





ORIGINAL ARTICLE

Graduating nurse students' interest in older people nursing—A cross-sectional survey in six European countries

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Funding information

Academy of Finland, Grant/Award Number: Decision 28.4.2017, n and o 310145

Abstract

Background: Countries vary in the number of qualified nurses employed in older adult services. Moreover, students' views of older people nursing as a career differ internationally. Studying future nurses and their career intentions for the field is warranted to meet the increased nurse workforce expectations in terms of quantity and competence.

Aim: To analyse graduating nurse students' interest in older people nursing and the factors associated with it.

Methods: A cross-sectional multicountry survey design was applied. Data were collected between May 2018 and March 2019 from several educational institutions in Finland, Germany, Iceland, Ireland, Lithuania and Spain. Non-probability convenience sampling was used to recruit graduating nurse students ($n = 1796$). The data were collected with a structured questionnaire comprising background factors and the Willingness sub-scale (six items) of the Students' Interest in Nursing Older People Scale. Data were analysed using a linear mixed model including relevant background variables.

Results: Overall, students' interest in older people nursing was low (score 20.5, on a 0–100 scale). Among the studied countries, Spanish students scored the highest (38.8) and German students the lowest (3.6). Students' interest in older people nursing was associated with country ($p < .001$), the length of work experience ($p = .006$), plans for further study ($p = .007$), competence ($p < .001$) and the extent that nursing is valued by society ($p < .001$). The students who were most interested in older people nursing had higher self-reported competence level ($p < .001$).

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Conclusion: In the studied sample of future nurse professionals, interest in older people nursing is low at a time when the field suffers from workforce shortage. As for quality workforce, it was promising that the students who considered working in the field also evaluated themselves as competent.

Implications for practice: Multidimensional actions are required to promote interest in the field, including continued development of competence in both undergraduate education and workplaces, and investing in various career pathways to envisage potential opportunities.

KEYWORDS

career choice, cross-sectional studies, Europe, nursing, older people nursing, self report, students

1 | INTRODUCTION

In all societies of the world, older adults are an increasing demographic group despite countries being at different stages of the longevity trend (United Nations [UN], 2020). Some European countries are among the first to have a greater share of older generations in their populations (Table 1; Eurostat, 2019). However, the rise in life expectancy has not decreased the prevalence of morbidity from chronic illnesses contributing to functional decline (Kingston et al., 2018; Zhang et al., 2019). Instead, functional decline has been postponed to later age, still eventually resulting in care needs (Chang et al., 2019; Halonen et al., 2019; Organisation for Economic Cooperation & Development [OECD], 2019). Countries vary not only in terms of the health status of older adults but also in resources required for addressing the service demands, including workforce issues, that is professionally qualified, competent nurses (Chang et al., 2019; Heywood & Laurence, 2018). In Europe, studying the future nurse workforce and their career intentions for older people nursing (OPN) is warranted due to the European Union (EU) treaties that bind all EU member states. The adoption of the same regulations (Directive 2005/36/EC; Directive 2013/55/EU) harmonising nursing education and its outcomes as well as the joint labour market enabling the free movement of workers (European Commission [EC], 2019) which causes great migration of nurses create a need to evaluate how the nurse workforce expectations will be met.

Countries' abilities to respond to the increasing demand for health workforce differ due to several societal characteristics, such as population, economy, health service and the availability of health professionals (Table 1) (Drennan & Ross, 2019; OECD, 2019). Regardless of these variations, one of the strategic focuses on ageing and health internationally has been to ensure an adequate, appropriately trained and competent nurse workforce (World Health Organisation [WHO], 2017). There are indications that care services targeted to older adults, such as nursing homes, would benefit especially from having registered nurses (RN) as care providers in terms of better quality of care. Higher RN to resident ratios are associated with no weight loss occurring among residents (Zimmermann

SUMMARY STATEMENT OF IMPLICATIONS FOR PRACTICE

What does this research add to existing knowledge in gerontology?

- Large-scale, multicountry comparison study of future nurses' career intentions in older people nursing.
- Analysis between students' interest in older people nursing and the workforce structure in older adult services.
- Broad examination of factors associated with students' interest, such as educational and societal factors.

What are the implications of this new knowledge for nursing care with older people?

- Multidimensional actions are required to promote graduating nurse students' interest in older people nursing to meet the workforce demands now and in the future.
- The development of generic professional competence may have the potential to promote graduating nurse students' interest in older people nursing as a career choice.

How could the findings be used to influence policy or practice or research or education?

- Undergraduate education needs to continue fostering nurse students' willingness to work with older people.
- Investment in new registered nurse career pathways in older people nursing is important to offer career opportunities and ensure the quality of care.
- International collaboration in establishing a database for comparable statistics on nurses in older adult services would be beneficial in strengthening professional acknowledgment and supporting the follow-up of employment progress.

