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## ORIGINAL ARTICLE

# The Professional Nurse Self-Assessment Scale II – Translation and cultural adaptation for Nordic countries

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## Abstract

**Background:** It is important to map the clinical competence of newly graduated nurses in Nordic countries. The use of a common Nordic instrument could provide insights into nurses' levels of self-assessed clinical competence and perceptions of their need for professional development.

**Aim:** To translate and culturally adapt the original Norwegian version of the Professional Nurse Self-Assessment Scale II (PROFFNurse SAS II) into (1) Danish, (2) Finnish and (3) Icelandic versions.

**Method:** The PROFFNurse SAS II was translated and cross-culturally adapted. This translation was inspired by the process used in the Guidelines for Cross-Cultural Adaptation.

**Result:** The translation and cultural adaptation processes employed the required steps and provided specific details. In addition, practical issues encountered during the translation process while translating and adapting instruments that may influence future translations were revealed. This study found that having a professional bilingual/bicultural agency translator was partly problematic in the process of translation and found that it is important to adjust the translations to each country's specific words used in nursing.

**Conclusion:** Translating the PROFFNurse SAS II instrument into all Nordic languages enables us to use the instrument from a Nordic perspective and across various countries. This is important when comparing self-awareness and reflecting on nurses' clinical competencies. Professional development is central to valuing and developing clinical competence and allowing for the discovery of gaps in clinical competence.

## KEYWORDS

cross-cultural adaptation, newly graduated nurses, Nordic instruments, two-way translation

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## INTRODUCTION

Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) have several similarities and, therefore, also partly a common labor market [1]. Degree programmes in nursing are at the bachelor's level in all Nordic countries and are in line with EU Directives [2, 3]. Since the 1950s, Nordic countries have agreed on a common labor market in healthcare [1], and at the beginning of their careers, newly graduated nurses often seek work in other Nordic countries [4]. Knowledge of how nurses assess their own clinical competence as well as their need for competence development in these Nordic countries can provide information about competence and knowledge challenges in both municipal and specialist healthcare services in the Nordic context. This information is important for educational institutions when evaluating their degree programmes and health services, so that they can design in-service training with the aim of keeping nurses' clinical competence updated according to actual and future needs. Therefore, it is important to map the clinical competencies of newly graduated nurses in Nordic countries. Thus, an instrument suitable for comparing nurses' competencies in Nordic countries is needed.

## BACKGROUND

Increasing evidence suggests that students' transition from a higher education institution to a healthcare work environment could be an abrupt change [5]. Newly graduated nurses are expected to identify themselves as members of an interdisciplinary team, to feel comfortable in a new work situation and to make and defend decisions [5, 6]. Newly graduated nurses must be grounded in reflective learning so that novices can acquire professional knowledge that can accomplish evidence-based, safe and high-quality care [7]. Therefore, it is important to examine how nurses self-assess their level of clinical competence from the time they graduate to the first years after graduation. Self-assessment of clinical competence can enhance the awareness of one's own strengths and limitations, which is crucial for evidence-based nursing practice.

To enable the evaluation of nurses' self-assessed levels of clinical competence and need for training, the PROFFNurse SAS II was developed in the Norwegian context and language and translated into English and Swedish [8]. The instrument has two predecessors, the Nurse Competence Scale [9] and the Nurse Clinical Competence Scale [10], developed in Finland.

The epistemological foundation of the PROFFNurse SAS II is grounded on a life learning perspective and covered by the three Aristotelian dimensions of knowledge:

*epistêmê*, *technê* and *phronêsis* [11, 12], and the Nordic advanced practice nurse (APN) model, which is a modified version of the International Council of Nurses' (ICN) and Hamric's definitions of the central competence domains of advanced nursing practice [13], constitutes the theoretical underpinning of the instrument. The first version of the instrument consisted of 74 items and asked respondents to self-assess their clinical competence on a 10-point scale at 0.5 intervals from 0 (very low) to 5 (full competence). Exploratory factor analysis (EFA) of this questionnaire resulted in 51 items in six components: direct clinical practice (19 items), ethical decision-making (11 items), clinical leadership (6 items), cooperation and consultation (6 items), professional development (5 items) and critical thinking (4 items). Cronbach's alpha ranged from 0.772 (critical thinking) to 0.940 (direct clinical practice) [11]. When planning a European study [8], the developers of the questionnaire discussed the results of the EFA by Finnbakk et al. [11] and concluded that minor revisions were needed. In particular, after thorough discussions, six items that were excluded in the EFA [11] were included in the new version because the competencies covered in those items represented the competencies needed in the future. Additionally, some items were revised and a few were removed because the content was covered elsewhere in the questionnaire. Finally, the authors added a scale, which was used to assess the need for further training [8]. Thus, the PROFFNurse SAS II, which was subjected to the current translation process, consisted of 50 items asking for two responses (both on 10-point scales): (a) self-assessment of clinical competence level must be rated from 1 (poor) to 10 (excellent) and (b) need for further training/education must be assessed from 1 (poor) to 10 (excellent).

