










Nurse educator competence in four European countries—A comparative cross-sectional study

Imane Elonen¹  | Satu Kajander-Unkuri^{1,2}  | Maria Cassar³  |
 Laia Wennberg-Capellades⁴  | Susanne Kean⁵  | Tomáš Sollár⁶  |
 Terhi Saaranen⁷  | Miko Pasanen¹  | Leena Salminen^{1,8} 

¹Department of Nursing Science, Faculty of Medicine, University of Turku, Turku, Finland

²Diaconia University of Applied Sciences, Helsinki, Finland

³Department of Nursing, University of Malta, Msida, Malta

⁴Universitat Internacional de Catalunya, Barcelona, Spain

⁵School of Health in Social Science, Nursing Studies, The University of Edinburgh, Edinburgh, Scotland

⁶Department of Psychological Sciences, Constantine the Philosopher University in Nitra, Nitra, Slovakia

⁷Department of Nursing Science, University of Eastern Finland, Kuopio, Finland

⁸South-Western Hospital District, Turku, Finland

Correspondence

Imane Elonen, Department of Nursing Science, Faculty of Medicine, 20014 University of Turku, Finland.
 Email: imane.elonen@utu.fi

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Abstract

Aim: The aim of this article is to describe and compare the nurse educator competences in four European countries using three different evaluators: nurse educators ($n=329$), heads of a nursing subject ($n=60$) and student nurses ($n=1058$).

Design: The study was conducted as a comparative cross-sectional survey in Finland, Malta, Slovakia and Spain between May 2021 and February 2022.

Methods: The data were collected with an online survey. The instrument used was a 20-item Tool for Evaluation of Requirements of Nurse Teachers, utilizing a 5-point Likert-type scale. The data were analysed statistically and reported according to STROBE guidelines.

Results: Nurse educators' competence evaluated positively in all the groups of evaluators, with a mean of >3.5 . The self-evaluation of nurse educators' competence was higher than the other evaluators' evaluations. Having a degree in nursing, having completed some pedagogical studies and longer work experience as a nurse educator had a positive association with higher self-evaluated competence among nurse educators.

Conclusions: Nurse educator competence is at a good level in the selected European countries, but further studies are required to find the reasons behind the differences in evaluations.

Public Contribution: Each participating educational institution named a contact person who distributed the surveys to the participants and returned the study's metadata to the researchers.

KEYWORDS

nurse educators, pedagogical competence, professional competence

1 | INTRODUCTION

Professional competence in nursing is vital for nurse educators to educate the future generations of competent nurses. It is one of

the core competences for nurse educators (Mikkonen et al., 2018; World Health Organization, 2016) and along with pedagogical competence, it is the most often reported competence of nurse educators (Lemetti et al., 2022). Nurse educators are expected

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to obtain the relevant knowledge, skills and attitudes required to educate nurses on the needs in a constantly developing field of health care (Mikkonen et al., 2018; Salminen et al., 2013; Zlatanovic et al., 2017). The core competences of nurse educators are defined by national and international organizations, such as the National League for Nursing (NLN) (2020), World Health Organization (WHO) (2016) and European Federation of Educators in Nursing Science (2021) and are explicated in some research articles, for example (Mikkonen et al., 2018; Salminen et al., 2013; Zlatanovic et al., 2017). Whilst competence categories are defined differently in the literature, and the number of identified competence areas varies, there are significant similarities between the sources. Nursing and pedagogical competences are the most often reported competence areas, but management and leadership competences are also often measured, highlighting the quest for leadership proficiency in the nursing profession (Salminen et al., 2013). However, there is great variation on the European level in contemporary curricula of nurse educators in what way these competences are present, and even on whether there is a specific curriculum for the preparation of nurse educators (Campos Silva et al., 2022).

Nursing education is strictly regulated in the European Union (EU) by Directives 2005/36/EC and 2013/55/EU (2005, 2013), yet there are differences in the competence of graduating student nurses (Kajander-Unkuri et al., 2021). Unlike nurse education, nurse educator education is not regulated, and there are no formal pan-European or international qualifications nor agreed competence requirements for nurse educators. Consequently, nurse educator education varies between European countries (Campos Silva et al., 2022; Salminen et al., 2013). Despite the fact that the requirements for nursing qualifications, experience and pedagogical studies and competence for nurse educators within the EU (Campos Silva et al., 2022) are not uniform, the nurse educator education path follows, with few exceptions, the Bologna Process (Campos Silva et al., 2022; European Commission [EC], 2021). Many of the EU countries require a postgraduate degree (master's, PhD) as the only formal requirement (Campos Silva et al., 2022).

Education is one of the four main strategic directions of nursing globally (World Health Organization (WHO), 2021). The main directions are to align the level of education with the needed professional competences to optimize the amount of nursing staff, to elevate the standards of education and to ensure that educators have a sound pedagogical foundation (World Health Organization (WHO), 2021) to fulfil. Nurse educators have a key role in preparing the future nurses for working life (Bono-Neri, 2019; FINE, 2021; National League for Nursing (NLN), 2020). The competence of nurse educators is seen as a vital part of ensuring the professional competence of future nurses (Bono-Neri, 2019; World Health Organisation (WHO), 2020) and in determining their role as nurses (Bono-Neri, 2019). Consequently, there is a link between graduating student nurses' competence and nurse educators' competence (Istomina et al., 2011; Salminen et al., 2021)

making the competence of nurse educators a substantial element in ensuring the quality and cohesion of nurse education.