TABLE 1 Summary of the characteristics of the studied European countries

Characteristic	Country							
	EU/ OECD	Finland	Germany	Iceland	Ireland	Lithuania	Spain	
65 years old or over, % of the total population, 2018 ^a (EU28)	19.7	21.5	21.4	14.0	13.9	19.7	19.1	
65 years old or over, % of the total population, projection by 2030 ^a (EU28)	23.8	25.6	25.6	18.5	18.1	26.2	24.1	
Practising nurses per 1 000 population, 2017 ^b (OECD36)	8.8	14.3	12.9	14.5	12.2	7.7	5.7	
Ratio of nurses to doctors, 2017 ^b (OECD36)	2.7	4.4	3.0	3.7	4.5	1.7	1.5	
Nursing graduates per 100 000 population, 2017 ^b (OECD36)	43.6	69.5	54.5	73.7	28.9	20.2	21.7	
LTC workers with high education, % among LTC workers, 2016 ^b (OECD20)	21	19	6	-	38	-	24	
LTC workers per 100 people aged 65 and over, 2016 ^b (OECD28)	4.9	7.6	5.1	-	4.0	-	4.5	
Nurse workforce in the social and/or healthcare services targeted to older adults ^c	-	^d 45 000 employees: -RNs/PHNs 10.3% -licensed practical nurses 70.9% -care assistants 5.1%	^e Outpatient service: 390 322 employees: -geriatric nurse 24.1% -care assistant 5.4% -general nurse 20.1% -auxiliary nurse 3.7%	NA	NS (Approx. 65 000 RNs and RMWs Private and voluntary nursing home sector: almost 35 000 employees across a range of clinical, support and other roles)	^g Approx. 3000 nurses are working in social service with older adults or people with disability living in assisted living facilities	NA	

Abbreviations: LTC, long-term care; NA, not available; NS, not specified; PHN, public health nurse; RMW, registered midwife; RN, registered nurse.

^aEurostat (2019).

^bOECD (2019).

^cNo standardised statistics; presented figures are not comparable to each other as they are based on national figures from varying sources

^dFinnish Institute for Health and Welfare 2018. Toteutumun henkilöstömäärä. Vanhuspalvelujen tila -seurantatutkimus 2014–2018. <https://thl.fi/web/ikaantyminen/muuttuvat-vanhuspalvelut/vanhuspalvelujen-tila>

^eStatistisches Bundesamt 2017. Pflegestatistik Pflege im Rahmen der Pflegeversicherung Deutschlands. https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Gesundheit/Pflege/_inhalt.html

^fNursing and Midwifery Board of Ireland (NMBI). Registration. <https://www.nmbi.ie/Registration>. Nursing Homes Ireland (NHI). The national representative body for the private and voluntary nursing home sector. <https://nhi.ie/about-nhi/who-we-are/>

^gMinistry of Health of The Republic of Lithuania. Slauga. <https://sam.lrv.lt/lt/veiklos-sritys/asmens-sveikatos-prieziura/slauga-asmens-sveikatos-prieziura>

& Pfaff, 2018) as well as a reduced number of hospital readmissions and emergency department visits (Glette et al., 2018; Min & Hong, 2019), justifying the recruitment of RNs to these services. Globally, however, the views of graduating nurse students (GNS) regarding OPN as a career are divergent, fluctuating from an appealing choice to an unattractive field to work in (Abrahamsen, 2019; Chai et al., 2019; Chi et al., 2016; Darling et al., 2018; Hunt et al., 2020; Koskinen et al., 2016; Lee et al., 2018; Neville, 2016).

The factors associated with students' preferences for working with older adults vary from student-related to societal level factors. In student-related, individual factors, there is a positive association with female gender, but the relationship with age has been inconsistent (Garbrah et al., 2017; Hebditch et al., 2020). Previous experiences with older people, having such experience increases intentions to work in OPN (Garbrah et al., 2017; Hebditch et al., 2020). Among educational factors, the undergraduate degree programme itself shapes students' perceptions of the field (Garbrah et al., 2017; Husebø et al., 2018; McAllister et al., 2020), and the preferences for OPN appear to decrease over the duration of the education programme (Garbrah et al., 2017; Hebditch et al., 2020; Hunt et al., 2020). In terms of educational outcomes, there is strong evidence of a link between positive attitudes towards older people and patients and greater career preferences, whereas regarding gerontological knowledge, the previous findings are contradictory (Garbrah et al., 2017; Hebditch et al., 2020). On a societal level, it is a question of current public values about nursing and ageing (Neville et al., 2014) and prestige considerations; that is the overall position of nursing in society and particularly the implicit, lower professional status of those working in older adult services that affects career preferences negatively (Garbrah et al., 2017; Hebditch et al., 2020; Koskinen et al., 2015).

OPN is carried out in all health and social care settings. In this study, however, these settings concern particularly community and long-term care (LTC) such as nursing homes, assisted living facilities, and the homes of older adults, given the items used in the questionnaire. The aim of this study was to analyse GNSs' interest in OPN and the factors associated with it on a European level. The research questions were as follows: (1) How interested are GNSs in OPN? and (2) What factors are associated with their interest in OPN? This study produces internationally comparative information for the use of nursing education, social and healthcare services and policy-making bodies when considering the actions required to encourage GNSs to choose OPN as a career.