Despite the great amount of instruments that have been translated to other languages, there seems to be no scientific evidence for a "gold standard" for cultural adaptation [14]. Epstein et al. [14] described an important distinction among translation, adaptation and cross-cultural validation. While translation is a single translation from the source language to the target language, adaptation aims to consider the possible differences between the two versions to ensure equivalence in meaning between the source and target languages. Forward and back-translation designs are the most commonly used techniques, although back translation has been discussed, and some researchers do not recommend this step. Additionally, to explore the same question in several cultures or to measure differences across cultures, researchers need the same questions in different languages [14].

Linguistically, Nordic languages have similarities and major differences. The Swedish, Norwegian and Danish languages are similar. Approximately 90% of

the vocabularies are the same [15]. These languages are structured similarly; however, frequently used words are different. It could be words that are unique or words that have equivalents but do not mean the same thing. These words are called tricky words or false friends, which can create problems in direct translation between Norwegian and Danish. Although Icelandic shares many similar words, they are not mutually understandable in mainland Nordic languages. Finnish, however, belongs to the Finno-Ugric language family and cannot be understood in other Nordic languages [16]. Along with Finnish, Swedish is the official language in Finland and is spoken as a native language by approximately 280,000 people, representing 5.5% of the total population. Finnish-Swedish differs from Swedish in Sweden partly in terms of pronunciation and partly through more or less frequent deviations in terms of words, expressions, syntax and morphology [17]. These linguistic and cultural differences, with the use of different terms and nursing concepts in different Nordic countries, must be considered when translating questionnaires and instruments.

International society promotes a stronger professional competence environment in which researchers can participate in public debates on societal challenges and the future competence needs of nurses in the Nordic region. Having an instrument suitable for comparing nurses' competencies in Nordic countries makes it possible to compare nurses' self-assessed clinical competences in the Nordic countries. A common Nordic instrument may provide insight into nurses' levels of self-assessed clinical competence and their perceptions of their need for professional development to meet the demands of the nursing profession, person-centred care and digitalisation. Possible labor migration between Nordic countries creates a need for knowledge about nurses' clinical competence levels and the need for further competence development. Furthermore, having a common Nordic instrument can provide evidence-based knowledge that can be useful for revising learning objectives for both bachelor's-level degree programmes and lifelong learning, in line with society's increasing requirements for nurses' professional competence. Therefore, this study aimed to translate and culturally adapt the original Norwegian version of the PROFFNurse SAS II into (1) Danish, (2) Finnish and (3) Icelandic versions.

## METHODS

### Design

A step-by-step process with a cross-cultural adaptation of the PROFFNurse SAS II was undertaken between

September 2020 and March 2021. The translation was inspired by the described translation process used in the guidelines for cross-cultural adaptation process [18, 19].

### Translation and cross-cultural adaptation

The research group comprised researchers representing all target languages, with broad experience in nursing education in their countries, as well as from a Nordic perspective. For all languages, the original Norwegian version constituted the base and source versions. The researchers who developed the original Norwegian scale were also represented by the research group and actively participated in the translation process. Focusing on cross-cultural adaptation, linguistically similarities and major differences between the Nordic countries, we decided to not do step 6 and step 7 in the process described by Sousa and Rojjanasrirat [19], though, during planning, we added a sixth step (expert assessment and adjustment).

Step 1: One-way translation

Step 2: Comparison of instruments

Step 3: Blinded back translation

Step 4: Comparison of instruments with expert assessment

Step 5: Pilot test and adjustment of pre-final version of the instruments

Step 6: Expert assessment/adjustment.

### Recruitment of participants

Each country recruited students from bachelor's-level nursing programmes for participation in step 5 (pilot testing). Students were purposively selected from each country by a researcher who also worked as a nursing teacher at the institution. A request to answer the paper-based questionnaire consisting of the PROFFNurse SAS II instrument was completed during a lecture or via e-mail. The students were asked to send an e-mail to the researcher if they wanted to participate. The questionnaire was subsequently sent by e-mail to students who were willing to participate. Paper-based questionnaires were used to allow student feedback to be written next to the items. Students were asked to answer the PROFFNurse SAS II and return the completed questionnaire to the researcher.

