MENTAL HEALTH IN NURSING STUDENTS: STRESS, PSYCHIC MORBIDITY, AND THEIR SOCIODEMOGRAPHIC DETERMINANTS

SAÚDE MENTAL EM ESTUDANTES DE ENFERMAGEM: ESTRESSE, MORBIDADE PSÍQUICA E SEUS DETERMINANTES SOCIODEMOGRÁFICOS

SALUD MENTAL EN ESTUDIANTES DE ENFERMERÍA: ESTRÉS, MORBILIDAD PSÍQUICA Y SUS DETERMINANTES SOCIODEMOGRÁFICOS

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ABSTRACT

This chapter investigates the prevalence of stress and psychic morbidity among nursing students, a population facing significant academic and professional demands. An

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observational, cross-sectional, quantitative study was conducted in 2025 with 104 UNIFUNEC nursing students, utilizing the Self-Reporting Questionnaire (SRQ-20), Perceived Stress Scale (PSS), and a sociodemographic questionnaire. Results indicated that 55.80% of students were at risk for minor mental disorders, reporting moderate levels of perceived stress. Significant positive correlations emerged between depressive/anxious mood, somatic symptoms, decreased vital energy, and depressive thoughts. Sociodemographic analysis identified critical determinants: female gender (biological sex and identity) was consistently associated with higher stress and psychic morbidity. In contrast, parenthood, prior higher education experience (particularly course completion), and financial autonomy (self-funding studies) acted as significant protective factors, correlating with lower psychic suffering. These findings highlight the imperative for higher education institutions to develop and implement tailored, gender-sensitive psychosocial support strategies, robust financial aid programs, and initiatives that recognize and leverage diverse student experiences to cultivate resilience and well-being among aspiring healthcare professionals.

Keywords: Nursing Students. Mental Health. Perceived Stress. Psychic Morbidity. Sociodemographic Factors.

RESUMO

Este capítulo investiga a prevalência de estresse e morbidade psíquica entre estudantes de enfermagem, uma população que enfrenta significativas demandas acadêmicas e profissionais. Foi realizado um estudo observacional, transversal e quantitativo, conduzido em 2025 com 104 estudantes de Enfermagem da UNIFUNEC, utilizando o Self-Reporting Questionnaire (SRQ-20), a Perceived Stress Scale (PSS) e um questionário sociodemográfico. Os resultados indicaram que 55,80% dos estudantes apresentavam risco para transtornos mentais comuns, relatando níveis moderados de estresse percebido. Emergiram correlações positivas significativas entre humor depressivo/ansioso, sintomas somáticos, diminuição da energia vital e pensamentos depressivos. A análise sociodemográfica identificou determinantes críticos: o gênero feminino (sexo biológico e identidade) esteve consistentemente associado a maiores níveis de estresse e morbidade psíquica. Em contraste, a parentalidade, a experiência prévia no ensino superior (especialmente a conclusão de curso) e a autonomia financeira (custeio próprio dos estudos) atuaram como fatores protetivos significativos, correlacionando-se com menor sofrimento psíquico. Esses achados destacam a necessidade imperativa de que as instituições de ensino superior desenvolvam e implementem estratégias de apoio psicossocial personalizadas e sensíveis às questões de gênero, programas robustos de assistência financeira e iniciativas que reconheçam e valorizem as diversas experiências estudantis, promovendo resiliência e bem-estar entre futuros profissionais da saúde.

Palavras-chave: Estudantes de Enfermagem. Saúde Mental. Estresse Percebido. Morbidade Psíquica. Fatores Sociodemográficos.

