

Entrepreneurship among Undergraduate Nursing Students at a public university

Empreendedorismo entre estudantes de graduação em enfermagem de uma universidade pública
Emprendedorismo entre estudiantes de grado en Enfermería de una universidad pública

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ABSTRACT

Objectives: to identify undergraduate nursing students' entrepreneurial tendency at a public university. **Methods:** cross-sectional study, with a quantitative approach, with 135 undergraduate nursing students from a public university in the interior of the state of Rio Grande do Sul, Brazil. Data were collected using a socio-professional characterization form and a General measure of Enterprising Tendency test and analyzed using descriptive statistics. **Results:** among the five entrepreneurial tendencies, students presented results equal or above average in two dimensions: Drive and Determination (82.2%) and Need for Success (51.1%). The Creative tendency was the dimension with the highest percentage of participants below the average (68.9%). However, students in research or extension groups scored equal or above average in all five entrepreneurial tendencies. **Conclusions:** students showed low entrepreneurial tendencies, indicating the need for a broader approach to the subject in nursing education. **Descriptors:** Job Market; Entrepreneurship; Students, Nursing; Education, Nursing; Schools, Nursing.

RESUMO

Objetivos: identificar a tendência empreendedora de estudantes de graduação em Enfermagem de uma universidade pública. **Métodos:** estudo transversal, de abordagem quantitativa, com 135 acadêmicos de enfermagem de uma universidade pública do interior do estado do Rio Grande do Sul, Brasil. Dados foram coletados por meio do formulário de caracterização socioprofissional e teste de Tendência Empreendedora Geral, tendo sido analisados mediante estatística descritiva. **Resultados:** entre as cinco tendências empreendedoras, os estudantes apresentaram resultado igual ou acima da média em duas dimensões: Impulso e determinação (82,2%) e Necessidade de sucesso (51,1%). A Tendência criativa foi a dimensão com maior percentual de participantes abaixo da média (68,9%). Porém, estudantes inseridos em grupos de pesquisa ou extensão tiveram pontuação igual ou acima da média nas cinco tendências empreendedoras. **Conclusões:** os estudantes apresentaram baixa tendência empreendedora, o que indica necessidade de uma abordagem mais ampla do tema na formação em Enfermagem.

Descritores: Mercado de Trabalho; Empreendedorismo; Estudantes de Enfermagem; Educação em Enfermagem; Escolas de Enfermagem.

RESUMEN

Objetivos: identificar la tendencia emprendedora de estudiantes de grado en Enfermería de una universidad pública. **Métodos:** estudio transversal, de abordaje cuantitativo, con 135 académicos de enfermería de una universidad pública del interior del estado de Rio Grande do Sul, Brasil. Datos fueron recogidos por medio del formulario de caracterización socioprofessional y test de Tendencia Emprendedora General, analizados mediante estadística descriptiva. **Resultados:** entre las cinco tendencias emprendedoras, los estudiantes presentaron resultado igual o arriba de la mediana en dos dimensiones: Impulso y determinación (82,2%) y Necesidad de éxito (51,1%). La Tendencia creativa fue la dimensión con mayor porcentual de participantes abajo de la mediana (68,9%). Pero, estudiantes inseridos en equipos de investigación o extensión tuvieron puntuación igual o arriba de la mediana en las cinco tendencias emprendedoras. **Conclusiones:** los estudiantes presentaron baja tendencia emprendedora, lo que indica necesidad de un abordaje más amplio del tema en la formación en Enfermería.

Descriptorios: Mercado de Trabajo; Emprendimiento; Estudiantes de Enfermería; Educación en Enfermería; Facultades de Enfermería.

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INTRODUCTION

Entrepreneurship is usually associated with the business field, and the entrepreneur is mainly seen as the person who creates a company to generate income and profit⁽¹⁻²⁾. However, in a broader perspective, entrepreneurship refers to the development of something new or the improvement of something already existing, based on identifying needs or opportunities and the proposition of innovative solutions. In this sense, entrepreneurship happens, for example, when the employee of a company develops an innovation aimed at improving their work, which is called "intrapreneurship". The entrepreneur can also be the one who acts in favor of social transformation, configuring "social entrepreneurship"⁽²⁻³⁾.

Thus, entrepreneurship is a terminology widely discussed in contemporary times, given its potential to improve relationships and interactions among people and between them and the context in which they are inserted⁽²⁻³⁾. In healthcare, there is also a growing interest in innovation and entrepreneurship. Health systems and services increasingly encounter complex problems that do not have obvious solutions and require new strategies to face them, which points to the importance of fostering the entrepreneurial quality among professionals in these sectors⁽⁴⁾.