### Ethical statement

Permission to conduct pilot testing of the instrument (step 5) was obtained from each higher education institution,

according to national and organisational standards. Participation was voluntary, and nursing students were free to withdraw from the study at any time. The nursing students received oral and/or written information about the pilot test before participating in the pilot study.

## RESULTS

Each of the six steps inspired by Beaton et al. [18] and Sousa and Rojjanasrirat [19] was completed, as described below, and outlined with two examples in Table 1.

### Step 1: One-way translation from Norwegian to Danish, Finnish and Icelandic

Professional translators with the target language as their native language translated PROFFNurse SAS II; they knew the cultural and linguistic nuances and prepared a written version of PROFFNurse SAS II in Danish, Finnish or Icelandic.

### Step 2: Comparison of instruments

For each language version, the clarity of the translated version was assessed by a researcher who was a native speaker of the target language in which the instrument was translated. All Nordic languages were included in the research group. These versions were used to assess the linguistic and cultural differences. Proposals for change were discussed by the research group until there was an agreement on the words, sentences and meanings. The assessments are documented in a matrix.

During the translation process, some differences between countries could be seen. In the Danish translation, minor changes were made because of incorrect sentence structure, adaptation to Danish nursing terminology and cultural discrepancies. In all three language versions, minor changes were made due to incorrect words or sentence structures used in translation as well as nursing terminology. Moreover, in the Icelandic version, cultural discrepancies in the meaning or use of words were compared to the original version, and minor changes were made.

### Step 3: Blinded back translation

The back translation to the source language was performed by a professional bilingual/bicultural agency

translator who was blinded to the source version and was a native speaker of Norwegian.

### Step 4: Comparison of questionnaires with expert assessment

In step 4, the three versions are compared. For each item, the source version, translated version and back translation were compared by the research group, which comprised native speakers of the target language and developers of the instrument. A thorough discussion focused on items with possible differences in meaning.

During this process, some words were rephrased or adjusted for linguistic, grammatical, terminological and cultural differences among the Danish, Finnish and Icelandic versions. Discussions of the translation process for the Danish, Finnish and Icelandic versions revealed the need to look further into the Norwegian (original) and English versions. This is related to differences in how we talk about and use the word nursing in different countries. Examples of revisions in the English version of three items (italicised changes) are presented below:

Original version:

- I exclude differential diagnoses when assessing patients' health conditions (item 7)
- I identify and assume responsibility for patients' own health resources in planning nursing care (item 25).
- I take active responsibility for creating a good working environment (item 29).

Revised version:

- I exclude *alternative* diagnoses when assessing patients' health conditions (item 7).
- I identify and *take* patients' own health resources *into account* when planning nursing care (item 25).
- I take active *part in* creating a good working environment (item 29).

### Step 5: Pilot test and adjustment of pre-final version of the instruments

In step 5 (pilot test), we sought information about the wording of the items and whether participants thought the instrument was useful. Three translated versions (Danish, Finnish and Icelandic) were subjected to the pilot test. This study included 24 nursing students at the end of their bachelor-level nursing degree in Denmark ( $n=8$ ), Finland ( $n=10$ ) and Iceland ( $n=6$ ) in 2020. A new



