



Research article

Defining nursing entrepreneurship from the point of view of future professionals: A qualitative study

Noemí Cuartero Monteagudo^a, Dorián E. Camacho Rodríguez^b,
Doris B. Gonzales Carhuajulca^c, Juan M. Leyva Moral^d, Olga Navarro Martínez^{e,*}

^a Nursing Department, Faculty of Nursing and Podiatrics, University of Valencia

^b Facultad de Enfermería Universidad Cooperativa de Colombia, Campus Santa Marta, Colombia

^c Facultad de Enfermería, Universidad Científica del Sur, Peru

^d Faculty of Medicine, Autonomous University of Barcelona, Spain

^e Nursing Department, Faculty of Nursing and Podiatrics, University of Valencia, Avda Menéndez Pelayo 19, 46010 Valencia, Spain

ARTICLE INFO

Keywords:

Entrepreneurship
Professional competence
Quality of health care
Diffusion of innovation
Qualitative research
Nursing students

ABSTRACT

Introduction: Entrepreneurship comprises the development of novel projects, products, and strategies, both from a business perspective and in the context of nursing care. Despite ongoing debate as to whether entrepreneurship should be considered a distinct academic discipline, this subject remains largely unexplored within the health sciences. There is a paucity of published work examining whether entrepreneurship constitutes a specific competence and what nurses and nursing students understand by entrepreneurship. This study aims to identify, on the basis of the beliefs of nursing students from different countries, what entrepreneurship in nursing is. Based on these responses, a definition of entrepreneurship in nursing that responds to society's current needs is proposed.

Methodology: Qualitative descriptive methods were employed to gather insights from first- and second-year students across four nursing faculties: two located in Colombia, one in Peru, and one in Spain. The students were tasked with defining entrepreneurship within the nursing context. This inquiry was posed at the outset of the educational sessions on entrepreneurship, ensuring that the students had no preexisting information. The responses were collected using the digital platform Mentimeter, which allowed the students to submit their answers via mobile devices. Data were analyzed using thematic analysis.

Results: A total of 160 written responses were received, analyzed, and categorised by the research team. Finally, 24 codes were obtained, which were grouped into 5 main themes: Healthcare and patient support, Innovation in nursing, Continuous professional improvement, nurses' contributions to society, and own project development. **Conclusion:** Drawing from the experiences and beliefs of nursing students, entrepreneurship is characterized as the ability to innovate, conduct research, and advance scientific knowledge, thereby achieving continuous improvement in care while engaging with environmental and societal contexts.

1. Introduction

Entrepreneurship is an emerging concept in contemporary society that has evolved over time. Most definitions relate entrepreneurship to the introduction of economic innovations, technologies and products or processes that alter the existing market balance. Other definitions propose that entrepreneurship is understanding how, when, and why people develop or start up new enterprises (Shane and Venkataraman, 2000). However, entrepreneurship is not limited to the creation of

companies, but also involves the identification and exploitation of opportunities (Eckhardt and Shane, 2003).

In the field of health, entrepreneurship is an emerging discipline that seeks innovations and solutions either to improve health care, to prevent illnesses or to promote health among people. This field has gained relevance in recent years due to its potential to address critical challenges in the healthcare system. According to Porter et al. (Porter and Lee, 2013), health entrepreneurship aims to create value by enhancing the quality of care as well as reducing costs, which can lead to a

* Corresponding author.

E-mail address: olga.navarro@uv.es (O.N. Martínez).

[@juanleyvamorale](mailto:juanleyvamorale@tekuidamos.com) (J.M. Leyva Moral), [@tekuidamos](mailto:tekuidamos@tekuidamos.com) (O.N. Martínez)

<https://doi.org/10.1016/j.nedt.2024.106421>

Received 22 April 2024; Received in revised form 8 September 2024; Accepted 21 September 2024

Available online 23 September 2024

0260-6917/© 2024 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/>).

significant transformation of the healthcare system. Healthcare entrepreneurship encompasses a wide range of activities, such as the development of advanced technologies and the creation of innovative care models that enable more accessible and efficient healthcare services (Agarwal et al., 2020).

The development of entrepreneurship in nursing has a highly innovative approach. It is a nascent concept in this discipline, which emerges as a response to the growing demand for quality healthcare and the need to provide creative solutions that enable nurses to play an active role in improving healthcare and promoting health. Bagheri and Akbari (Bagheri and Akbari, 2018) define nursing entrepreneurship as the identification of opportunities to improve care, the creation of new initiatives, and interdisciplinary collaboration to implement effective solutions. The development of entrepreneurship in nursing represents a novel and innovative approach, one that is still in its infancy within the discipline. This evolution is driven by the increasing demand for quality healthcare and the necessity for creative solutions that empower nurses to actively contribute to healthcare improvement and health promotion. Bagheri and Akbari (2018) define nursing entrepreneurship as the process of identifying opportunities to enhance care, creating new initiatives, and fostering interdisciplinary collaboration to implement effective solutions. Initially, many nursing students perceive entrepreneurship as an unrelated concept to their field. However, through targeted educational interventions, they begin to perceive themselves as potential entrepreneurial actors capable of influencing healthcare practices (Gardim et al., 2024). Incorporating entrepreneurship into nursing education aligns with a broader movement in higher education, underscoring the importance of interdisciplinary collaboration and the acquisition of business expertise alongside clinical competencies (Qiu et al., 2023). Moreover, research indicates that entrepreneurial intention among health sciences students, including those in nursing, is influenced by perceived desirability and feasibility (Romero-Galisteo et al., 2022).