RESUMEN

Este capítulo investiga la prevalencia de estrés y morbilidad psíquica entre estudiantes de enfermería, una población que enfrenta importantes demandas académicas y profesionales. Se realizó un estudio observacional, transversal y cuantitativo en 2025 con 104 estudiantes de Enfermería de la UNIFUNEC, utilizando el Self-Reporting Questionnaire (SRQ-20), la Perceived Stress Scale (PSS) y un cuestionario sociodemográfico. Los resultados indicaron que el 55,80% de los estudiantes presentaba riesgo de trastornos mentales comunes, reportando niveles moderados de estrés percibido. Se observaron correlaciones positivas significativas entre estado de ánimo depresivo/ansioso, síntomas somáticos, disminución de la energía vital y pensamientos depresivos. El análisis sociodemográfico identificó

determinantes críticos: el género femenino (sexo biológico e identidad) se asoció consistentemente con mayores niveles de estrés y morbilidad psíquica. En contraste, la maternidad/paternidad, la experiencia previa en educación superior (especialmente la finalización de un curso) y la autonomía financiera (financiamiento propio de los estudios) actuaron como factores protectores significativos, correlacionándose con menor sufrimiento psíquico. Estos hallazgos resaltan la necesidad de que las instituciones de educación superior desarrollen e implementen estrategias de apoyo psicosocial personalizadas y sensibles al género, programas sólidos de asistencia financiera e iniciativas que reconozcan y valoren las diversas experiencias estudiantiles, fomentando la resiliencia y el bienestar entre los futuros profesionales de la salud.

Palabras clave: Estudiantes de Enfermería. Salud Mental. Estrés Percibido. Morbilidad Psíquica. Factores Sociodemográficos.

1 INTRODUCTION

1.1 INTRODUCTION AND CONTEXT

The university journey represents a period of intense transformations and challenges in an individual's life, marking the transition from adolescence to adulthood and immersion in a new academic, social, and professional environment. This phase, while rich in opportunities for growth and development, can be accompanied by a series of stressors capable of significantly impacting students' mental health. Pressure for academic performance, adaptation to new routines, the need for autonomy, separation from family, and concerns about the professional future are just some of the factors contributing to the psychosocial vulnerability of a considerable portion of university students (Nunes et al., 2022).

Recent studies have warned of a growing prevalence of mental health problems, such as anxiety, depression, and stress, among the higher education student population. This issue is amplified in health-related courses, where students are exposed to even more demanding and complex challenges. The training of health professionals, such as nurses, involves not only the mastery of technical and scientific knowledge but also the development of interpersonal, emotional, and ethical skills to deal with situations of human vulnerability, pain, and suffering. Such a context, by its intrinsic nature, can act as a catalyst for the development of psychic suffering, making the mental health of nursing students a topic of vital importance.

The academic landscape in nursing is particularly challenging. Students face extensive theoretical and practical workloads, requiring dedication, resilience, and constant improvement. Furthermore, experience in clinical environments, often charged with intense emotions and ethical dilemmas, coupled with pressure for excellence and fear of failure, can generate a level of stress that exceeds the coping capacity of many individuals (Rocha, 2019). Understanding the sociodemographic factors that interact with these stressors is fundamental for the development of effective and personalized support strategies, aiming at promoting well-being and preventing mental disorders among future health professionals.

This chapter is based on a master's dissertation that investigated the prevalence of perceived stress and psychic morbidity in nursing students at a higher education institution, exploring the influence of various sociodemographic determinants. By adapting the findings of this research into a book chapter format, the aim is to offer an in-depth view of the reality of mental health in this specific group, contributing to the awareness of educators, university managers, public policy makers, and the academic community itself about the urgent need

for a more attentive approach and more effective actions to safeguard the well-being of nursing students, who will be the pillars of health care in the future.

1.2 THE CHALLENGE OF ACADEMIC TRANSITION AND PSYCHIC VULNERABILITY

The transition to higher education is a milestone in the lives of many young people, often associated with a period of significant changes and adaptations. Away from the familiar environment and usual support networks, many students face the challenge of building a new identity in a demanding academic context. Aspects such as migration to new cities, separation from family and friends, the need to manage their own routines and finances, and the inherent pressure of academic responsibilities can become considerable stressors (Nunes et al., 2022).

The newly acquired autonomy, though desired, can also bring with it a burden of uncertainties and fears. Concern about the future, suitability for the chosen course, and the perception of one's own competence for the career are elements that permeate daily university life and can undermine mental health. Self-efficacy, that is, the belief in one's own ability to perform tasks and achieve goals, can be reduced in an environment that constantly challenges the student's limits. When the student perceives that they cannot adapt to new social and academic standards, the damage to mental health can be significant (Cardoso, 2022).