**TABLE 1** Examples of the translation process – items 25 and 29 (changes in bold text).

Item 25	Original Norwegian	Danish	Finnish	Icelandic	Original English
	Jeg identifiserer og <b>tar ansvar for</b> pasientenes egne helseressurser i planlegging av sykepleien				I identify <b>and assume responsibility for</b> patients' own health resources in planning nursing care
Step 1: Translation		Jeg identifiserer og tager <b>ansvar for</b> patienternes egne sundhedsressourcer i planlægningen af sygeplejen	Tunnistan ja otan vastuun potilaiden omista terveysresurssseista hoitotyön suunnittelussa	Ég ber kennsl á og tek ábyrgð á heilsufarsúrræðum sjúklinga og nýti þau við skipulagningu á hjúkrun	
Step 2: Comparison					
Step 3: Back translation		Jeg identifiserer og tar ansvar for pasientenes egne helseressurser i planleggingen av sykepleien	Jeg gjenkjenner og tar ansvar for pasientenes helseressurser når jeg planlegger sykepleie (-tiltak?)	Jeg identifiserer og har ansvaret for mine egne helseløsninger når jeg planlegger sykepleieoppgaver.	
Step 4: Comparison					
Step 5: Pilot test		Jeg identifiserer og tager ansvar for patienternes egne sundhedsressourcer i planlægningen af sygeplejen	Back translation was discussed – the Finnish version kept	Ég ber kennsl á og tek ábyrgð á heilsufarsúrræðum sjúklinga og nýti þau við skipulagningu á hjúkrun.	
Step 6: Adjustment					
Final version	Jeg identifiserer og <b>tar hensyn til</b> pasientenes egne helseressurser i planlegging av sykepleien	Jeg identifiserer og <b>tager hensyn til</b> patienternes egne sundhedsressourcer i planlægningen af sygeplejen	Tunnistan ja otan vastuun potilaiden omista terveysresurssseista hoitotyön suunnittelussa	Ég ber kennsl á og tek ábyrgð á heilsufarsúrræðum sjúklinga og nýti þau við skipulagningu á hjúkrun.	I identify and <b>take patients' own health resources into account</b> when planning nursing care
<b>Item 29</b>	<b>Original Norwegian</b> Jeg <b>tar aktivt ansvar</b> for å skape et godt arbeidsmiljø	<b>Danish</b> Jeg tager aktivt ansvar for at skabe et godt arbejdsmiljø	<b>Finnish</b> Otan aktiivisesti vastuun hyvän työympäristön luomisesta	<b>Icelandic</b> Ég tek virka ábyrgð á því að móta gott starfsumhverfi	<b>Original English</b> I take active <b>responsibility for</b> creating a good working environment
Step 1: Translation					

(Continues)

TABLE 1 (Continued)

Item 29	Original Norwegian	Danish	Finnish	Icelandic	Original English
Step 2: Comparison					
Step 3: Back translation		Jeg tar aktivt ansvar for å skape et godt arbeidsmiljø	Jeg tar et aktivt ansvar for å skape et godt arbeidsmiljø Back translation was discussed – the Finnish version kept.	Jeg er aktivt ansvarlig for å skape et godt arbeidsmiljø. Back translation was incorrect	
Step 4: Comparison					
Step 5: Pilot test		Jeg tager aktivt ansvar for at skabe et godt arbeidsmiljø	Otan aktiivisesti vastuun hyvän työympäristön luomisesta	Ég tek virka ábyrgð á því að móta gott starfsumhverfi.	
Step 6: Adjustment					
Final version	Jeg <b>medvirker aktivt</b> for å skape et godt arbeidsmiljø	Jeg <b>medvirker aktivt</b> for at skabe et godt arbeidsmiljø	Olen aktiivisesti <b>mukana luomassa</b> hyvää työympäristöä	Ég tek virka ábyrgð á því að móta gott starfsumhverfi.	I <b>take active part in</b> creating a good working environment

expert assessment/adjustment was performed after receiving feedback from the nursing students. The design of the items in the pilot was marginally different in different countries, but essentially followed the following structure:

- Mark the items they had problems with understanding and explain why.
- Apprise the item they had to use expanded time to understand.
- Apprise the items they found complicated or too detailed and explain why.
- Provide a suggestion for clearer wording of the items.

The majority of students commented on the items; their feedback was discussed with the developer of the instrument, and the items were revised based on discussions and reaching a consensus. Based on the students' suggestions, minor changes in the wording were made to improve their understanding of the items in question. Conceptual differences were identified in some items (Table 1).

### Step 6: Expert assessment/adjustment

Conceptual differences were recognised in the Danish, Finnish and Icelandic translations and were discussed within the research group. In step 6, minor changes were made to the original Norwegian and English versions.

During step 6, the research group found that a minor revision of the Swedish version was needed when it was adapted to Finnish-Swedish. Finnish-Swedish spoken in Finland is one of many Swedish dialects and uses certain concepts unique to Finland's Finnish-Swedish population.

During step 6, the research group also saw the need to adjust the English and Norwegian versions, which meant that some concepts needed to be changed. The Icelandic translation required an additional round of consultation with a language agency.

## DISCUSSION

This study describes the translation process of the PROFFNurse SAS II and its cross-cultural adaptation in the Danish, Finnish and Icelandic contexts. The translation process was carried out through a rigorous method, with the aim of retaining the original meaning of each translated component while ensuring that the PROFFNurse SAS II would follow the intentions and conceptual meaning of the original Norwegian instrument.

