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Cultural Competence of Nursing Students After Their First Supervised Internships: An International Cross-Sectional Study

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ABSTRACT

Aim: To assess the level of cultural competence among European nursing students after their first clinical experience.

Design: A descriptive, cross-sectional study was conducted in 18 countries and 66 higher institutions with a sample of 2932 nursing students.

Methods: The Cultural Competence Assessment (CCA) tool was used in its original version (English) and its validated versions in Spanish, Italian, Portuguese, Turkish, and Lithuanian. The CCA includes 25 items, Likert-type normalized in a 0–100-point scale with two dimensions: Cultural Awareness and Sensitivity (CAS) subscale and Cultural Competence Behavior (CCB) subscale. An online anonymized questionnaire was used to collect the variables. The influence of background and acquired factors in CCA was analyzed with multivariate regression models.

Results: The mean level of cultural competence of the European undergraduate nursing students after their first supervised internships is at a good level. Significant associations were found between cultural competence level and language of the questionnaire, gender, religious community, current year of education, leisure stays abroad, and international experiences at home, but having friends from other countries or cultures was the most important factor to explain CCA. The explained variance of CCA by these factors was low.

Conclusions: The international perspective of cultural competence among undergraduate nursing students at the starting point of their clinical experience provided by this study serves as an important preview of where European nursing education currently stands as a baseline scenario for designing, providing, and assessing adequate educational strategies for being a culturally competent nurse at the point of graduation.

Implications for the profession and patient care: The study highlights specific factors that contribute to higher levels of cultural competence. These insights can be used to further improve nursing education by providing more opportunities for students to engage with diverse cultures, resulting in enhanced cultural competence, which can lead to better patient care and higher satisfaction in diverse environments.

Impact: The findings can guide future research and curriculum development, emphasizing the importance of creating educational strategies to enhance cultural competence. By understanding the predictors of cultural competence, educational institutions can design targeted interventions that improve the quality of care and patient satisfaction in multicultural settings, as well as helping to reduce health inequalities and promote a more inclusive healthcare environment.

Reporting Method: This research is reported in accordance with the STROBE guidelines.

Public Contribution: A wide network of European higher education institutions was contacted. Nursing students from those willing to participate were voluntarily involved in this study by answering the CCA questionnaire.

1 | Introduction

With globalization making the world more accessible, migration trends have brought a more multicultural and diversified society. In terms of global healthcare, migration has highlighted the health inequalities faced daily by people who do not share a common cultural background. Both patient and professional migration can contribute to these inequalities, which can show up in the lack of access to culturally sensitive healthcare services and communication barriers between patients and healthcare providers.

To address these challenges, the World Health Organization (WHO) states that all countries need strong health systems and a competent, trained, supported, and skilled health workforce to meet the demands of multicultural communities and to provide culturally sensitive care. Standards have been defined to support a competency-based outcomes approach to education and training for health workers who provide services to refugees and migrants (WHO 2021).

In this context, developing cultural competence has become essential to ensure coexistence and a key skill for healthcare workers, including nurses (Červený et al. 2022), to be able not only to understand and communicate with other co-workers from different countries or backgrounds, but also to care for patients regardless of their origin, language, or religion. Providing culturally sensitive and unbiased care helps to reduce healthcare disparities and avoid misunderstandings, incorrect assessments, stereotypical assumptions, and narrow views. Culturally competent care can positively influence the quality of care, treatment outcomes, and patient satisfaction (Sjögren Forss et al. 2019).

Nurses' cultural competence has been defined as "the ability to provide effective, safe and quality care to patients from different cultures and to consider the different aspects of their cultures in care provision" (Sharifi et al. 2019, p. 5). Cultural awareness, cultural knowledge, cultural sensitivity, cultural dexterity, cultural proficiency, and dynamicity are attributes that define the concept of cultural competence (Sharifi et al. 2019).

The patients' culture encompasses their values, beliefs, rituals, attitudes, and behaviors, which can be reflected through language, dress, food, and social grouping. Healthcare providers, more specifically nurses, must respond sensitively to the new challenges raised by the needs of a culturally diverse patient population. Those challenges include, amongst others, communication and non-mutual language, and culturally influenced behavior—religion, eating habits, pain experience, etc. (Sjögren Forss et al. 2019).

Therefore, cultural competence constitutes a key component of nursing care (Antón-Solanas et al. 2021). The European Higher Education Area influences the implementation of nursing education in Europe and aims to ensure comparable, compatible, and coherent systems of nursing education in each country. Similarities and differences in nursing education have been reviewed, including areas such as academic pathway, specializations, duration, entry qualifications, tuition, and amount of practical training (Lahtinen et al. 2014; Taneva et al. 2023). However, interculturally competent training is not unified in nursing curricula.

In addition, because the development of cultural competence is an ever-evolving process, the assessment of cultural competence should begin at an early stage of university nursing education and should be reviewed and updated on an ongoing basis.

2 | Background

Over the last decade, the increasing amount of published literature about nursing students' cultural competence, focusing primarily on quantitative dimensions, indicates the paramount importance given to ensuring culturally competent care in the nursing profession. It highlights the role of university education in acquiring the necessary skills for providing culturally competent care.

Some of the published studies include samples of nursing students from first to fourth-year levels (Choi and Kim 2018; Cruz et al. 2017; Farokhzadian et al. 2022; Hultsjö et al. 2019; Ličen et al. 2020; Repo et al. 2016; Reyes et al. 2013; Safipour et al. 2017), with some of them presenting mixed samples with professional nurses (Gallagher and Polanin 2015). The main drawback of these studies is that they do not present the results separately, which makes it difficult to evaluate whether there are differences in the achievement of cultural competence due to the training progress or other factors that may influence them in any way. Also, a more nuanced understanding of previous studies' findings is required, especially considering that the assessed undergraduate cultural competence levels range from moderately high (Ličen et al. 2020; Safipour et al. 2017), moderate (Cruz et al. 2017; Farokhzadian et al. 2022; Repo et al. 2016) to low cultural competence levels (Granel et al. 2021; Kalischuk 2014) or from adequate to inadequate (Antón-Solanas et al. 2021). Reyes et al. (2013) found that nursing

What does this paper contribute to the wider global clinical community?