Furthermore, the diversity of academic experience across different areas of knowledge can also influence the manifestation of psychopathological symptoms. Although the research from which this chapter derives focuses on the nursing field, it is relevant to note that comparative studies between undergraduate students in exact and human sciences, for example, have already indicated variations in anxiety levels and self-esteem. The way students face these stressors, the quality of their social relationships, and the availability of coping strategies are crucial determinants for maintaining their mental health (Matos & Mato, 2022).

The COVID-19 pandemic, with social isolation and remote learning, further exacerbated this vulnerability, adding new layers of stress and psychic suffering to the university experience. Clinical manifestations ranged from mild anxiety to depression and, in more severe cases, suicidal ideation, making the theme of mental health in higher education an urgent priority for institutions and researchers (Faria et al., 2023).

1.3 THE SPECIFIC REALITY OF THE NURSING COURSE

Nursing, as a profession of care and deep human interaction, imposes unique challenges on its students. The training process is marked by constant confrontation with the limits of life and death, with the suffering of others, and with the need to make quick and assertive decisions in highly complex contexts. This reality can lead to feelings of incapacity and helplessness in the face of required tasks, contributing to the onset of stress (Rocha, 2019).

Research in the area reveals that nursing students frequently experience insecurity regarding curricular activities and practical evaluations, culminating in fear of failure and new, intense personal demands. The final stage of the course, in particular, is pointed out as a period of significant increase in anxiety, driven by the physical and emotional exhaustion of internships and the final course project. This high demand and accelerated pace contribute to a state of elevated exhaustion and anxiety (Oliveira et al., 2022).

The study by Brensoli et al. (2020), cited in the dissertation, identified that 34.2% of nursing students presented common symptoms of depression at moderate to severe levels. Another study, conducted by Leão et al. (2018), revealed that 76.9% of nursing students had mild levels of anxiety, 15.4% moderate, and 7.7% severe. These data show that the prevalence of anxiety and depression in nursing is substantial and is linked to multiple factors, such as unsatisfactory relationships, precarious health conditions, insomnia, poor diet, sedentary lifestyle, and concerns about the professional future (Oliveira et al., 2022).

The complexity of factors leading to psychic suffering in nursing is multidimensional. In addition to academic demands, the very nature of the profession, which often requires a "double journey" – reconciling studies with work and family responsibilities – contributes to an overload that can compromise the mental health of future nurses. Continuous assessment of stress and symptoms of minor mental disorders in nursing students is, therefore, a global problem that requires the attention of universities and educational institutions, whether public or private (Rocha, 2019).

1.4 THE IMPORTANCE OF MENTAL HEALTH IN THE UNIVERSITY ENVIRONMENT

The World Health Organization (WHO) has recognized, since its inception, that health is a state of complete physical, mental, and social well-being, and not merely the absence of disease. In recent years, this definition has gained even more relevance, driven by advances in biological and behavioral sciences that have enhanced the understanding of mental functioning and the intimate relationship between mental, physical, and social health (Nunes et al., 2022).

In this context, the university environment, although a space for the development and expansion of professional and personal skills, also constitutes fertile ground for the emergence of psychic suffering. It is estimated that 15% to 25% of university students manifest some type of mental disorder during their academic trajectory, with depressive and anxiety disorders being the most frequent (Matos & Mato, 2022).

Students' mental health directly impacts their academic performance, their ability to concentrate, motivation, and learning. Furthermore, it influences interpersonal relationships, self-esteem, and the ability to deal with emotions, crucial elements for the individual's integral development and for their future professional performance (Diniz, 2023). Doubts about graduation, prior anxiety, low academic performance, and academic dissatisfaction can even culminate in dropout. Excessive pressure leads to stress, discomfort in evaluations, and can trigger psychoses (Faria et al., 2023).

Given this reality, it is essential that higher education institutions establish plans for managing students' time and activities, aiming for balanced pressure and an organization that promotes well-being. The university, therefore, must transcend its role as a mere transmitter of knowledge, actively promoting a culture of mental health that offers adequate support and resources to its students. Research on the mental health of university students has gained significant importance in the country, not only for the prevention and remediation of suffering but also for the promotion of qualified aid services for vulnerable students (Nunes et al., 2022).