2 | METHODS

2.1 | Study design

This study is part of a European prospective cohort study entitled Professional Competence in Nursing (ProCompNurse, www.utu.fi/procompnurse) which evaluates and compares the professional competence of early career nurses at the stage of graduation and one

year later. In the research project, several instruments for evaluating competence and related factors are used. In this article, GNSs' interest in OPN is reported as it is a substantially growing field of nursing practice and employment. The data presented in this paper come from the baseline inquiry targeted to GNSs and applying a cross-sectional survey design.

2.2 | Setting and sample

Data were collected from six European countries (Finland, Germany, Iceland, Ireland, Lithuania and Spain) covering the continent geographically. In each country, several educational institutions (altogether $n = 45$) from different locations and of varying sizes in terms of number of students with corresponding general nursing programmes as defined by Directives of the European Union Recognition of Professional Qualifications Standards (Directive 2005/36/EC; Directive 2013/55/EU) were recruited to the study. For comparability between the countries, the degree programmes have to include theoretical and clinical instruction about 'care of the old and geriatrics' (Directive 2005/36/EC), but the extent or content of these studies is not regulated (Table S1). Institutions also have to comply with national regulatory bodies on curriculum content which may differ between countries. To develop education for older people nursing, different projects, such as the one by the multicountry European Later Life Active Network (ELLAN), have been conducted to support educational institutions in providing standardised teaching across Europe (Dijkman et al., 2017), but educational institutions can decide whether or not to implement the output of these projects.

The study population comprised GNSs, defined as students studying in an undergraduate nursing degree programme leading to the qualification of a professional nurse (equivalent to a RN) and being in the final stage of their studies and about to graduate. For sample size, this study applied the calculation made for the entire research project based on the Nurse Competence Scale (NCS, Meretoja et al., 2004). A total of 156 respondents per country were the minimum requirement, acknowledging that it was difficult to achieve for small countries. The relevant mean difference for the total NCS score was considered to be five points, standard deviation 15.7 (Kajander-Unkuri et al., 2014), statistical power 80% and significance level 0.05 (two-tailed). Non-probability convenience sampling was used, meaning that the survey was delivered to all eligible GNSs achievable and/or present at the time of data collection. Altogether, 3675 GNSs received the questionnaire; of these, 1796 respondents were eligible for inclusion in the analysis after cleaning the data for blank and double records, yielding an overall response rate of 49% (Table 2).

2.3 | Measurements

The data were collected with a structured questionnaire comprising two parts. The first part was about individual, educational and

TABLE 2 Information about the data collection procedures and the instruments

Country	Pilots, <i>n</i>	Geographical coverage of sampling	Main study response rate, %	Willingness sub-scale		Nurse Competence Scale	
				Translation	α^a	Translation	α^a
Finland	50	National	37	No	0.93	No	0.98
Germany	20	Regional	55	Yes	0.89	Yes	0.96
Iceland	15	National	55	Yes	0.88	No	0.96
Ireland	30	Regional	88	No	0.87	No	0.96
Lithuania	20	National	58	Yes	0.90	No	0.98
Spain	16	Regional	36	Yes	0.90	Yes	0.98

^aCronbach's coefficient alpha.

value-based factors potentially associated with the GNSs' interest in OPN (Table 4). Individual factors included sociodemographics and questions about future career and study plans in general. Nominal or Likert scale measurements were used depending on the question. Educational factors included the self-assessed level of professional competence measured with the widely used and validated NCS applying visual analogue scales (VAS 0–100: <25 low, >25–50 rather good, >50–75 good and >75–100 very good level of competence) (Flinkman et al., 2017; Meretoja et al., 2004). For this study, the Cronbach's alpha for the NCS for the total sample was 0.97 (Table 2), demonstrating acceptable reliability (Taber, 2018). Other educational factors were the self-assessed level of study achievements throughout the degree programme and evaluation of the taken programme applying Likert scale measurements. The value-based factor was surveyed with a question about the extent to which students perceived nursing was a valued profession in society using a Likert scale.

The second part examined the GNSs' interest in OPN measured with one sub-scale, Willingness to work in OPN (six items), of the Students' Interest in Nursing Older People Scale (SINOPS; Koskinen, 2016; Koskinen et al., 2016) (Table 3). Visual analogue scale (VAS) was used, with the endpoint 0 indicating strong disagreement and 100 strong agreement with the item. The total mean score was calculated by summing up the values for each answer and dividing the sum by the number of items. The range of the total score was the same as for each single item (0–100), with higher scores indicating more interest in OPN. For this study, the Cronbach's alpha for the Willingness sub-scale for the total sample was 0.91 (Table 2), demonstrating acceptable reliability (Taber, 2018).

In each country, for those parts of the questionnaire not having previous translations, a double translation process was conducted (Sousa & Rojjanasrirat, 2011). First, the English version, used as the basis, was translated into the target language. After that, the version was back-translated into English. In the process, authorised translators and researchers proficient in both languages were used. Any differences were solved in the research group in collaboration with language experts.

