



Research article



The effect of writing a bachelor thesis on attitudes towards nursing research and development: A cross-sectional comparative study between students and professionals

Silvia GROS-NAVÉS^a, Williams CONTRERAS-HIGUERA^b, Olga CANET-VÉLEZ^c,
Jordi TORRALBAS-ORTEGA^d, Mercé TALÓ^e, Judith ROCA^{f,g,*}

^a Department of Nursing and Physiotherapy, Faculty of Nursing and Physiotherapy, University of Lleida, 2 Montserrat Roig, St., 25198 Lleida, Spain

^b Faculty of Education, University of Barcelona, Passeig de la Vall d'Hebron, 171, 08035 Barcelona, Spain

^c Faculty of Health Sciences Blanquerna, University Ramon Llull, Degree of Nursing, Global Health, Gender and Society Research Group (GHenders), 326-332 Padilla, St, 08025 Barcelona, Spain

^d Child and Adolescent Mental Health, Parc Taulí Hospital, Nursing Research Group (@GRItaulí) of Research and Innovation Institute Parc Taulí (I3PT), Autonomous University of Barcelona, Sabadell, Spain

^e Igualada University Hospital, 11 Catalunya, Av, 08700 Igualada, Spain

^f Department of Nursing and Physiotherapy, Faculty of Nursing and Physiotherapy, University of Lleida, 2 Montserrat Roig, St., 25198 Lleida, Spain

^g Health Care Research Group (GRECS), Biomedical Research Institute of Lleida, 80 Alcalde Rovira Roure, St., 25198 Lleida, Spain

ARTICLE INFO

Keywords:

Bachelor thesis
Nursing
Research
Research competence
Student

ABSTRACT

Background: Research is essential to practice nursing and must be duly enhanced during university training. Therefore, writing a bachelor thesis may help to develop research skills and thus transfer this skill set to practical application.

Objectives: 1) To ascertain whether writing a bachelor thesis has a bearing on attitudes towards nursing research and development; 2) to establish a comparison between groups (students and nurses), and 3) to analyse other factors (work experience, advanced training, research experience) that may influence the relationship between nurses and nursing research and development.

Design: A cross-sectional comparative study.

Setting and participants: The participants totalled 204: 38 nursing students and 166 nurses.

Methods: Data were gathered using the instrument Nurses' Attitudes towards Research and Development within Nursing devised by Björkström and Hamrin (2001) version II validated in Spanish. This instrument consists of 33 statements grouped into 7 factors, whose responses offer 5 alternatives on a Likert scale.

Results: Most participants were female (86.3%), with a mean age of 36 (SD = 11.65). The participants who have written a bachelor thesis obtained a higher score (Mdn = 4.14; range = 2.06) than those who have not (Mdn = 3.98; range = 2.13), with a significant difference ($U = 3959.5$; $p = 0.012$) and a moderate effect size (Hedges' $g = 0.40$). The students are those who obtained the highest scores. Amongst the nurses, educational training is the element that is most positively correlated with attitudes towards nursing research and development ($r = 0.340$).

Conclusion: The results suggest that writing a bachelor thesis engenders greater interest and a favourable attitude towards nursing research and development and displays that the most interested group is the students, followed by nurses holding a degree in nursing, and lastly those with a Diploma of Higher Education in nursing. Nurses' educational training is the most influential aspect, standing above researcher or professional experience.

1. Background

Research is at the fulcrum of nursing practice, and must be enhanced

during university teaching (Toraman et al., 2017). Otherwise, there is a risk that practice not based on research may become dominant (Ryan, 2016). Research and evidence-based practice must be developed to

* Corresponding author at: Department of Nursing and Physiotherapy, Faculty of Nursing and Physiotherapy, University of Lleida, 2 Montserrat Roig, St., 25198 Lleida, Spain.

E-mail address: judith.roca@udl.cat (J. ROCA).

<https://doi.org/10.1016/j.nedt.2022.105532>

Received 23 March 2022; Received in revised form 17 July 2022; Accepted 24 August 2022

Available online 31 August 2022

0260-6917/© 2022 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

improve the professional skill set and ensure healthcare of the highest quality (Alqahtani *et al.*, 2020). A number of authors (Ramsay *et al.*, 2020; Ross and Burrell, 2019) stress that a positive attitude on the part of students vis-à-vis research and evidence-based practice are elements that improve the provision of healthcare (Laske and Kurz, 2019). This attitude encourages them to develop research skills, engage in this activity, and apply the findings obtained in clinical settings to foster positive patient outcomes (Al Furaikh *et al.*, 2018). In light of the foregoing, teaching strategies must be developed that promote their development, since the students boast scant experience in the participation in scientific studies (Ünver *et al.*, 2018). Wakibi *et al.* (2021) put forward the combined, multifaceted tackling of several teaching methods during degree-level teaching. Apart from the theoretical teaching in research that students might be given, several studies (Fernández-Cano *et al.*, 2021; Llaurodo-Serra *et al.*, 2018; Toraman *et al.*, 2017) highlight the benefits of writing a bachelor thesis and the possibilities of transferring research skills to practical nursing.

Nursing training on a Europe-wide level incorporated the undertaking of bachelor theses following a harmonisation process of educational systems in the European Higher Education Area (EHEA) in 2010 (González-Chordá *et al.*, 2016). From this year onwards, in Spain, nursing training shifted from Diploma-level studies to Degree-level studies (Roca *et al.*, 2018). This entailed a movement from 3 to 4 years of study, and the incorporation of the mandatory drafting of the bachelor thesis into the curricula (ORDEN CIN/2134/2008, 2008). Bachelor thesis is a project geared towards the development of research work, an intervention, or an innovation in the specific professional field (ANECA, 2009). This is often the final piece of coursework that the student hands in, one of the most thorough and lengthy, in which they must display skills including the management of their own learning processes (Hannigan and Burnard, 2001). The studies undertaken by Roca *et al.* (2018) and Johansson and Silén (2018) highlight the typologies most frequently used in bachelor theses: literature reviews, qualitative studies, basic research, and case studies. While undertaking the bachelor thesis, the student must develop skills such as information technology proficiency, critical analysis, decision-making skills (Lundgren and Robertsson, 2013; Rodríguez *et al.*, 2015). These skills are directly related to research and evidence-based practice. The bachelor thesis would form part of the group of modules that tackle research; in turn, evidence-based practice does not have a module per se, rather it is integrated into different modules (Skela-Savič *et al.*, 2020). Furthermore, the bachelor thesis allows students to improve written and oral communication skills to develop research themes (Donnelly *et al.*, 2013).