2 OBJECTIVES

This study had as its central purpose to deepen the understanding of nursing students' mental health, seeking to identify the prevalence of stress and psychic morbidity and the sociodemographic factors associated with them. The clarity of the objectives was fundamental to guide the entire investigation process, from data collection to analysis and interpretation.

2.1 GENERAL OBJECTIVE

To assess the mental health situation of nursing students at UNIFUNEC (University Center of Santa Fé do Sul).

2.2 SPECIFIC OBJECTIVES

To identify the sociodemographic profile of nursing students at UNIFUNEC.

To survey the mental health status of nursing students at a private institution using the instruments: Self-Reporting Questionnaire (SRQ-20) and Perceived Stress Scale (PSS).

To correlate the results of the mental health status of nursing students obtained with the instruments: Self-Reporting Questionnaire (SRQ-20) and Perceived Stress Scale (PSS).

To compare the sociodemographic data of nursing students with the mental health status assessed by the instruments.

3 METHODOLOGY

The methodology employed in this research was carefully designed to ensure the reliability and validity of the findings. An observational, cross-sectional, and quantitative study was the chosen approach, allowing for data collection at a single point in time and the analysis of associations between the investigated variables. This section details the study design, participants, instruments used, and data collection and analysis procedures.

3.1 STUDY DESIGN AND PARTICIPANTS

The present study was characterized as observational, cross-sectional, and quantitative, conducted with a sample of 104 students regularly enrolled in the nursing course at the University Center of Santa Fé do Sul (UNIFUNEC). Data collection took place in 2025, using an electronic form. The choice of a cross-sectional approach allows capturing a snapshot of the mental health and sociodemographic characteristics of students at a specific period, being suitable for identifying prevalences and associations. Although it does not allow establishing cause-and-effect relationships, it provides a solid basis for identifying risk groups and correlated factors.

Participants were selected by convenience; that is, all nursing students at the institution who agreed to participate and met the inclusion criteria were invited to join the research. To ensure research ethics, all participants were informed about the study's objectives, the confidentiality of information, and the freedom to withdraw at any time, formalizing their participation through the Free and Informed Consent Form (FICF). The study was submitted to and approved by the Research Ethics Committee (REC), ensuring compliance with ethical guidelines in research involving human beings.

3.2 DATA COLLECTION INSTRUMENTS

Data collection was carried out electronically via Google Forms, which was distributed to students by email at the time of enrollment, ensuring anonymity and confidentiality of responses. This form consisted of three main sections: the Free and Informed Consent Form

(FICF), the Sociodemographic Variables Questionnaire (QVSD), and the validated scales for assessing minor mental disorders (SRQ-20) and perceived stress (PSS).

3.2.1 Sociodemographic Variables Questionnaire (QVSD)

The Sociodemographic Variables Questionnaire (QVSD) was specifically developed by the researchers for this study, with the aim of collecting crucial information about the participants' profile. This questionnaire included data such as biological sex, gender identity, sexual orientation, age group, marital status, number of children, personal or family income, religion, prior schooling (elementary and high school level, type of school and course, completion time), previous higher education experience (whether attended, completed, time attended, reason for dropout, and type of institution), parents' education level, and employment status. The inclusion of these variables allowed for a comprehensive analysis of potential sociodemographic determinants of students' mental health.

3.2.2 Self-Reporting Questionnaire (SRQ-20)

The Self-Reporting Questionnaire (SRQ-20) is a self-administered instrument developed by the World Health Organization (WHO) for screening non-psychotic disorders in developing countries. Originally with 24 items, the version used in Brazil and validated in the 1980s employs the first 20 items to investigate non-psychotic morbidity. Each question has a dichotomous answer (yes/no), making it easy to understand and quick to apply (Iacoponi & Mari, 1989; Santos et al., 2009).