Despite these advancements, there remains a significant lack of evidence from Spanish-speaking countries, highlighting a gap in the literature and the need for further investigation in these regions. This qualitative study aims to address this gap by identifying the defining features of nursing entrepreneurship as perceived by nursing students, who represent the future actors of the nursing discipline. By understanding these perspectives, the study seeks to develop a comprehensive definition of nursing entrepreneurship that encompasses all aspects considered relevant by these emerging professionals.

2. Methods

2.1. Study design

Qualitative descriptive methods constitute a research approach that focuses on providing a comprehensive and detailed account of a phenomenon under investigation, capturing its complexities and nuances. This method is particularly valuable when the aim is to gain an in-depth understanding of a specific context, experience, or social phenomenon within its natural setting (Sandelowski, 2010). This approach is especially beneficial in providing a comprehensive and contextualized understanding of the subject matter, allowing researchers to delve deeply into the participants' perspectives and the meanings they attribute to their experiences (Colorafi and Evans, 2016). Qualitative descriptive method is particularly well-suited for studies with a straightforward research question, where the goal is to provide a detailed account without the theoretical abstraction often associated with other qualitative methodologies (Kim et al., 2017). This study followed the Consolidated Criteria for Reporting Qualitative research (COREQ) guidelines (Tong et al., 2007).

2.2. Setting and participants

The study was conducted between January and May 2023 in four private universities: two in Colombia, one in Peru, and one in Spain. The objective was to provide an analysis of the phenomenon in three very different socio-cultural contexts within Spanish-speaking countries. With the intention of obtaining discourses from nursing students who were not yet influenced by clinical practice and advanced education, only first and second-year nursing students were invited to participate through purposive sampling (Robinson, 2014). The education in entrepreneurship is typically integrated into the advanced nursing courses at all universities included. In the initial stages of education, only the topic and its associated fundamental concepts are presented, as the students have not yet received the more advanced education in management and critical thinking that would enable them to derive optimal benefit from the subject matter. As part of an entrepreneurship and innovation education program, participants were anonymously asked to answer a series of questions in an open and narrative format using a digital platform.

2.3. Data collection

The study was presented and explained by the principal investigator (she/her), who holds a PhD in health technology, with experience in university research and teaching. Each participant signed an informed consent, and afterwards, answered the open-ended trigger question: "What does entrepreneurship in nursing mean to you?". This kind of questions allowed the research team to explore certain topics, to understand means, and to discover potential causes of observed relations (Weller et al., 2018) and have been previously used in nursing research (Brubacher et al., 2015; Saleh et al., 2018). The participants had 10 min to contribute their own ideas autonomously and individually. These responses, which were completed digitally by the participants, became the main source of data for the study. None of the participants refused to participate.

The online tool Mentimeter (<https://www.mentimeter.com>) was used for this activity. This tool allows us to draw up interactive questionnaires that attendees can answer from their phone, by capturing a QR code shown in the presentation used. The type of activity used in this case was an "Open ended question", in which students could write a freestyle-writing text. This tool has already been used in previous studies in qualitative research contexts for the collection of opinions and generation of subsequent debate among professionals (Bontje et al., 2022; Dinkler et al., 2023; Rataj et al., 2021). The digitally written response was used to engage and motivate students to draw up their response. Students used a nickname to provide their answers. This format of data collection provided the flexibility to ensure that each learner could write freely and anonymously, without being questioned by their peers.

The study was approved by the Ethics Committee of the Catholic University of Valencia UCV/2022–2023/001 and carried out in accordance with the Code of Ethics of the World Medical Association (Declaration of Helsinki). The participants did not receive any reward for their participation.

2.4. Data analysis

The data were analyzed using the thematic analysis method described by Braun and Clarke (2006). To preserve linguistic nuances, the data underwent manual analysis in Spanish. The analytical process involved the development of mutually exclusive and collectively exhaustive categories, ensuring a comprehensive representation of the phenomenon under examination. This approach was deliberately employed to generate categories that accurately reflected the subject of study, rather than tangential topics. The rigorous categorization process aimed to enhance the validity and reliability of the findings, facilitating a nuanced understanding of the research focus.

At first, one of the researchers read the participants' responses

several times to become familiar with the content and to identify the first units of meaning. Subsequently, the texts were coded using descriptive codes according to their content. The codes were then grouped into categories according to the similarities between them. To ensure the accuracy of the data, a review of the textual elements and their categorization was conducted by one of the researchers, followed by a review by a second researcher (Carter et al., 2014; Erlingsson and Brysiewicz, 2017). This way, the authors broadened, deepened, and reduced the possibility of misunderstanding, thus clarifying the meaning and veracity of the information obtained in the testimonies. This triangulation was also achieved by obtaining the different perspectives from the members of our research team, which included nurses from different countries. The outcome report was subsequently discussed by the research group, and through a process of reflective thinking and critical reasoning, modifications were made until a consensus was reached on the themes and subthemes.

3. Results

A total of 160 responses were received, including 23 from Spain, 56 from Peru, and 83 from Colombia. At the outset of the analysis, it was perceived that the data set was repetitive after 102 responses. However, in accordance with the recommendations put forth by Thorne and Malterud et al. (Malterud et al., 2016; Thorne, 2020), we proceeded to analyze all 160 responses. Our analytical focus was not on achieving saturation but rather on gaining sufficient understanding to respond to the study's aim. We advocated for a more flexible and context-dependent approach to determining when data collection was sufficient (Thorne, 2020). Consequently, all responses were considered to be of value, given the unique data from three different Spanish-speaking countries that were analyzed. The participants were first- and second-year nursing students, with an average age of 22 years old and 84 % female (135 participants are women). Note that nursing studies in Colombia and Peru last 5 years whereas in Spain the same degree lasts 4 years. In Table 1 a summary of the overall data of the participants is displayed.