As reported in this paper, the PROFFNurse SAS II has now been translated from Norwegian and cross-culturally adapted to all Nordic languages (Danish, Finnish and

Icelandic and early on was translated into Swedish) and is equivalent for all nurses in Nordic countries. Having a Nordic instrument that maps the self-assessed clinical competencies and educational needs of newly graduated nurses in Nordic countries is valuable. It can be used to gather information that can be used to further develop Nordic nursing degree programmes in the respective countries, to meet the educational and professional requirements of graduating nurses. It may also provide information about changes in nursing practice over the years and can be used to compare findings to the educational objectives of the schools – are they met – and when changes are made, that is, in how we provide education where pedagogical changes could affect clinical competence and educational needs.

This might positively influence newly graduated nurses' job satisfaction and retention. Moreover, it can provide important information for the further development of clinical competence. Furthermore, a good working environment has always played a crucial role in the evolution of the welfare, business growth and personal development of individuals in the Nordic Region. The joint Nordic labor market is one of the cornerstones of Nordic cooperation and includes work on employment, the labor market, the working environment and employment law [1]. This means that newly graduated nurses in Nordic countries often choose to work for shorter or longer periods in another Nordic country.

This study found that having a professional bilingual/bicultural agency translator was partially problematic in the actual process of translation. Translations can be affected by the translator's subjective choice of wording, which may also not be applicable to nursing. It is important to adjust translations to each country's specific words used in nursing. Therefore, the competence of the research group was decisive. The experience from the translation process is that the use of professional translators was not useful in that they were not familiar with concepts of nursing used in the various countries, and the experience is that it would have been better to use bilingual healthcare professionals. However, following international guidelines and conducting discussions to reach consensus between translators and researchers during the process ensured that the translations were thoroughly and objectively evaluated.

The most valuable part of the process was step 5, a pilot test by users of the pre-final versions of PROFFNurse SAS II. A pilot group strengthened the validity of the translation process [18]. In this study, nursing students provided feedback on the wording and meaning of items. Through this, the research group provided information about possible confusion in the items and suggestions for possible improvements.

A strength of this study was the involvement of the original developers of the instrument throughout the entire process, including discussions of modifications and approval of ongoing adjustments. Close collaboration between the research team and professional translators, and within the research team, ensured that the different language versions were comparable. Two developers of the PROFFNurse SAS II actively participated in the translation process to ensure that the original content and meaning of the items remained unchanged. The research group consisted of qualified nurse teachers and Registered Nurses (RNs), in which all languages were represented (native speakers). However, discussions in the research group led to minor changes to the Norwegian (original) and English versions. The changes in the Norwegian and English versions improved the translation into other Nordic languages. Nevertheless, this study has some limitations. First, we did not follow the exact steps in the translation process described by Beaton et al. [18] and Sousa and Rojjanasrirat [19], as we did not perform psychometric testing of the pre-final version with a bilingual sample, and finally, we did not perform full psychometric testing of the final version in a sample of the target population. Second, in step 5, pilot test and adjustment of pre-final version of the instruments, the measure was not tested on practicing nurses. Adding practicing nurses in the pilot test could have contributed with deeper knowledge regarding experience of working life and lifelong learning.

## CONCLUSION

The PROFFNurse SAS II was successfully translated into Danish, Finnish and Icelandic by following the internationally approved guidelines for translation and cultural adaptation. Minor changes were made to the original Norwegian and English versions. The Swedish version was further adapted into the Finnish-Swedish version. Having translated the PROFFNurse SAS II instrument into all Nordic languages enabled us to use the instrument from a Nordic perspective and in various countries. This is important when comparing self-awareness and reflecting on clinical competence. This instrument can be used in clinical practice for self-evaluation and competence development. In other words, professional development is central to valuing and developing clinical competence and allowing for the discovery of gaps in clinical competence.

## AUTHOR CONTRIBUTIONS

This study was designed by the entire research team, and SW and LF acted as senior researchers and owners of the



instrument. JH, HST, MHS and CS-L performed the pilot testing in each country, and all authors worked on the translation process. IAA was responsible for all contact with the language agency. AA was mainly responsible for writing the manuscript. The manuscript was analysed and discussed with all authors who contributed their expertise and actively participated in the writing. All of the authors have read and approved the final version of the manuscript.

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## CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

## DATA AVAILABILITY STATEMENT

Data available on request from the authors.


## ETHICS STATEMENT

Norway: Norsk senter for forskningsdata/Nr 803827.  
Denmark: National ethical approval was not required.  
Sweden: Etikprövningsmyndigheten/Nr 2020-05880.  
Finland: National ethical approval was not required.  
Approved by each participating university.  
Iceland: National ethical approval was not required.  
Approved by deans of faculty nursing at University of Akureyri and University of Iceland.

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