In Nursing, the entrepreneurial vision has assumed both commercial and social characteristics, associated with the (re) creation of something to generate market benefits. It also links the ability to promote creative processes and associations aimed at individuals, families, and communities' emancipation. In this sense, entrepreneurial nursing care is a complex phenomenon, systematized through multiple relationships, interactions, and systemic associations focused on promoting integrally healthy living and articulated with other social sectors⁽⁵⁾.

Nurses can contribute to sustainable social development through entrepreneurial care related to the expansion of opportunities and real possibilities for individuals, families, and communities, constituting a prospective call for nursing science advancement. Thus, this professional plays a proactive role in identifying the population's care needs and in promoting and protecting the health of individuals in their multiple dimensions⁽⁵⁾.

Entrepreneurship also enables the reconfiguration of the profession, based on the creation of innovations, new businesses and services⁽⁶⁾. The autonomous activity of advising and consulting, creation of nursing offices and home care are some examples of advances already achieved in relation to entrepreneurship in nursing. However, there are still new possibilities to be developed, especially in relation to the development of technologies and innovations⁽¹⁾.

Entrepreneurship is not explicitly a competence for nursing education, but curricular guidelines and institutional policies reinforce this professional's role in the health system⁽⁵⁾. In this sense, nursing education must be based on creativity, innovation, and entrepreneurship to meet the labor market's needs and the rapid changes in the health area⁽⁷⁻⁸⁾. Moreover, entrepreneurship can help develop skills related to caring management, leadership, conflict management, and emotional intelligence, increasingly valued in nurses' training and performance^(2-3,8-9).

Despite this, literature reviews on entrepreneurship in nursing in international databases, such as SciVerse Scopus (Scopus),

Publisher Medline (PubMed), Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Education Resource Information Center (ERIC), showed the existing gap in addressing the topic in nursing education^(2,8). Scientific production is also scarce compared to other research lines and areas of nursing practice. In Brazil, for example, two studies published in 2020 on the entrepreneurial tendency of undergraduate nursing students were identified, one developed in the capital⁽⁷⁾ and another in the interior of the state of São Paulo⁽¹⁰⁾. Both point to the importance of further research on the topic in order to broaden the discussions about entrepreneurship in nursing, enabling regional comparisons and more solid scientific inference^(7,10).

Besides, research on entrepreneurship can fill gaps in undergraduate education to prepare future nurses for the challenges and opportunities of professional practice or in the workplace itself. Given the above, this study's guiding question was: What is the entrepreneurial tendency of undergraduate nursing students at a public university?

OBJECTIVES

Identify the entrepreneurial tendency of undergraduate nursing students at a public university.

METHODS

Ethical aspects

The Research Ethics Committee approved this study of the reference institution. The research followed Resolution 466/2012 of the National Health Council of the Ministry of Health.

Design, period, and place of study

A cross-sectional, descriptive study with a quantitative approach meeting the STROBE guidelines for its presentation and developed in the second semester of 2018 in the undergraduate Nursing course of a federal university in the interior of the state of Rio Grande do Sul, Brazil.

Population or sample

The study population included 170 students regularly enrolled in the undergraduate course in which the study was developed. The inclusion criterion used was to be regularly enrolled in the undergraduate course in Nursing. The study excluded participants who had locked the course or were absent due to absence or medical certificate during the data collection period. Of the 170 students approached, 135 (79.4%) participated in the research, which corresponds to a non-probabilistic sample by convenience.

Study protocol

For data collection, the researchers approached students during class breaks at the university campus. Data were collected manually using printed questionnaires and then transposed into digital spreadsheets.

An instrument with three parts was applied. The first part contained questions about sociodemographic and academic aspects to characterize the sample (age, gender, marital status, course for nursing technicians, participation in a research or extension group, research grant, extension grant, and paid activity).

The second part of the instrument evaluated the students' perception of the relationship between entrepreneurship and nursing through three statements: 1) Entrepreneurship applies to nursing; 2) Entrepreneurship content is important in nursing education. Moreover, 3) Entrepreneurship is addressed during the undergraduate nursing course. For each, the respondent should indicate his or her agreement employing a scale from 0 to 10.

