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# RESEARCH

# FACTORS ASSOCIATED WITH STUDENTS SATISFACTION WITH THE UNDERGRADUATE NURSING COURSE: A CROSS-SECTIONAL STUDY

FATORES ASSOCIADOS À SATISFAÇÃO DE ACADÊMICOS COM O CURSO DE GRADUAÇÃO EM ENFERMAGEM: UM ESTUDO TRANSVERSAL

FACTORES ASOCIADOS A LA SATISFACCIÓN DE ACADÉMICA OS CON EL CURSO DE PREGRADO DE ENFERMERÍA: UN ESTUDIO TRANSVERSAL

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## **ABSTRACT**

Objective: the research on screen aims to evaluate the association between sociodemographic variables, life habits, interpersonal relationships, and academic relationships with the satisfaction of academics regarding the undergraduate course in Nursing. Methods: cross-sectional study carried out at a public university with a sample of 199 Nursing students, using sociodemographic, academic, interpersonal relationship, health, and student satisfaction instruments. Associations with a significance value of less than 0.2 in the bivariate analysis were included in the Poisson regression model with robust estimation of variance. Results: it was observed that the sociodemographic variables, life habits, interpersonal relationships and academic relationships did not show significant statistical power associations after the regression analysis. However, students who have good relationships with professors were more satisfied with the course. Conclusion: the professor-student relationship variable showed a significant relationship with satisfaction with the Nursing course. On the other hand, sociodemographic factors, life habits, academic and health variables did not present a significant association with course satisfaction. Contributions to practice: the present study can contribute to the identification of which variables may or may not collaborate so that the student has greater satisfaction with the course, in addition to guiding strategies for the effective reduction of dropout from the undergraduate Nursing course.

Keywords: Personal Satisfaction; Cross-Sectional Studies; Students, Nursing; Education Nursing, Baccalaureate; Education, Nursing, Diploma Programs.

#### RESUMO

Objetivo: a pesquisa em tela tem como objetivo avaliar a associação entre variáveis sociodemográficas, hábitos de vida, relacionamentos interpessoais e relações acadêmicas com a satisfação dos acadêmicos quanto ao curso de graduação em Enfermagem. Métodos: estudo seccional realizado em uma universidade pública com amostragem de 199 estudantes de Enfermagem, utilizando instrumentos de caracterização sociodemográfica, acadêmica, de relacionamento interpessoal, saúde e satisfação dos alunos. Associações com valor de significância menor que 0,2 na análise bivariada foram incluídas no modelo de regressão de Poisson com estimação robusta de variância. Resultados: observou-se que as variáveis sociodemográficas, hábitos de vida, relacionamentos interpessoais e relacionamentos acadêmicos não demonstraram associações de poder estatístico significante após a análise de regressão. Contudo, alunos que possuem bons relacionamentos com os docentes apresentou relação significativa com a satisfação com o curso de Enfermagem. Já os fatores sociodemográficos, hábitos de vida, variáveis acadêmicas e de saúde não apresentaram associação significativa com a satisfação do curso. Contribuições para a prática: o presente estudo pode contribuir para a identificação de quais variáveis podem ou não colaborar para que o discente tenha maior satisfação com o curso, além de nortear estratégias para a efetiva diminuição da evasão do curso de graduação em Enfermagem. Palavras-chave: Satisfação Pessoal; Estudos Transversais; Estudantes de Enfermagem; Bacharelado em Enfermagem; Programas de Graduação em Enfermagem.