2 | BACKGROUND

Nurse educators' competence has been evaluated by different professionals, including nurse educators themselves, nursing faculty, nursing administrators, experts in nursing education, student nurses, nurse mentors and heads of a nursing subject (Lemetti et al., 2022; Mikkonen et al., 2018; Ozga et al., 2021; Salminen et al., 2013). There are only a few comparative studies, but in those that are available, the competence of educators varies across the contexts studied (Ozga et al., 2021; Salminen et al., 2013). Nurse educators' competence is generally at a good level. Nurse educators tend to evaluate their competences higher than other evaluators. In comparison, in studies that seek to study students' and educators' evaluations, the nurse educators' self-evaluations are more positive than the evaluations given to them by their students (Mikkonen et al., 2018; Ozga et al., 2021; Salminen et al., 2013). These studies raise the question whether students are evaluating the educators' competence, or if they are, in fact, evaluating something else (Oermann, 2017). Whilst clinical, pedagogical, research and research implementation skills are essential for nurse educators, the relationship between nurse educator and student is seen as a key element in the competence of a nurse educator (Salminen et al., 2013).

Factors associated with perceived educator competence vary to some extent in different studies, but there are significant similarities as well. In student nurse evaluations, there has been a link between students' own perceived competence and the competence of the nurse educators. Furthermore, being a more mature student, work experience in health or social care, being female and being satisfied with the education programme have been associated with better student evaluations of nurse educator competence (Salminen et al., 2021). Higher age and work experience as an educator have also been associated with better self-evaluations of nurse educator competences (Cayır & Ulupınar, 2021). In addition to personality traits, experience and perceived job satisfaction, better occupational well-being is associated with experiencing higher competence (Keener et al., 2021).

As noted earlier, nursing education is regulated in the European Union, yet there are no regulations on the qualifications and competences of nurse educators. To determine the need to develop and harmonize nursing education and nurse educator education in Europe, research on nurse educators' competence on a European level is needed (Salminen et al., 2021). To develop a comprehensive understanding of educator competence, the topic needs to be studied from multiple perspectives. To date, there are no international comparative studies about educator competence where the competence of nurse educators is evaluated simultaneously in several countries and from the viewpoint of several stakeholders.

3 | THE STUDY

3.1 | Aim

The aim of the study is to describe and compare the current state of nurse educator competence and factors associated with it, from the perspective of nurse educators, student nurses and heads of a nursing subject in selected European countries.

4 | METHODS

4.1 | Study design

The study design was a comparative cross-sectional study in four European countries including three different target groups: nurse educators, heads of a nursing subject and student nurses.

The research questions were as follows:

- What is the level of competence of nurse educators evaluated by nurse educators, heads of a nursing subject and student nurses in the selected European countries?
- Are there differences in the evaluations of nurse educator competence between evaluators and countries?
- What factors, if any, are associated with the evaluated competence of the educators among educators themselves, heads of a nursing subject and student nurses?

4.2 | Context

This study was part of an Erasmus+ funded New Nurse Educator research and development project carried out in four European countries: Finland (FI), Malta (MT), Slovakia (SK) and Spain (ES). Three out of the four countries have formal requirements for nurse educators (FI, MT and SK). Similarly, in three countries, nurse educators need to have a background in nursing and a minimum of a master-level education (ES, FI and SK). Meanwhile in Malta, a nursing background is not a requirement, but nurse educators are required to acquire a doctoral-level education within a defined period of holding tenure in a post as a nurse educator. In Finland, there is a formal nurse educator education such as a degree programme from a university of

applied sciences or university. Additionally, solely in Finland, nurse educators are required to have clinical working experience as registered nurses (Table 1).

4.3 | Sample

The target population of participants in this study included nurse educators, heads of a nursing subject and student nurses from four European countries: Finland (FI), Malta (MT), Slovakia (SK) and Spain (ES). The sample was based on cluster sampling. The nomenclature of territorial units for statistics (NUTS) was used to select samples of participants from three of the participating countries. Total sampling was used in Malta. NUTS 2 (basic regions for the application of regional policies) was used for countries with a lower population, Slovakia and Finland, and NUTS 1 (major socio-economical regions) for Spain (Eurostat., 2023).

A total of 36 educational institutions participated in the study. Due to different educational policies in the participating countries, institutions based in Finland were Universities of Applied Sciences, and the institutions from Malta, Slovakia and Spain were universities (Lahtinen et al., 2014). All participating educational institutions were offering a minimum of Bachelor-level education in nursing. In Malta, a higher diploma level of nursing programme was still being offered at the time of data collection and the students in this diploma programme were included in the sample.

4.4 | Inclusion and exclusion criteria

The eligibility criterion for the participants was that they were associated with the selected educational institutions either as nurse educators, heads of a nursing subject or student nurses. Nurse educators needed to work in a teaching position in the educational institution, rather than in a clinical setting. Heads of a nursing subject were required to work as a head of a nursing subject and participate in the recruitment and hiring of the nurse educators, and also needed to be familiar with the working environments of the educators. Student nurses were required to be third- or fourth-year students in undergraduate nursing programmes. The heads of a nursing subject who did not have contact with the educators and did not participate in the recruitment of teaching staff were excluded. The

TABLE 1 Nurse educator qualification requirements (Campos Silva et al., 2022).