Then, pilot studies were conducted with a total of 151 students from all the participating countries (Table 2) to ensure the understandability of the entire questionnaire. Based on the pilots, some answer options to the background questions were fine-tuned to adjust them to be more suitable for all countries. Pilot data were not included in the final data.

2.4 | Data collection procedure

Data collection took place between May 2018 and March 2019. Each participating educational institution was requested to name a contact person(s) who collaborated with the researchers to deliver the survey to the GNSs. Both electronic and paper-based surveys were used depending on the feasibility preferences of the educational institutions. REDCap electronic data capture software hosted at the University of Turku was used in the electronic survey (Harris et al., 2019). If the survey was not sent via student email to the GNSs, the time and place for data collection with paper-based questionnaires were agreed with the contact person(s). All paper-based surveys were entered for the analysis by a trained group of research assistants in one university coordinating the research project.

2.5 | Statistical analyses

Categorical variables are summarised with counts and percentages, and continuous variables with medians together with lower (Q1) and upper (Q3) quartiles or with mean together with standard deviation (SD). Square root transformation was used to SINOPS to fulfil normal distribution assumption, which was evaluated using studentised residuals.

Modelling for SINOPS was started with one-way analysis of variance, including only country in the model. Then, two-way analysis of variance or covariance was executed including country and one of the background variables (age, previous degree in health care, the length of work experience in health care, the frequency

TABLE 3 GNSS' interest in OPN as a total European sample and by country

Total SINOPS scores and item scores; Median (Q1–Q3)	Country						
	All countries n = 1780	Finland n = 511	Germany n = 304	Iceland n = 64	Ireland n = 397	Lithuania n = 268	Spain n = 236
Total SINOPS score	20.5 (6.5–44.2)	22.7 (10.2–45.8)	3.6 (0.8–11.8)	26.7 (17.9–41.3)	28.8 (12.5–49.0)	18.3 (5.1–39.9)	38.8 (19.7–58.5)
Interested in working in OPN immediately after graduation	19.0 (3.0–50.0)	26.0 (11.0–62.0)	2.0 (0.0–10.0)	13.5 (0.0–27.5)	20.0 (5.5–48.0)	19.0 (3.0–47.0)	43.0 (19.0–69.0)
Interested in working in OPN later on in one's career	28.0 (5.0–60.0)	32.0 (13.0–61.0)	2.0 (0.0–9.0)	38.0 (22.0–58.5)	43.5 (13.0–72.0)	25.0 (4.0–50.0)	56.0 (27.0–75.0)
Interested in working in non-institutional ^a care of older people	15.0 (2.0–46.0)	14.0 (2.0–39.0)	4.0 (1.0–23.0)	32.5 (12.5–50.0)	17.0 (3.0–52.0)	13.0 (2.0–40.0)	26.5 (9.0–54.0)
Interested in working in institutional ^b care of older people	11.0 (2.0–37.0)	14.0 (3.0–40.0)	2.0 (0.0–7.0)	29.0 (8.0–52.0)	13.0 (4.0–47.0)	11.0 (1.0–28.0)	26.5 (7.5–57.0)
Already knew when applied for the training that wanted to work in OPN	6.0 (1.0–26.0)	9.0 (1.0–29.0)	1.0 (0.0–2.0)	5.0 (0.0–23.0)	10.0 (2.0–34.0)	4.0 (0.0–25.0)	19.0 (1.0–35.0)
Interest in OPN has increased as studies have progressed	20.0 (2.0–57.0)	25.0 (4.0–56.0)	2.0 (0.0–7.0)	26.5 (11.0–51.5)	39.0 (8.0–68.0)	13.0 (2.0–49.0)	55.0 (20.0–78.0)

Abbreviation: OPN, older people nursing.

^aNon-institutional care such as home-based care or assisted living facility.

^bInstitutional care such as nursing home or health centre ward.

TABLE 4 Associations between the independent variables and the GNSs' interest in OPN