In the third part of the questionnaire, we used the General measure of Enterprising Tendency test (GET)⁽¹¹⁻¹²⁾, which has 54 assertions divided into five dimensions or entrepreneurial characteristics: Need for Success, Need for Autonomy/Independence, Creative Tendency, Propensity for Calculated Risks, and Drive and Determination. The GET was developed in 1988, by Sally Caird and Cliff Johnson, from Durham University Business School, USA. It has a behaviorist focus and is increasingly used in Brazilian research⁽¹²⁾.

Analysis of results and statistics

Data analysis was performed using descriptive statistics in the Statistical Package for the Social Sciences (SPSS) software, version 20.0. In the second part of the instrument, the higher the value indicated, the higher the agreement. For analysis purposes, responses from 0 to 4 were considered "disagree", and 6 to 10 as "agree". A 5 was considered a "neutral response".

The GET is composed of assertions for which the respondent must mark "agree" or "disagree". In odd questions is added one point for each disagreement indicated; in the even-numbered questions is added to the agreement indicated. Adding each question's score, we obtain each dimension's total. For the dimension Need for Achievement, the maximum GET score is 12, and the average score is 9. As for the dimension Need for Autonomy/Independence, the maximum score is 6, and the average score is 4. For other dimensions, the maximum score is 12, and the mean score is 8. Therefore, the entrepreneurial tendency increases with the higher average score in each dimension⁽¹¹⁾.

RESULTS

The 135 students who participated in the survey had a mean age of 22.2 (±5.9) years old, and most were female (90.4%). As for the year, we identified a homogeneous distribution of students among the four training years. Most did not report participation in a research or extension group (66.7%), nor the development of a paid professional activity (88.9%) (Table 1).

Regarding the relationship between entrepreneurship and nursing, most students considered the subject applicable (83.7%) and essential for the profession (92.59%). However, the majority observed a limited approach to the subject in undergraduate nursing courses (62.2%) (Table 2).

In the entrepreneurial tendency analysis, students presented results equal or above average in two dimensions: Drive and

Determination; and Need for Success. The Creative Tendency was the dimension with the highest percentage of participants below the average (Table 3).

Table 1 - Socio-professional characterization of the research participants, Palmeira das Missões, Rio Grande do Sul, Brazil, 2018

Variable	n (%)
Age (n = 111)	
Up to 20 years	72 (53.3)
21-22 years	32 (23.7)
23-24 years	6 (4.4)
25 years or more	25 (18.5)
Gender	
Male	13 (9.6)
Female	122 (90.4)
Education as Nursing Technician	
Yes	18 (13.3)
No	117 (86.7)
Participation in research or extension group	
Yes	45 (33.3)
No	90 (66.7)
Year of course	
1 st	24 (21.6)
2 nd	33 (29.7)
3 rd	26 (23.4)
4 th	28 (25.2)
Paid professional activity	
Yes	15 (11.1)
No	120 (88.9)

Table 2 - Relationship between entrepreneurship and nursing, Palmeira das Missões, Rio Grande do Sul, Brazil, 2018

Question	Disagree		Neutral		Agree	
	n	%	n	%	n	%
Entrepreneurship content is applicable to nursing.	5	3.7	17	12.5	113	83.7
Entrepreneurship content is important for the education of nurses.	5	3.7	5	3.7	125	92.5
Entrepreneurship is addressed during the undergraduate Nursing course.	84	62.2	17	12.5	34	25.1

Table 3 - Distribution of participants according to the score in the five general entrepreneurial trends, Palmeira das Missões, Rio Grande do Sul, Brazil, 2018

General entrepreneurial trends	Below Average		Equal or above average	
	n	%	n	%
Need for Success	65	48.5	69	51.5
Need for Autonomy	84	62.2	51	37.8
Creative Tendency	93	69.4	41	30.6
Risk Propensity	87	64.4	48	35.6
Drive and Determination	24	17.8	111	82.2

Table 4 presents participants' distribution according to socio-professional characterization variables and equal or above-average scores in the five general entrepreneurial trends presented. Only the participants inserted in research or extension groups had equal or above-average scores in the five entrepreneurial trends.