In accordance with the methodology proposed by Braun and Clarke (Braun and Clarke, 2021), the initial stage of the analysis entailed the conducting of multiple readings of the transcripts by a single researcher. This was done in order to ensure a comprehensive understanding of the content and to identify the initial units of meaning. Subsequently, the texts were subjected to coding, with the application of descriptive codes that were reflective of their content. The codes were organized into categories based on their similarities with other codes. At this stage, the preliminary results were discussed by the research team, and modifications were made through reflective thinking and critical reasoning until a consensus was reached on the findings. The analysis yielded 80 initial codes, which were subsequently refined to 25 following a meticulous review. These codes were then grouped into five principal themes after comprehensive analysis and discussion among the research team (Table 2). The main themes identified are as follows: Healthcare

Table 1
Overall data of participants.

University country	Number of participants	Gender	Average Age	Study Year
Spain	23	23 women 0 men	21	First year
Colombia 1	17	12 women 5 men	22	First year
Colombia 2	66	58 women 8 men	23	First and second year
Peru	54	42 women 12 men	22	First and second year

Table 2
Themes and codes.

Themes	Codes
Healthcare and patient support	Comprehensive patient care Nursing and health services Healthcare Wellness
Innovation in nursing	Technology Strategies Creativity New ways/new techniques Ideas Solutions
Continuous professional improvement	Quality Knowledge Research Improvement Recognition Profession Autonomy
Nurses' contributions to society	Society's needs Social impact Environment Projects Resources Financial income Work context
Own project development	

and Patient Support, Innovation in Nursing, Continuous Professional Improvement, Nurses' Contributions to Society, and Professional Development.

3.1. Healthcare and patient support

Participants consider entrepreneurship as a role of the nurse to provide better services to patients, focusing on care and health improvement. They indicate that entrepreneurship is *the ability to innovate in health care, generating new projects in search of improved patient care* (Colombian participant, university 2). This innovative approach enables the provision of superior care, adapting to changing needs, increasing efficiency, and ensuring a positive impact on the quality of patients' lives. Participants consider entrepreneurs are characterized by taking risks in terms of responsibility and commitment to face knowledge with greater ability in an innovative way, which will lead to new goals and purposes. The entrepreneur risks resources by transforming an idea into new knowledge, which is then put into practice to generate improvements in health. Thus, entrepreneurship begins by generating actions that, combined with the commitment of resources, will allow the established improvement plan to be implemented. From the point of view of the students in our study, entrepreneurship is *having a commitment to health* (Peruvian participant), reaffirming with this statement the professional commitment of nurses to their patients and to society. In this same sense, the participants position the person as the centre of professional action, as the focus of nursing improvement, as a concern for wanting to improve based on discovering what is best for patients' health. Entrepreneurship is *to discover new care methods and apply them in order to provide better patient care. Always remembering that the patient's needs must be the priority* (Colombian participant, university 1). That is, it is characterized by having the ability to introduce new practices in the healthcare field and the ability to innovate in care provision, thus improving the quality and efficiency of services for the benefit of patients and the community in general.

3.2. Innovation in nursing

One of the most highlighted aspects by the students who participated in the study was innovation, associating this concept to entrepreneurship on a recurring basis. Entrepreneurship in nursing care provides

innovation by integrating emerging technologies, innovative therapeutic methods, and patient-centred care models, thus transforming nursing practice and optimizing the care experience for patients and professionals. They consider entrepreneurship to be related to the search for new solutions. For these student's entrepreneurship means *doing new things, venturing into other areas of nursing, discovering different ideas and exploring other fields that relate to nursing care* (Colombian participant, university 1). For participants, the search for novelty requires restlessness, dynamism and a critical eye that will help to *create and innovate new useful things for nursing and create something that no one has thought of before* (Spanish participant). A nurse is a professional with a profoundly critical spirit that leads her to *innovate with techniques or inventions of her own or modify obsolete things or techniques* (Spanish participant). Nurses' innovative nature favours the introduction of advances by means of the creation of new practices, technologies, and approaches, improving the efficiency and quality of care. Entrepreneurship facilitates continuous adaptation to changes in the health sector. Finally, it is interesting to note that students also see entrepreneurship as a way to innovate that aims to reduce their workload, facilitate nurses' tasks and generally help to care for patients better. This type of innovation can be supported by technological solutions.

3.3. Continuous professional improvement

Participants consider entrepreneurship in the nursing profession as a mechanism for continuous improvement. Entrepreneurship *seeks to find alternatives that contribute to the continuous improvement of nursing actions* (Colombian participant, university 1). Entrepreneurship involves exploring new technologies, promoting continuous education, encouraging innovation in care processes, and establishing strategic collaborations which promote entrepreneurial advancement to optimize nursing practice. Research is a crucial element pointed out by students to grow and improve nursing science. *It would be to advance the science, to improve by means of good research as well as better quality care and treatment* (Peruvian participant). Entrepreneurship for our participants also means working more autonomously, professionally, and independently, developing their own competences, *generating innovation in nursing knowledge and gaining autonomy* (Colombian participant, university 2). It fosters the expansion of knowledge and professional autonomy, cultivating self-sufficiency and contributing to individual and collective progress in the discipline. Finally, the importance of entrepreneurship in the growth and visibility of the nursing profession is emphasized by our students. They consider that it can be a way to *create new opportunities in our field to broaden the vision of our profession* (Colombian participant, university 1). According to the students, entrepreneurship can mean *more recognition for nurses* (Spanish participant) thanks to the greater number of opportunities it generates and the improvement of competencies at a professional level, culminating in the strengthening of the career and the sector.