Independent variable	Model-based mean estimate/Slope (B) on square root scale	CI 95%	Bivariate <i>p</i> -value	Multivariable <i>p</i> -value
Country				
Finland	23.96	22.05–25.95	<.001	<.001
Germany	5.32	4.20–6.58		
Iceland	24.09	18.89–29.92		
Ireland	26.55	24.27–28.92		
Lithuania	18.64	16.34–21.08		
Spain	34.90	31.53–38.44		
Individual factors				
Age	0.04	0.03–0.06	<.001	
Gender				
Female	21.10	19.85–22.38	.586	
Male	20.25	17.43–23.28		
Previous degree in health care				
Yes	24.99	22.42–27.70	<.001	
No	20.07	18.82–21.36		
Work experience in health care				
Yes	21.81	20.29–23.38	.076	
No	19.85	18.18–21.59		
Length of work experience in health care (months^a)				
Max 24	19.89	18.62–21.21	<.001	.006
25–60	24.24	21.44–27.21		
61 and over	25.98	22.01–30.28		
Plan to change into another degree outside of health care				
Never	21.25	19.58–23.00	.006	
Fairly seldom	21.80	19.87–23.81		
Fairly often	19.75	17.20–22.48		
Very often	15.58	12.77–18.66		
Plans for further study				
Yes	19.88	18.52–21.29	.001	.007
No	23.82	21.69–26.04		
Desired further qualification				
Manager/Director	20.26	16.55–24.34	.022	
Specialist in clinical area of practice	21.29	19.35–23.32		
Researcher	19.44	12.49–27.92		
Nurse teacher	21.62	17.40–26.29		
Entrepreneur	19.22	12.76–26.99		
Other	16.72	14.12–19.54		
Not any in health and social care	13.10	8.94–18.04		
Nursing career plan for the future				
Yes	20.81	19.37–22.31	.633	
No	21.33	19.59–23.13		
Educational factors				
Level of professional competence (Total NCS score)	0.02	0.01–0.03	<.001	<.001
Level of study achievements				
Very poor	20.38	8.62–37.12	.856	
Poor	19.78	15.88–24.11		
Good	21.14	19.71–22.61		
Excellent	20.08	17.26–23.11		

(Continues)

TABLE 4 (Continued)

Independent variable	Model-based mean estimate/Slope (B) on square root scale	CI 95%	Bivariate <i>p</i> -value	Multivariable <i>p</i> -value
Evaluation of the nursing degree program				
Very dissatisfied	15.55	10.92–21.01	.006	
Dissatisfied	17.99	15.59–20.56		
Satisfied	21.20	19.71–22.75		
Very satisfied	23.63	20.52–26.97		
Value-based factor				
Valuation of nursing in society				
Fully disagree	16.88	14.56–19.37	<.001	<.001
Disagree to some extent	20.25	18.43–22.16		
Agree to some extent	22.42	20.53–24.40		
Fully agree	27.89	23.00–33.25		

Note: Associations between the explanatory variables were studied and if a significant association existed, only one of the associated variable was taken into the multivariable model: age—length of work experience $r = 0.43$, $p < .001$; previous degree—plans for further study $p < .001$; previous degree—desired further qualification $p = .192$; plan to change into another degree—valuation of nursing $p < .001$; total NCS score—evaluation of the nursing degree programme $p < .001$; total NCS score—plan to change into another degree $p < .001$.

^aFor those GNSs having work experience in health care; max 24 months = 2 years; 25–60 months = over 2 years – max 5 years; 61 months and over = over 5 years.

of planning to change into another degree outside of health care, plans for further study, desired further qualification, the valuation of nursing in society and total NCS). When significant results occurred, pairwise comparisons were adjusted with Tukey method.

The association between variables was studied, and if significant association occurred between two variables, one of them was dropped from the final model to avoid collinearity problem. The decision on which variables to include in the final model was made by the research team considering the coverage of the recognised factors (individual, educational and value-based) and the most important variables for each factor and with statistical testing.

Finally, a linear mixed model was built including the following variables: country (where study participant was nested), the length of work experience in health care, plans for further study, total NCS and the valuation of nursing in society. If there were any missing values in response or background variables, these subjects were dropped out from the analysis (in the final model, 1515 students were included and 281 dropped out due to one or more missing value).

In addition, it was examined whether NCS score was associated with the categorised SINOPS scores (<25, 25–50, >50–75, >75) with two-way analysis of variance where total NCS was handled as response and categorised SINOPS and country as explanatory variables.

Cronbach's alphas were calculated for the used Willingness subscale of SINOPS and the total NCS, also separately for each country. Confidence intervals (CI) of 95% were calculated. All statistical tests were performed as 2-sided, with significance level set at 0.05. The analyses were performed using SAS software, version 9.4 for Windows (SAS Institute Inc., Cary, NC, USA).

3 | RESULTS

3.1 | Participant characteristics

For all respondents ($n = 1796$), the median age was 23.0 years (Q1–Q3 22.0–26.0) and 88.0% were female. The majority of the GNSs (80.4%) had no previous degree in health care. As for work experience in health care besides clinical placements (including time before and during the current degree), 60.7% of the GNSs had such experience, and of those, the majority (78.3%) had a maximum of two years' experience. Two thirds of the respondents (69.1%) had plans for further study and half (52.3%) of them were willing to acquire further qualification as a specialist in a clinical area of practice. Well over half (63.2%) had a nursing career plan for the future, and 43.9% of the GNSs had never planned to change into another degree outside of health care.

The respondents' overall level of professional competence (total NCS score) was 62.2 (SD 14.9). Four fifths of the GNSs (81.0%) assessed their level of study achievements as good and were either satisfied or very satisfied with their nursing degree programme (78.7%). As for the valuation of nursing, 56.7% of the respondents disagreed either fully or to some extent with nursing being valued in society.