### **RESUMEN**

Objetivo: la investigación pantalla tiene como objetivo evaluar la asociación entre variables sociodemográficas, hábitos de vida, relaciones interpersonales y relaciones académicas con la satisfacción de los académicos con respecto al curso de graduación en Enfermería. Métodos: estudio transversal, realizado en una universidad pública, con una muestra de 199 estudiantes de enfermería, utilizando instrumentos sociodemográficos, académicos, de relaciones interpersonales, de salud y de satisfacción de los estudiantes. Las asociaciones con un valor de significación inferior a 0,2 en el análisis bivariado se incluyeron en el modelo de regresión de Poisson con estimación robusta de la varianza. Resultados: se observó en el presente estudio que las variables sociodemográficas, estilo de vida, relaciones interpersonales y relaciones académicas no mostraron asociaciones de poder estadístico significativas después del análisis de regresión. Sin embargo, los estudiantes que tienen buenas relaciones con los profesores se mostraron más satisfechos con el curso. Conclusión: la variable relación profesor-alumno mostró una relación significativa con la satisfacción con la carrera de Enfermería. Los factores sociodemográficos, hábitos de vida, variables académicas y de salud no mostraron una asociación significativa con la satisfacción del curso. Contribuciones a la práctica: el presente estudio puede contribuir a la identificación de qué variables pueden o no colaborar para que el estudiante tenga mayor satisfacción con el curso, además de orientar estrategias para la reducción efectiva de la deserción del curso de pregrado en enfermería.

Palabras clave: Satisfacción Personal; Estudios Transversales; Estudiantes de Enfermería; Bachillerato en Enfermería; Programas de Graduación en Enfermería.

# **INTRODUCTION**

The higher education system in Brazil has gone through periods of intense expansion in recent years, mainly due to investment in policies to expand access to universities<sup>(1)</sup>. Despite this progress, the number of students who complete higher education remains relatively low, rising from 959,000 in 2009 to just 1.1 million in 2018<sup>(2)</sup>. Thus, it is observed that an adequate investment in pedagogical aspects involving infrastructure can contribute to the students' successful completion, since satisfaction with the course and excellence in teaching and learning are factors that contribute to permanence<sup>(3)</sup>.

In Brazil, the number of students enrolled in higher education has increased in recent years. However, the graduation rate is still low, which is mainly due to the high dropout rates<sup>(4)</sup>. A study that evaluated dropout rates in a specialization course in Health Management found that, among the 322 students enrolled, 179 did not complete the course, which means a dropout rate of 55.6%. Thus, the resources invested have not produced the expected return<sup>(5)</sup>.

A research that aimed to evaluate the academic satisfaction of undergraduate students found a higher rate of satisfaction among students of biological sciences courses when compared to exact sciences. Such results were influenced by factors such as the student's interest, the professor's teaching, course organization and student-professor relationship<sup>(6)</sup>.

In this context, the Nursing course has some particular factors, such as the full-time shift and the high load of extracurricular activities, which can lead students to stressful situations, affecting their quality of life and generating dissatisfaction in carrying out daily activities and of undergraduate course<sup>(7)</sup>. This scenario can contribute both to demotivation following to graduate and to more extreme situations, such as giving up a career and negative impacts on mental health. Thus, it is necessary to invest in actions aimed at controlling this situation and preserving future professionals.

In the meantime, studies suggest the existence of an alarming situation: the high prevalence of depression diagnoses among Nursing students<sup>(8)</sup>. Furthermore, depression, anxiety and stress negatively affect life satisfaction, psychological well-being, and adaptive copings, as well as positively with maladaptive copings (behavioral disengagement, denial, self-blame, self-distraction and substance use), which deserves deeper investigation<sup>(9)</sup>.

From this perspective, academic dropout can be explained by adaptation to the course, by experiences in the university environment, by expectations that involve the rise of a promising career and by academic satisfaction<sup>(10)</sup>. Among these, it is believed that evaluating the satisfaction of undergraduate students with the course can bring subsidies to minimize the dropout problem experienced in Brazilian public universities. Despite some hints, the causes that contribute to satisfaction with the Nursing course are multifactorial, that is, they can vary depending on the student, the faculty, the university environment and the context being analyzed<sup>(11)</sup>.

Thus, the present study will be able to collaborate in the identification of some of these factors and in the construction of strategies that favor the permanence of students in the undergraduate course. In addition, since the students addressed in this research are students from different semesters, a more effective assessment of satisfaction with the Nursing course can be carried out, including the perception of students from both the initial and final semesters of the course. From the above, the objective of the research is to evaluate the association between sociodemographic variables, lifestyle habits, interpersonal and academic relationships with satisfaction with the undergraduate Nursing course.

# **METHODS**

This is a cross-sectional, analytical, and exploratory study carried out with students enrolled in the Nursing course at a Public University in Fortaleza. The study population consisted of students. The total number of students enrolled per semester may change, with 400 being the maximum number, divided into 10 semesters. The sample was stratified by semester and the number of students required for each stratum was randomly drawn, without replacement.

