be fulfilled through various country-specific documents (European Commission, 2013).

In Croatia, nurses’ competences are regulated by the Nursing Act, depending on the level of education, and together with responsibility and ethics are defined by the Ethical Code of nurses according to international guidelines (International Council of Nurses). The Nursing Act of the Republic of Croatia lists the competences for nurses with basic education, bachelor’s and master’s degrees, which are divided into eight components: (1) responsibility, (2) ethical practice, (3) principles of nursing, (4) health promotion, (5) evaluation, (6) health care planning, (7) implementation of procedures, (8) education (Šepec, 2011).

The high level of competences acquired through education affects the quality and safety of health care provided by nurses (Aiken et al., 2014), which noticeably contributes to the reduction of mortality and adverse events in patients in hospital (Aiken et al., 2003).

The process of competency development runs throughout the professional development of nurses (Smith, 2012), and therefore it is necessary to assess the competencies acquired during education and throughout the professional career (Schub, 2014). In the last decade, several instruments have been developed to assess nurses and nursing students competencies (Clark et al., 2004; Cowan et al., 2008; Greenberger et al., 2005; Hanley & Higgins, 2005; Meretoja et al., 2004; Nilsson et al., 2018; Poulton & McCammon, 2007), but no instruments have been developed or tested for use in the Republic of Croatia.

Therefore, we decided to test the Nurses Professional Competence Scale (NPC) (Nilsson et al., 2018) to assess nurses’ competencies in the Republic of Croatia.

The NPC scale assesses the level of competence of nurses in performing various tasks in the field of nursing. The scale contains 35 statements grouped into six clusters: (1) Nursing Care; (2) Value-based Nursing Care; (3). Medical and Technical Care; (4) Care Pedagogics; (5) Documentation and Administration of Nursing Care and (6) Development Leadership and Organization of Nursing Care. The scale can be used to identify the level of nursing competencies acquired as well as competency gaps in clinical practice and the quality of nursing education programs (Nilsson et al., 2018).

Any instrument used for assessment must be appropriate, reliable, valid and accurate (Streiner et al., 2015). Therefore, this work aims to assess the validity of the structure and consistency of the NPC scale in the Republic of Croatia.

Methods

Design of the Study

The validation study involved several steps, with the process of translating and adapting the NPC scale carried out according to the instructions of the authors of the original scale (Nilsson et al., 2015) and according to the instructions of the WHO (2020). The confirmatory factor analysis (CFA) was thus conducted to establish the validity of the scale in Croatian sample.

Instrument

The original NPC scale was developed by a Swedish research team under the influence of the World Health Organization (Strategy for Standardization of Educational Programs) and is based on the formal competency requirements for registered nurses in Sweden (what society expects from nurses: professionalism, holistic approach, competence, and ethical behavior; The National Board of Health and Welfare, 2005; Nilsson et al., 2014).

The scale consists of 35 statements divided into six domains of nursing competence: “Nursing Care (5 items)” “Value-based Nursing Care (5 items)” “Medical and Technical Care (6 items)” “Care Pedagogics (5 items)” “Documentation and Administration of Nursing Care (8 items)” and “Development Leadership and Organization of Nursing Care (6 items)” with
a degree of internal consistency and reliability (Cronbah alpha value between 0.71 and 0.86) (Nilsson et al., 2018), which confirms its reliability as an instrument.

Participants
The calculated sample size based on a confidence level of 80% with a margin of error of 5% was 177. We were dealing with a random sample where we did not know what the response rate would be, mainly because of the pandemic, which mainly affected medical personnel. Of the 311 surveys collected, 257 were completed. We are well aware of the importance of conducting a priori power analyses and not using more participants than necessary. However, we were not able to validly predict the number of surveys returned, partially or completely filled out, so we have slightly more participants than needed for a valid estimate of the model.

The number of subjects is based on 311 graduate nurses, of whom 42 (14%) were male and 269 (86%) were female. The subjects belong to clinical practice, primary, secondary and tertiary health care and social care. The mean age of the respondents is 44 years ($SD=±13.04$), and the mean work experience in health care is 18.7 years ($SD=±10.16$).

The inclusion criteria were: To be a registered nurse currently working in a clinical practice, primary, secondary and tertiary health care and social care. The exclusion criteria were: To be a registered nurse who is not currently working or has been in service for less than 1 year.