3.2 | GNSs' interest in OPN

Overall, the total SINOPS median score was 20.5, indicating low interest in OPN (Table 3). On item level, the highest median score was found in 'Interested in working in OPN later on in one's career', being 28.0, showing quite low interest. The lowest median score was in

'Already knew when applied for the training that wanted to work in OPN' being 6.0, denoting no interest in OPN.

Among the studied countries, Spanish GNSs' total SINOPS median score was the highest at 38.8, indicating they were quite interested in OPN (Table 3). German GNSs' total SINOPS median score was the lowest at 3.6, indicating no interest. The difference in the total SINOPS median scores between the countries was statistically significant ($p < .001$) (Table 4). On item level, Spanish GNSs had the highest median score of all countries in 'Interested in working in OPN later on in one's career' at 56.0, denoting interest. German GNSs had the lowest median scores of all countries in 'Already knew when applied for the training that wanted to work in OPN' at 1.0, showing no interest in OPN. (Table 3).

3.3 | Factors associated with the GNSs' interest in OPN

Based on bivariate analysis, the GNSs' interest in OPN was associated with several factors (Table 4). Country was associated with the GNSs' interest ($p < .001$); that is, the Spanish GNSs were the most interested in OPN. As for the individual factors, the GNSs who were older ($p < .001$), had a previous degree in health care ($p < .001$), had over 5 years of work experience in health care ($p < .001$), fairly seldom planned to change into another degree outside of health care ($p = .006$), had no plans for further study ($p = .001$) and who desired to become nurse teachers ($p = .022$) were the most interested in OPN.

As for the educational factors, the GNSs having a higher level of professional competence in nursing (NCS total score; $p < .001$) and being very satisfied with the nursing degree programme ($p = .006$) were the most interested in OPN. As for the societal factor, the GNSs who fully agreed that nursing was valued in society ($p < .001$) were the most interested in OPN.

Based on theoretical assumptions about the collinearity of the explanatory variables and tested statistical correlations, some variables were left out of the multivariable analysis, regardless of their shown connection in the bivariate analysis. The following variables were included in the multivariable analysis: country, the length of work experience in health care, plans for further study, total NCS score and the valuation of nursing in society. These were considered the most suitable variables illustrating the separate dimensions of the potentially connected factors; that is individual, educational and value-based factors respectively. The final model showed that all factors were associated with the GNSs' interest as follows: country ($p < .001$), the length of work experience ($p = .006$), plans for further study ($p = .007$), total NCS score ($p < .001$) and the valuation of nursing ($p < .001$) (Table 4).

In additional analysis, it was evaluated whether the total NCS score was associated with the categorised SINOPS score (<25, 25–50, >50–75 and >75). The highest SINOPS category had a significantly higher total NCS score (estimated mean 71.7; 95% CI from 68.6 to 74.8) than any other SINOPS categories ($p < .001$).

4 | DISCUSSION

The main finding of this study is that GNSs' interest in OPN is low across Europe. Given the scarcity of multinational studies concerning nurse students' career intentions towards OPN, the comparison of the current results to them needs to be made cautiously. Additionally, previous studies combined answers of students from various healthcare fields, making results for nurse students' part unclear (Coffey et al., 2015), or nurse students' samples have been less specified (Kydd et al., 2014). However, it seems that students' career intentions towards OPN have decreased whereas previously, attitudes towards a career in gerontological nursing were perceived as at least neutrally or positively (Coffey et al., 2015; Kydd et al., 2014). Based on this study, older adult services face an impossible recruitment situation for early career nurses.

There were differences between countries in this study, similarly to earlier international comparison studies (Coffey et al., 2015; Kydd et al., 2014). Spanish students were the most interested in OPN after graduation. The influence of potential cultural issues (e.g. family-centeredness) can only be speculated because they were not investigated in this study. Traditional cultural attributes have also been questioned as determinants of modern attitudes towards older adults (North & Fiske, 2015). Thus, the explanation requires further study. In any case, the direction of current national development in Spain seems positive because in an earlier study, few nurse students considered specialising in the care of older patients (Zambrini et al., 2008). Ireland has kept its place among the countries having students with career intentions towards OPN but also there, the interest seems to have decreased (Coffey et al., 2015).

Finnish nurse students have earlier regarded a career in OPN neutrally (Koskinen et al., 2012, 2016), indicating a turn for the worse, also in international comparison (Coffey et al., 2015). Compared to the findings of another Finnish study conducted about the same time and having participants from all academic years (Garbrah et al., 2020), the findings in this study, comprising only GNSs, were even more unsettling because students at the earlier stages of the programme tend to have higher interest (Garbrah et al., 2017; Hebditch et al., 2020; Hunt et al., 2020), making it hard to draw any conclusions about their career intentions at graduation. For Iceland and Lithuania, no previous surveys charting students' interest towards the field exist. Nevertheless, it has been found highly or somewhat challenging, respectively, to recruit new LTC workers (OECD, 2020), suggesting that the field does not appeal to students.