- European nursing students have a good average cultural competence.
- Students show higher cultural awareness and sensitivity compared to cultural competence behaviors.
- Having friends from other countries and international experiences positively influences cultural competencies.

students perceive themselves as much more culturally competent upon graduation compared to their early nursing training stages. This finding emphasizes the importance of continuous education in this area and underscores the need for further research to explore this topic in greater depth. When talking about the influence of students´ demographic profile, background factors, or experiences on cultural competence level, many differences between countries were observed. Age, gender, and years of study play a core role in the determination of cultural proficiency (Cruz et al. 2017), as well as internationalization experiences (Matthews et al. 2021; Granel et al. 2021). Besides, most of the published studies about students' cultural competence have been conducted in a single country or a specific context and used different scales for assessing cultural competence (Farokhzadian et al. 2022; Granel et al. 2021; Ličen et al. 2020; Osmancevic et al. 2023; Reyes et al. 2013; Safipour et al. 2017). Because of the existing differences among studies, it becomes a challenge to compare their results. Further, despite the growing number of quantitative studies, recent research seldom addresses cultural competence at the early stages of practical education, highlighting the need to understand its development from the beginning of clinical training. The first clinical internship experience for nursing students is a crucial point in their training since it allows them to put into practice, among others, their cultural skills in a healthcare environment. The assessment of cultural competence once students complete their first clinical practice could provide a baseline scenario for designing, providing, and assessing adequate educational strategies for being a culturally competent nurse at the point of graduation.

In this regard, nursing education institutions have been long aware of the need to train their students in cultural competencies, both in Europe and beyond (Ličen et al. 2020; Matthews et al. 2021; Granel et al. 2021; O´Brien et al. 2021) and have made relevant efforts to incorporate cultural competence training into the nursing students' curricula (Gallagher and Polanin 2015; Farokhzadian et al. 2022). Nursing education should be improved by strengthening both theoretical and practical tasks involving cultural awareness. Bearing this in mind, it has become clear that changes are needed within the curricula to embrace new models of education (Farokhzadian et al. 2022; Granel et al. 2021; Sjögren Forss et al. 2019). However, before implementing any educational intervention within the nursing curricula, it is essential to know the level of cultural competence that nursing students exhibit and the factors that could influence them.

Recent findings also shed light on the strengths and weaknesses of current educational interventions, highlighting interesting and valuable challenges regarding the integration of cultural competence into nursing curricula that must be considered. Firstly, it has been reported that cultural competence courses, even when succeeding in increasing the cultural competence of nursing students, usually show a temporary effectiveness that fades over time (O´Brien et al. 2021; Farokhzadian et al. 2022). Secondly, some evidence indicates that students who have been trained in cultural competence did not feel confident in providing such culturally competent care (Granel et al. 2021; Ličen et al. 2020; O'Brien et al. 2021). This gap between training and practical confidence raises the need to reevaluate the approach and depth of current educational methods.

Finally, unsuccessful interventions have been documented, with some educational programs not being able to enhance students' cultural competence (Gallagher and Polanin 2015), which stresses the significance of not only evaluating the content of interventions but also how they are delivered and contextualized.

Therefore, it is not only the fact of providing interventions that should be considered; a broader and more strategic approach is essential. It is paramount that designed interventions can be culturally context-specific and sustainable over time, providing nursing students with tools that are truly useful and that they feel comfortable with during their professional practice. Before any intervention is launched in this respect, it is crucial to take a step back and broadly study the multicultural context from a global perspective.

3 | The Study

3.1 | Aim

The present study aims to describe the cultural competence level of undergraduate nursing students of higher education institutions within the European Higher Education Area after finishing their first supervised internships.

3.2 | Secondary Aim

To analyze which own factors (sociodemographic and background factors) before entering university and which acquired factors (internationalization experiences) after entering university are associated with the level of cultural competence of the nursing students.

Two research questions were raised: (1) What is the level of cultural competence of nursing students after completing their first clinical practice? (2) Which variables are associated with their level of cultural competence?

4 | Methods

4.1 | Design

A descriptive, cross-sectional, multicenter study.

This study was reported in line with the Strengthening the Reporting of Observational studies in Epidemiology (STROBE) guidelines used in cross-sectional studies.

4.2 | Study Setting and Sampling

The data were collected in 66 higher education institutions from 18 European countries participating in the Cultural Competence Assessment in the Nursing Degree project (CCA-EUnurse) (Supplementary Table S1) with a target population of 9546 nursing students.

4.3 | Recruitment

A nonprobabilistic convenience sampling was carried out to recruit the participants. A participation process call was disseminated through different international university channels; in May 2021, the project protocol was presented at the annual meeting of the Florence Network (https://florence-network.org/) and via email/videoconference to other partners with the ones the main researcher's University Center had established bilateral student and teaching mobility agreements within the ERASMUS+ program. Those centers interested in participating signed a collaboration agreement. The person responsible for each country/institution interested in participating was identified as a research collaborator.

The recruitment of participants from each university center was managed by the responsible researcher for each participating country/university, with the support from the project team.

The first contact with students was in person or online, at the discretion of each university, through an information meeting per country during the 2021–2022 academic year and always before the start of the students' first internship experience. This meeting was voluntary attendance and was held outside of class hours.

4.4 | Inclusion Criteria

The inclusion criteria were baccalaureate students, after finishing their first supervised internship (clinical experience) of the curricula, who enrolled in the Nursing Degree in the academic year 2021–2022.

4.5 | Instrument

Nursing students' self-perception of cultural competence was measured with the CCA scale, developed to assess cultural competence across a wide range of disciplines and educational levels. It was originally developed in English (Doorembos et al. 2005; Schim and Doorembos 2010) and subsequently translated, adapted, and validated in Spanish (CCA-S) (Raigal-Aran et al. 2019), Italian (CCA-I) (Caricati et al. 2015), Portuguese (CCA-P) (Raigal-Aran et al. 2023), Turkish (CCA-TR) (Toraman et al. 2013), and Lithuanian (CCA-LT). All of them showed good content validity, acceptable internal consistency, and adequate construct validity (Supplementary Table S2). Before the project started, the main researcher of the project contacted the author of each instrument. All of them accepted the use of the scales under the CCA-EUnurse project.