3.4. Nurses' contributions to society

Participants think that entrepreneurship in nursing is a way, not only to help persons, but to improve the health of the community and contribute to the greater good. Therefore, entrepreneurship from a nursing student point of view, involves addressing social challenges by means of the ingenious application of resources and innovative ideas to optimize healthcare, thus contributing to improving the quality of life in society. *It is a solution to a need or problem where a series of resources and ideas are used to seek to improve the quality of the society in which we live* (Colombian participant, university 2). The participants claim here the role of the nurse as a provider of care and health education for the community, being an essential figure in the *creation of improvements for the health of society* (Spanish participant). The students invoke here the need for nurses to be sensitive to the needs of the population, anticipating possible shortages or difficulties, proposing solutions and being

proactive in the community in which they work. According to participants this is due to entrepreneurship, being possible to have a broader perspective of the profession that generates improvements in health as a community and promotes a positive impact on society. *Entrepreneurship in nursing is to go beyond what is thought of as a nurse, it is not to limit oneself to patients, but also to the environment and society, to broaden horizons* (Colombian participant, university 1).

3.5. Own project development

The students considered entrepreneurship in its meaning of business and business development, understanding that entrepreneurship in nursing can also mean founding a company and generating economic income with independent or multidisciplinary activities. *Entrepreneurship in nursing is finding a way for your ideas and your enterprise to provide a service and facilitate the work of nurses* (Peruvian participant).

Others indicate that entrepreneurship leads you to *"Have your own project"* (Peruvian participant) so it gives you the freedom to materialize ideas, build solutions and make a significant impact on community health. Along these lines, it means *"Finding a way for your ideas and your entrepreneurship to provide a service and facilitate the work of nurses"* (Spanish participant). In this way, entrepreneurship leverages resources and creative tools to maximize resources and improve health services, making them more efficient and viable in health care.

4. Discussion

The present study reveals that nursing students mainly consider entrepreneurship to be associated with innovation, research, and professional advancement. This finding is significant as it aligns with the broader entrepreneurial vision within the nursing discipline, which encompasses both a business connotation—related to the creation or enhancement of initiatives to yield market benefits—and a social connotation, involving the promotion of interactive and associative processes that empower individuals, families, and communities as active participants in their own development (Stein Backes et al., 2018). Consequently, nursing students—who will eventually become practitioners—have integrated these fundamental entrepreneurial principles into their educational and professional perspectives.

4.1. Healthcare and patient support

In this study, students state that entrepreneurship is linked to the advancement of science, because among other benefits, it allows for the discovery of new care methods and the possibility of applying them to provide better patient care. As suggested by other authors (Audretsch and Belitski, 2021), entrepreneurship acts as a catalyst for innovation, fostering an environment conducive to research that leads to pioneering discoveries and novel solutions. This synergistic relationship plays a key role in driving economic growth and social advancement (Lehoux et al., 2017).

Entrepreneurship in nursing and other health sciences has the potential to transform the healthcare system, address global health challenges and improve the health of populations (Becker et al., 2019). The synergy between entrepreneurship and healthcare is essential to respond to the changing needs of patients and healthcare professionals. An example of such innovations are telemedicine startups that have revolutionized access to medical care, making it faster and more convenient for patients to receive health advice and follow-up services from the comfort of their homes. This leads to, among other improvements, the qualification of individuals to actively manage their well-being and access needed information and support, the capacity of hospitals, and the reduction of the spread of infections in the COVID-19 era (Busch and Rimondini, 2021). Nurses play a significant role in enhancing individual well-being and improving healthcare quality by introducing innovative services and developments, leveraging their knowledge and leadership

skills to benefit others. The presence of both entrepreneurial and intrapreneurial nurses is crucial for effecting the transformation of our healthcare delivery system (Marino et al., 2020). An entrepreneurial nurse is defined as an individual who initiates and oversees the operations of a novel enterprise, frequently focusing on the development of market-driven solutions and the establishment of an independent practice or business. In contrast, intrapreneurial nurses operate within existing healthcare organizations, driving innovation and improvements from within by identifying opportunities for change and implementing new processes or services (Bićo et al., 2022; Ilonen and Hytönen, 2023). This distinction highlights the necessity for both roles to facilitate a comprehensive transformation in the healthcare sector, as entrepreneurs introduce external innovations, while intrapreneurs enhance internal systems and practices.

4.2. Innovation in nursing

The findings of this study indicate that for nursing students, entrepreneurship is about identifying novel solutions or alternatives to previously known problems. In research, entrepreneurship fosters a culture of risk-taking and experimentation, encouraging researchers to explore unconventional ideas and test novel hypotheses (Sarvasathy, 2008). In the case of nursing, it is essential to ensure that nurses receive the appropriate preparation and training to foster entrepreneurship and promote the development of leadership skills (Navarro-Martínez et al., 2023). This approach will facilitate the generation of effective changes from a professional perspective, enabling the establishment of new companies engaged in nursing activities that align with social demands and anticipate future labour market needs (Andrade et al., 2015). Previous research has revealed that the attitudes and motivations of nursing students play an instrumental role in shaping their entrepreneurial intentions (Lechuga Sancho et al., 2020). This underscores the vital importance of integrating entrepreneurship into nursing curricula to equip them with the skills and competencies needed to navigate future challenges. This integration not only encourages innovation but fosters the development of leadership abilities, ultimately contributing to enhanced healthcare outcomes (Turan et al., 2017).