Table 4 - Distribution of participants according to socio-professional characterization variables and scores equal to or above the average in the five general entrepreneurial tendencies, Palmeira das Missões, Rio Grande do Sul, Brazil, 2018

Variáveis	Need for Success		Need for Autonomy		Creative Tendency		Risk Propensity		Drive and Determination	
	n	%	n	%	n	%	n	%	n	%
Age										
Up to 20 years	28	38.9	25	34.7	19	26.4	23	31.9	56	77.8
21-22 years	19	59.4	11	34.4	11	34.4	12	37.5	26	81.2
23-24 years	5	83.3	4	66.7	1	16.7	2	33.3	6	100
25 years or more	17	70.8	11	44.0	10	41.7	11	44	23	92
Gender										
Female	63	52.1	45	36.9	38	31.4	41	33.6	103	84
Male	6	46.2	6	46.2	3	23.1	7	53.8	8	61.5
Year of course										
1st	11	37.9	11	37.9	9	32.1	7	24.1	24	82.8
2nd	19	42.2	15	32.6	14	30.4	17	37	33	71.7
3rd	19	63.3	11	36.7	8	26.7	10	33.3	26	86.7
4th	20	66.7	14	46.7	10	33.3	14	46.7	28	93.3
Education in Nursing Technician										
Yes	11	61.1	6	33.3	7	41.2	8	44.4	17	94.4
No	58	50.0	45	38.5	34	29.1	40	34.2	94	80.3
Participation in research or extension group										
Yes	28	63.6	24	53.3	23	51.1	23	51.1	41	91.1
No	41	45.6	27	30.0	18	20.2	25	27.8	70	77.8
Paid professional activity										
Yes	8	57.1	6	40.0	5	35.7	5	33.3	12	80
No	61	50.8	45	37.5	36	30	43	35.8	99	82.5

DISCUSSION

As for the socio-professional characterization, the results presented are similar to the findings of previous studies with nursing students^(7,10). Compared to students' profile in-presence education modality of the National Examination of Nursing Students, the study participants are younger than the national average. The percentage of students who exercised a paid activity and had high school vocational training was also lower than the national data⁽¹³⁾.

Considering the GET interpretation guidelines and the frequency with which the participants reached or exceeded the average score in the dimensions, we can say that the participants' entrepreneurial tendency is low. However, when asked about the applicability and importance of entrepreneurship in nursing, the data suggest interest, indicating that they are open to the subject.

Students' low entrepreneurial tendency indicates that the subject is still little addressed in undergraduate courses, as most participants pointed out in this study. Entrepreneurship education can stimulate the intention of nurses to become entrepreneurs^(2,4,8). However, the subject is not yet addressed in many educational institutions, and it is necessary to review and improve curricula and content in order to incorporate an entrepreneurial culture in nursing education^(1,4).

The incentive of nurses' entrepreneurship is essential for the profession, as it enables to conquer new perspectives of action, whether through innovation in the context of health services and organization, or through autonomous action⁽²⁾. In this sense, a study indicates that more recent professions, such as Speech Therapy, Physiotherapy and Occupational Therapy, have stood out in relation to Nursing in terms of the number of professionals working autonomously in the labor market⁽¹⁴⁾.

In Table 3, it was found that the Need for Autonomy, Creative Tendency, and Risk Propensity were the dimensions in which

the participants present scores below the average, while in the dimensions Need for Success and Drive and Determination, the scores are above. These two dimensions also obtained the best results as nursing students' entrepreneurial characteristics in São Paulo, Brazil⁽⁷⁾. Thus, we consider that nursing students show determination and commitment to their training process and motivation in the search for success and professional achievement.

Similar results regarding GET were also observed in a study with nursing

residents, which suggests the desire to place themselves professionally and the willingness to work hard, if necessary, but in traditional career paths, such as nursing care, in the condition of private sector or state employees⁽¹⁵⁾. Similarly, research on the intentions for nursing students' professional future from Brazil and Chile after graduation identified the continuity of studies (65%) and working in public hospitals (51.6%) as priorities. Only about 6% reported an interest in entrepreneurship by opening their own business⁽¹⁰⁾.

Creative Tendency was the dimension with the highest percentage of participants below average. This domain defines the tendency to be imaginative, innovative, curious, and versatile. The measure intends to access the respondents' subjective evaluation of these criteria. Low scores suggest a preference for stability, a practical orientation, and a preference for implementing other peoples' ideas⁽¹¹⁾.

In order to change this scenario, it is crucial to consider that teaching entrepreneurship only through disciplines related to knowledge and exploration of the topic per se is insufficient, considering that the entrepreneurial trend, more than knowledge, elucidates characteristics, beliefs, and attitudes⁽¹⁶⁾. The simulation could be a strategy to explore experiential learning, allowing the student to live experiences guided by professors based on tangible aspects and situations related to the health area, according to the learning expected in their academic path⁽¹⁷⁾.