German students' attitudes towards gerontological nursing as a career have previously been at about the same level as in other countries (Coffey et al., 2015; Kydd et al., 2014), and at first look, the drop is dramatic. However, comparison of the current situation with previous studies and other countries is difficult in terms of the organisation of education and workforce structure in OPN, which can influence the preferences of GNSs studying in general/adult nursing programmes. As for the organisation of education, a large number of German students graduate from nursing schools, as in this study, compared to other European countries where higher education is

almost the only option to qualify as a nurse (Bachelor Degree in Nursing). Moreover, in Germany there are degree programmes specialising in OPN; thus, those interested in OPN can directly pursue a degree in these programmes. Still, Germany is not without workforce issues. An area in clear need of development is to increase the total number of nurses as the amount of staff in older adult services with no nursing or any other qualification either is substantial (Table 1; e.g. the percentage of all nurses in nursing homes is 39%).

Some of the European GNSs' reluctance to work in OPN can be explained by the nursing staff structure of OPN in different countries. For instance, among OECD countries, personal care workers represent 70–90% of the LTC workforce whereas less than one quarter of LTC workers have tertiary education (Table 1; OECD, 2019) such as a bachelor degree in nursing, which is often required to practise as a RN. Based on this fact, GNSs in some countries may be under the impression that there are limited opportunities for RNs in OPN and therefore do not consider it as a career option. Furthermore, the inadequate compilation of statistics on RNs in older adult services (Table 1) shows a lack of awareness and professional acknowledgment, possibly discouraging career intentions. GNSs' low interest to work in OPN after graduation is worrying because RNs are central and irreplaceable in older adult services to provide care (Nhongo et al., 2018; WHO, 2020a). Despite RNs not being the main group of nursing staff in OPN, in many cases there will still be an increasing need of RNs in OPN. RNs are needed to provide informal, clinical leadership for the direct bed-side nursing teams, consult teams to implement care, advise managers and participate in working groups, among other things (Backhaus et al., 2018; Cooper et al., 2017). As these are duties that are mandatory it seems groundless to replace RNs with workers from other groups. Noticeably, OPN is not confined to places like nursing homes; new models of OPN care are also being implemented in various acute and primary care settings (Mueller et al., 2020; WHO, 2020b).

Awareness of career advancement opportunities in OPN can improve GNSs' interest in the field. In this study, those desiring to qualify as specialists in a clinical area of practice and managers were among those more interested in OPN. RNs with further qualifications are needed to assess and manage the complex clinical care needs of older adults, collaborate with interprofessional care teams, support and educate stakeholders (e.g. caregivers, students), and provide supervision, coordination and facilitation as well as multi-level policy direction (Arendts et al., 2018; Mueller et al., 2020). In Ireland, for instance, the government has introduced the role of clinical case manager in primary care, tasked with managing older people's needs (WHO, 2020b). In Spain, the specialty of Gerontological Nurse also exists, but its recognition is not fully valued. This may partly have to do with the limited education opportunities across cities and placements for nursing internship residence (Almeida Souza et al., 2020; Jaén-Pérez et al., 2020). To promote GNSs' interest in OPN as a career, it is important to introduce nurse students to the versatile opportunities in the field already during undergraduate education (Abrahamsen, 2019; Cooper et al., 2017). An encouraging signal is that the likelihood of nurses moving into OPN seems to increase

with time and is related to aspects like nurses' career expectations, such as achieving a leadership position (Abrahamsen, 2019).

As for the individual factors connected to GNSs' interest in OPN, this study supports the previous findings demonstrating that the longer the working experience, the greater the interest in OPN (e.g. Lee et al., 2018; Neville, 2016). This is also associated with students' age, but given the workforce shortage, being content with a situation where only older students regard the field as attractive is not satisfactory. To spark interest among younger students as well, the starting point could be positive learning experiences acquired during clinical placements in nursing homes, for instance. Suggestively, students with an opportunity to develop nurse competencies and grow into the nursing role can be motivated to choose OPN as their future career (Husebø et al., 2018; McAllister et al., 2020). However, firm evidence for this is lacking, and thus, follow-up studies examining how many students actually take up OPN positions are needed. Moreover, research collaboration between academic and clinical partners is still needed to foster students' career interest.

As for the educational factors, an encouraging and novel finding of this study was the positive connection between the interest in OPN and the self-assessed level of competence. Those GNSs having good competence level were also the most interested in OPN. However, in this study, only generic professional competence was measured while specific competences required in OPN were not investigated, leaving it uncertain what the competence level of GNSs regarding these parts was. Nevertheless, it is argued that generic competence creates a starting point for the development of more context-specific competences (van der Aa et al., 2020) such as those required in nursing homes. Thus, aligning with the findings of this study, GNSs have the basis to build up their gerontological and geriatric competence.

As for the value-based factor, the findings support the association between interest in and the overall position of nursing in society (Garbrah et al., 2017; Hebditch et al., 2020; Koskinen et al., 2015). In this study, however, greater interest was associated with a more favourable evaluation of the societal valuation of nursing, unlike reported previously. The most interested GNSs can be agents of change and take up the challenge to develop older adult services (Hebditch et al., 2020). GNSs' preparedness for autonomous decision-making and comprehensive patient care may possibly lead to affirmation of their professional role as creators of quality practice environment (Miyata & Arai, 2019) together with society as a whole (WHO, 2017).