It is worth highlighting the fundamental role of universities in promoting entrepreneurial education (Miranda de Oliveira et al., 2016; Santos and Bolina, 2020), modifying the traditional education model of educational institutions, more focused on the needs of the formal work market, to a model of entrepreneurial education, in which the student is the protagonist during the learning process and the professor becomes the learning mediator (Backes and Erdmann, 2009; Schaefer and Minello, 2016). Specifically, fostering entrepreneurship in the nursing academic environment influences social and professional development, however, it will be necessary to promote strategies to disseminate the entrepreneurial culture among nursing students and teachers (Tossin et al., 2017).

4.3. Continuous professional improvement

In recent years, the professionalization of entrepreneurship has gained momentum by becoming a recognized career. Such is the case of the nursing profession, which plays a crucial role in adapting to changes in the health system and promoting professional autonomy (Colichi and Lima, 2019). Many large companies even recognize the importance of entrepreneurial skills in their organizations and actively seek entrepreneurially minded people to promote innovation and development (Welter et al., 2017). Entrepreneurship, involves the systematic creation, management and scaling of new ventures, characterized by innovation, risk-taking and value creation (Leyden and Link, 2015). This is in line with the results of the present study, which shows entrepreneurship in nursing is finding ways for entrepreneurial projects themselves to provide a service and facilitate the work of nurses. The students in the study consider that entrepreneurship helps to find alternatives that

contribute to the continuous improvement of nursing actions. Dale et al. (Dale et al., 2016) state that entrepreneurship is closely linked to the concept of continuous improvement, which significantly fosters the success and sustainability of entrepreneurial initiatives. Continuous improvement is also often associated with healthcare quality management, aimed at optimizing processes, products, and services to achieve higher levels of efficiency and effectiveness. This pursuit of quality and efficiency aligns with the fundamental principles of entrepreneurship, as both emphasize innovation, adaptability, and the pursuit of excellence (Deming, 2018).

A commitment to continuous improvement can lead to higher and greater patient satisfaction (Flamm et al., 2014). Thus, a distinctive approach to management and entrepreneurship, since it represents a specific function of each individual according to the attributes of his or her personality (willingness to take risks, preference for independence, etc.). From this point of view, a multitude of different types of organizations coexist, understanding entrepreneurship as an engine of global economic development and a force for positive change in society. It is to go beyond nursing education and practice, it is to broaden horizons that allow not only healthcare for persons, but their environment and society.

4.4. Nurses' contributions to society

The findings from the study involving nursing students indicate that the concept of entrepreneurship encompasses not only patient care but environmental and societal considerations. This is consistent with the broader view that entrepreneurship contributes to economic growth, technological progress, cultural inspiration, and social improvement through financial sustainability (Backes and Erdmann, 2009; Miranda de Oliveira et al., 2016; Shane, 2012). From nursing students' perspective, entrepreneurs are at the vanguard of technological innovation, propelling progress through their capacity to recognize unmet demands and to develop solutions that have a profound societal impact. Dada et al. (Dada et al., 2023) additionally identify entrepreneurship as a capacity for fostering creativity, critical thinking, risk-taking, leadership, and resilience, which can serve as sources of inspiration and motivation for others in society. In addition to these characteristics, entrepreneurship is of paramount importance in addressing social issues such as poverty, unemployment, and environmental sustainability. This perspective is corroborated by nursing students, who assert that entrepreneurial concepts should be expanded to encompass broader societal and environmental issues. Croci (Croci, 2016) posits that entrepreneurship can function both independently and in an interdisciplinary manner, aligning with Spigel's definition of entrepreneurial environments as combinations of social, political, economic, and cultural elements that support the growth of innovative ventures (Spigel, 2017). This interdisciplinary approach is reflected in the views of study participants, who perceive entrepreneurship as involving the introduction of new ideas and ventures in a range of fields related to nursing care.

4.5. Own project development

Those participating students who consider entrepreneurship involves discovering new methods of care and generating new applied projects that improve patient care and health are in alignment with some recent studies, which also state that entrepreneurship works as a catalyst for economic growth and income enhancement. However, institutions need to encourage entrepreneurship to generate employment opportunities and improve welfare. Therefore, financial success in entrepreneurship reflects the effectiveness of entrepreneurial strategies, generating economic stability and growth opportunities.

Overall (Overall et al., 2018) goes further and explains that entrepreneurship is the search for opportunities regardless of controlled resources. This is also understood by students, who indicate that entrepreneurship can be the solution to a need or problem where a series

of resources and ideas are used that seek to improve the quality of the society in which we live (Gedeon, 2022). Fostering a working environment in nursing from the perspective of entrepreneurship encourages entrepreneurial creativity, offering spaces for innovation in the care provided and the creation of services or products that optimize the quality of healthcare.

5. Limitations

It must be acknowledged that this study is not without limitations. The sample was diverse but limited to first- and second-year students. To gain a broader perspective on entrepreneurship, future research should include final-year students. While digital data collection offers flexibility for students to express themselves freely, individual or group interviews might have yielded richer data. Additionally, translating data from Spanish to English could introduce distortions in interpretation. To mitigate this, a bilingual researcher meticulously oversaw the data analysis and composition of the research findings.