Qualification requirements	Finland	Malta	Slovakia	Spain
Formal requirements for nurse educators (legal)	x	x	x	
Nursing education	x		x	x
Nursing experience	x			
Minimum of master-level education	x			x
Minimum of doctoral-level education		x ^a		
Formal nurse educator education available	x			

^aMust be acquired after starting in a teaching position.

students studying other than nursing and who were first- or second-year students were not eligible for the study.

4.5 | The instrument

The competence of educators was evaluated using the Tool for Evaluation of Requirements of Nurse Teachers (ERNT) by Salminen et al. (2013) which evaluates a nurse educator's core competence through five competence categories – nursing competence, pedagogical competence, evaluation skills, personality factors and relationships with students, each consisting of four items (Salminen et al., 2013) scored on a scale from 1 to 5 (1 = realize very poorly and 5 = realize very well) (Table 2).

The ERNT instrument was selected because it has been widely used and has performed well due to its general nature (Ozga et al., 2021; Salminen et al., 2013, 2021). Additionally, its face validity and internal consistency were tested in previous study, where Cronbach's alpha for total ERNT was 0.97 (Salminen et al., 2013), demonstrating strong internal consistency. Cronbach's alpha was also tested in the current study and found to be in line with the previous study (Table 3) and close to the ideal value of 0.95 (DeVon et al., 2007). The instrument was created for the evaluation of educators from the perspective of educators themselves and students (Salminen et al., 2013). Furthermore, knowing the strain that the ongoing coronavirus (COVID-19) pandemic has put on educators and students (Keener et al., 2021) the research team wanted to use a compact instrument that would provide a comprehensive description of educators' competence, without demanding too much effort from the participants or fostering the jeopardy of an overly high nonresponse rate due to research fatigue (Ashley, 2021; O'Reilly-Shah, 2017). Additionally, it was deemed important that the data were collected from all of the target populations using the same instrument in order to obtain comparable data. This instrument was the only one that has been used for the self-evaluation of academic nurse educators, student nurses and heads of a nursing subject (Lemetti et al., 2022; Salminen et al., 2013). Compared with other instruments, ERNT was deemed the most practical for collecting data from students, as the concepts used in the instrument are tangible and close to students' reality (Salminen et al., 2013).

The instrument was back-translated to the languages of the prospective countries, with the exception of Malta, where the pre-existing English translation was used. The back-translations were compared with the original Finnish and earlier validated English surveys. The ambiguities were discussed and resolved in trilingual teams. Pre-testing of the surveys was conducted prior to actual data collection in every country and on every target group. However, due to only a minor change in wording, the pre-testing data were also included in the final data analysis. Pre-tests of the instrument were conducted in every country to ensure the usability of the instrument and the translations (Maneesriwongul & Dixon, 2004). The pre-testing ensured that the instrument was understood as intended in different countries and with different target groups and the content validity was good.

TABLE 2 Competence categories and items of the ERNT (Salminen et al., 2013).

Competence categories and items of the ERNT	Pedagogical competence	Evaluation skills	Personality factors	Relationship with students
Nursing competence				
Having professional responsibility	Motivating students' learning	Being fair in assessment	Being consistent	Promoting equality between students
Having comprehensive view of nursing	Motivating critical thinking	Giving constructive feedback	Being responsible	Being honest
Supporting evidence-based practice	Guiding students' self-reflection	Giving honest feedback	Being open-minded	Encouraging mutual respect
Using research	Guiding development of students' decision making skills	Reflection on one's own performance	Being flexible	Taking students seriously

TABLE 3 Cronbach's alpha values of ERNT in the current and previous study.

Competence categories/Cronbach's alpha (α) values	Nursing competence α	Pedagogical competence α	Evaluation skills α	Personality factors α	Relationship with students α	ERNT total α
Nurse Educators in 2013 (Salminen et al., 2013)	0.87	0.88	0.90	0.91	0.92	0.97
Current study: Nurse Educators	0.79	0.82	0.79	0.74	0.81	0.90
Heads of Nursing Subject	0.83	0.93	0.87	0.89	0.92	0.96
Student nurses	0.80	0.88	0.87	0.88	0.89	0.96

4.6 | Data collection

Data were collected using an electronic survey distributed via a RedCap data capturing tool hosted by University of (Blinded for review), Finland (Harris et al., 2019). The educator and heads of a nursing subject data were collected with a survey consisting of background information about the respondents' age, and educational and occupational background. The background questions regarding educators' educational and occupational background explored whether they have a degree in nursing, their highest level of education, the length of their experience in a clinical field, whether they have completed pedagogical studies, whether they have participated in continuous education and their work experience as an educator. The background questions regarding the educational and occupational background of the heads of a nursing subject included their highest degree and the length of their working experience in teaching. Student nurses were asked about their age, year of study, satisfaction with their current studies and success in their current studies, the latter two questions using a VAS scale from 0 to 10 (0=not satisfied at all, 10=very satisfied). In addition, student nurses were asked three questions to rate the level of competence of their most competent, least competent and average educator on a VAS scale from 0 to 10 (0=not competent at all, 10=highly competent).