For the sample calculation, the formula for finite populations was used, adopting the sampling error and the significance level of 5%, population of 400 and 50% of prevalence and complement, considering unknown the effect in which the phenomenon occurs (satisfaction with the course). Thus, in possession of the number of students per semester, the percentage was calculated in relation to the total sample to calculate the number of students to be interviewed per semester. From the stratification, 24 students from the first, 23 from the second and third, 21 from the fourth, 16 from the fifth, 14 from the sixth, 20 from the seventh and tenth and 19 from the eighth and ninth semesters were collected, totaling 199.

Inclusion criteria were students enrolled at the institution in any academic semester, over 18 years old and attending face-to-face classes. Students who dropped out of the semester and who were not attending face-to-face classes for they were on leave or enrolled in an institutional setting were not included in the sample. Students who had a medical certificate were excluded.

The instruments used were sociodemographic, academic, interpersonal relationship and health characterization (including the use of already validated scales to assess the predictors of anxiety, depression, and sense of coherence, described below). The instrument was developed by the authors and underwent a content validation process by three Nursing researchers, professors of the Nursing course at the Universidade Federal do Ceará, with experience in methodological studies. In a face-to--face meeting, the three researchers read the instrument's items and assessed the relevance of each one on a scale of 1 to 4 (1 totally disagree, 2 partially agree, 3 agree and 4 totally agree). Items evaluated as 1 and 2 by a judge were immediately corrected according to the suggestion and evaluated again, seeking consensus on all items. Thus, the calculated Content Validity Index (CVI) value was 1.0 for all items.

Sociodemographic variables were age, income, religion, steady partner, and occupation. In turn, the health habits questioned were physical activity, satisfaction with leisure, insomnia, hours of sleep per day, symptoms of anxiety and depression and sense of coherence. The academic and interpersonal relationship variables investigated were relationships with family, colleagues and professors; courses studied; academic activities fellowship, complementary and extracurricular; reproval; and security on campus.

To investigate anxiety symptoms, the Beck Anxiety Inventory (BAI) composed of 63 points was used, providing levels of anxiety as a result: minimum (0-10); mild (11-19); moderate (20-30); and severe (31-63). It was validated in Brazil with alpha between 0.71 and 0.72<sup>(12)</sup>. In turn, the Beck Depression Inventory (BDI), validated in Brazil with an alpha of 0.89, was used to investigate depression symptoms<sup>(13)</sup>. It has 21 items ranging from 0 to 3 points. The scores show the degree of severity of depression, which are minimal depression/absence of depression (0-13); mild (14-19); moderate (20-38); and severe (29-63)<sup>(13)</sup>.

The Antonovsky's Sense of Coherence Questionnaire (ASCQ) was used to measure the Sense of Coherence (SOC). With 29 items, 11 are intended for understanding the surrounding environment, 10 for the handling

component and 8 for meaning. Answers range from 1 to 7 and the total score ranges from 29 to 203 points. The higher the value, the greater the Sense of Coherence and the greater the ability of individuals to deal with stressful situations. It was validated in Brazil with a Cronbach's alpha of  $0.79^{(13)}$ .

In the study, anxiety was categorized into moderate and severe, according to the presented prevalence; depression was dichotomized into minimal or mild and moderate or severe; and the SOC in major and minor. To measure students' satisfaction with the undergraduate course, a self-report variable was used that studies higher education student satisfaction considering a variety of aspects related to the course, the institution and opportunities for personal and professional development, questioning student satisfaction. academics with the course<sup>(14)</sup>.

The data collection was carried out in July 2019 by researchers and Nursing students who were part of the Tutorial Education Program (PET-Programa de Educação Tutorial), through questionnaires given to students and answered individually, lasting 30 minutes. Subsequently, the questionnaires were placed in envelopes and given to the researchers, making the respondent's identification impossible. To avoid mistakes in the collection of information, a two-hour training course was carried out with the Nursing researchers/scholars responsible for data collection.