Along the lines of the foregoing, the initial hypothesis that is put forward in this study is that those participants who have undertaken a bachelor thesis (fourth-year nursing students and nurses who graduated from the degree course from the years 2012–13 onwards) display more positive attitudes towards nursing research and development than nurses holding Diplomas of Higher Education who were not required to do a bachelor thesis. The second hypothesis is that the students have greater willingness than the professionals towards nursing research and development. There have been scant studies published that tackle the impact that carrying out the bachelor thesis has in Europe or worldwide, thus it is burdensome to make comparisons. That said, it is of the utmost importance to develop this field to appraise the bearing of bachelor theses as a research driver. With the above in mind, this study's aims were threefold; 1) to ascertain whether writing a bachelor thesis influences attitudes towards nursing research and development, 2) to establish a comparison between groups (the students in the final year of their nursing degrees who have written a bachelor thesis, degree course graduates who have written a bachelor thesis, nurses holding Diplomas of Higher Education who were not required to do a bachelor thesis), and 3) to analyse other factors (work experience, advanced training, research experience) that may influence the relationship between nurses and nursing research and development.

2. Methods

2.1. Study design

This study used a cross-sectional comparative design.

2.2. Context and participants

The development context of this study is the students in their fourth year at the Igualada Campus of the Faculty of Nursing and Physiotherapy (University of Lleida) with a population of 38 students (natural group) and the nurses at Igualada University Hospital (IUH), whose population stands at 310. This hospital centre is benchmark for the teaching of nursing courses at the University of Lleida's Igualada Campus. Once permission was obtained from the centre, a member of the research team informed the nurses verbally and in writing about the study and invited them to participate on a voluntary basis.

The module entitled Final Degree Project is yearly and carried out in the final year with a teaching load of 9 credits in the European Credit Transfer and Accumulation System (ECTS), which corresponds to 225 classroom hours. The student performs the tasks autonomously, tutored by a professor, starting in October with the choice of topic and submitting a written and oral work before a board comprised of 3 professors in June. The student freely chooses the topic and the project typology. In our case, the student may undertake one of 4 bachelor thesis typologies: a systematic review of the literature; a research project, which may include an intervention; an educational healthcare programme; or an evidence-based care plan. All the formats ensure the development of the student's skill set to a disciplinary and professional level.

It is worthwhile detailing that these students in the first year of their nursing degree receive basic tuition as an introduction to scientific and biostatistical grounding applied to health sciences. This module has 9 European Credit Transfer and Accumulation System (225 h) and examines the following topic areas: searching for and managing information; introduction to critical thinking; grounding for the drafting of research studies; care assessment (evidence-based practice); and biostatistics. Up to the bachelor thesis in the fourth year, the curriculum does not touch on any other modules directly linked to research.

Finally, the number of participants totalled 204: 38 nursing students (=100 %) and 166 nurses of a population of 310. The sample of nurses was representative, with a 95 % confidence level, a 3 % level of accuracy, a 5 % proportion, and an expected attrition ratio of 25 %. The inclusion criteria for the students were that they had to be enrolled in the bachelor thesis module and have completed the bachelor thesis. No other exclusion criteria were established. The nurses had to be currently employed at the XXX University Hospital. The sole exclusion criterion was the failure to comprehend written Spanish.

2.3. Instrument and data collection

Data were gathered through the instrument Nurses' Attitudes towards Research and Development within Nursing validated for Spanish. The transcultural validation study of the original version by Björkström and Hamrin (2001) version II was performed prior to this study with a population of 367 participants. In the validation study, students and professionals took part. The Spanish version, featuring 33 questions (two from the original were removed), offered good psychometric properties, with high internal consistency ($\alpha = 0.913$) (Gros Naves *et al.*, 2022). Nonetheless, scant concordance with the original model was found (Comparative Fit Index, CFI = 0.549; Tucker-Lewis Index, TLI = 0.491) meaning the original factors were redefined. The number of factors to be extracted was set at 7 in order to emulate the procedures outlined by Björkström and Hamrin (2001). A Kaiser-Meyer-Olkin (KMO) value of 0.916 and a Bartlett's Test of Sphericity value of $df = 528, p \leq 0.001$ were obtained.

The study variables are listed in detail in the three sections of the

instrument: 1) basic sociodemographic data (age and sex), 2) questions on work experience (years and location: specialised units, hospital care, primary and community care, nursing homes, teaching, management), training (continued professional development courses, postgraduate diploma, master's degree, doctorate), and research experience (principal investigator, research collaborator, data collection, information search, drafting of reports, publications in journals), and 3) statements on students' and professional's awareness and attitudes towards nursing research and development. The Spanish version of this survey contained 33 questions grouped into 7 factors. The factors and associated statements presented are:

- Factor 1, 'Linkages between academia and the workplace', specifies the need for networking with faculty and students to encourage nursing development at the clinical level (two statements: 30, 16; Cronbach's alpha = 0.614).
- Factor 2, 'Assessment of nursing research and development of the nursing discipline', details the importance nurses attach to research and curriculum development at the disciplinary level (6 statements: 4, 5, 6, 7, 10, 17; Cronbach's alpha = 0.731).
- Factor 3, 'Language of Research', describes the scientific language used in articles, necessary for understanding and interpreting applied methodologies and research findings (2 statements: 21, 9; Cronbach's alpha = 0.748).
- Factor 4, 'Development of professional and research skills', specifies the strategies for research skills acquisition and professional development (6 statements: 1, 3, 18, 22, 24, 27; Cronbach's alpha = 0.706).
- Factor 5, 'Assessment of nursing research and development as applied in daily professional practice', describes the importance that nurses place on research and professional development in their day-to-day professional work (9 statements: 15, 19, 20, 23, 26, 29, 32, 2, 8; Cronbach's alpha = 0.755).
- Factor 6, 'Willingness to promote the development of nursing', describes a positive attitude towards the inclusion of new knowledge and research to improve professional practice (4 statements: 11, 12, 13, 25; Cronbach's alpha = 0.648).
- Factor 7, 'Evidence-based practice', involves the integration of scientific information and the introduction of changes based on empirical and scientific knowledge (4 statements: 31, 33, 34, 35; Cronbach's alpha = 0.742).

Responses to the statements used the original 5-choice Likert format: (1) do not agree at all; (2) agree to a very little extent; (3) agree to a certain extent; (4) agree to a great extent; and (5) agree to a very great extent.