Data collection occurred between May 2021 and February 2022. Data collection in each educational institution lasted approximately 4 months. Different starting times were selected due to differences in the starting points of the academic year and thus the timing of clinical practice in each country. Each institution named a contact person who recruited the participants to the study via e-mails. Reminders to participate in the study were sent three times to all institutions approximately 2–3 weeks apart. Researchers had no direct contact with any of the participants, and all communication occurred through the named contact persons. The response rate of educators was 28% (22%–58%). The response rate of heads of a nursing subject was 79% (73%–100%), and the response rate of student nurses was 14% (11%–38%).

4.7 | Data analysis

Data were statistically analysed using R Statistical Software v. 4.1.2 (R Core Team, 2023). Descriptive statistics were

calculated, describing the background factors and both national and combined results. The negative skewness and group variances were observed visually. Further normality tests were not performed due to the observed skewness. Furthermore, due to the differences between countries in the number of participants and group variances, the nonparametric approach was chosen. The differences between countries and groups were tested using Kruskal–Wallis' nonparametric analysis of variance and Dunn's test with Hochberg's corrections for pairwise analysis. With two target groups, the Mann–Whitney *U*-test was used. The association between all background questions and total ERNT was tested. The association between continuous variables in the background was tested using Spearman's correlation coefficient, and nominal background variables were tested using a Mann–Whitney *U*-test. A *p*-value less than or equal to 0.05 was considered significant. The effect sizes for the Mann–Whitney *U*-test were calculated using the *r* effect size from *rstatix* package version 0.6.0. The missing values were excluded from the analysis.

4.8 | Ethical considerations

The European Code of Conduct for Research Integrity (ALLEA, All European Academies, 2017) was followed throughout the research process and ethical approval was granted by the Ethics Committee of University of Turku, Finland (Decision: 5/2021, 16.02.2021). The permission to use and translate the instrument was acquired prior to the start of the project from the copyright holder of the instrument. Research permits from participating educational institutions were acquired prior to data collection. Participants were sent an information letter alongside a privacy notice following the general data protection regulation (Regulation 2016/679 [GDPR]). All participants were given the contact information of the research coordinator and data protection officer (DPO) of the coordinating university, the University of Turku. Before responding to the survey, participants were requested to confirm in the electronic form that they had received, read and understood the above-mentioned documents, they were aware of their rights as research participants and they were willing to proceed with the survey. No direct identifier was collected during the study and the confidentiality and privacy of the participants were protected at all times.

4.9 | Reporting

Reporting is conducted according to The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines (von Elm et al., 2007).

5 | RESULTS

5.1 | Demographic characteristics

A total of 329 nurse educators participated in the study. Their mean age was 47.7 years. They had an average of 15.4 years working experience in a clinical field and 12.30 years working experience as nurse educators. Almost all (97%, $n=317$) of them held a degree in nursing and were registered as nurses (95%, $n=310$). The majority of the educators ($n=299$, 91%) had a PhD ($n=153$, 47%) or a master's degree ($n=146$, 44%). A total of 6% ($n=21$) of the educators had a graduate diploma, 71% ($n=233$) had completed some pedagogical studies and 81% ($n=265$) had participated in continuous professional education during the preceding 12 months.

A total of 61 heads of a nursing subject participated in the study. Their mean age was 49.8 years. The heads of a nursing subject most commonly held a doctoral degree ($n=35$, 58%) and had, on average, 17.2 years of teaching experience.

A total of 1053 student nurses participated in the study. Their mean age was 25.2 years. Overall, 64.5% ($n=669$) of the students were third-year students and 35.5% ($n=369$) were fourth-year students. On average, the students were satisfied with their current studies (mean 7.09) and their own success in their current studies (mean 7.50) on a scale from 0=not satisfied at all to 10=very satisfied (Table 4).

5.2 | The competence of nurse educators

Nurse educators self-evaluated the different competence categories (ERNT total) as being realized very well in their work (mean 4.5). Heads of a nursing subject (mean 4.2) and student nurses (mean 3.6) evaluated that nurse educators' competences realized well in their work. Nurse educators self-evaluated their relationships with their students the highest, whereas both heads of a nursing subject and student nurses evaluated their nursing competence the highest. Nurse educators evaluated their own pedagogical competence the lowest, whilst heads of a nursing subject were most critical about educators' personality factors and student nurses were most critical about educators' evaluation skills (Table 5).

5.3 | Comparison of the nurse educators competence

There were statistically significant differences between evaluators, countries and some background factors in competence

evaluations. Heads of a nursing subject (mean 4.2, $p=0.004$, effect size=0.178) and student nurses (mean 3.6, $p<0.001$, effect size=0.530) evaluated educator competence lower than educators (mean 4.5).

Nurse educators self-evaluated their own competence most positively in Slovakia (mean 4.6) and most critically in Malta (mean 4.4). Heads of a nursing subject were the most critical in Finland (mean 4.1) and the most positive in Slovakia (mean 4.4). Students evaluated their educators' competence the highest in Spain (mean 3.7) and lowest in Malta (mean 3.4). There were statistically significant differences between Finland and Spain in the total ERNT mean among student nurses ($p=0.013$, effect size=0.117), and between Spain and Slovakia ($p=0.012$, effect size=0.229) and Slovakia and Malta ($p=0.044$, effect size=0.303) among nurse educators.