The survey was conducted from April to July 2020. All respondents were emailed a link explaining the purpose of the survey and how to participate. Participation in the survey is voluntary and based on the consent of the participants, and respondents have the right to opt out at any time without consequences.

Data Collection
By opening the link (https://www.1ka.si/a/277615?preview=on) and completing the electronic questionnaire, nurses agreed to participate in the survey. The questionnaire again described the purpose and goal of the survey and the rights of each participant in this survey. The questionnaire was available at the link for 4 months from April to July 2020, during which time it could be completed. Every 2 weeks, respondents were sent an email reminder that the survey was available. After completing each questionnaire, all collected data were stored in the database on the web server 1ka.si, and after 4 months the questionnaire was closed and the data were exported from the databases to the program JASP to perform statistical analysis. Anonymity of all participants was ensured as the database contained only responses from respondents without first and last names. The collected data were stored on the web server 1ka.si, which was protected by a password, and the researcher was the only one who had access to and was responsible for this database.

Assessment of Psychometric Properties
Translation and Adaptation Process
The process of scale evaluation began with the translation of the original scale into the Croatian language. Experts from the nursing field in Croatia were involved in the translation process to ensure that the translation of certain items was not literal, but maintained linguistic equivalence. The Croatian version was then translated back into English by an English translator.

Face Validity Assessment
The questionnaire translated into Croatian was then sent to 10 nurses (nursing experts in clinical practise) to check face validity. They were asked to critically review and rate the items to check the understanding. All suggestions were further analyzed and incorporated into the translation and scale changes.

Content Validity Assessment
The Content Validity Index (CVI) was assessed by translating the NPC scale into Croatian, which was sent to 8 teaching nurses in 4 nursing studies in Croatia. On the 4-point Likert scale (totally relevant −4; somewhat relevant −3; in need of revision −2; irrelevant −1), they had to determine the relevance and clarity of all 35 items included in the scale. The CVI calculation was made for each item by dividing the total number of experts who rated item 3 or 4 on the Likert scale. The acceptable CVI value is 0.78 (Polit et al., 2007).

Construct Validity Assessment
Construct validity was assessed using CFA. The fit of the model was tested using the chi-square test ($\chi^2$), Root Mean Square Error of Approximation (RMSEA) and Comparative Fit Index (CFI) as suggested by Kline (2015). In the case of a large sample, the researchers recommend the use of RMSEA (Kline, 2015). The values for RMSEA which were 0.08 were said to be acceptable and the values which were 0.06 were said to be good. For CFI, the acceptable value is 0.90 (Kääriäinen et al., 2011). The reliability of the scale was tested by calculating the Cronbach Alpha coefficients and composite reliability (CR). The closer the Cronbach Alpha and CR coefficients are to the value 1, the more reliable the scale was. The values that were ≥0.90 can be considered excellent (Field, 2013).

Following the original authors’ analysis, the latent variables (factors) were scaled using the marker variable, fixing one indicator per factor to 1. In this way, each factor’s measurement scale was adopted from its indicators. Alternatively, each factor’s variance could have been standardized meaning that its’ measurement would be expressed in standardized units. Since all indicators were measured on the same
scale, the interpretability of the results was clearer when using the marker indicator scaling.

**JASP (version 0.14) [Computer Software] was Used for all Statistical Data Analysis**

JASP is a free open-source statistical software supported by the University of Amsterdam. It is a GUI software based on the R programming language. In addition to the CFA presented in this article, the software offers a full range of analyses, including the Bayesian module (Love et al., 2019).

**Ethical Considerations**

The conduct of the study was approved by the Ethics Committee for biomedical research (No. xxxx-xx-xx-x; Class: xxx-xx/xx-xx/xx). According to the research aim and methods, the ethical aspects of the research are emphasized, with special attention to informing the participants about the research aims, voluntary consent to participate in the research, ensuring the confidentiality of the data and protecting the identity of the participants, with special attention to the use of the obtained data for conducting the research and analyses. The authors of the original scale approved the use of the NPC scale for research purposes in Croatia.

**Results**

The study involved 311 nurses who completed their nursing studies in the Republic of Croatia. There is no unanimous opinion about the sample size in research that would be suitable for factor analysis, but it should be noted that the minimum number is at least 100 or 3 to 20 times higher than the number of variables (Mundfrom et al., 2005).