Every scale has been commonly divided into two dimensions: Cultural Awareness and Sensitivity (CAS) and Cultural Competence Behavior (CCB), consisting of an 11 and a 14-question Likert-type response scale, respectively. CAS refers to the knowledge, conscience, and acceptance of other cultures and others' cultural identities. CCB is related to how the professional acts when working in front of people from other cultures, i.e., active listening, demonstrating empathy, or effective engagement.

Each question/item was scored using a range of 1 (strongly agree/always) to 7 (not agree/never), with a higher score indicating greater cultural competence. Four items scored inverse (1, 2, 5, and 8), and it has a "no opinion" response that did not score. An overall score of cultural competence was obtained by adding up the scores of all the items.

A higher score on the scale indicates greater cultural competence. Since the scale has a slightly different number of items, depending on language, the final score was normalized from 0 to 100 to compare between versions (Score normalized = [Raw Score − Min] / [Max − Min] * 100). Also, for a better interpretation of the results, the definition of the competence level was divided into four categories, based on the three-dimensional model of cultural congruence (Schim and Doorembos 2010) and adapted from Luquis and Pérez's (2005) description: Low level or cultural incompetence (≤25): poor cultural awareness, sensitivity and behavior requiring significant guidance and support in culturally nursing practice. An individual who lacks an understanding of the differences among racial, ethnic, and cultural groups and is at the lowest level of the process of cultural competence; Rather good level or cultural awareness (26–50): An individual who is sensitive to the values, beliefs, and practices of different racial ethnic and cultural groups but still needs guidance and support. This might be seen as acknowledging basic aspects of a patient's cultural background but lacking deeper understanding and application; Good level (51–75): An individual who is culturally sensitive to the needs of different racial, ethnic, and cultural groups and can respond appropriately to the needs of these groups in culturally diverse situations. They can apply their cultural knowledge in planning and delivering patient care, which enhances the quality of care and patient experience; Very good level or cultural proficiency (76–100): the individual is highly skilled and exemplary in culturally sensitive nursing practice. They can mentor others and develop care practices that comprehensively address the cultural needs of patients.

Sociodemographic and background factors before entering university (bachelor's degree in nursing) included were age, gender (approached as a social and cultural construct recognizing the diversity of gender identities), religious community students felt most identified with, European country and higher education institution where doing the degree, current year of education, previous professional experience in a healthcare context, mother tongue/native language, number of other languages spoken in addition, leisure/study/working time abroad before entering university, and having friends from other countries/cultures. The measured acquired factors after entering university were ERASMUS+ experience as a nursing student in higher education (the ERASMUS+ program is an educational program of the European Commission designed to promote and finance the mobility of European students and teachers within the European Union, encouraging social, cultural, linguistic, and sports exchanges)

and experiences of "internationalization at home" activities as a university student.

4.6 | Data Collection

Data collection was performed from February 2022 to March 2023 through an anonymized online questionnaire (REDCap tool). A meeting was held with the students to explain the project and to obtain their consent, and they were provided with a link to the questionnaire to fill it in.

4.7 | Data Analysis

A database was created and exported to an Excel sheet (Microsoft Office 365 ProPlus 2016) to appropriately code the reverse items. The analyses were carried out with JASP 0.18 (JASP Team, 2024) and R software v.4.3.1 for Windows. Two cases with an abnormal age (85 and 89 years old) were detected in the Spanish cohort, so they were excluded from the analyses.

To respond to the first research question, data were summarized by mean and standard deviation, quartiles, and range for continuous variables, and absolute and relative frequencies for categorical variables. The sample size permits us to assume the normality of the distributions.

To answer the second research question, the associations of background and internal factors and the scores of the two subdimensions (CAS and CCB) and the total score (CCA) were analyzed with the respective one-way analysis of variance (ANOVA) with Welch correction for heteroscedasticity (Moder 2010) and Games-Howell post hoc test (p-values with Tukey's correction). The comparisons between groups were expressed with letter-based grouping. The effect sizes were evaluated with partial-omega squared ($\omega_p^2 \approx 0.02$ small, medium ≈ 0.15, and large ≈ 0.35) (Lakens 2013). Finally, multivariate linear regression models were performed to explore the multivariable associations with higher cultural competences. The models were created with a background method (stepping criteria p-value for entry 0.05 and 0.1 for removal) (Kleinbaum et al. 2013).

The studentized residuals (>3) and Cook's distances (>1) were determined to analyze outliers in the response variable, independent variables, and global data, respectively. The tolerances and variance inflation factor (VIF) were calculated to test the collinearity (collinearity is considered if tolerance is less than 0.2 or VIF is more than 5). In this study, there was no detected nor collinearity.

Beta standardized and unstandardized beta coefficients were calculated for each factor, and R and R^2% were obtained to evaluate the explicative power of the model (explained variance).

For all tests, significant differences were assumed at p-values <0.05 for a 95% confidence interval.

4.8 | Ethical Considerations

The study protocol was approved by the Sant Joan of God Research Commission (Protocol No. P_2021_003). It was also reviewed and approved by each participating higher education institution. Before data collection, a full disclosure of the participants' rights, the nature and risks of the study, the benefits of the study, and voluntary participation was verbally explained to the interested students by the researchers from each collaboration institution. The participants were given a thorough explanation by a researcher external to their training process, assuring students that their participation would in no way affect their grades, and guaranteeing the confidentiality of the data as well as their identities.

As data collection was through an online questionnaire, an online informed consent was secured from the respondents before it was presented. The informed consent text had to be signed by the participant to have access to the online survey.

5 | Results

The final sample of nursing students was 2932 (response rate = 31% of 9546) from 18 countries, and 66 higher education institutions participated in the study (Supplementary Table S3). There were 50 (76%) public institutions (non-religious), and 16 (24%) private ones, of which 81% were religious.

The frequency and the response rate of each item of the CCA scale are shown in Supplementary Table S4.