The acquired data were analyzed using SPSS software version 22.0 for Windows. For numerical variables, the Shapiro-Wilk test was used for analysis of normality, justifying the use of the median and interquartile difference in the results, since the variables did not follow normal distributions. The Chi-square test was performed to verify the association between the outcome and the predictive variables, considering the value of p < 0.05 as significant, the values of the prevalence ratio (PR) and the confidence intervals (CI) of 95%.

Fisher's test was also used to assess associations when the intersections had more than one cell with a value less than 5. In addition, the independent samples t test was used to assess the association between satisfaction with the course and numerical variables which showed normal distribution. Associations with a significance value of less than 0.2 were included in the Poisson regression model, with robust estimation of variance, to verify whether there was an association with the outcome variable (satisfaction with the course).

All ethical and legal aspects involving research with human beings were respected, according to the rule contained in Resolution  $n^{\rm o}$  466/2012 of the National Health

Council, with Opinion Report No. 3.284.038/2019 of the Research Ethics Committee of the *Universidade Federal do Ceará*.

# **RESULTS**

It was observed that the students were between 17 and 47 years old, with a median age of 21 years and an interquartile difference of 3 years. Family income ranged from 300.00 BRL to 2,500.00 BRL and the median was 2,000.00 BRL, with an interquartile difference of 3,375.00 BRL. Of the 166 (83.3%) respondents who are religious, 102 (51.5%) are Catholic, 187 (94%) do not have a partner and 180 (90.5%) do not have a job. Regarding satisfaction, 180 (90.5%) are satisfied with the Nursing course.

Table 1 shows the association of sociodemographic variables and health habits with satisfaction with the

course. Regarding this association, no statistical significance was evidenced.

The association between satisfaction with the course and the variables age, family income, hours of sleep, means of SOC, anxiety (BAI) and depression (BDI) was also not statistically significant, except for SOC, when students with a greater sense of coherence, that is, ability to experience stressful situations, understanding them and managing tensions, show greater satisfaction with the Nursing course.

Regarding the association between interpersonal relationships and satisfaction with the undergraduate course, the variable relationship with professors (p=0.001) was statistically significant. Thus, students who have a satisfactory relationship with professors were 31% more likely to be satisfied with the course when compared to those who do not have a good relationship with professors.

Table 1 - Association of sociodemographic variables and health habits with satisfaction with the course (n=199). Fortaleza, CE. Brazil. 2021

CE, Brazii, 2021									
Variables	Satisfied n (%)	Unsatisfied n (%)	p Value	PR	95% CI				
Religion									
Yes	151 (90.4)	16 (9.6)	0.743*	0.96	(0.87-1.06)				
No	30 (93.8)	2 (6.3)							
Marital Status									
With partner	169 (90.4)	18 (9.6)	0.606*	0.90	(0.86-0.94)				
Without partner	12 (100)	0(0)							
Physical Activity									
Yes	70 (89.7)	8 (10.3)	0.623*	0.97	(0.89-1.07)				
No	111 (91.7)	10(8.3)							
Satisfied with leisure time (n=182)									
Yes	48 (92.3)	4 (7.7)	1.000*	1.00	(0.91-1.09)				
No	120 (92.3)	10 (7.7)							
Insomnia (n=196)									
No	115 (91.3)	11 (8.7)	0.768†	1.01	(0.92-1.11)				
Yes	63 (90.0)	7 (10.0)							
SOC									
Major	95 (96.9)	3(3.1)	0.005†	1.14	(1.04-1.25)				
Minor	85 (85.0)	15(15.0)							
BDI									
Minimal and mild	91 (93.8)	6 (6.2)	0.217†	1.06	(0.73-5.68)				
Moderate and severe	89 (88.1)	12 (11.9)							
BAI									
Moderate	66 (91.7)	6 (8.3)	1.000†	1.00	(0.35-2.90)				
Severe	109 (91.6)	10 (8.4)							

<sup>\*</sup>Fisher's exact test; †Chi-square test. Note: PR: Prevalence ratio; CI: Confidence interval; SOC-Sense of Coherence; BDI-Beck Depression Inventory; BAI-Beck Anxiety Inventory.

As for associations with relationships with colleagues and performing complementary activities, the prevalence ratio was not significant, despite the p value being less than 0.05. Thus, there was no relationship between academic variables and satisfaction with the Nursing course.