Members of the research team distributed the survey amongst the participants in hard copy format. The students filled it in in June 2019 and the nurses in November 2019 and February 2020. The difference between the two data collection periods was due, on the one hand, to the waiting time for permission from the hospital and, on the other hand, to the fact that students were graduating at the end of June and leaving the university. The students answered the survey voluntarily upon the public presentation of their bachelor thesis, while the clinical professionals were contacted at their workplaces. Completion time ranged from 20 to 35 min.

2.4. Data analysis

Normality tests (Kolmogorov-Smirnov = 0.69; $p = 0.018$) on the total number of responses to the questionnaire obtained a significance of $p < 0.05$. As a result, non-parametric tests were performed for comparisons.

Descriptive statistics (medians, means, standard deviation, percentages), non-parametric Kruskal-Wallis tests between the three groups, and Mann-Whitney's U test for comparisons of medians and interquartile range (IQR) between the group of students and the group of

professionals, as well as sub-groupings, were used. In addition, Hedges's g -test was used to measure effect size with a non-parametric standardised index of differences. Bivariate Spearman's r and point-biserial correlation coefficients were applied to calculate relationships between variables depending on the type of data.

The statistical significance threshold was set at $p < 0.05$ for all analyses. The data were analysed using SPSS (version 25) software from IBM.

2.5. Ethical approval

The study was approved by the CAERFIF Research Committee for the University of Lleida (Spain) and by the Ethics Committee of the Igualada University Hospital.

Participation in the study did not involve any academic compensation for students or financial compensation for any of the participants. The research team explained the project to the students aloud and in writing, and all chose to participate. All participants gave their informed consent. An alphanumeric code was assigned to each participant to ensure confidentiality and anonymity throughout the process, in compliance with Spanish Organic Law 3/2018 on the protection of personal data. The principal investigator devised the codes for each participant, with the latter solely having access to these.

3. Results

The participants totalled 204, spread between nurses (166) and students (38), aged between 21 and 63 years ($\bar{x}=36$, $SD = 11.65$), with females accounting for 87.25 % ($n = 178$). The largest group was formed by the nurses holding Diplomas of Higher Education (who concluded their studies prior to 2013) at 59.80 %, followed by nurses holding a university degree (who graduated from 2013 onwards) at 21.57 %, and lastly the students in their final year of their nursing degree at 18.63 %. The highest qualification amongst nurses was master's degree. No nurses in the survey held a doctorate in nursing. Professional experience was largely focused on hospital care (73.49 %) and specialised units (58.43 %). It is worthwhile stressing that almost half of those surveyed ($n = 79$) have taken part in research projects. Obviously, the group of students did not have advanced training or work experience and stated that they had yet to participate in any external research project, solely in the drafting of their bachelor thesis (see Table 1).

The results are displayed broken down into aims: the first was to ascertain whether writing a bachelor thesis influences attitudes towards nursing research and development. To achieve this, the participants were divided into two groups: Did not write a bachelor thesis (nurses holding Diplomas of Higher Education, $n = 122$) and those who wrote a bachelor thesis (students and nurses with Degrees in Nursing, $n = 82$). Significant differences were observed between these two groups, with the scores of those who wrote a bachelor thesis (Mdn = 4.14; range = 2.06) being higher than those who did not write a bachelor thesis (Mdn = 3.98; range = 2.13; $U = 3959.5$; $p = 0.012$; Hedges's $g = 0.40$).

In Table 2, the results of the survey are broken down by dimension. The group who had written a bachelor thesis shows the highest mean in all factor groupings, and specifically, significant differences according to Mann-Whitney's U test ($p < 0.05$) are found in three (F1-Linkages between academia and the workplace, F5-Assessment of nursing research and development as applied in daily professional practice, and F7-Evidence-based practice).

With regard to the second aim, the comparison findings between the three groups (nurses holding Diplomas of Higher Education, nurses holding a Degree in Nursing and undergraduates) are displayed in Fig. 1 according to means per group and factor grouping. More likeliness can be observed between professionals (with diplomas and degrees) with lower scores than those of the undergraduates. In addition, the three groups display significant differences between them ($\chi^2 = 12.945$; $p = 0.002$) and in three factorial groupings (Kruskal-Wallis test: F1 ($\chi^2 =$

Table 1
Characteristics of the sample: number (n) and frequency (%).

Variables	n	%
Age ^a	36.0	11.65
Sex		
Male	26	12.75
Female	178	87.25
Initial training		
Diploma of Higher Education in Nursing	122	59.80
Bachelor's Degree in Nursing	44	21.57
Student	38	18.63
Advanced training (professionals)		
No training	14	8.43
Continued professional development courses	30	18.07
Postgraduate diploma	40	24.10
Master's degree	82	49.40
Doctorate	0	0.00
Work experience ^b (professionals)		
Hospital care	122	73.49
Specialised units	97	58.43
Primary care/Community care	31	18.67
Nursing homes and health and social care	28	16.87
Teaching	31	18.67
Management	24	14.46
Research experience ^b (professionals)		
Principal investigator	25	25.25
Research collaborator	49	53.26
Data collection	67	69.79
Information search	41	48.81
Preparation of reports	26	31.33
Publications in journals	25	15.82

^a Mean and standard deviation (SD).

^b Regarding work and research experience, the frequencies are higher than participants as they may have experience in more than one area.

10.010; $p = 0.007$), $F5 (\chi^2 = 12.838; p = 0.002)$, and $F7 (\chi^2 = 14.410; p = 0.001)$, with medians favouring students.

Therefore, the greatest contrast between groups was identified when comparing nurses (with diplomas and degrees) with undergraduates. The difference was significant in virtually all factors with the exception of F3- Language of research and F4- Development of professional and research skills (Table 3).

Finally, with a view to ascertaining the factors that might influence the nurses (work experience, advanced training, research experience), university students were excluded given that this group is not professionally engaged, nor does it have work experience or advanced training. As can be seen in Table 4, the nurses holding Diplomas in Higher Education form the group that accumulates the most years of work experience, advanced training, and more research studies. However, despite this accumulated experience and training, they have a lower overall assessment ($\bar{x}=3.96$, $SD = 0.48$, median = 3.98, $IQR = 0.59$) compared to the degree holders ($\bar{x}=4.14$, $SD = 0.42$, median = 4.16, $IQR = 0.53$) (Table 4).

The point-biserial correlation coefficient was used to establish whether there are relationships between the attitude displayed towards nursing research and development (by factors and overall score) with: the type of research project undertaken, advanced training, and work experience by the years served in the different nursing wards. Spearman's rank-order correlation was used for the years of advanced training (continued professional development courses, postgraduate diploma, master's degree, doctorate).