5.1 | Demographics of Nursing Students

The mean age of the nursing students was 22.9 (SD 6.25; range 18.5–63.5; CV% 27%) years. They were 83% women, 53% identified as Christians, while 38% did not identify as religious, 90% spoke at least one language in addition to their mother tongue, and 71% of students were in their second year of the nursing degree. In Table 1, the frequencies for the factors studied are summarized.

5.2 | The Level of Cultural Competence Undergraduate Nursing Students after their first supervised internships

The mean score of cultural competence (CCA) of the nursing students was 68.5 (SD 13.1; range 23–100) with high variability between students (coefficient of variation 19%).

5.3 | Association of Background and Acquired Factors to Cultural Competence

A significant association was found between the CCA results and the language of the questionnaire ($F = 7.9$; $p < 0.001$); gender ($F = 24.2$; $p < 0.001$), religion ($F = 11.2$; $p < 0.001$), current year of education ($F = 3.91$; $p < 0.048$), leisure stays abroad prior entering the nursing degree ($F = 14.1$; $p < 0.001$), working stays ($F = 4.1$; $p < 0.001$), having friends from other cultures ($F = 27.6$; $p < 0.001$), and participating in internationalization activities at home ($F = 11.2$; $p < 0.001$) (Table 2).

Concerning the language in which the students completed the questionnaire, the global CCA results indicate that the scores obtained in the Portuguese questionnaire were significantly

TABLE 1 | Demographics of nursing students.

Variable (*N*, %)	Categories	Counts	Percentage
Gender	Female	2442	83.3
	Male	463	15.8
	Not conforming	12	0.4
	I prefer not to answer	15	0.5
Religious community	Christian	1553	53.0
	Muslim	113	3.9
	Others	59	2.0
	NA	85	2.9
	No religion	1122	38.3
Current year nursing degree	1	616	21.01
	2	2316	78.99
Previous professional experience (healthcare)	Yes	999	34.1
	No	1932	65.9
Additional languages	None	283	9.7
	1	1119	38.2
	2	1106	37.7
	3	356	12.1
	+4	68	2.3
Leisure time abroad (previously)	Yes	1726	58.9
	No	1206	41.1
Study time abroad (previously)	Yes	558	19.0
	No	2374	81.0
Work time abroad (previously)	Yes	164	5.59
	No	2768	94.41
Friends of other countries/cultures	Yes	2150	73.33
	No	782	26.67
Acquired factors			
Total time in ERASMUS +	No	2868	97.8
	< 1 semester	23	0.8
	1 semester	32	1.1
	1 year	9	0.3
Total time in ERASMUS +	No	2868	97.8
	< 1 semester	23	0.8
	1 semester	32	1.1
	1 year	9	0.3
Other experiences of internationalization	Yes	433	14.8
	No	2499	85.2

higher than those obtained in the rest of the languages, except in Turkish. Those who completed the questionnaire in Spanish obtained similar scores to those obtained in the English and Italian questionnaires. Lithuanian students obtained significantly lower global scores than the students who completed the questionnaire in other languages (Table 2). However, in the dimension corresponding to CAS, the students who completed the questionnaire in Spanish and Portuguese significantly stood out compared to the rest of the students, being the ones who completed it in Turkish and Lithuanian scored significantly lower than the rest. In the CCB dimension, the students who completed the questionnaire in English, Turkish, Portuguese, and Italian

TABLE 2 | Association of background and acquired factors to cultural competences.

CCA	Language	*n*	Mean	*SD*	Min	Max	*F*-Snedecor	*p*-value	ω_P^2	LBG
LANGUAGE										
CAS (0–100)	Spanish	2066	80.6	12.46	0.0	100.0	35.9	**<0.001**	0.047	b
	English	379	75.3	11.31	40.9	98.5				a
	Italian	226	75.4	11.45	33.3	98.3				a
	Lithuanian	52	70.5	11.08	33.3	93.9				a
	Portuguese	144	83.5	10.13	46.7	100.0				b
	Turkish	65	73.3	8.82	50.0	93.9				a
CCB (0–100)	Spanish	2066	58.3	19.13	0.0	100.0	16.9	**<0.001**	0.024	a
	English	379	65.5	18.18	9.5	100.0				c
	Italian	226	63.7	18.36	16.7	100.0				bc
	Lithuanian	52	55.8	19.60	10.7	100.0				ab
	Portuguese	144	65.3	17.37	25.0	100.0				c
	Turkish	65	65.4	13.02	28.6	100.0				bc
CCA (0–100)	Spanish	2066	68.1	13.19	22.7	100.0	7.9	**<0.001**	0.010	b
	English	379	69.8	12.86	30.0	98.7				bc
	Italian	226	68.2	13.40	30.8	95.5				b
	Lithuanian	52	62.3	12.19	32.0	83.3				a
	Portuguese	144	72.9	11.66	46.5	99.3				c
	Turkish	65	68.9	8.36	50.0	86.0				abc
GENDER										
CAS (0–100)	Female (b)	2442	80.0	11.73	6.1	100	31.30	**<0.001**	0.014	b
	Male (a)	463	75.9	14.59	0.0	100				a
CCB (0–100)	Female (b)	2442	60.5	19.09	0.0	100	7.90	**0.005**	0.002	b
	Male (a)	463	57.9	18.42	10.7	100				a
CCA (0–100)	Female (b)	2442	69.0	12.97	22.7	100	24.20	**<0.001**	0.008	b
	Male (a)	463	65.7	13.12	26.7	99.3				a
RELIGION										
CAS (0–100)	Christian (b)	1553	78.0	11.97	12.1	100	27.4	**<0.001**	0.025	b
	Muslim (a)	113	74.3	11.07	36.7	97.0				a
	No religion (b)	1122	81.7	12.39	0.0	100				b
	Others (c)	144	78.8	13.51	6.1	100				c
CCB (0–100)	Christian	1553	58.9	18.93	10.7	100	12.5	**<0.001**	0.009	a
	Muslim	113	67.3	15.35	28.6	100				c
	No religion	1122	60.7	19.25	9.5	100				bc
	Others	144	63.7	18.44	0.0	100				ab
CCA (0–100)	Christian	1553	67.2	13.04	23.3	100	11.2	**<0.001**	0.010	a
	Muslim	113	70.4	10.86	46.7	97.3				ab
	No religion	1122	69.9	13.06	28.7	100				b
	Others	144	70.2	13.27	22.7	99.3				b
CURRENT YEAR OF NURSING DEGREE										
CAS (0–100)	1	616	76.8	11.29	30.3	98.5	37.6	**<0.001**	0.011	a
	2	2316	80.0	12.52	0.0	100				b