The issue of sample size at CFA is not clear-cut, with different authors suggesting different numbers of participants. To obtain reproducible results, we used an online calculator (https://www.danielsoper.com/statcalc/calculator.aspx?id=89). The calculator is based on the paper by Westland (2010), in which the author suggests that the number of participants for CFA can be determined based on the ratio of the number of indicators to the number of latent variables (Westland, 2010). For CFA, we entered only the number of indicators (35) and latent variables (6), along with the desired power level (usually 0.8) and probability level (again usually 0.05). Our calculations yielded the 177 participants needed to structure a model with 6 latent variables reflected in 35 indicators. We were not able to validly predict the number of surveys returned, partially or completely filled out, so we have slightly more participants than needed for a valid estimate of the model.

**Face and Content Validity**

The translated scale was evaluated by 10 nursing experts. All 35 items of the questionnaire were found to be understandable and clear by the respondents. Several terminological corrections were made in the text, after which the Croatian version of the professional competency assessment scale was prepared. Subsequently, the content validity of the scale was assessed. Content validity was assessed by eight teaching nurses from four nursing studies. The CVI was 0.96. All 35 items were accepted for further validation process.

**Quality of the Data**

The mean of responses to the proposed items ranged from 2.41 to 6.31 (standard deviations of 0.86 to 2.10), and the median ranged from 2 to 7 (responses to all items were reported on a Likert scale of 1 to 7).

**Confirmatory Factor Analysis**

The six-factor structure of the NPC scale was tested using CFA. The model was tested using the Maximum Likelihood method on a sample of \(N=257\). Correlations between factors are allowed, and just as in the English version, the item error variances “Do you assess the patient’s basic human needs?” and “Do you assess the patient’s physical and specific needs?”, “Do you document the patient’s physical status?” and “Do you document the patient’s psychological status?”; “Do you independently administer prescriptions?” and “Do you give clear instructions/prescriptions?” are correlated. These items were included in the same factor, and when their content was examined, it was determined that it was reasonable to allow for mutual correlations. Model fit was tested with a \(\chi^2\) test \((\chi^2 = 1557.27; df=542; p < 0.01)\). Although test showed that there was a significant discrepancy in the fit of the model, the \(\chi^2\) test is heavily influenced by the sample size, thus additional fit measures were assessed. On the other hand, the RMSEA (root mean square error of approximation, parsimonious measures, should be equal to or less than 0.05) value is 0.085 (95% confidence interval 0.080–0.090), indicating a satisfactory fit of the model. CFI (incremental fit—a model of interest is compared with the one that implies independence of latent variables, and it should be as close as possible/or greater than/0.95) is 0.84 and, as in the English version, just failed to reach the recommended value of 0.90. The estimated loading factors shown in Table 1 (along with the data from the English version of the questionnaire).

**Reliability and Validity**

The convergent validity of the scales was evidenced by the fact that the average extracted variance (AVE) for all factors was above the recommended cutoff of 0.5 (Fornell & Larcker, 1981), with the exception of value-based care, which was just below the cutoff (0.48). In addition, all factor loadings were significant at \(p < .05\), further supporting convergent validity (Anderson & Gerbing, 1988).
Reliability was assessed using the Cronbach’s alpha coefficient and CR, which is considered a better measure of structural reliability due to the fact that structural loadings can vary freely. However, in general, both result in similar reliability estimates (Peterson & Kim, 2013) as can be seen from the Table 1. Both the AVE and CR are reported in the Table 1.