The results given in Table 5 unveil that the level of training is the element that has the most positive bearing on all factors. With regard to research projects, it is observed that the participation in article publishing, having taken part in research projects and university level teaching are three activities that are positively and significantly correlated with the general interest towards nursing research and development in the large part of the factors. However, acting as principal investigator is not significantly consistent with a good assessment of these. Finally, experience in primary/community care is the activity that shows the strongest correlation with the construct, followed by working in the sphere of teaching.

Table 2
Comparison between Did not write a Bachelor Thesis vs Wrote a Bachelor Thesis.

Factors	Did not write a Bachelor Thesis <i>n</i> = 122	Wrote a Bachelor Thesis <i>n</i> = 82	U test	<i>p</i> value	Size effect
	Median (IQR)	Median (IQR)			
F1. Linkages between academia and the workplace	4 (1)	4 (1)	4127.0	0.031	-0.33
30. Students on the nursing programme are/should be a resource in the workplace to stimulate the development of nursing	4 (1)	4 (2)	3999.0	0.017	-0.36
16. Lecturers on the nursing education programme are/should be a resource in the workplace to stimulate the development of nursing	4 (2)	4 (1)	4441.5	0.176	-0.21
F2. Assessment of nursing research and development of the nursing discipline	4.33 (0.67)	4.5 (0.83)	4281.0	0.079	-0.29
04. I think it is interesting to read scientific articles about nursing care	4 (1)	5 (1)	4359.5	0.097	-0.25
05. (*) The nursing profession does not require research-based knowledge to the same extent as the medical profession	5 (1)	5 (0)	4109.0	0.015	-0.35
06. Nursing science and nursing research describes nursing care and makes it visible	4 (1)	5 (1)	4846.0	0.842	0.05
07. (*) The nursing profession is a practical profession and does not have to include research	5 (1)	5 (0)	4281.0	0.033	-0.31
10. (*) It is not meaningful to get involved in development work in nursing	5 (1)	5 (1)	4385.5	0.082	-0.33
17. (*) Nursing research does not raise the status of the nursing profession	4 (1)	4 (2)	4585.5	0.515	-0.11
F3. Language of Research	4 (1)	4 (1.5)	4618.5	0.344	-0.13
21. (*) The language used in nursing research is too complex	4 (1)	4 (1)	4348.5	0.128	-0.21
09. (*) The language of scientific articles is much too complex for me	4 (1)	4 (1)	4769.0	0.773	-0.06
F4. Development of professional and research skills	3.67 (0.67)	3.83 (0.67)	4451.5	0.181	-0.20
	4 (2)	4 (1)	3664.0	0.001	-0.52

(continued on next page)

Table 2 (continued)

Factors	Did not write a Bachelor Thesis n = 122	Wrote a Bachelor Thesis n = 82	U test	p value	Size effect
	Median (IQR)	Median (IQR)			
01. As a nurse, you must be able to read literature in English					
03. (*) In the nursing area too much is written and there is too much talk about research and development	4 (2)	4 (1)	4559.0	0.290	0.17
18. A PhD for nurses should be a prerequisite for certain senior positions in nursing	4 (1)	4 (1)	4771.0	0.630	-0.06
22. We should have more nurses in clinical work with a PhD/postgraduate education	3 (0)	3 (1)	4278.5	0.075	-0.21
24. The results of nursing research must be disseminated better to nurses in their work	4 (1)	5 (1)	4811.5	0.722	-0.10
27. Participating in research should be part of the nurse's job	4 (1)	4 (1)	4891.5	0.858	-0.04
F5. Assessment of nursing research and development as applied in daily professional practice	4 (0.67)	4.33 (0.67)	3800.0	0.004	-0.43
15. (*) Nursing research complicates the ordinary work of nursing	4 (2)	4 (1)	4120.5	0.032	-0.38
19. (*) Further training in research and research-based studies is not important for the future	4 (1)	5 (1)	4370.5	0.088	-0.22
20. (*) My position as a nurse is sufficiently strong to be able to influence nursing without having knowledge of research	4 (2)	4 (2)	4715.5	0.467	-0.07
23. (*) Participating in development work in nursing does not benefit nursing skills	4 (2)	4 (1)	3871.5	0.004	-0.39
26. (*) It is unrealistic to believe one can apply research results to practical nursing	4 (1)	4 (1)	4039.5	0.020	-0.31
29. (*) I do not bother to find out about research results	4 (1)	5 (1)	4457.0	0.145	-0.11
32. (*) It is not meaningful to devote oneself to research in nursing	4 (1)	5 (1)	3744.5	0.001	-0.47

Table 2 (continued)

Factors	Did not write a Bachelor Thesis n = 122	Wrote a Bachelor Thesis n = 82	U test	p value	Size effect
	Median (IQR)	Median (IQR)			
02. (*) Taking part in research does not lead to greater professional skill as a nurse	4 (1)	5 (1)	4449.0	0.145	-0.29
08. Research literature on nursing should be available at the workplace (e. g. wards)	4 (1)	4 (1)	4916.0	0.903	-0.07
F6. Willingness to promote the development of nursing	4 (1)	4 (1)	4462.0	0.188	-0.24
11. Being involved in development work in nursing should be part of the nurse's job	4 (1)	4 (1)	4988.0	0.971	-0.10
12. (*) We do not need nurse scientists to develop patient care, the practise nurses can do that themselves.	4 (1)	4 (1)	4723.5	0.459	-0.08
13. I am keen to participate in international scientific conferences	4 (2)	4 (1)	4780.0	0.636	-0.09
25. Nursing research is essential for me in my development as a professional nurse	4 (1)	4 (2)	3912.0	0.007	-0.37
F7. Evidence-based practice	4 (0.75)	4.25 (0.50)	3913.5	0.008	-0.39
31. It is self-evident that the nursing profession should be based on scientific and reliable experience	4 (2)	4 (1)	4115.5	0.027	-0.37
33. Nurses should take the time to read research reports	4 (0)	4 (0)	4740.5	0.548	-0.13
34. Introducing changes and testing new ideas is very important in the nursing profession	4 (1)	4 (1)	4244.0	0.038	-0.30
35. I think the questions in this questionnaire are important	4 (1)	4 (1)	3935.5	0.007	-0.39

* Inverted items. Median (Interquartile Range: IQR). Mann-Whitney's U, Sig (2-tailed) < 0,05 and Hedge's d test (size effect).The Spanish instrument includes 33 items, as two items (14, 28) were removed from the original instrument.