Educators' self-evaluations showed that they consider themselves the most competent at being honest and their most often selected rating in this item was 5. They evaluated themselves as the least competent in enhancing the self-evaluation skills of their students, with the most common rating being 4. The heads of a nursing subject evaluated educators' professional responsibility the highest and their reflection of their own performance the lowest. On average, the students evaluated educators' comprehensive view of nursing as their highest competence and taking students seriously their lowest, yet in both competences, the most often selected rating was 4 (Table 6).

5.4 | The factors associated with the competence of nurse educators

There was a statistically significant association between some of the background factors of educators and their self-evaluation and between some of the background factors of student nurses and their evaluation of their educators' competence. Educators with a degree in nursing had a higher self-evaluated competence (ERNT total mean) than educators without a nursing degree (4.52, SD 0.35 vs. 4.19, SD 0.25, $p=0.004$, effect size=0.168). Educators that had completed pedagogical studies, had a higher ERNT total mean than educators who had not (4.55, SD 0.34 vs. 4.42, SD 0.37, $p=0.006$, effect size=0.157). Educators' experience as educators was positively associated with higher self-evaluated competence ($r=0.12$, $p=0.04$). Student nurses' satisfaction with their current studies ($r=0.51$, $p<0.001$) and their success in their studies ($r=0.30$, $p<0.001$) were associated positively with their evaluation of their educators' competence.

Student nurses evaluated their educators' general competence with the VAS scale (0-10). Student nurses evaluated their lowest-performing educator's general competence on the lower end of the scale (mean 4.1, SD 2.6, MD 4.0), their average educator's competence on the higher end of the scale (mean 7.0, SD 1.6, MD 7.2) and their highest performing educator's competence close to the highest end of the scale (mean 9.0, SD 1.4, MD

TABLE 4 Demographic characteristics of the educators, heads of a nursing subject and student nurses.

Country	Finland	Malta	Slovakia	Spain	Total
Nurse educators					
<i>N/n (%)</i>	388/117 (30)	36/21 (58)	112/56 (50)	627/135 (22)	1163/329 (28)
Mean Age (SD)	49.9 (9.3)	49.5 (11.2)	49.6 (7.8)	45.4 (9.2)	47.7 (9.3)
Nursing degree <i>n (%)</i>	116 (99.1)	20 (95.2)	56 (100)	125 (94.0)	317 (97.0)
Highest degree <i>n (%)</i>					
PhD	16 (13.7)	11 (52.4)	51 (91.1)	75 (55.6)	153 (46.5)
Master	86 (73.5)	10 (47.6)	5 (8.6)	45 (33.3)	146 (44.4)
Graduate diploma	11 (9.4)	0	0	10 (7.4)	21 (6.4)
Pedagogical studies <i>n (%)</i>					
Continuous professional education during last 12 months <i>n (%)</i>	116 (100)	11 (52.4)	48 (85.7)	58 (43)	233 (71)
	72 (64.3)	19 (95)	43 (79.6)	131 (97.8)	265 (81)
Experience in nursing					
Mean in years (SD)	13.8 (7.1)	15.6 (11.7)	12.6 (11.1)	17.9 (10.2)	15.4 (9.7)
Experience in teaching					
Mean in years (SD)	11.6 (9.5)	14.7 (11.4)	18.8 (10.1)	10 (7.2)	12.3 (9.3)
Heads of a nursing subject					
<i>N/n (%)</i>	29/22 (76)	1/1 (100)	14/14 (100)	33/24 (73)	77/61 (79)
Age, mean (SD)	52.9 (7.7)	^a	53.1 (8.6)	45.1 (9.3)	49.8 (9.1)
Highest degree <i>n (%)</i>					
PhD	5 (22.7)	^a	8 (57.1)	21 (91.3)	35 (58)
Master	17 (77.3)		0	1 (4.3)	18 (30)
Bachelor	0		0	1 (4.3)	1 (2)
Other	0		6 (42.9)	0	6 (10)
Experience in teaching mean in years (SD)	14.6 (10.2)	^a	24.6 (13.4)	15.1 (8.1)	17.2 (10.8)
Student nurses					
<i>N/n (%)</i>	2369/386 (16)	124/30 (24)	457/172 (38)	4320/465 (11)	7270/1053 (14)
Age, mean (SD, median)	28.9 (8.6)	23.4 (7.0)	23.4 (4.8)	22.9 (5.4)	25.2 (7.2)
Year of nursing studies					
3rd-year students <i>n (%)</i>	257 (66.9)	30 (100)	145 (87.3)	237 (51.7)	669 (64.5)
4th-year students <i>n (%)</i>	127 (33.1)	0	21 (12.7)	221 (48.3)	369 (35.5)
Satisfaction with current degree programme ^b					
Mean (SD)	6.5 (2.1)	6.3 (2.5)	6.3 (2.3)	7.9 (1.5)	7.1 (2.0)
Success in current studies ^b					
Mean (SD)	7.2 (1.)	7.8 (0.9)	7.1 (1.8)	7.8 (1.3)	7.5 (1.5)

^aCannot report due to risk of privacy breach as a result of a small population.

^bScale (1 = very unsatisfied, 10 = very satisfied).

Abbreviation: SD, standard deviation.

9.5). Student nurses evaluated their educators' competence as good using ERNT (mean 3.6) (Table 4). There was a clear statistical positive correlation between the ERNT evaluations and the evaluations of the average ($r=0.7$, $p<0.001$) and a weak correlation with the evaluations of the highest ($r=0.5$, $p<0.001$) performing educators.