### Table 1. Psychometric Properties of NPC Scale in the Republic of Croatia.

| Factor a | Factor loading in the Swedish sample | AVE | CR | Cronbach’s α |
|----------|-------------------------------------|-----|----|--------------|
| Nursing care (5 items) | | | | | |
| Do you independently apply the following nursing process phases: observation and evaluation (nurse anamnesis, status, and nurse objectives)? | 1.00 | 0.90 | 0.91 | 0.92 |
| Do you assess the patient’s basic human needs? | 0.89 | 0.90 | | |
| Do you assess the patient’s physical and specific needs? | 0.92 | 0.85 | | |
| Do you document the patient’s physical status? | 0.94 | 1.02 | | |
| Do you document the patient’s psychological status? | 0.89 | 0.99 | | |
| Value-based nursing care (5 items) | | | | | |
| Communicate with patients, relatives and staff with respect, sensitivity and empathy | 1.00 | 0.48 | 0.84 | 0.83 |
| Do you show respect for patient’s autonomy, integrity and dignity? | 0.77 | 0.92 | | |
| Do you make use of patients’ and relatives’ knowledge and experience? | 1.10 | 0.88 | | |
| Do you show openness and respect for different values and beliefs? | 0.65 | 0.56 | | |
| Do you make use of the knowledge and experience of the team and others, thus contributing to an integral patient overview? | 1.06 | 1.08 | | |
| Medical and technical care (6 items) | | | | | |
| Do you manage drugs properly by applying pharmacology knowledge? | 1.00 | 0.62 | 0.78 | 0.76 |
| Do you administer prescriptions independently? | 0.39 | 1.23 | | |
| Do you give clear instructions/prescriptions? | 1.17 | 1.15 | | |
| Do you use assessment, knowledge and skills when informing and providing safety and well-being to the patient during examination and treatment? | 1.10 | 1.27 | | |
| Do you follow up on patient’s conditions after examinations and treatment? | 0.98 | 1.27 | | |
| Do you handle medical equipment according to existing legislation and safety routines? | 0.97 | 1.25 | | |
| Care pedagogics (5 items) | | | | | |
| Do you provide support and guidance to patients and relatives to enhance optimal participation in patient care and treatment? | 1.00 | 0.89 | 0.9 | 0.9 |
| Do you inform and educate patients and relatives individually, taking into account time, form and content? | 1.21 | 1.13 | | |
| Do you inform and educate groups of patients and relatives taking into account time, form and content? | 1.24 | 0.96 | | |
| Are you sure that information given to the patient is understood by the patient and relatives? | 0.89 | 1.09 | | |
| Do you motivate the patient through dialogue to adhere to treatments? | 0.82 | 0.87 | | |
| Documentation and administration of nursing care (8 items) | | | | | |
| Do you make use of the patient’s relevant data? | 1.00 | 0.70 | 0.89 | 0.88 |
| Do you use information and communications technology (ICT) as a support in nursing care? | 1.47 | 0.89 | | |
| Do you document according to current legislation? | 1.24 | 0.89 | | |
| Do you implement actions in compliance with current legislation and guidelines? | 1.14 | 1.22 | | |
| Do you handle sensitive data correctly and safely? | 0.92 | 1.25 | | |
| Do you observe work-related risks and prevent them actively? | 1.19 | 0.95 | | |
| Do you continuously engage in professional and personal development? | 1.03 | 0.80 | | |
| Do you systematically manage, prioritize, delegate and coordinate health care within the team according to the patient’s needs and according to different competencies of your co-workers/staff? | 1.48 | 1.00 | | |
| Development, leadership and organization of nursing care (6 items) | | | | | |
| Do you act adequately in the event of unprofessional conduct among employees? | 1.00 | 0.95 | 0.81 | 0.83 |
| In the event of a serious incident within or outside the institution, do you apply the principles of emergency medical care? | 0.85 | 1.59 | | |
| Do you apply new knowledge, thus promoting nursing care in compliance with science and evidence-based practices? | 1.08 | 1.26 | | |
| Do you plan, advise, inform and collaborate with other members of the care chain? | 1.12 | 1.28 | | |
| Do you teach, supervise and evaluate students? | 1.41 | 2.33 | | |
| Do you supervise and teach your co-workers/staff? | 1.50 | 2.22 | | |
Discussion

The use of the NPC scale in the Republic of Croatia will allow nurses to self-assess their professional competencies. Continuous self-assessment of competencies will enable nurses to influence the quality of care.

Based on the self-assessment, it will be possible to determine the level of acquired competencies of nurses, the lack of skills in clinical practice and the quality of the educational program. In the Republic of Croatia, it is extremely important to assess the professional competencies of nurses, as the nursing profession in Croatia faces problems of professionalization. In the Republic of Croatia, there has been no instrument to assess professional competencies of nurses. In order to assess competencies, measurement tools must be appropriate, reliable and valid (Charette et al., 2020).