4. Discussion

Returning to the main hypothesis, this study shows that the participants who have written a bachelor thesis (nurses holding nursing degrees and nursing students) show a greater willingness towards nursing research and development compared to those who have not written one. Verifying the second hypothesis, the students who scored higher were those who had written a bachelor thesis, with statistically significant differences in all factors with the exception of F3. These findings are

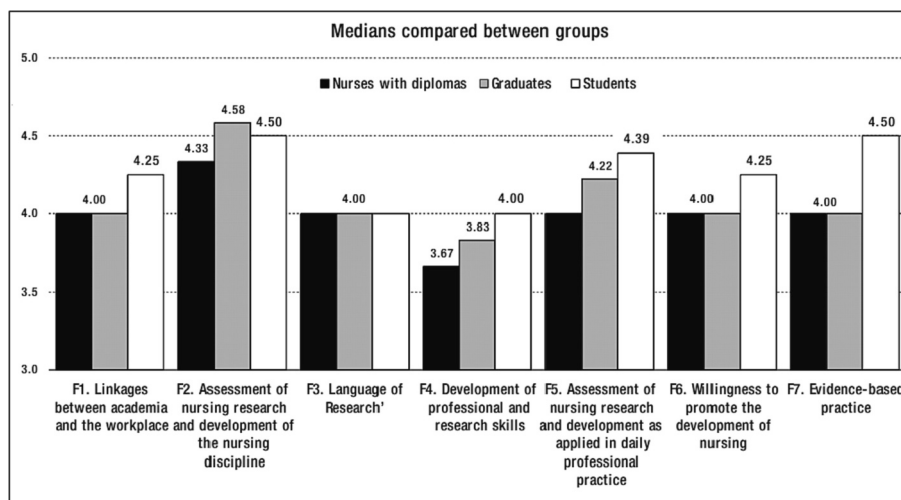


Fig. 1. Comparison of medians between factor grouping into 3 groups.

Table 3
Comparison between professional nurses and students.

Factors	Professional n = 166	Student n = 38	U test	p value	Size effect
	Median (IQR)	Median (IQR)			
F1. Linkages between academia and the workplace	4 (1)	4.25 (1)	2144.5	0.002	0.58
F2. Assessment of nursing research and development of the nursing discipline	4.50 (1)	4.50 (0.50)	2483.0	0.004	0.43
F3. Language of Research	4 (1)	4 (1)	2707.5	0.165	0.23
F4. Development of professional and research skills	3.83 (0.67)	4 (0.67)	2536.0	0.059	0.36
F5. Assessment of nursing research and development as applied in daily professional practice	4.11 (0.67)	4.39 (0.56)	2043.5	0.001	0.62
F6. Willingness to promote the development of nursing	4 (1)	4.25 (0.50)	2493.0	0.043	0.39
F7. Evidence-based practice	4 (0.75)	4.50 (0.75)	1935.5	<0.001	0.68
Overall	4 (0.66)	4.30 (0.46)	2003.5	<0.001	0.64

Median (Interquartile Range: IQR), Mann-Whitney's U test, p-value and Hedge's g (size effect).

consistent with those of other studies, namely Toraman, Hamaratçilar, Tülü, & Erkin, (2017), carried out in Turkey, which reported that writing a bachelor thesis influenced the development of a positive attitude towards nursing research and development. Although the students display a positive attitude towards research (Abad Martillo et al., 2021; Ruiz-Recéndiz et al., 2020; Santillan-Garcia, 2020), they also highlight the lack of support and opportunities (Ryan, 2016). Writing a bachelor thesis may be the opportunity to develop their research skills within a tutored academic framework (Gallart et al., 2015), in other words, with more support systems. Tutoring is intended to guide and provide ongoing monitoring during the drafting and development of the bachelor thesis (Roca et al., 2018). It is also important to note that the students perceive more support from within the academic context than in the clinical one (Florin et al., 2012). Nonetheless, for their future

development, Ryan (2016) stresses the significance of recruiting nurses who foster the undergraduates' active involvement in research as part of their nursing practice, so that these can become 'role models'.

The development of research skills, alongside evidence-based practice, could provide a boost and encourage students (O'Brien and Hathaway, 2018). Indeed, some nursing students when asked regarding their expectations with regard to the bachelor thesis in Sweden, view the bachelor thesis as a gateway into the scientific discipline (Henttonen et al., 2021). This positive attitude during their studies should affect their willingness to work in research in the future and the professional role of nurses upon graduation (Toraman et al., 2017). For this reason, it is meaningful for the student to view writing a bachelor thesis as a positive experience, so that afterwards they may consider research projects in their role as nursing professionals (Tuveesson and Borglin, 2014). Worthy of special mention are the experiments, such as those described by de Jong et al. (2018), in which seasoned researchers, academics, and students collaborate in a participatory health research, which allows undergraduate nursing students to acquire knowledge and research skills first-hand while they carry out a research thesis.

In our study, it is shown that the nurses holding a Nursing Degree (who did indeed write a bachelor thesis as part of their curriculum owing to the incorporation of Spain into the Bologna Process) are the second group with the most willingness towards nursing research and development. Certain writers (Kovačević et al., 2017) point out that this attitude is more positive amongst younger nurses, as would be the case of those holding degrees compared to those holding the diploma in Spain. Our results express this difference through a lower overall assessment amongst nurses with the diploma compared to nurses holding a Degree in Nursing.

By exploring further into which factors are correlated with attitudes towards nursing research and development, educational training comes to the fore. The findings concur with other studies that unearth the positive effect of continued professional development courses (Kovačević et al., 2017) and higher scores for nurses with further knowledge or qualifications who participate in research projects (Alqahtani et al., 2020). Nor can we overlook the fact that research engenders negative sentiments and feelings of anxiety (Al Furaikh et al., 2018). For this reason, educational training becomes a fundamental element to create further knowledge and skills in research amongst professionals (Corchon et al., 2011).

The findings in relation to research experience were contradictory. The participants who least valued research are those who in theory boasted more experience as being principal investigators. This contradiction could be explained through the type of research projects in which they have been involved, and the application of this research.

Table 4
Descriptive data on nurses with diplomas and graduates.