6 | DISCUSSION

The aim of the study was to describe and compare the current state of nurse educator competence and the factors associated with it, from the perspective of nurse educators, student nurses and heads of a nursing subject in selected European countries. Whilst there

TABLE 5 Nurse educator competence from the perspective of educators, heads of a nursing subject and student nurses in the four European countries.

Competence category/country	Finland mean (SD)	Malta mean (SD)	Slovakia mean (SD)	Spain mean (SD)	Total mean (SD)
ERNT 1: Nursing competence					
Educators	4.6 (0.43)	<u>4.2 (0.92)</u>	4.5 (0.66)	4.6 (0.44)	4.5 (0.52)
Heads of a Nursing Subject	<u>4.4 (0.38)</u>	^a	4.5 (0.62)	4.4 (0.57)	4.4 (0.55)
Student Nurses	3.8 (0.68)	<u>3.5 (0.77)</u>	3.9 (0.87)	3.9 (0.71)	3.9 (0.73)
ERNT 2: Pedagogical competence					
Educators	4.5 (0.51)	<u>4.1 (0.62)</u>	4.5 (0.50)	4.2 (0.53)	<u>4.4 (0.55)</u>
Heads of a Nursing Subject	4.2 (0.60)	^a	4.4 (0.99)	<u>4.2 (0.70)</u>	4.2 (0.75)
Student Nurses	3.6 (0.8)	<u>3.6 (1.05)</u>	3.8 (0.97)	3.7 (0.91)	3.7 (0.88)
ERNT 3: Evaluation skills					
Educators	4.5 (0.44)	4.3 (0.74)	4.6 (0.47)	<u>4.3 (0.46)</u>	4.4 (0.50)
Heads of a Nursing Subject	<u>3.9 (0.41)</u>	^a	4.4 (0.79)	4.3 (0.63)	4.1 (0.66)
Student Nurses	3.3 (0.86)	<u>2.8 (0.94)</u>	3.5 (1.00)	3.5 (0.89)	<u>3.4 (0.91)</u>
ERNT 4: Personality factors					
Educators	4.5 (0.41)	4.3 (0.48)	4.5 (0.54)	4.4 (0.45)	4.5 (0.45)
Heads of a Nursing Subject	<u>3.7 (0.47)</u>	^a	4.3 (0.66)	4.0 (0.76)	<u>4 (0.67)</u>
Student Nurses	3.4 (0.86)	<u>3.3 (0.83)</u>	3.5 (1.00)	3.5 (0.93)	3.5 (0.91)
ERNT 5: Relationships with students					
Educators	4.7 (0.35)	4.7 (0.36)	4.8 (0.42)	4.7 (0.38)	4.7 (0.38)
Heads of a Nursing Subject	<u>4.2 (0.53)</u>	^a	4.4 (0.62)	4.6 (0.59)	4.4 (0.67)
Student Nurses	3.7 (0.87)	<u>3.6 (0.93)</u>	3.6 (1.13)	3.9 (0.86)	3.8 (0.92)
ERNT total					
Educators	4.6 (0.32)	<u>4.4 (0.45)</u>	4.6 (0.39)	4.5 (0.34)	4.5 (0.36)
Heads of a Nursing Subject	<u>4.1 (0.41)</u>	^a	4.4 (0.64)	4.3 (0.58)	4.2 (0.55)
Student Nurses	3.6 (0.71)	<u>3.4 (0.72)</u>	3.6 (0.91)	3.7 (0.75)	3.6 (0.76)

^aCannot be reported due to the risk of privacy breach as a result of a small population; Bolded: The highest evaluation in each evaluator group; Underlined: The lowest evaluation in each evaluator group.

TABLE 6 The highest and lowest competences of the educators according to different evaluators.

The evaluators (n)	Educators (329)	Heads of nursing subject (61)	Student nurses (1053)
Highest evaluation	Being honest	Having professional responsibility	Having a comprehensive view of nursing
Mean (SD)	4.8 (0.5)	4.6 (0.6)	4.1 (0.9)
Mode	5	5	4
Lowest evaluation	Enhancing self-evaluating skills	Reflecting on one's own performance	Taking students seriously
Mean (SD)	4.3 (0.8)	3.8 (0.9)	3.1 (1.2)
Mode	4	4	4

are several studies about nurse educator competence, comparative studies are close to non-existent. The novelty of this study is that nurse educator competence was evaluated and compared simultaneously in four countries and with three different evaluator groups. The four countries participating in the study represent different parts of Europe with different educational and competence requirements for nurse educators (Campos Silva et al., 2022).

Nurse educator competence is on a good level in all of the participating countries according to all of the evaluator groups, albeit with some differences. Nurse educators evaluated themselves as

very competent as educators, whilst the heads of a nursing subject and student nurses evaluated nurse educators' competence slightly lower. These results are in line with the findings of previous studies (Salminen et al., 2013, 2021). Furthermore, as before, there were differences between the different sets of evaluators with regard to nurse educators' competences (Salminen et al., 2013). Additionally, as with previous studies, nurse educators in our study viewed their own competence higher than heads of a nursing subject and student nurses, who were found to be the most critical about the competence of educators (Ozga et al., 2021; Salminen et al., 2013).