(Continues)

TABLE 2 | (Continued)

CCA	Language	*n*	Mean	*SD*	Min	Max	*F*-Snedecor	*p*-value	ω_P^2	LBG
CCB (0–100)	1	616	64.0	18.11	10.7	100	33.8	**<0.001**	0.010	b
	2	2316	59.1	19.10	0.0	100				a
CCA (0–100)	1	616	69.4	12.70	30.7	98.7	3.91	**0.048**	–	a
	2	2316	68.3	13.13	22.7	100				a
PREVIOUS EXPERIENCE										
CAS (0–100)	Yes	999	77.9	13.34	0.0	100	18.8	**<0.001**	0.007	a
	No	1933	80.0	11.72	6.1	100				b
CCB (0–100)	Yes	999	61.2	19.66	0.0	100	4.7	**0.031**	0.001	b
	No	1933	59.6	18.62	10.7	100				a
CCA (0–100)	Yes	999	68.5	13.48	22.7	100	0.002	**0.968**	–	a
	No	1933	68.5	12.83	24.7	100				a
ADITIONAL LANGUAGES										
CAS (0–100)	None	283	78.0	14.53	0.0	100	1.80	0.127	–	a
	1	1119	79.0	12.44	7.6	100				a
	2	1106	79.6	11.84	6.1	100				a
	3	356	79.8	12.07	16.7	100				a
	>4	68	81.4	9.38	53.3	97				a
CCB (0–100)	None	283	63.0	19.38	15.5	100	2.67	**0.032**	0.002	b
	1	1119	59.5	19.15	0.0	100				a
	2	1106	59.9	18.77	14.3	100				ab
	3	356	60.0	19.02	10.7	100				ab
	>4	68	63.8	17.13	23.8	100				ab
CCA (0–100)	None	283	69.6	13.70	24.7	99.3	2.07	0.083	0.001	a
	1	1119	68.0	13.25	22.7	100				a
	2	1106	68.5	12.68	23.3	100				a
	3	356	68.6	13.32	32.0	99.3				a
	>4	68	71.5	11.00	42.7	94				a
LEISURE STAY										
CAS (0–100)	Yes	1726	80.5	11.92	0.0	100	39.3	**<0.001**	0.013	b
	No	1206	77.6	12.72	21.2	100				a
CCB (0–100)	Yes	1726	60.6	18.68	0.0	100	1.98	0.16	–	a
	No	1206	59.6	19.42	10.7	100				a
CCA (0–100)	Yes	1726	69.3	12.73	22.7	100	14.1	**<0.001**	0.005	b
	No	1206	67.4	13.42	23.3	100				a
STUDY STAY										
CAS (0–100)	Yes	558	80.3	11.89	0.0	100	4.21	**0.036**	0.001	b
	No	2374	79.1	12.43	6.1	100				a
CCB (0–100)	Yes	558	60.7	18.84	9.5	100	0.64	0.425	–	a
	No	2374	60.0	19.03	0.0	100				a
CCA (0–100)	Yes	558	69.2	12.97	28.7	100	2.09	0.149	–	a
	No	2374	68.3	13.07	22.7	100				a
WORK STAY										
CAS (0–100)	Yes	164	77.0	13.56	16.7	100	5.1	**0.025**	0.002	a
	No	2768	79.4	12.25	0.0	100				b

(Continues)

TABLE 2 | (Continued)

CCA	Language	*n*	Mean	*SD*	Min	Max	*F*-Snedecor	*p*-value	ω_P^2	LBG
CCB (0–100)	Yes	164	65.9	20.83	9.5	100	13.4	**<0.001**	0.005	b
	No	2768	59.8	18.83	0.0	100				a
CCA (0–100)	Yes	164	70.7	14.37	30.0	98.7	4.2	**0.042**	0.001	b
	No	2768	68.4	12.96	22.7	100				a
FRIENDS FROM OTHER CULTURES										
CAS (0–100)	Yes	2150	80.0	12.03	0.00	100	24.6	**<0.001**	0.009	b
	No	782	77.4	12.96	16.70	100				a
CCB (0–100)	Yes	2150	61.0	18.93	9.50	100	14.9	**<0.001**	0.005	b
	No	782	57.9	18.99	0.00	100				a
CCA (0–100)	Yes	2150	69.3	12.93	23.30	100	27.6	**<0.001**	0.009	b
	No	782	66.4	13.16	22.70	100				a
ERASMUS + STAY										
CAS (0–100)	No	2868	79.3	12.32	0.0	100.0	0.059	0.809	–	a
	Yes	64	79.7	13.17	50.0	100.0				a
CCB (0–100)	No	2868	60.1	19.00	0.0	100.0	0.781	0.38	–	a
	Yes	64	62.2	18.85	21.4	100.0				a
CCA (0–100)	No	2868	68.5	13.04	22.7	100.0	0.5	0.473	–	a
	Yes	64	69.7	13.45	42.0	98.7				a
OTHER EXPERIENCES OF INTERNATIONALIZATION "AT HOME"										
CAS (0–100)	Yes	433	79.1	13.41	0.00	100	0.11	**0.737**	–	a
	No	2499	79.3	12.15	6.10	100				a
CCB (0–100)	Yes	433	63.8	19.32	9.50	100	18.2	**<0.001**	0.006	b
	No	2499	59.5	18.87	0.00	100				a
CCA (0–100)	Yes	433	70.5	13.53	23.30	100	11.2	**<0.001**	0.004	b
	No	2499	68.2	12.93	22.70	100				a

Abbreviations: ω_P^2, partial-omega squared; CAS, Awareness Sensitivity Dimension; CCA, Cultural Competence Assessment; CCB, Behaviors Dimension; CV, coefficient of variation; *F*, *f*-Snedecor with Welch correction for heterocedastic data; LBG, Letter-based groping; Max, maximum; Min, minimum; *P*-value for Games-Howell post hoc comparisons; Q1, first quartile; Q3, third quartile; SD, standard deviation, each group that shares a mean that is not statistically different from another one will share the same letter.