	Nurses			
	Nurses with diplomas		Graduates	
Advanced training	n	%	n	%
No training	5	4.09	9	20.45
Continued professional development courses	24	19.67	6	13.63
Postgraduate diploma	35	28.69	5	11.37
Master's degree	58	47.55	24	54.55
Doctorate	0	0.0	0	0.0
Research experience*	n	%	n	%
Principal investigator	23	28.75	2	10.53
Research collaborator	44	60.27	5	26.32
Data collection	56	72.73	11	57.89
Information search	29	45.31	12	60.00
Preparation of reports	20	31.25	6	31.58
Publications in journals	23	19.66	2	4.88
University lecturer	21	18.42	2	4.76
Academic tutor	71	59.66	20	47.62
Work experience (years)*	\bar{x} (SD)	Median [IQR]	\bar{x} (SD)	Median [IQR]
Specialised units	19.77 (10.18)	20 [15]	3.43 (2.21)	3 [3]
Primary care/Community care	2.26 (5.49)	0 [0]	0.07 (0.45)	0 [0]
Hospital care	1.36 (0.91)	1.25 [1.42]	0.29 (0.22)	0.25 [0.25]
Teaching	1.33 (3.51)	0 [0]	0.02 (0.15)	0 [0]
Management	1.05 (3.18)	0 [0]	0.07 (0.33)	0 [0]
Nursing homes and health and social care	0.71 (2.61)	0 [0]	0.05 (0.21)	0 [0]
Research (all areas)	0.13 (0.54)	0 [0]	0 (0)	0 [0]
Attitudes towards research and development within nursing	\bar{x} (SD)	Median [IQR]	\bar{x} (SD)	Median [IQR]
F1. Linkages between academia and the workplace	3.82 (0.83)	4 [1]	4.08 (0.70)	4 [1]
F2. Assessment of nursing research and development of the nursing discipline	4.28 (0.59)	4.33 [0.67]	4.43 (0.47)	4.5 [0.83]
F3. Language of research	3.66 (0.87)	4 [1]	3.77 (0.82)	4 [1.50]
F4. Development of professional and research skills	3.72 (0.61)	3.67 [0.67]	3.83 (0.53)	3.83 [0.67]
F5. Assessment of nursing research and development as applied in daily professional practice	4.04 (0.55)	4 [0.67]	4.27 (0.49)	4.33 [0.67]
F6. Willingness to promote the development of nursing	3.93 (0.67)	4 [1]	4.08 (0.59)	4 [1]
F7. Evidence-based practice	4 (0.61)	4 [0.75]	4.22 (0.52)	4.25 [0.50]
Overall	3.96 (0.48)	3.98 [0.59]	4.14 (0.42)	4.16 [0.53]

Mean (\bar{x}) and standard deviation (SD), Median [Interquartile Range: IQR], * Regarding research experience, the frequencies are higher than participants as they may have experience in more than one area.

Nurses value work experience greatly, yet not to the same extent the participation in research projects (Björkström and Hamrin, 2001) nor the potential offered by research for the profession (Tuppal et al., 2019).

The results show a weaker correlation in the analysis of work experience, highlighting community and primary care nursing. Therefore, it is worthwhile pointing out that there has been a boom in this type of healthcare in Spain with its own educational curriculum and skills

recognition (Pérez-Vico Díaz De Rada et al., 2018). The passage of time with regard to work experience is negatively correlated with attitudes towards nursing research and development, which could thus explain the low levels of research practice within the backdrop of healthcare, along with organisational elements, namely the scant acknowledgement or invisible nature of research itself, the care load, or that it is a task based solely on caring for individuals (Tuppal et al., 2019). It is also essential to create a research culture during clinical practice with the support of nursing management teams, with the organisations being primed to implement research in clinical nursing practice (Berthelsen and Hølge-Hazelton, 2021). For this reason, it is of the utmost importance to stress that, in order to accomplish the acknowledgement of nursing research and its utility in healthcare settings, it must create knowledge able to solve the problems faced by nursing practice, improving thus the quality of the care provided, along with patients' quality of life (Orellana and Sanhueza, 2011). In addition, the value of research from the nurses' perspective must be recognised for its positive impact at both the professional and user level (Hopia and Heikkilä, 2020).

Therefore, there is a need for greater collaboration between academia and clinical practice (Ryan, 2016; Chen, Huang, Castro, & Tang, 2021) and specific doctorate curricula to enhance the development of nursing as a profession and discipline (van Dongen et al., 2021). In this study, no clinical nurse held a doctorate. The value of post-doctorate nurses is recognised as knowledge brokers between producers and users of knowledge to establish, engage, educate, empower, and evaluate knowledge within translational research (Thompson and Schwartz Barcott, 2019). Finally, writing a bachelor thesis provides a major opportunity for students, yet this is possible solely thanks to the fact that the research skills acquired in the initial phases of education have improved over time, even though research-based tuition in current curricula is highly limited (Tuppal et al., 2019). Therefore, it is important to properly initiate undergraduate students into research and to use the opportunities offered by writing a bachelor thesis (students and graduates alike) for developing a positive attitude towards research, which should in turn enhance the recognition of the utility of nursing research in the professional context.

4.1. Limitations

The most significant limitation is the type of research (a single-centre study), as it has solely been performed on a specific group. Other limitations stem from the cross-sectional design, the use of a non-randomised sample, and the need to use non-parametric tests. Undertaking further studies on a national and international scale would be of major interest to be able to compare the results obtained.

5. Conclusions

Our results show that writing a bachelor thesis creates greater interest and a favourable attitude towards nursing research and development. They also show that the group that has most interest is the students, followed by the nurses holding a Degree in Nursing and lastly nurses who hold a Diploma of Higher Education in Nursing. The element that is most positively correlated with the construct is educational training, more than research experience or work experience.

CRedit authorship contribution statement

Silvia GROS-NAVÉS: Methodology, Investigation, Project administration, Validation, Writing – original draft. **Williams CONTRERAS-HIGUERA:** Data curation, Formal analysis, Methodology, Investigation, Project administration, Software, Writing – original draft. **Olga CANET-VÉLEZ:** Conceptualization, Resources, Visualization, Writing – review & editing. **Jordi TORRALBAS-ORTEGA:** Conceptualization, Resources, Visualization, Writing – review & editing. **Mercé TALÓ:** Data curation,

Table 5

Correlations between attitudes towards research and development within nursing and other factors (nurses' experience and training).