6. Conclusion

This study has identified the main defining features of nursing entrepreneurship thanks to the contributions of the participants. Therefore, according to the narrative provided by participant nursing students, the concept of entrepreneurship is defined as the ability to innovate, research and advance science, to achieve continuous improvement in care. It is a process within which new projects are generated and other environments are explored that, when applied, provide better care to patients. It leads to broadening horizons that go beyond patients, involving the environment and society.

The incorporation of entrepreneurial skills into nursing education has considerable implications for students, educational institutions, healthcare practice, and policymaking. For students, it cultivates a mindset of innovation and adaptability, equipping them with the necessary skills to identify and pursue opportunities within the healthcare sector. This is of particular importance as it prepares them for a dynamic work environment in which they can contribute to the improvement of person- and community-based care and healthcare systems. From an educational perspective, integrating entrepreneurship into nursing curricula fosters interdisciplinary learning and the development of leadership skills, which are vital for addressing complex healthcare challenges. In clinical practice, entrepreneurial nurses can facilitate improvements in healthcare delivery by developing innovative care models and technologies, thereby enhancing patient outcomes and operational efficiency. From a policy perspective, supporting nursing entrepreneurship can result in healthcare reforms that prioritize cost-effectiveness and quality of care. As defined by nursing students in the study, "Entrepreneurship in nursing means the development of innovative projects using a range of tools, techniques, ideas, and strategies based on knowledge, evidence, and creativity with the aim of improving the quality of care, health outcomes, and patient experience and wellbeing."

Fundings

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

CRediT authorship contribution statement

Noemí Cuartero Monteagudo: Writing – original draft, Validation, Formal analysis. **Doriam E. Camacho Rodríguez:** Writing – review & editing, Writing – original draft, Validation, Supervision, Methodology, Investigation, Formal analysis. **Doris B. Gonzales Carhuajulca:** Writing – review & editing, Validation, Supervision, Project administration, Investigation. **Juan M. Leyva Moral:** Writing – review &

editing, Supervision, Methodology, Formal analysis, Conceptualization. **Olga Navarro Martínez:** Writing – review & editing, Writing – original draft, Validation, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

none.

Acknowledgements

Thanks to the students and professors of the participating universities for their involvement.

References

- Agarwal, P., Kithulegoda, N., Umpierre, R., Pawlovich, J., Pfeil, J.N., D'Avila, O.P., Gonçalves, M., Harzheim, E., Ponka, D., 2020. Telemedicine in the driver's seat: new role for primary care access in Brazil and Canada: the Besroul papers: a series on the state of family medicine in Canada and Brazil. *Can. Fam. Physician* 66, 104–111.
- Andrade, A. de C., Ben, L.W.D., Sanna, M.C., 2015. Empreendedorismo na Enfermagem: panorama das empresas no Estado de São Paulo. *Rev. Bras. Enferm.* 68, 40–44. <https://doi.org/10.1590/0034-7167.2015680106p>.
- Audretsch, D.B., Belitski, M., 2021. Towards an entrepreneurial ecosystem typology for regional economic development: the role of creative class and entrepreneurship. *Reg. Stud.* 55, 735–756. <https://doi.org/10.1080/00343404.2020.1854711>.
- Backes, D.S., Erdmann, A.L., 2009. Formação do enfermeiro pelo olhar do empreendedorismo social. *Rev. gaúch. enferm* 242–248.
- Bagheri, A., Akbari, M., 2018. The impact of entrepreneurial leadership on Nurses' innovation behavior. *J. Nurs. Scholarsh.* 50, 28–35. <https://doi.org/10.1111/jnu.12354>.
- Becker, E.R.B., Chahine, T., Shegog, R., 2019. Public health entrepreneurship: a novel path for training future public health professionals. *Front. Public Health* 7. <https://doi.org/10.3389/fpubh.2019.00089>.
- Bićo, A., Aydin, S., Smajić, H., Knezović, E., 2022. Entrepreneurial and intrapreneurial intentions: analyzing the premise of distinct constructs with different determinants. *Period. Eng. Nat. Sci.* 10, 5. <https://doi.org/10.21533/pen.v10i3.2905>.
- Bontje, P., Kruijne, R., Pol, M., Inoue, K., Kobayashi, R., Ito, Y., Van Hartingsveldt, M., 2022. Developing an international research of health-care ICT applied for rehabilitation and daily living support between Japan and the Netherlands. *Assist. Technol.* 34, 140–147. <https://doi.org/10.1080/10400435.2020.1716872>.
- Braun, V., Clarke, V., 2006. Using thematic analysis in psychology. *Qual. Res. Psychol.* 3, 77–101. <https://doi.org/10.1191/1478088706qp0630a>.
- Braun, V., Clarke, V., 2021. To saturate or not to saturate? Questioning data saturation as a useful concept for thematic analysis and sample-size rationales. *Qual. Res. Sport, Exerc. Health* 13, 201–216. <https://doi.org/10.1080/2159676X.2019.1704846>.
- Brubacher, S.P., Powell, M., Skouteris, H., Guadagno, B., 2015. The effects of e-simulation interview training on teachers' use of open-ended questions. *Child Abuse Negl.* 43, 95–103. <https://doi.org/10.1016/j.chiabu.2015.02.004>.
- Busch, I.M., Rimondini, M., 2021. Empowering patients and supporting health care providers—new avenues for high quality care and safety. *Int. J. Environ. Res. Public Health* 18, 9438. <https://doi.org/10.3390/ijerph18189438>.
- Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J., Neville, A.J., 2014. The use of triangulation in qualitative research. *Oncol. Nurs. Forum* 41, 545–547. <https://doi.org/10.1188/14.ONF.545-547>.
- Colichi, R.M.B., Lima, S.G.S. e, Bonini, A.B.B., Lima, S.A.M., 2019. Entrepreneurship and nursing: integrative review. *Rev. Bras. Enferm.* 72, 321–330. <https://doi.org/10.1590/0034-7167-2018-0498>.
- Colorafi, K.J., Evans, B., 2016. Qualitative descriptive methods in health science research. *HERD Heal. Environ. Res. Des. J.* 9, 16–25. <https://doi.org/10.1177/1937586715614171>.
- Croci, C., 2016. *Is Entrepreneurship a Discipline? Honor, Theses Capstones*.
- Dada, A.E., Adegbuyi, O.A., Ogbari, M.E., 2023. Entrepreneurial attributes and venture creation among undergraduate students of selected universities in southwest Nigeria. *Adm. Sci.* 13, 176. <https://doi.org/10.3390/admsci13080176>.
- Dale, B.G., van der Wiele, T., Bamford, D., 2016. Managing Quality 6e, Managing Quality 6e. Wiley. <https://doi.org/10.1002/9781119302735>.
- Deming, W.E., 2018. Out of the crisis. The MIT Press. <https://doi.org/10.7551/mitpress/11457.001.0001>.
- Dinkler, L., Hedlund, E., Bulik, C.M., 2023. Self-reported expertise and confidence in diagnosing and treating avoidant restrictive food intake disorder among Swedish clinicians. *Eur. Eat. Disord. Rev.* 31. <https://doi.org/10.1002/ERV.2970>.
- Eckhardt, J.T., Shane, S.A., 2003. Opportunities and entrepreneurship. *Aust. J. Manag.* 29, 333–349. [https://doi.org/10.1016/S0149-2063\(02\)00225-8](https://doi.org/10.1016/S0149-2063(02)00225-8).
- Erlingsson, C., Brysiewicz, P., 2017. A hands-on guide to doing content analysis. *African J. Emerg. Med.* 7, 93–99. <https://doi.org/10.1016/j.afjem.2017.08.001>.
- Flamm, S.D., Creagh, C., Gray, J., O'Keefe, P., Ricaurte, F., Triner, J., 2014. How a culture of "commitment to respect" enhances quality of care and patient satisfaction. *J. Am. Coll. Radiol.* 11, 906–909. <https://doi.org/10.1016/j.jacr.2013.11.009>.
- Gardim, L., Mendes, I.A.C., Bernardes, A., Almeida, M. dos S., Sciasci, N.G., Pereira, M.C. A., Araújo, A.A.C., 2024. Challenging the status quo through nursing