Note: For all test, significant differences were asumed at *p*-values <0.05 for a 95% confidence interval.

stand out significantly compared to those who completed it in Spanish or Lithuanian (Table 2).

When talking about gender, women scored higher than men in the overall results (CCA) as well as in the CAS dimension, but with a small effect size (Table 2).

Regarding the religion that students felt most identified with, Christian students scored lower than atheists on a global level (CCA). Specifically, in the CAS dimension, scores were significantly higher in atheists, and, in the CCB dimension, they were significantly higher in Muslims than in atheists and Christians (Table 2).

The global score obtained in CCA is better in those who had leisure experiences, working experiences, friends from other cultures, and other experiences (Table 2).

Having previous experience as health care providers, speaking additional languages in addition to their mother tongue language, previously studying abroad before entering university, nor having ERASMUS+ experiences were not associated with the CCA scores (Table 2). When the bivariate correlation between age and questionnaire score was analyzed, we found $r = 0.04$ (IC 95% = 0.004 to 0.076; r^2 % = 0.6%, $p = 0.031$), a correlation close to 0 (although significant due to the sample size) that can be considered small (with a shared variance of less than 0.6%) (Table 2).

5.4 | Exploratory Multivariate Linear Regression

The exploratory multivariate linear regression (EMLR) showed the profile of a female and student of the second course with previous professional experience, leisure and working stays,

TABLE 3 | Exploratory models of multivariate linear regression for CCA.

Factors (backward method)	Unstandardized (95% CI)	SE	Standardized	*t*	*p*-value	*R*	R^2%
CAS							
Intercept	77.7 (73.2 to 82.3)	2.33		33.4	<0.001	0.231	5.3%
Gender	−3.9 (−5.1 to −2.7)	0.61	−0.12	−6.4	<0.001		
Actual course	2.9 (1.9 to 4)	0.55	0.10	5.3	<0.001		
Previous professional experience	2 (1.1 to 2.9)	0.47	0.08	4.2	<0.001		
Leisure stays	−2.7 (−3.7 to −1.8)	0.47	−0.11	−5.9	<0.001		
Working stays	2.2 (0.2 to 4.1)	0.99	0.04	2.2	0.028		
Friends from other cultures	−2.3 (−3.3 to −1.2)	0.52	−0.08	−4.4	<0.001		
CCB							
Intercept	84.2 (75.7 to 92.7)	4.33		19.4	<0.001	0.175	3.1%
Age	0.2 (0.1 to 0.3)	0.06	0.06	3.3	0.001		
Gender	−3.3 (−5.2 to −1.5)	0.96	−0.06	−3.5	<0.001		
Actual course	−4.4 (−6.1 to −2.7)	0.87	−0.09	−5.1	<0.001		
Working stays	−3.1 (−6.2 to 0)	1.58	−0.04	−2.0	0.050		
Friends from other cultures	−2.7 (−4.2 to −1.1)	0.79	−0.06	−3.4	<0.001		
Other experiences	−3.9 (−5.9 to −2)	0.99	−0.07	−4.0	<0.001		
CCA							
Intercept	81.3 (77 to 85.6)	2.19		37.2	<0.001	0.166	2.8%
Age	0.1 (0 to 0.2)	0.04	0.04	2.2	0.027		
Gender	−3.5 (−4.8 to −2.3)	0.66	−0.10	−5.4	<0.001		
Actual course	−1.1 (−2.2 to 0.1)	0.59	−0.03	−1.8	0.075		
Leisure stays	−1.2 (−2.2 to −0.3)	0.50	−0.05	−2.5	0.013		
Friends from other cultures	−2.5 (−3.6 to −1.4)	0.55	−0.08	−4.5	<0.001		
Other experiences	−2.1 (−3.4 to −0.7)	0.68	−0.06	−3.1	0.002		

Abbreviations: 95% CI, 95% confidence interval; SE, standard error; *R*, coefficient of correlation; R^2%, percentage of explained variance. The following factors were considered in all models: age, gender, additional languages, actual course, professional experience, leisure stay, study stay, work stays, friends of other cultures, ERASMUS experience, and other experiences of internationalization.

and with friends of other cultures, scores with higher CAS dimension. However, the explanatory power of the model is low (5.3%), which means that the CAS competency scores must be explained by other factors. For the CCB dimension, the profile is simpler: age, second course, working stays, having friends from other countries/cultures, and other experiences influence higher scores. Again, the explanatory power of the model is low (3.1%). Finally, CCA score variance was explained only in 2.8% for age, gender, actual course, leisure stays, having friends of other cultures, and other internationalization experiences. In summary, the EMLR showed that evaluated internal and acquired factors have a spurious explicative power of cultural competence in nursing students (Table 3).

6 | Discussion

This study was conducted to assess the cultural competence of nursing students from 18 European countries and 66 Higher Education institutions. Two main findings are discussed in this section: (1) the nursing students exhibited a good range of cultural competence, and (2) the cultural competence of nursing students was associated with and influenced by their demographic profiles and culturally related experiences.

The average level of cultural competence of the sample of nursing students studied was good, as supported by other studies such as the ones carried out by Ličen and Prosen (2023) and Safipour et al. (2017). However, studies by Cruz et al. (2017), Farokhzadian et al. (2022), and Repo et al. (2016) found a moderate range of cultural competence among students, and other literature recently published, such as Granel et al. (2021) and Kalischuk (2014), assessed it as low. These differences could be due to the variability of students' samples included in them (students enrolled in different courses and belonging to different countries or settings) as well as the varied instruments used to assess cultural competence (Cruz et al. 2017; Farokhzadian et al. 2022; Granel et al. 2021; Kalischuk 2014; Repo et al. 2016). Furthermore, the level of competence is frequently measured quantitatively (Cruz et al. 2017), with few studies complementing the results with a qualitative analysis, which would allow for a more global vision of the students' competence level.