The aim of this study was to evaluate the psychometric properties of the NPC scale in the Republic of Croatia. The scale was developed to assess professional competence in nursing and contains 35 statements divided into six groups (1. Nursing care; 2. Value-Based Nursing; 3. Medical and Technical Care, 4. Care Pedagogics; 5. Documentation and administration of Nursing Care; 6. Development, leadership and organization of Nursing Care), and it is based on the national curriculum (Nilsson et al., 2018). This was the reason for selecting this instrument for validation in the Republic of Croatia, as the other instruments are based on the description of knowledge in practice (Meretoja et al., 2004). The structure and content of the scale fully correspond to the competencies of nurses in the Republic of Croatia, as prescribed in the Nursing Act and based on the national curriculum. The NPC scale has been translated into several languages (Dutch, English, German, Norwegian, Portuguese, Chinese, and Slovenian) (NPC Research Group, 2019) and is used in many countries (Halabi et al., 2020; van der Mortel et al., 2020; Nilsson et al., 2019).

The research results have shown that the psychometric properties of the NPC scale in Croatia are satisfactory. In order to increase the variability and reliability of the scale, seven response alternatives were used for each item. The authors believe that less than five response alternatives can lead to a decrease in variation, which can greatly affect the CFA (Streiner et al., 2015).

The six-factor structure of the NPC scale in the Republic of Croatia was confirmed by CFA. The NPC scale in Croatia has shown excellent reliability for both the items and the instrument as a whole. The convergent validity of the scales was demonstrated by the fact that the average variance extracted for all factors was above the recommended cutoff of 0.5 (Fornell & Larcker, 1981). In addition, all factor loadings were significant at $p < .05$ (Anderson & Gerbing, 1988). The results also showed that nurses rated their competencies differently depending on longer work experience and the level of health care at which they were employed. Nurses who had worked more than 5 years and those who were employed at a higher level of health care rated their competencies higher. This finding is supported by previous research (Allvin et al., 2020).

Nursing has evolved over the past three decades, and it is expected that this evolution will continue to accelerate as more skills are required to provide the best quality and safest care to patients (Church, 2016). The increase in the level of education of nurses leads to the introduction of new and more complex methods and procedures in healthcare based on scientific research, therefore nursing today can also be viewed through a scientific and moral dimension. The education of nurses must ensure that nurses have acquired certain knowledge and skills during their education and that they can implement their competencies according to their level of education (Kahriman & Öztürk, 2016). Only competencies in the nursing profession can ensure high quality and efficiency of health care (Aiken et al., 2014). Therefore, it is necessary to assess the competencies of nurses in different educational and health care systems. This would improve the compatibility and transparency of nursing education programs at the global level.

Validation and implementation of the NPC scale in the Republic of Croatia will contribute to the assessment of the quality of nursing education and clearly define the need for the development of new educational programs in accordance with the health care system. The presented method for assessing the reliability and validity of the scale forms the basis for further research in the Republic of Croatia. The aim was to implement the scale at four nursing faculties in the Republic of Croatia in order to compare the obtained results with the previously conducted research using this scale and to gain insight into the professional competence of nurses in Croatia. The implementation of the NPC scale as an instrument of quality control in health care can make a valuable contribution to the quality of patient care in hospitals. The implementation of the NPC scale in Croatia will enable students, teachers, nurses and their employers to define strengths and weaknesses as well as opportunities for continuous professional development of nurses (nursing specialization). The NPC can also serve as a guide for the reform of the national nursing curriculum and for the acquisition of additional nursing competences in Croatia.

Limitation

Considering the fact that in the Republic of Croatia there is no reliable scale for assessment of competencies of postgraduate nurses and no scale for self-assessment of competency acquisition, the proposed scale meets all measurement characteristics used for assessment of competencies of nurses. The limitation in using this scale refers to the restriction of assessing specific competencies in accordance with the specific work tasks of nurses. Another limitation of this research refers to sample of respondents, since the participants are not representative for population of nurses in Croatia. Future research should test the validity of the scale on student nurses, who are a key factor in the quality of nursing education in the Republic of Croatia. Notwithstanding the above limitations of the
research, the proposed scale and its measurement characteristics represent the first preliminary research on this topic in the Republic of Croatia.

Conclusion

Our results show that the NPC scale has acceptable construct validity and good internal consistency in the Republic of Croatia. As a measurement tool, it is a reliable and valid instrument that can be used in further studies to measure self-assessment of professional competencies of nurses in Croatia. Future studies should test the validity of the NPC scale on all nursing students in Croatia. The results would provide valid guidelines for redefining the existing national curriculum and creating specific formal and informal educational programs so that nurses acquire competencies appropriate for modern health care.

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Supplemental Material

Supplemental material for this article is available online.

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