Compared with a recent study, the students in our study were less critical about nurse educators' nursing and pedagogical competence (Salminen et al., 2021).

There has been a debate as to whether student nurses are in fact evaluating the competence of educators or if they are evaluating their personal view of an educator or their overall satisfaction with their studies (Oermann, 2017). At the beginning of the survey, we asked the students to evaluate the overall competence of their least competent, most competent and average educators, and we also asked them to evaluate the competence of their average educators with ERNT. The outcome of the competence evaluation of the educator correlated strongly with the evaluations given with ERNT. This can be considered evidence that students are in fact evaluating the competence of educators, which, in turn, supports the use of student evaluations as quality measures. As with the findings of an earlier study (Salminen et al., 2021), this study revealed a statistically significant correlation between student satisfaction with the degree programme and their evaluation of the competence of educators. We are inclined to interpret this finding as an indication that the higher the competence of the educators, the higher the satisfaction with the degree programme.

Nursing competence was deemed highest by both student nurses and heads of a nursing subject. This is not surprising in view of the fact that content competence is at the core of nursing education (World Health Organization (WHO), 2016; World Health Organization (WHO), 2021), and the results are well in line with those of earlier studies (Salminen et al., 2013, 2021). Educators' subject competence is also valued by student nurses (Labrague et al., 2020). Nurse educators may more accurately see (a) the expansiveness of the role and expectations for nurses in today's world and (b) the limited longevity of nursing competence without constant updating. In the fluctuating contexts of nursing, an individual's nursing competence is significantly context-bound and time-bound. Nurse educators may be aware of this and therefore they evaluated their nursing competence accordingly, resulting in levels contrasting with what the students and the heads of a nursing subject noted in their evaluations.

Nurse educators evaluated their relationship with students the highest, which is in line with an earlier study (Salminen et al., 2013). Whilst being favourable, the fact that this finding is not mirrored in the data from student nurses raises concerns and elicits questions. From their perspective, nurse educators believed that they treated students with equal respect and took their students seriously. Furthermore, the nurse educators asserted that they were honest with their students. However, a significant number of students felt that they were not being taken seriously by their educators. Based on the evaluations of Salminen et al. (2013), not much has changed in this respect in 10 years in Finland, and this study reveals that this feeling is shared by students across Europe. It seems that nurse educators' and students' experiences and possibly also aspirations are different in this regard.

Nurse educators were noted to encourage their students to use research and also to use research in their own role as educators. This

may be influenced by the educational requirements in the participating countries (Campos Silva et al., 2022), which emphasizes the level of academic education, rather than pedagogy. Furthermore, having a comprehensive view of nursing was evaluated highest by the students, which was also considered as a vital part of the learning experience of student nurses in past studies (Zlatanovic et al., 2017). Against the backdrop of a global drive towards evidence-based practice across all disciplines as the gold standard, the finding that students noted research utilization in teaching to be at a good level is commendable. On the other hand, the fact that evaluations by nurse educators and heads of a nursing subject were lower in this competence area, is disappointing if it does indeed reflect actual limited competence among the nurse educators. However, we are tempted to find these results encouraging, in the hope that this finding may reveal nurse educators' awareness about a need to develop their competence in research utilization further given its prominent and increasing importance in today's world (World Health Organization (WHO), 2021) and in nursing education (Zlatanovic et al., 2017). Nurse educators may see scope for improvement in this competence, suggesting a mindset and approach that are consistent with evidence-based practice, which demands the continuous improvement of practice through evidence generation and utilization.

The evaluation skills of the educators were also evaluated unfavourably by students in a previous study (Salminen et al., 2013). Fairness of assessment and receiving constructive feedback were not the strong suit of educators, according to students. Here, again, a level of incongruence between the expectations of students and nurse educators can offer an explanation for the dissimilar findings arising from the data collected from among the nurse educators and students. The need for both groups of participants to revisit, review, revise and manage expectations accordingly is perhaps revealed here.

One may argue that the guarded critical self-assessment observed among nurse educators arose from the fact that the data were collected during the COVID-19 pandemic, and therefore, the educators were under an unprecedented amount of pressure, lacking the time normally required to accommodate opportunities for critical self-assessment. Educators were also heavily critical about their own pedagogical competence, which may also be linked to the pandemic, as educators were forced to adjust their mode of teaching according to the fluctuating demands of the authorities, creating an atmosphere of uncertainty, which may have been reflected upon the educators' self-evaluation (Sacco & Kelly, 2021). From another angle, nurse educators' hesitance in evaluating their pedagogical competence highly may stem from the increased emphasis on quality assurance and the auditing of standard and performance in higher education in recent decades. It is possible that the drive to excel is hampering nurse educators' confidence in pedagogical competence. Also, the way in which student nurse populations have evolved over recent decades, including the digital literacy of students and socio-economic and moral values of students, may be challenging, and indeed lowering, the perceived pedagogical confidence of nurse educators.