In the sample studied, nursing students scored higher in CAS than in CCB, agreeing with other authors such as Hultsjö et al. (2019), where students suggested that they had a certain cultural awareness in the form of theoretical knowledge and understanding of cultural differences, expressing a desire to learn. Choi and Kim (2018), who studied cultural competence in Asian students, also found cultural awareness to have the highest score and cultural behavior to have the lowest. Cultural awareness is the essential first stage in developing cultural competence. It involves the examination of one's values and beliefs to raise self-consciousness of cultural identity and ethnocentricity. The theoretical emphasis on cultural awareness is a facilitating factor in the development of cultural competence (Repo et al. 2016). Results by Ličen and Prosen (2023) also showed a high score in cultural awareness, differentiating it from cultural sensitivity, but only assessed in students in their last year of education (Osmancevic et al. 2023). All these findings suggest that nursing students well understand the need to be prepared to provide culturally sensitive nursing care; however, they are not confident in providing it. Specific training in cultural competence during nursing education is essential to change attitudes and behaviors in clinical practice. However, the integration of nursing cultural care education in elective subjects was insufficient, as graduates who did not take the course during their studies would have a poorer chance to practice the knowledge and skills needed to provide culturally competent care (Tosun et al. 2021). Designing educational interventions to develop awareness, sensitivity, and culturally competent behaviors demands that nurse educators engage in more open-minded critical self-reflection and dialogue around cultural competence (Sjögren Forss et al. 2019). Providing nursing educators with tools to design cultural care training and educational activities would lead to better-qualified nurses giving culturally congruent care (Farokhzadian et al. 2022). Emphasis on education should promote human rights and reduce health inequalities from a global perspective (Repo et al. 2016).

In previous studies, as in Cruz et al. (2017), factors affecting cultural competence were: country of residence, gender, age, year of study, attendance at cultural-related training, the experience of taking care of patients from culturally diverse backgrounds, patients belonging to special population groups and living in a multicultural environment. In Repo et al. (2016), cultural competence was found to be positively associated with students' minority background (not living in their native country or speaking other languages added to their mother tongue), frequency of interactions with different cultures, linguistic skills, and exchange studies. This may be explained because minority background students are already culturally aware since they have had to reflect on their own ethnic and cultural identity while living as foreigners in their countries.

In this study, the language of the questionnaire was associated with the level of cultural competence. Spanish, Italian, Portuguese, and Lithuanian questionnaires were delivered to Spanish, Italian, Portuguese, and Lithuanian students, respectively. However, the English questionnaire was completed by students from different countries, nationalities and cultural backgrounds (Belgian, Danish, French, German, Greek, Dutch, Irish, Latvian, Maltese, Scottish, Slovakian, Swedish, and Swiss), which can limit the conclusions about the correlation between the country where students are studying and their competence level because of their cultural nuances when answering and interpretating the scale items.

Results point out that students from Turkey and Portugal scored better in cultural competence than students studying in other European countries. However, Lithuanian nursing students were less culturally competent. Previous studies done among students of these nationalities are not available in the literature. Cruz et al. (2017) found that Iraqi students showed significantly higher cultural competence than students of other nationalities, except Turkey. In contrast, Indian and Saudi nursing students had significantly lower cultural competence scores than those of other nationalities studied, except South African students.

On the other hand, the results of this study show that nursing female students, specifically in the CAS dimension, obtained a higher level of cultural competence than their male counterparts. This could be due to women being more aware, sensible, and caring than men in many aspects of life. However, the effect found was small, which means that, even though gender may influence the competency score, its impact is low. On the contrary, Cruz et al. (2017) found that men had significantly greater cultural competence than women did.

As for the religious beliefs of the student participants, the ones who did not identify themselves with a specific religion scored higher in cultural competence. It might be due to having a wider vision or keeping their mind open to other realities.

Because achieving cultural competence is a lifelong learning process (Repo et al. 2016), it makes sense to think that the level of cultural competence varies among students in different courses. Antón-Solanas et al. (2021) identified in nursing students a lack of practical experience and/or exposure to culturally diverse patients, as well as gaps in their knowledge on topics related to cultural competence, as areas for improvement concerning the perceived need to provide culturally sensitive and safe nursing care. Although the cohort of students assessed in this study corresponds to students after their first supervised internship experience, this takes place at different times depending on the country, from the first to the second year of the degree. The results of the study indicate that their current year of education was also a factor associated with cultural competence. Accordingly, Reyes et al. (2013) found that graduate students have a greater understanding of what constitutes culturally competent behaviors than beginning nursing students. However, the study did not assess whether beginning nursing students had been exposed to cultural competence content before their first internship experience, which could provide further insight into the development of their cultural competence. In Antón-Solanas et al. (2021), the students perceived that their ability to provide culturally congruent care gradually increased throughout their training, which leads to the need for continued training concerning this concept. In addition, the duration of Nursing Studies in Europe, which varies from 3 to 4 years, and the variability and specificity of cultural competence training given at each university, could also have influenced the development of cultural competence during studies.

Lastly, leisure and working stays abroad before entering the nursing degree, having friends from other cultures, and participating in international activities at home also resulted as factors

associated with better cultural competence. Repo et al. (2016) state that students' cultural competence was higher when they interacted with different cultures more frequently. Choi and Kim (2018) found that nursing students' cultural competence was much higher when they had direct contact or direct relationships with people from a different culture, including experiences of living abroad for more than 6 months, having relationships with people from other cultures, having family members who lived abroad, and having friends or neighbors from other cultures. Promoting extracurricular activities in which nursing students experience and have constant contact with other cultures can be a viable alternative to trips abroad (i.e., ERASMUS+) (Choi and Kim 2018).

The factors identified in the study that were not associated with cultural competence are having previous experience as health care providers, speaking additional languages in addition to their mother tongue, previously studying time abroad before entering university, and not having ERASMUS+ experiences were correlated with the CCA scores.