4.1 | Strengths and limitations

The SINOPS has not been previously used to this extent outside of its country of origin, that is Finland. Therefore, its validity outside Finland has not been examined before. However, the SINOPS was developed based on international literature, which argues for its relevance to other countries as well. Another limitation was that no

definition of OPN was given in the questionnaire. It could only be assumed based on the individual items. Therefore, it is possible that GNSs were not sure what was regarded as OPN in this case and responded based on their own views. Nevertheless, the GNSs' interest in all countries was very similar, indicating similar understanding of OPN among the GNSs.

The possibility of social desirability for some questions, such as evaluation of the nursing degree programme, is considered minimal because no information was collected on the educational institutions for the purposes of analysis, which was also emphasised to the GNSs. As for the question about the extent to which nursing is valued in society, it is possible that GNSs presented their view in a particular way, reflecting cultural behaviour in the country in question (Kemmelmeier, 2016).

The use of both electronic and paper-based surveys can also be a limitation, with potential for varying response rates (Weigold et al., 2019). However, gathering international data was only possible by paying attention to the national research groups' and educational institutions' expertise in the optimal data collection format.

Only very cautious generalisations can be made as convenience sampling was used, and thus, national representativeness cannot be ensured. The results were derived from a rather large total sample, and the characteristics of the GNSs in this study correspond to another recent study conducted among European GNSs (Nilsson et al., 2019), strengthening the representativeness of sample.

5 | CONCLUSIONS

This large-scale European study found out that GNSs' interest in OPN is alarmingly low in the studied countries at a time when there are significant demands for workforce to ensure social and health-care services for older adults. However, there are differences between the countries in the severity of the workforce situation for higher educated nurses. This study supports the previous findings arguing that multiple factors are associated with the nurse students' interest in OPN, resulting in a complex problem that needs to be solved. Therefore, the considered solutions must target students' low interest from several angles.

6 | IMPLICATIONS FOR PRACTICE

The findings of this study have implications for educators, service providers and policy makers. From the nursing education perspective, several initiatives have already proven their potential to enhance students' interest and competence in OPN. By including geriatric and LTC content—both up-to-date theory and successful clinical placements—in the undergraduate nursing curriculum (Hsieh & Chen, 2018; Lea et al., 2016; McAllister et al., 2020) and by introducing educational solutions specifically targeted to promote career choice towards OPN (Koehler et al., 2016; Koskinen et al., 2016), the

likelihood of meeting workforce projections can be increased. Nurse educators' competence in enhancing students' interest also requires strengthening (Garbrah et al., 2020).

From the service provision perspective, the motivation and competence of the early career nurses needs to be cultivated. As for employers, in addition to strengthening the gerontological/geriatric competence of the early career nurses, by offering possibilities to in-service training and continuing education they can also engage and retain nurses in the field (Price & Reichert, 2017). Moreover, versatile support, such as postgraduation preceptorship, positive nurse leadership and working environment, as well as visible career pathways are required in the recruitment and retention phases to keep early career nurses in the field (Chamberlain et al., 2019).

From the policy perspective, it should be on the agenda of policy makers and health and social care management to invest in new RN career and education pathways in OPN. This is important, not only in terms of offering career opportunities for early career nurses but also to ensure the quality of care since today, workers even without minimum education spend a significant time delivering more complex tasks than basic care, possibly affecting the quality of care provided (OECD, 2019).

ACKNOWLEDGEMENTS

The authors thank the GNSs who generously donated their time to participate in the study. The authors also thank all the contact persons of the educational institutions assisting in the arrangement of data collection. This work was supported by the Academy of Finland (Decision 28.4.2017; no. 310145 for the period 9/2017–12/2021). The Academy of Finland had no involvement in the conduct of the research or preparation of the article.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

ETHICAL APPROVAL

Good scientific practice was followed throughout the study (All European Academies [ALLEA], 2017). Ethical approval for the entire research project was received from the Ethics Committee of the University of Turku (Statement 62/2017, 11.12.2017). In addition, national ethical approvals and research permissions were given according to the standards in each country. Permissions for translating and using the instruments were received from their copyright holders. Due to the follow-up nature of the overall research project, GNSs were requested to provide their contact information for the next survey. Before signing consents (Regulation EU 2016/679), all GNSs received an information letter concerning the study, voluntary participation, confidentiality and the right to withdraw at any stage of the study.

DATA AVAILABILITY STATEMENT

Research data are not shared.

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How to cite this article: Koskinen, S., Burke, E., Fatkulina, N., Fuster, P., Löyttyniemi, E., Salminen, L., Stubner, J., Thorsteinsson, H. S., & Leino-Kilpi, H.; the ProCompNurse Consortium (2022). Graduating nurse students' interest in older people nursing—A cross-sectional survey in six European countries. *International Journal of Older People Nursing*, 17, e12446. <https://doi.org/10.1111/opn.12446>