In the international context, the theoretical and practical content about entrepreneurship in the curriculum of a nursing course in South Korea includes lectures with entrepreneurial nurses and the development of internship programs in clinics and/or with self-employed professionals. The researchers also emphasize the importance of complementary courses on marketing, leadership, and financial accounting⁽¹⁸⁾.

Another example is a program focused on innovation in healthcare created by an American nursing school. The primary strategy adopted is developing a business or innovation plan. The student describes a clinical need for the innovation, the target market, end-users and/or buyers of the innovation, competition in the market, and implementation strategy. Consequently, it is possible to foster knowledge, skills, and attitudes of future nurses focused on identifying and solving problems to meet patients' health care needs⁽¹⁹⁾.

Outside the nursing field, a Chinese study also pointed out the effect of entrepreneurship education in the context of higher education. The more entrepreneurship education university students have in colleges and universities, the stronger their entrepreneurial intention, especially among economics and administration students⁽²⁰⁾.

The data in Table 4 highlight the dimensions and characteristics of the participants with scores equal to or above the average and analyze individual or contextual characteristics that could affect the development of the dimensions. In the dimensions Need for Autonomy and Risk Propensity, males score at or above the mean more often, while females score at or above the mean more often in the dimensions Need for Success and Drive and Determination.

The dimension Need for Autonomy/Independence defines the need to say and do what one prefers, regardless of others' expectations. Low scores suggest dependence, a belief that success depends on fate, luck, or opportunities given by others, in short, a worldview controlled by factors external to the individual. The Risk Propensity dimension defines the ability to deal with incomplete information and act according to a risky choice. Low scores suggest slower deliberation, cautious decision-making, and a preference for environments with reduced uncertainty⁽¹¹⁾.

Since nursing is a primarily female profession and since the year 2000, an increase in studies on entrepreneurship with a gender cut has been identified⁽²¹⁾, it is pertinent to deepen the investigation of these aspects by investing in pedagogical designs that allow the exploration of the students' strengths and points for improvement in several aspects. Such affirmation finds support, for example, in a study conducted in Portugal, where, despite a progressive increase of young women in postgraduation in practically all scientific areas, they tend to choose areas of business or self-employment in low-value services. In other words, even though they have higher qualifications than men, women still do not often take risks in the job market⁽²²⁾.

As for Creative Tendency, the study obtained higher or above-average scores in older students in the more advanced years of the course and those with a middle-level education in Nursing. That suggests that experience can broaden the entrepreneurial tendency of the individual since the experience of entrepreneurial

activities, unforeseen events that arise along the way, advances and failures form what is called "learning by doing" in practice⁽³⁾. That was endorsed in a study with nursing professors from a public university which identified medium to high entrepreneurial tendencies, and may reinforce the point that experiences and age are capable of influencing the disposition towards entrepreneurship⁽²³⁾.

This study's exciting result was that students inserted in research or extension groups achieved scores equal to or above average in the five entrepreneurial tendencies analyzed. Although little explored in the literature, a North American study highlighted the importance of participation in research projects during undergraduate nursing education. The authors showed that scientific activities contributed to communication, self-confidence, and decision-making skills. They also encouraged questioning the status quo of professional practice's clinical environments⁽²⁴⁾. Thus, it is possible to consider that participation in research or extension groups contributes positively to entrepreneurial characteristics.

Study limitations

The study had limitations regarding the sample size and the study's context, which was limited to a single data collection site. Despite the potential of the General measure of Enterprising Tendency test it is also necessary to consider that, initially, the instrument does not focus on nursing students or professionals, limiting the measurement of specificities related to the practice of entrepreneurship in the profession.

Contributions to the field of Nursing

This study highlights the need to approach content on entrepreneurship in nursing education, to contribute to the development and improvement of entrepreneurial skills for nurses' performance in the health labor market. In addition, it reinforces the importance of universities and professors to introduce nursing students to entrepreneurship as a possibility for professional insertion, social contribution, and professional growth.

CONCLUSIONS

The entrepreneurial tendency is low among Nursing students at a public university. The best results were obtained in the Determination and Search for professional success dimensions. Students who participated in research or extension groups scored equal or above average in all five dimensions of the General measure of Enterprising Tendency test. The below-average result in some entrepreneurial tendencies indicates the need for a broader approach to the subject in nursing education.

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