Research experience	F1	F2	F3	F4	F5	F6	F7	Overall
Principal investigator	-0.064	-0.024	0.019	-0.035	0.017	0.016	0.045	-0.018
Research collaborator	0.248*	0.194	0.176	0.295**	0.272**	0.367**	0.419**	0.380**
Data collection	0.233*	0.289**	0.113	0.210*	0.176	0.164	0.305**	0.297**
Information search	0.188	0.167	0.077	0.157	0.120	0.118	0.241*	0.212
Preparation of reports	0.072	0.084	0.006	0.095	0.089	0.067	0.163	0.126
Publications in journals	0.218**	0.182*	0.180*	0.279**	0.269**	0.260**	0.310**	0.330**
University lecturer	0.312**	0.170*	0.083	0.144	0.199*	0.228**	0.265**	0.266**
Academic tutor	0.219**	0.150	0.031	0.127	0.161*	0.185*	0.233**	0.207**
Advanced training	F1	F2	F3	F4	F5	F6	F7	Overall
Overall training***	0.226**	0.157*	0.163*	0.251**	0.330**	0.322**	0.320**	0.340**
Work experience (years and areas)	F1	F2	F3	F4	F5	F6	F7	Overall
Hospital care	-0.155*	-0.146	-0.142	-0.049	-0.218**	-0.136	-0.151	-0.191*
Specialised units	-0.018	0.015	-0.092	0.070	-0.075	-0.034	-0.018	-0.019
Primary care/Community care	0.203**	0.205**	0.189*	0.189*	0.226**	0.243**	0.121	0.268**
Nursing homes and health and social care	-0.015	-0.018	0.016	-0.043	0.023	0.015	-0.077	-0.012
Management	-0.018	0.136	-0.003	0.050	0.045	-0.042	-0.170*	0.085
Research	0.145	0.144	0.065	0.183*	0.147	0.196*	0.111	0.196*
Teaching	0.144	0.181*	0.214**	0.096	0.173*	0.129	0.182*	0.215**

*** Spearman's Correlation **Correlation is significant at the 0.01 level and * at the 0.05 level (two-tailed).

Formal analysis, Writing – review & editing. **Judith ROCA:** Investigation, Methodology, Project administration, Supervision, Validation, Writing – original draft.

Declaration of competing interest

The authors have no conflicts of interest to declare.

Acknowledgements

The authors would like to express their thanks to the nursing students and the nurses for their participation.

References

- Abad Martillo, J., Molina Abad, N., Portero de la Cruz, S., 2021. Attitudes and perception of research training in students of the Nursing Degree. *Nurse Educ. Today* 118 (112), 1–10.
- Al Furaikh, A., Al Omairi, B., Ganapathy, T., 2018. A cross-sectional survey on nursing students' attitude towards research. *J. Health Spec.* 22 (5), 185–191. <https://doi.org/10.4103/jhs.JHS>.
- Alqahtani, N., Oh, K.M., Kitsantas, P., Rodan, M., 2020. Nurses' evidence-based practice knowledge, attitudes and implementation: a cross-sectional study. *J. Clin. Nurs.* 29 (1–2), 274–283. <https://doi.org/10.1111/jocn.15097>.
- ANECA, 2009. Guía para la evaluación de las competencias en el trabajo de fin de grado en el ámbito de las ciencias sociales y jurídicas. Barcelona. Retrieved from www.aqu.cat.
- Berthelsen, C., Hølge-Hazelton, B., 2021. The importance of context and organization culture in the understanding of nurses' barriers against research utilization: a systematic review. *Worldviews Evid.-Based Nurs.* 18 (2), 111–117. <https://doi.org/10.1111/wvn.12488>.
- Björkström, M., Hamrin, E., 2001. Swedish nurses' attitudes towards research and development within nursing. *J. Adv. Nurs.* 34 (5), 706–714. <https://doi.org/10.1046/j.1365-2648.2001.01800.x>.
- Corchon, S., Portillo, M.C., Watson, R., Saracibar, M., 2011. Nursing research capacity building in a Spanish hospital: an intervention study. *J. Clin. Nurs.* 20 (17–18), 2479–2489. <https://doi.org/10.1111/j.1365-2702.2011.03744.x>.
- van Dongen, L., Cardiff, S., Kluijtmans, M., Schoonhoven, L., Hamers, J.P.H., Schuurmans, M.J., Hafsteinsdóttir, T.B., 2021. Developing leadership in postdoctoral nurses: a longitudinal mixed-methods study. *Nurs. Outlook* 69 (4), 550–564. <https://doi.org/10.1016/j.outlook.2021.01.014>.
- Donnelly, R., Dallat, John, Fitzmauric, M., 2013. *Supervising And Writing a Good Undergraduate Dissertation*. Bentham Science Publishers, Oak Park.
- Fernández-Cano, M.I., Arreciado Marañón, A., Feijoo-Cid, M., 2021. The Bachelor's thesis in nursing: characteristics and students' approach and satisfaction. *Nurse Educ. Pract.* 53 (April) <https://doi.org/10.1016/j.nepr.2021.103067>.
- Florin, J., Ehrenberg, A., Wallin, L., Gustavsson, P., 2012. Educational support for research utilization and capability beliefs regarding evidence-based practice skills: a national survey of senior nursing students. *J. Adv. Nurs.* 68 (4), 888–897. <https://doi.org/10.1111/j.1365-2648.2011.05792.x>.
- Gallart, A., Bardallo, M., de Juan, M., Rodríguez, E., Fuster, P., Monforte, C., 2015. Impact of the Bachelor's thesis on the nursing profession. *Nurse Educ. Today* 35 (1), 16–17. <https://doi.org/10.1016/j.nedt.2014.09.011>.
- González-Chordá, V., Mena-Tudela, D., Salas-Medina, P., Cervera-Gasch, A., Orts-Cortés, I., Maciá-Soler, L., 2016. Assessment of bachelor's theses in a nursing degree with a rubrics system: development and validation study. *Nurse Educ. Today* 37, 103–107. <https://doi.org/10.1016/j.nedt.2015.11.033>.
- Gros Naves, S., Canet-Vélez, O., Contreras-Higuera, W., García-Exposito, J., Torralbas-Ortega, J., Roca, J., 2022. Translation, adaptation, and psychometric validation of the Spanish version of the attitudes towards research and development within nursing questionnaire. *Int. J. Environ. Res. Public Health* 19 (8), 4623. <https://doi.org/10.3390/ijerph19084623>.
- Hannigan, B., Burnard, P., 2001. Preparing and writing an undergraduate dissertation. *Nurse Educ. Pract.* 1 (4), 175–180. <https://doi.org/10.1054/nepr.2001.0028>.
- Henttonen, A., Fossum, B., Scheja, M., Teräs, M., Westerbotn, M., 2021. Nursing students' expectations of the process of writing a bachelor's thesis in Sweden: a qualitative study. *Nurse Educ. Pract.* 54 (April) <https://doi.org/10.1016/j.nepr.2021.103095>.
- Hopia, H., Heikkilä, J., 2020. Nursing research priorities based on CINAHL database: a scoping review. *Nurs. Open* 7 (2), 483–494. <https://doi.org/10.1002/nop.2428>.
- Johansson, L., Silén, M., 2018. Research methods in nursing students' Bachelor's theses in Sweden: a descriptive study. *Nurse Educ. Today* 66 (April), 187–193. <https://doi.org/10.1016/j.nedt.2018.04.006>.
- de Jong, G., Meijer, E., Schout, G., Abma, T., 2018. Involving undergraduate nursing students in participatory health research: implications from the Netherlands. *J. Prof. Nurs.* 34 (6), 507–513. <https://doi.org/10.1016/j.profnurs.2018.04.001>.
- Kovačević, A., Prlić, N., Matijasević, B., 2017. Nurses' attitudes toward nursing research. Retrieved from <http://seemedj.mefos.unios.hr/index.php/seemedj/article/view/53/28> Southeast.Eur. Med. J. 1 (2), 71–80.
- Laske, R.A., Kurz, J., 2019. Examining evidence-based practice beliefs in undergraduate nursing students: a pilot study. *Teach. Learn. Nurs.* 14 (4), 246–250. <https://doi.org/10.1016/j.teln.2019.04.009>.
- Llaurado-Serra, M., Rodríguez, E., Gallart, A., Fuster, P., Monforte-Royo, C., De Juan, M., 2018. Assessing the competences associated with a nursing Bachelor thesis by means of rubrics. *Nurse Educ. Today* 66 (March), 103–109. <https://doi.org/10.1016/j.nedt.2018.04.009>.
- Lundgren, S.M., Robertsson, B., 2013. Writing a bachelor thesis generates transferable knowledge and skills useable in nursing practice. *Nurse Educ. Today* 33 (11), 1406–1410. <https://doi.org/10.1016/j.nedt.2012.10.019>.
- O'Brien, T., Hathaway, D., 2018. Students and faculty perceptions of an undergraduate nursing research internship program. *Nurse Educ.* 43 (2), E1–E4. <https://doi.org/10.1097/NNE.0000000000000412>.
- ORDEN CIN/2134/2008, 2008. Retrieved from https://www.boe.es/diario_boe/txt.php?id=BOE-A-2008-12388.
- Orellana, A., Sanhueza, O., 2011. Research competence in nursing. *Cienc. Enferm.* 17 (2), 9–17. <https://doi.org/10.4067/s0717-95532011000200002>.
- Pérez-Vico Díaz De Rada, L., Duarte-Climents, G., Sánchez-Gómez, M.B., Gómez-Salgado, J., 2018. History of family and community nursing in Spain: a review of literature. *RqR Enferm. Comunitaria (Rev. Seapa)* 6 (2), 20–33. Retrieved from https://www.seapaonline.org/UserFiles/File/Revistas/Primavera 2018/RevistaRqR_Primavera2018.Historia.pdf%0Ahttps://www.seapaonline.org/revistas/56-rqr-enfermeria-comunitaria-vol-6-n-2-primavera-2018.
- Ramsay, A., Wicking, K., Yates, K., 2020. In what ways does online teaching create a positive attitude towards research in nursing students studying a first year evidence-based practice undergraduate subject online? *Nurse Educ. Pract.* 44 (April 2019), 102744 <https://doi.org/10.1016/j.nepr.2020.102744>.