- entrepreneurship education: a scoping review. *Nurse Educ. Today* 141, 106310. <https://doi.org/10.1016/j.nedt.2024.106310>.
- Gedeon, S.A., 2022. Empowering students for future work and productive citizenry through entrepreneurship education. *Public Aff. Q.* 36, 197–210. <https://doi.org/10.5406/21520542.36.3.03>.
- Ilonen, S., Hytönen, K., 2023. Why should I become an Intrapreneur? Introducing the concept of Intrapreneurial outcome expectations. *Entrep. Educ. Pedagog.* 6, 251–275. <https://doi.org/10.1177/25151274221091692>.
- Kim, H., Sefcik, J.S., Bradway, C., 2017. Characteristics of qualitative descriptive studies: a systematic review. *Res. Nurs. Health* 40, 23–42. <https://doi.org/10.1002/nur.21768>.
- Lechuga Sancho, M.P., Martín-Navarro, A., Ramos-Rodríguez, A.R., 2020. Will they end up doing what they like? The moderating role of the attitude towards entrepreneurship in the formation of entrepreneurial intentions. *Stud. High. Educ.* 45, 416–433. <https://doi.org/10.1080/03075079.2018.1539959>.
- Lehoux, P., Miller, F.A., Daudelin, G., Denis, J.-L., 2017. Providing value to new health technology: the early contribution of entrepreneurs, investors, and regulatory agencies. *Int. J. Health Policy Manag.* 6, 509–518. <https://doi.org/10.15171/ijhpm.2017.11>.
- Leyden, D.P., Link, A.N., 2015. Toward a theory of the entrepreneurial process. *Small Bus. Econ.* 44, 475–484. <https://doi.org/10.1007/s11187-014-9606-0>.
- Malterud, K., Siersma, V.D., Guassora, A.D., 2016. Sample size in qualitative interview studies. *Qual. Health Res.* 26, 1753–1760. <https://doi.org/10.1177/1049732315617444>.
- Marino, L., Accad, A., Barr, T.L., 2020. Leadership through entrepreneurship, in: advanced practice nursing leadership: a global perspective. In: *Advanced practice in nursing*. Springer, pp. 295–311. https://doi.org/10.1007/978-3-030-20550-8_22.
- Miranda de Oliveira, A.G., Melo, M.C. de O.L., De Muijder, C.F., 2016. Educação Empreendedora: O Desenvolvimento do Empreendedorismo e Inovação Social em Instituições de Ensino Superior. *Rev. Adm. em Diálogo - RAD* 18, 29. <https://doi.org/10.20946/rad.v18i1.12727>.
- Navarro-Martínez, O., Igual-García, J., Traver-Salcedo, V., 2023. Bridging the educational gap in terms of digital competences between healthcare institutions' demands and professionals' needs. *BMC Nurs.* 22, 144. <https://doi.org/10.1186/s12912-023-01284-y>.
- Overall, J., Gedeon, S.A., Valliere, D., 2018. What can universities do to promote entrepreneurial intent? An empirical investigation. *Int. J. Entrep. Ventur.* 10, 312. <https://doi.org/10.1504/IJEV.2018.093227>.
- Porter, M., Lee, T., 2013. *The Strategy that Will Fix Health Care*. Harv. Bus. Rev.
- Qiu, Y., García-Aracil, A., Isusi-Pagoaga, R., 2023. Critical issues and trends in innovation and entrepreneurship education in higher education in the post-COVID-19 era in China and Spain. *Educ. Sci.* 13. <https://doi.org/10.3390/EDUCSCI13040407>.
- Rataj, E., Fischer, J., Bogner, A., Försterra, B., Schüssler, A., Schütt, L., 2021. Promoting autonomy in the field of open child and youth work-results from a participatory evaluation project. *Bundesgesundheitsbl. Gesundheitsforsch. Gesundheitsschutz* 64, 179–186. <https://doi.org/10.1007/S00103-020-03275-9>.
- Robinson, O.C., 2014. Sampling in interview-based qualitative research: a theoretical and practical guide. *Qual. Res. Psychol.* 11, 25–41. <https://doi.org/10.1080/14780887.2013.801543>.