The SRQ-20 does not provide a specific diagnosis of mental disorder but rather indicates a level of suspicion (presence/absence) of common mental disorders (CMD), which include neurotic symptoms such as insomnia, fatigue, irritability, forgetfulness, difficulty concentrating, and somatic complaints. Due to its screening nature and proven efficacy, it is widely used in population studies to classify possible cases and non-cases, showing high levels of sensitivity, specificity, and predictive values (Santos et al., 2010).

3.2.3 Perceived Stress Scale (PSS)

The Perceived Stress Scale (PSS) is the most widely used instrument globally for assessing the subjective perception of stress. Developed in 1983, it has been validated in over 20 countries (Cohen et al., 1983). The PSS assesses individual perception of how unpredictable, uncontrollable, and overloaded life events have seemed in the last month. The scale consists of 14 questions with response options ranging from zero (never) to four (always).

For score calculation, questions with positive connotations (items 4, 5, 6, 7, 9, 10, and 13) have their scores inverted (0=4, 1=3, 2=2, 3=1, and 4=0), while the other questions (with negative connotations) are summed directly. The total score of the scale, which can range from zero to 56, reflects the individual's perceived stress level. The brevity and applicability of the PSS to a general population with complete elementary education or higher favor its use in conjunction with other measures, as in this study (Cohen et al., 1983).

3.3 DATA COLLECTION AND ANALYSIS PROCEDURES

Data collection, as mentioned, was carried out electronically via Google Forms, ensuring standardization and ease of access for participants. After the collection period, the data were exported to a Microsoft Excel spreadsheet (Microsoft Office Mondo 2016) and subsequently analyzed using the Statistical Package for the Social Sciences (SPSS) software, version 21.0 for Windows.

Statistical analysis followed a rigorous protocol:

Descriptive Statistics: To characterize the sample and study variables, measures of central tendency (mean, median) and dispersion (minimum, maximum, standard deviation, percentiles) were calculated for numerical variables. For categorical variables, absolute frequencies (n) and relative frequencies (percentages) were determined.

Normality Tests: The assessment of continuous variables' behavior included Kolmogorov-Smirnov and Shapiro-Wilk tests to verify adherence to normal distribution (Razali & Wah, 2011). In cases of non-normality or to increase the robustness of results, a bootstrapping procedure with 1,000 resamples and a 95% BCa confidence interval was applied, aiming to correct deviations, minimize size differences between groups, and increase reliability (Haukoos & Lewis, 2005; Field, 2018).

Correlation Analysis: The relationship between continuous variables was investigated using Spearman's correlation coefficient. The magnitude of correlations was interpreted based on the following cut-off points: 0.00 (null); 0.10-0.39 (weak); 0.40-0.69 (moderate); 0.70-0.89 (strong); 0.90-0.99 (very strong); and 1.00 (perfect) (Schober et al., 2018). To compare the strength of correlations, Fisher's r-to-z transformation test was used (Lenhard & Lenhard, 2014).

Comparative Analyses: To compare the mean scores of perceived stress (PSS) and minor mental disorders (SRQ-20 and its factors) between different groups defined by sociodemographic variables, Student's t-test for independent samples was used. The homogeneity of variances was assessed by Levene's test, with Welch's correction applied in cases of heterogeneity (Derrick et al., 2016).

Effect Size: Effect size was calculated using Hedge's G, which is preferable for samples of different sizes or with variance heterogeneity. Interpretation followed the cut-off points: negligible (>= -0.20 and <0.20), small (>=0.21 and <0.39), medium (>=0.40 and <0.79), and high (>=0.80) (Lakens, 2013). The significance level adopted in all analyses was 5% ($p < 0.05$) (Grice et al., 2017).

These statistical procedures allowed for a robust analysis of the data, providing detailed insights into the mental health profile of nursing students and the sociodemographic influences on these indicators.

4 RESULTS AND DETAILED ANALYSIS

The results of this study provide a comprehensive overview of the sociodemographic profile of UNIFUNEC nursing students, as well as their mental health status, assessed through the Perceived Stress Scale (PSS) and the Self-Reporting Questionnaire (SRQ-20). The detailed analysis of these data allows for the identification of patterns, correlations, and significant differences between groups, which are essential for an in-depth understanding of the topic.