Age, unlike in previous studies (Cayir & Ulupinar, 2021; Salminen et al., 2021), was not statistically linked to evaluations of either students, educators or heads of nursing. However, not unlike earlier studies, experience as an educator correlated positively with educators' self-evaluation as did a background in nursing. This finding suggests that the norm, whereby qualified nurses gradually evolve into or expand towards nursing education, is advantageous and should be maintained and supported. In contrast, educators without a nursing background were so few and hence any conclusions suggesting that a lack of nursing experience is worrying or concerning, cannot be drawn with any certainty. Currently, there are no uniform requirements regarding pedagogical competence or studies (Booth et al., 2016; Campos Silva et al., 2022). However, there is a call for formally educated nurse educators to hold qualifications associated with pedagogical competence (Booth et al., 2016). It is important and interesting to note that the results of this study do suggest that pedagogical studies do seem to improve the competence of nurse educators, whereas a similar link was not seen between the level of education of nurse educators and their competence.

In this study, there were statistically significant differences between the self-evaluations of the educators in Spain and Slovakia and Slovakia and Malta. Furthermore, there were statistically significant differences between the student evaluations of their educators' competence in Spain and Finland. Considering the average competence in each country, the differences detected in this study are so small, that it remains unverified, whether these kinds of differences have any specific implications in their respective contexts. With that said, the differences in educational systems, educator education and competence requirements across the participating countries, coupled with the seemingly minimal differences in the competence of educators, indicate the need for further studies about the perception of competence in different countries.

6.1 | Strengths and limitations of the study

Strengths of the study include the observed scarcity of wide comparative international studies on this topic, and hence this study contributes novel knowledge about nurse educator competence from multiple perspectives in four countries. The utilization of NUTS where applicable also increases the representability of the sample. The instrument used in this study is verified to have strong internal consistency (Salminen et al., 2013) making it a reliable instrument for evaluating nurse educator competence by different evaluator groups.

The limitations of this study were that despite the overall sample size of educators, heads of a nursing subject and students participated in the study, the response rates varied from poor to moderate for all of these groups, except heads of a nursing subject, who responded to the survey at very high rates. Furthermore, the response rates among student nurses from Finland and Spain were poor; hence, the statistical differences between Finland and Spain are to be regarded with caution and cannot be viewed as a comprehensive

representation of the competence of the educators due to non-response bias. Moreover, despite the good response rates of educators in Malta and Slovakia, the actual differences in mean values are so small that a similar caution in drawing conclusions should be used for these populations. The response rates may be due to research fatigue (Ashley, 2021; O'Reilly-Shah, 2017) or to data collection occurring during the pandemic, which had already put a significant strain on nurse education (Keener et al., 2021). In fact, it was impossible to promote this research study face to face in educational institutions. Furthermore, one of the samples in our study (Malta) was so small that the statistical power was low, even though the response rates from Malta were good for nurse educators and heads of a nursing subject and moderate for students.

7 | CONCLUSIONS

Nurse educator competence is essential for educating future nurses to provide high-quality and safe care for patients. This study is one of the first to evaluate nurse educator competence from multiple perspectives in different European countries simultaneously. Nurse educator competence is at a good level in participating European countries despite the differences in evaluations. This indicates that from the perspective of nurse educator competence, nursing education in these countries participating in the study is at an equal level. This, in turn, promotes more homogenous nursing education and thus more equal nursing and health care within the EU. Furthermore, it seems that educator education with a pedagogical emphasis may be beneficial for nurse educators, but also longer experience as an educator promotes competence. Considering the differences between countries and the heterogeneity of the educator education, there is a need for regulatory bodies and the scientific community to observe and monitor nurse educator competence and qualification requirements more closely in the future.

AUTHOR CONTRIBUTIONS

Made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; IE, LS, MC, SK, TSa, TSo, LW-C, MP. Involved in drafting the manuscript or revising it critically for important intellectual content; IE, LS, MC, SK, TSa, TSo, LW-C, MP, SK-U. Given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content; IE, LS, MC, SK, TSa, TSo, LW-C, MP, SK-U. Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved; IE, LS, MC, SK, TSa, TSo, LW-C, MP, SK-U.

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CONFLICT OF INTEREST STATEMENT

The authors declare no financial or nonfinancial conflicts of interest.

DATA AVAILABILITY STATEMENT

The data presented in this study, excluding personal identifiers, will be available in the Finnish Social Science Data Archive (FSD) after all the results from the project have been published.

ETHICS STATEMENT

The ethical review of the study was conducted by the Ethics Committee of University of Turku (Decision: 5/2021, 16.02.2021).

INFORMED CONSENT

An electronic informed consent was obtained from all subjects involved in the study prior participation.

HANDLING OF STATISTICAL DATA STATEMENT

The authors have checked to make sure that our submission conforms as applicable to the Journal's statistical guidelines described here. There is a statistician on the author team Miko Pasanen, misapas@utu.fi. The authors agree to take responsibility for ensuring that the choice of statistical approach is appropriate and is conducted and interpreted correctly as a condition to submit to the journal.

ORCID

Imane Elonen  <https://orcid.org/0000-0001-7020-4891>

Satu Kajander-Unkuri  <https://orcid.org/0000-0003-2668-5856>

Maria Cassar  <https://orcid.org/0000-0002-1716-3207>

Laia Wennberg-Capellades  <https://orcid.org/0000-0002-6811-1343>

Susanne Kean  <https://orcid.org/0000-0002-3717-9740>

Tomáš Sollár  <https://orcid.org/0000-0002-8214-896X>

Terhi Saaranen  <https://orcid.org/0000-0002-0883-6377>

Miko Pasanen  <https://orcid.org/0000-0002-1637-5064>

Leena Salminen  <https://orcid.org/0000-0002-9730-5331>

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