The Poisson regression model with robust estimation showed a statistically significant association between

satisfaction with the Nursing course and relationship with professors (p=0.035). The variable showed a protective factor, that is, a positive scenario with professors tends to mitigate the risks of dissatisfaction with the course.

Table 2 - Association of interpersonal and academic relationships variables with satisfaction with the course (n=199). Fortaleza, CE, Brazil, 2021

Variables	Satisfied n (%)	Unsatisfied n (%)	p Value	PR	95% CI			
Relationship with the family								
Satisfactory	158 (91.3)	15(8.7)	0.71*	1.03	(0.89-1.19)			
Unsatisfactory	23 (88.5)	3 (11.5)		1.03				
Relationship between colleagues								
Satisfactory	161 (93.1)	12 (6.9)	0.014*	1.22	(0.97-1.53)			
Unsatisfactory	19 (76)	6 (24)		1.22				
Relationship with professors								
Satisfactory	160 (94.1)	10 (5.9)	0.001*	1.31	(1.03-1.67)			
Unsatisfactory	20 (71.4)	8(28.6)		1.51				
Relationship between friends								
Satisfactory	166 (91.2)	16 (8.8)	0.644*	1.04	(0.86-1.26)			
Unsatisfactory	14 (87.5)	2 (12.5)		1.04				
Semester								
Basic Cycle (Up to the 4th semester)	79 (86.8)	12 (13.2)	0.062†	0.91	(0.83-1.00)			
Interships	102 (94.4)	6 (5.6)		0.91				
Academic activity fellowship								
Yes	84 (92.3)	7 (7.7)	0.528†	1.02	(0.94-1.12)			
No	96 (89.7)	11 (10.3)		1.02				
Extracurricular activity								
Yes	172 (91.5)	16 (8.5)	0.227* 1.14		(0.83-1.56)			
No	8 (80.0)	2 (20.0)		1.17				
Complementary academic activity								
Yes	154 (93.3)	11 (6.7)	0.018*	1.17	(0.98-1.40)			
No	27 (79.4)	7 (20.6)		1.17				
Reproval								
No	148 (91.4)	14 (8.6)	0.750*	1.02	(0.90-1.15)			
Yes	33 (89.2)	4 (10.8)		1.02				
Security on campus								
Yes	20 (80.0)	5 (20)	0.057*	0.86	(0.70-1.05)			
No	161 (92.5)	13 (7.5)		0.00				

 $<sup>\</sup>hbox{``Fisher's exact test; $\uparrow$Chi-square test. Note: RP: Prevalence ration; CI: Confidence interval.}$ 

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Tablea 3 - Poisson regression with robust variance. Fortaleza, CE, Brazil, 2021

Variables		bPR	95% CI		aPR	95% CI
Relationship with colleagues	0.014	1.22	0.97 - 1.53	0.225	0.92	0.80 - 1.05
Relationship with the professors	0.001	1.31	1.03 - 1.67	0.035	0.86	0.75 - 0.99
Initial semester	0.062	0.91	0.83 - 1.00	0.313	1.03	0.96 - 1.11
Complementary academic activity	0.018	1.17	0.98 - 1.40	0.086	0.90	0.80 - 1.01
Security on campus	0.057	0.86	0.70 - 1.05	0.182	1.08	0.96 - 1.23

bPR: basic prevalence ration; aPR: adjusted prevalence ratio; CI: Confidence interval.

# **DISCUSSION**

The characterization of the sample showed that most students are female (82.2%), young with a median of 21 years old and single (94.0%). The profile corroborates a research that sought to describe the sociodemographic and academic characteristics of Nursing students at a higher education institution, with 197 participants enrolled in all semesters of the course, which also found that 82.2% were female, with a prevalent age between 20 and 30 years (43.1%) and 76.1% single<sup>(15)</sup>.

The profile of undergraduate Nursing students generally does not differ, with female, young and single people prevailing. Despite the increase in the number of male students, the female presence in the profession is still prevalent, which can be explained culturally and historically<sup>(16)</sup>.

The regression model showed that, among the analyzed variables, students who stated to have a good relationship with the professors are three times more likely to be satisfied with the course. It is believed that a good relationship with the professor is, therefore, essential for satisfaction in the educational context, demonstrating that this interaction can provide trust, mutual respect and dialogue between students and professors, contributing to the learning process<sup>(11)</sup>.