4.1 SOCIODEMOGRAPHIC PROFILE OF NURSING STUDENTS

The characterization of the sample revealed a predominantly female and young profile. As shown in Table 1, most students were female (87.50%) and identified as women (86.50%). The prevalent age group was between 21 and 30 years (51.00%), and the vast majority had no children (74.00%). Regarding socioeconomic status, 50.0% of participants reported a personal income between R$ 1,001.00 and R$ 3,000.00. Catholicism was the most declared religion (48.10%).

Table 1

Percentages referring to the characterization variables of the evaluated nursing students' sample. Santa Fé do Sul, 2025

Characterization Variables	n	%
Biological Sex		
Female	91	87.50%
Male	13	12.50%
Gender Identity		
Woman	90	86.50%
Man	14	13.50%
Sexual Orientation		
Heterosexual	89	86.60%
Bisexual	5	4.80%
Homosexual	10	9.60%
Age		

Between 0 and 20 years	29	27.90%
Between 21 and 30 years	53	51.00%
Between 31 and 40 years	13	12.50%
>40 years	9	8.70%
Number of children		
None	77	74.00%
1 or more	27	26.00%
Personal or Family Income		
≤ 1,000.00	9	8.70%
1,001.00 to 3,000.00	52	50.00%
≥ 3,000.00	43	41.30%
Religion		
No Religion	14	13.50%
Catholic	34	32.70%
Evangelical	50	48.10%
Spiritualist	3	2.90%
Others	3	2.90%

Source: Research data, 2025.

Table 2 details the variables related to participants' schooling and academic trajectory. It was observed that the majority attended elementary school (87.50%) and high school (88.50%) in public schools, predominantly in the regular modality. A relevant finding is that 74.00% of students had never attended another higher education course, indicating that, for most, the nursing degree represents their first experience in higher education. Among those who had attended another higher level course (26.00%), the majority did not complete it (19.20%) and did so at a private institution (26.90%).

Table 2

Percentages referring to the student data characterization variables of the evaluated nursing students. Santa Fé do Sul, 2025

Characterization Variables	n	%
Elementary School (ES)		
All or most in public school	91	87.50%
All or most in private school	13	12.50%
Course Type (ES)		
Regular - 1st to 8th grade	90	86.50%
Supplementary	14	13.50%
High School (HS)		
All or most in public school	92	88.50%
All or most in private school	12	11.50%
Course Type (HS)		
Regular - 1st to 3rd year	82	78.80%
Technical	14	13.50%
Supplementary	8	7.70%
How many years ago did you finish high school?		
Last year	12	11.50%
1 to 5 years ago	48	46.20%
6 to 10 years ago	19	18.30%
More than 10 years ago	25	24.00%
Have you already attended another higher education course?		
No	77	74.00%
Yes	27	26.00%

Did you complete the course?		
Not applicable	68	65.40%
No	20	19.20%
Yes	16	15.40%
How long did you attend?		
Not applicable	81	77.90%
Less than 50% of the course	7	6.70%
More than 50% of the course	16	15.40%
What was the reason for dropping out?		
Not applicable	92	88.50%
Financial issues	4	3.80%
Did not identify with the course	2	1.90%
Others	6	5.80%
What type of institution was the course at?		
Not applicable	72	69.20%
Public	4	3.80%
Private	28	26.90%

Source: Research data, 2025.

The parents' schooling, presented in Table 3, indicated a low level of education among guardians. The majority of fathers had incomplete elementary education (34.60%), and among mothers, the largest proportion had complete high school education (32.70%).

Table 3

Percentages referring to the parents' schooling variables of the evaluated nursing students. Santa Fé do Sul, 2025

Variables	n	%
Father		
Incomplete elementary education	36	34.60%
Complete elementary education	4	3.80%
Incomplete high school education	5	4.80%
Complete high school education	28	26.90%
Incomplete higher education	1	1.00%
Complete higher education	17	16.30%
Don't know	11	10.60%
Others	2	1.90%
Mother		
Incomplete elementary education	30	28.80%
Complete elementary education	6	5.80%
Incomplete high school education	7	6.70%
Complete high school education	34	32.70%
Incomplete higher education	0	0.00%
Complete higher education	24	23.11%
Don't know	3	2.20%
Others	2	1.40%

Source: Research data, 2025.