- Roca, J., Gros, S., Canet, O., 2018. Analysis of and reflection on bachelor thesis in nursing students: a descriptive study in Spain. *Nurse Educ. Today* 68 (April), 159–164. <https://doi.org/10.1016/j.nedt.2018.06.010>.
- Rodríguez, M., Olivares, J., López, I., 2015. El Trabajo fin de Grado en Enfermería: conocimientos integrados y aprendizaje guiado. *Index Enferm.* 24 (4), 257–261.
- Ross, J.G., Burrell, S.A., 2019. Nursing students' attitudes toward research: an integrative review. *Nurse Educ. Today* 82 (February), 79–87. <https://doi.org/10.1016/j.nedt.2019.08.006>.
- Ruiz-Recéndiz, M.D.J., Jiménez-Arroyo, V., Huerta-Baltazar, I., Alcántar-Zavala, M.L.A., Herrera-Paredes, M., Picazo, Carranza, Rosa, A., 2020. Self-perception in research competences in university nursing students. *Praxis Investig. REDIE* 23, 117–131.
- Ryan, E.J., 2016. Undergraduate nursing students' attitudes and use of research and evidence-based practice - an integrative literature review. *J. Clin. Nurs.* 25 (11–12), 1548–1556. <https://doi.org/10.1111/jocn.13229>.
- Santillan-García, A., 2020. Proposal of a scientific training program (STP) for the acquisition of research competencies in nursing one of the barriers in nursing research is nurses feeling of lack in research training. *ENE* 14 (3).
- Skela-Savič, B., Gotlib, J., Panczyk, M., Patelarou, A.E., Bole, U., Ramos-Morcillo, A.J., Ruzafa-Martínez, M., 2020. Teaching evidence-based practice (EBP) in nursing curricula in six European countries—a descriptive study. *Nurse Educ. Today* 94 (June), 104561. <https://doi.org/10.1016/j.nedt.2020.104561>.
- Thompson, M.R., Schwartz Barcott, D., 2019. The role of the nurse scientist as a knowledge broker. *J. Nurs. Scholarsh.* 51 (1), 26–39. <https://doi.org/10.1111/jnu.12439>.
- Toraman, A., Hamaratçılar, G., Tülü, B., Erkin, O., 2017. Nursing students' attitudes toward research and development within nursing: does writing a bachelor thesis make a difference? *Int. J. Nurs. Pract.* 23 (2) <https://doi.org/10.1111/ijn.12517>.
- Tuppal, C.P., Vega, P.D., Ninobla, M.M.G., Reñosa, M.D., Al-Battashi, A., Arquiza, G., Baua, E.P., 2019. Revisiting the barriers to and facilitators of research utilization in nursing: a systematic review. *Nurse Media J. Nurs.* 9 (1), 90. <https://doi.org/10.14710/nmjn.v9i1.20827>.
- Tuvsesson, H., Borglin, G., 2014. The challenge of giving written thesis feedback to nursing students. *Nurse Educ. Today* 34 (11), 1343–1345. <https://doi.org/10.1016/j.nedt.2014.07.003>.
- Ünver, S., Semerci, R., Özkan, Z.K., Avcıbaşı, I., 2018. Attitude of nursing students toward scientific research: a cross-sectional study in Turkey. *J. Nurs. Res.* 26 (5), 356–361. <https://doi.org/10.1097/JNR.000000000000244>.
- Wakibi, S., Ferguson, L., Berry, L., Leidl, D., Belton, S., 2021. Teaching evidence-based nursing practice: a systematic review and convergent qualitative synthesis. *J. Prof. Nurs.* 37 (1), 135–148. <https://doi.org/10.1016/j.profnurs.2020.06.005>.