Age is similar among all participants (22.9 years old), an age group in which life experiences with other cultures usually begin to develop; however, 167 participants were over 35 years old (approximately 6%). It is in line with Reyes et al. (2013), who state that having an older age alone is not a sufficient variable for being culturally competent. Likewise, few students have had previous experience as health care providers, which is also associated with the age of the nursing students participating in the study. Besides, the area where these have taken place is unknown. Only experiences as healthcare providers in diverse cultural settings could influence the acquisition of students' cultural competence.

Furthermore, the results of this study do not show a strong correlation between the number of languages an individual speaks and their cultural awareness, except for those participants who spoke four or more languages, the correlation being much stronger in this case. Still, the latter finding must be taken with caution, as the sample of such individuals is quite small. This could be because learning other languages has been focused on professional use more than studying different cultures. However, the linguistic barrier is one of the elements that influence cultural awareness (Červený et al. 2022; Choi and Kim 2018). Students with good linguistic skills may communicate better with patients, or they may also actively seek or be selected in nursing situations caring for patients with different cultural backgrounds (Repo et al. 2016).

A recent literature review has found that short international learning experiences, such as Cultural Immersion International Learning Experiences (CIILESs), positively influence cultural competency outcomes (Matthews et al. 2021). The fact is that most studies included within this review described international experiences of 1–2 weeks length (with only some of them going on up to 2–4 months) and included different kinds of international experiences (such as exchanges, service-learning, clinical placements, and study abroad). These CIILESs sometimes differ from the standard whole semester ERASMUS+ exchange experience because they include critical reflection before, during, and after the activity, or they are even focused on the social justice or ethical reflection perspective. In this study, only a small percentage of students have had previous ERASMUS+ experiences, which could be due to their young age and the little impact that these experiences have had on the acquisition of cultural competence. Choi and Kim (2018) suggest that short-term cultural experiences, such as traveling or participating in a short-term intensive language-learning program, have no relationship to nursing students' cultural competence. Cultural competence is not an automatic outcome of studying abroad, as it must be intentionally facilitated.

6.1 | Strengths and Limitations

The descriptive nature of the study has the inherent limitation of this type of design, which does not allow causal relationships to be established, but does allow for the discovery of predictor variables that can be addressed in future studies.

The type of sampling used (convenience sampling) does not guarantee the representativeness of the sample. This type of sampling was chosen because the accessibility and availability of participants within the academic environment facilitated quicker and more efficient data collection. To minimize this bias, the entire target population of students was invited to participate, and all those present on the day of data collection did so.

The study used an instrument to measure cultural competence based on self-reports, which may be a limitation. All instruments used to assess cultural competence included in Osmancevic et al.'s (2021) systematic review were also based on self-administered scales that considered participants' perceptions. Among them was the CCA tool, which was considered easy to apply (Osmancevic et al. 2021), and it had been previously translated, adapted, and validated in many languages. Those were the main reasons why it was chosen for this study.

The English version of the CCA questionnaire was delivered to students from different countries, nationalities and cultural backgrounds (Belgium, Denmark, France, Germany, Greece, Ireland, Latvia, Malta, the Netherlands, Scotland, Slovakia, Sweden, and Switzerland), with a different number of participants, which can limit the conclusions about the correlation between the country where students are studying and their competence level.

Results could also be limited by a social desirability bias: there are items in the questionnaire whose response is conditioned by what is socially appropriate and can give a biased view of the participant.

In each study plan, the start of the internship is scheduled at different times, from the first to the second year, which makes it difficult to compare results. However, this study starts from the premise that carrying out supervised internships is the first opportunity where students can demonstrate culturally competent behaviors as a fundamental dimension of the acquisition of cultural competence.

6.2 | Recommendations for Further Research

As this is a cross-sectional study, possible associations might be studied with other designs that allow causal relationships

to be confirmed. Additionally, further research might consider carrying out a longitudinal study throughout all levels of baccalaureate nursing education to measure the progress of cultural competence education as students' cohort progresses through the nursing program and even as newly graduated nurses to understand the evolution of their skills throughout their learning process. This could also deeply explore factors that impede or facilitate ongoing cultural safety in nursing students and strategies carried out to improve it. The results of this study are framed in a longitudinal study that will end in 2025, where a subsequent measurement is proposed that allows establishing changes in certain variables and the permanence of others that have been significant now.

6.3 | Implications for Policy and Practice

This study determines which factors can be predictors for working on the cultural competence of undergraduate nursing students. The results obtained should be considered when defining training programs or internationalization opportunities that favor the acquisition of cultural competences in nursing students. This can be translated into better health care in culturally diverse environments.

7 | Conclusions

This study presents a European perspective on cultural competence among nursing students after finishing their first supervised internships. Varying levels of cultural competence were observed in 18 countries. However, the shared cultural competence perspective was within a good range, highlighting awareness and sensibility from behavior.

Various predictors of cultural competence were identified, including gender, religious community most identified with, current year of education, leisure stays abroad, having friends from other countries or cultures, and having international experiences at home but with low explicative power.

Author Contributions

Laura Visiers-Jiménez: Conceptualization, methodology, software, investigation, resources, data curation, writing—original draft preparation, writing—review and editing, visualization, supervision, project administration. Maria Lara Martínez-Gimeno: Conceptualization, methodology, investigation, resources, data curation, writing—original draft preparation, writing—review and editing. José Ríos-Díaz: Methodology, software, formal analysis, investigation, data curation, writing—original draft preparation, writing—review and editing. Sylvain Marcel Lybrecht-Llinares: Investigation, writing—original draft preparation, writing—review and editing, visualization. María Isabel Baeza-Monedero: Conceptualization, investigation, resources, writing—original draft preparation, writing—review and editing, visualization.

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Conflicts of Interest

The authors declare no conflicts of interest.

Statistical Review

The statistics were checked prior to submission by an expert statistician, José Ríos-Díaz (jriosd@comillas.edu).

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.

Table S1. Cultural Competence Assessment in the Nursing Degree within the European Higher Education Space (CCA-EUnurse) Project (https://sites.google.com/view/cca-eunurseen/home). **Table S2**. Psychometrics of Multilingual Validated Versions of the CCA. **Table S3**. Participants (Language, Country and Higher Education Institution (*n*, %). **Table S4**. Frequencies for the CCA Questionnaire Items.