Corroborating this finding, a study carried out with 146 Nursing students in southern Brazil showed that not having a good relationship with professors is an aggravating factor in the perception of the academic environment, a kind of stress trigger<sup>(17)</sup>. Another study carried out with 704 students from educational institutions in Portugal demonstrated the importance of the quality of interpersonal relationships with colleagues, employees and professors for student satisfaction rates<sup>(18)</sup>, confirming how important this variable is for a positive view of the course.

It supports that there is a pattern between expectations, experiences, and levels of satisfaction among undergraduate health students, especially in Nursing. The level of flexibility of the subjects, the availability of the teaching staff and the effective communication of the professors are important for these students<sup>(19)</sup>. It is also observed that students' satisfaction is negatively impacted when their expectations are not met regarding the availability of subjects and the adequacy of schedules.

Corroborating the aforementioned statements, a study carried out at a regional Australian university with 82 students, which aimed to understand factors that can enhance the satisfaction of Nursing students with the course, showed that the flexibility in the requirements of the disciplines, the promptness of the students and the clarity of professors' communications are strongly correlated with a positive view of the Nursing course<sup>(20)</sup>.

Furthermore, interpersonal relationships are fundamental for the student to adapt to the university trajectory and have a significant impact on satisfaction with the undergraduate course, since the university period is based on the student's interaction with the academic organization and with other students, in the frequencies, in stages and extensions. This perspective is also seen in a study that analyzed the influence of interpersonal relationships on the satisfaction of students in the Executive Secretariat course, carried out with 116 enrolled students. The results indicated that students who are more satisfied with their social life and interpersonal relationships are more satisfied with the course<sup>(21)</sup>.

About associations between course satisfaction and sociodemographic, health and academic variables, no significant associations were obtained when evaluated in the regression model. However, some aspects are relevant for discussion. The research pointed out that, despite the non-statistical significance, students who carry out complementary academic activities have a higher percentage of satisfaction with the course. It is worth noting that, for the Ministry of Education, complementary activities are intended to enrich the teaching-learning process, favoring the complementation of social and professional training<sup>(22)</sup>. Thus, complementary activities are essential in the university experience, since they can provide a professional

experience, as is the case with extracurricular internships and university extension projects.

Additionally, a research conducted with 397 nurses found that graduates who participated in extracurricular activities showed greater satisfaction with their career. Thus, students who are more involved with the course, whether in teaching, research or extension activities, are more likely to be satisfied with their undergraduation course<sup>(23)</sup>.

The bivariate analysis showed that students with major SOC, that is, more resilience in life's conflicting situations, are more satisfied with the course. In this sense, a study that investigated the factors associated with school performance of adolescents, including this variable, pointed out that students with major SOC are capable of mobilizing adequate resources to deal with school challenges, resulting in better academic performance<sup>(24)</sup>.

In turn, anxiety and depression did not demonstrate significant associations with satisfaction with the course. However, the data were collected before the COVID-19 pandemic and this situation may bring new or complementary evidence to the present research. A study carried out in Jordan with 224 nursing students revealed that students had moderate levels of depression, stress, and anxiety, which could be associated with distance learning<sup>(25)</sup>.

Thus, in this study, the favorable relationship with the professor, which proved to be vital for students to be satisfied with the course, may present different outcomes after the COVID-19 pandemic, continuing or not as a variable that influences course satisfaction, a since distance learning can make it difficult to form a bond between students and professors.

#### STUDY LIMITATIONS

As a limitation, it can be considered that the sample corresponded to a single course at a public university, being interesting the evaluation of other universities, including private ones. In addition, the non-delimitation of the exclusion criteria or previous diagnosis of psychiatric disorders may also have contributed to some bias in the results.

# **CONCLUSION**

It is concluded that there was an association between interpersonal relationship factors and satisfaction with the course, showing that students who have a good relationship with professors are more likely to be satisfied with the undergraduate Nursing course. On the other hand, sociodemographic, lifestyle and academic

factors did not influence satisfaction with the course. It is recommended that future research be carried out on the influence of these factors in more representative samples of students from the public and private sectors of Brazilian university education.

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