- Romero-Galisteo, R.-P., González-Sánchez, M., Gálvez-Ruiz, P., Palomo-Carrión, R., Casuso-Holgado, M.J., Pinero-Pinto, E., 2022. Entrepreneurial intention, expectations of success and self-efficacy in undergraduate students of health sciences. *BMC Med. Educ.* 22, 679. <https://doi.org/10.1186/s12909-022-03731-x>.
- Saleh, U., O'Connor, T., Al-Subhi, H., Alkattan, R., Al-Harbi, S., Patton, D., 2018. The impact of nurse managers' leadership styles on ward staff. *Br. J. Nurs.* 27, 197–203. <https://doi.org/10.12968/bjon.2018.27.4.197>.
- Sandelowski, M., 2010. What's in a name? Qualitative description revisited. *Res. Nurs. Health* 33, 77–84. <https://doi.org/10.1002/nur.20362>.
- Santos, J.L.G., Bolina, A.F., 2020. Empreendedorismo na Enfermagem: uma necessidade para inovações no cuidado em saúde e visibilidade profissional. *Enferm. em Foco* 11. <https://doi.org/10.21675/2357-707X.2020.v11.n2.4037>.
- Sarasvathy, S.D., 2008. Effectuation: elements of entrepreneurial expertise. Edward Elgar Publishing. <https://doi.org/10.4337/9781848440197>.
- Schaefer, R., Minello, I.F., 2016. Educação Empreendedora: premissas, objetivos e metodologias. *Rev. Pensamento Contemp. em Adm.* 10, 60. <https://doi.org/10.12712/rpca.v10i3.816>.
- Shane, S., 2012. Reflections on the 2010 AMR decade award: delivering on the promise of entrepreneurship as a field of research. *Acad. Manag.* 37, 10–20. <https://doi.org/10.5465/AMR.2011.0078>.
- Shane, S., Venkataraman, S., 2000. The promise of Entrepreneurship as a field of research. *Acad. Manag. Rev.* 25, 217. <https://doi.org/10.2307/259271>.
- Spigel, B., 2017. The relational Organization of Entrepreneurial Ecosystems. *Entrep. Theory Pract.* 41, 49–72. <https://doi.org/10.1111/ETAP.12167>.
- Stein Backes, D., Teixeira Marchiori, M.C., Biazus Dalcin, C., Dutra, L., Toson, M., Dal Ben, L.W., 2018. Entrepreneurial learning in nursing a propulsive strategy of new spaces for professional performance. *J. Entrep. Organ. Manag.* 07. <https://doi.org/10.4172/2169-026X.1000248>.
- Thorne, S., 2020. The great saturation debate: what the “S word” means and Doesn't mean in qualitative research reporting. *Can. J. Nurs. Res.* 52, 3–5. <https://doi.org/10.1177/0844562119898554>.
- Tong, A., Sainsbury, P., Craig, J., 2007. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int. J. Qual. Health Care* 19, 349–357. <https://doi.org/10.1093/intqhc/mzm042>.
- Tossin, C.B., Silva, L.G. de C. da, Rossaneis, M.Á., Haddad, M. do C.F.L., 2017. Perfil empreendedor de docentes do curso de enfermagem de uma universidade pública [Enterprising profile of teachers of the nursing course at a public university] [Perfil empreendedor de los profesores del curso de enfermería de una universidad pública]. *Rev. Enferm. UERJ* 25. <https://doi.org/10.12957/reuerj.2017.22233>.
- Turan, N., Kaya, H., Culha, Y., 2017. Entrepreneurship in nursing education. *Pressacademia* 4, 50–53. <https://doi.org/10.17261/Pressacademia.2017.516>.
- Weller, S.C., Vickers, B., Bernard, H.R., Blackburn, A.M., Borgatti, S., Gravlee, C.C., Johnson, J.C., 2018. Open-ended interview questions and saturation. *PLoS One* 13, e0198606. <https://doi.org/10.1371/journal.pone.0198606>.
- Welter, F., Baker, T., Audretsch, D.B., Gartner, W.B., 2017. Everyday entrepreneurship—a call for entrepreneurship research to embrace entrepreneurial diversity. *Entrep. Theory Pract.* 41, 311–321. <https://doi.org/10.1111/etap.12258>.