Finally, Table 4 presents the sources of funding and the type of admission to the course. A minority of students (12.50%) reported not being employed in a remunerated activity. However, 51.00% stated that the main means of financing their studies came from their own resources, and the majority (86.50%) entered the course via first call admission.

Table 4

Percentages referring to the funding sources and type of course admission variables of the evaluated nursing students. Santa Fé do Sul, 2025

Variables	n	%
Employment Status		
Works in course-related area	38	36.50%
Works in non-course-related area	53	51.00%
Does not work	13	12.50%
Main source of funding for studies		
Own resources	53	51.00%
Family resources	35	33.70%
Will apply for an institutional scholarship	16	15.40%
Type of course admission		
First call	90	86.50%
Second call	10	9.60%
Other	4	3.80%

Source: Research data, 2025.

This sociodemographic profile serves as a basis for understanding the characteristics of the studied population and contextualizing the findings related to mental health. The female predominance, the young age group, and the high rate of students who had not yet experienced higher education are aspects that deserve prominence in subsequent analyses.

4.1.1 Perceived Stress on the PSS Scale

The assessment of perceived stress by the PSS scale, which ranges from zero to 40 points, indicated that UNIFUNEC nursing students had moderate levels of stress. Table 5 presents the descriptive statistics for this scale.

Table 5

Descriptive analysis of perceived stress in nursing students. Santa Fé do Sul, SP, 2025.

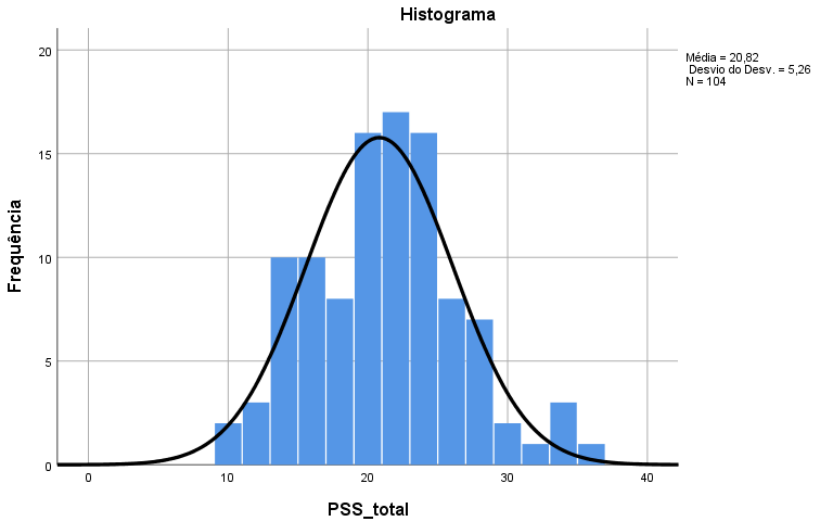
Perceived Stress	Mean	SD	Max	Med	Min	Percentile 25	Percentile 50	Percentile 75	Cronbach's Alpha
Total	20.82	±5.26	35	21	10	17.00	21.00	24.00	0.725

Source: Research data, 2025.

The mean of 20.82 (SD±5.26) suggests that, in general, participants perceive stress at a level that is neither low nor excessively high, but rather moderate. The internal consistency of the instrument, measured by Cronbach's Alpha (α=0.725), demonstrated high adherence to the experimental units, indicating that the scale was applied in a concrete and admissible manner to the studied population.

Figure 1

Histogram of total PSS scores (mean = 20.82; standard deviation = 5.26; n = 104)



Source: Research data, 2025.

The histogram in Figure 1 illustrates the distribution of total PSS scores, showing that most students concentrate around the mean, with a variation ranging from a minimum of 10 to a maximum of 35 points. This distribution confirms the moderate perception of stress, with some students reporting lower levels and others, higher.

4.2 PSYCHIC MORBIDITY ON THE SRQ-20 SCALE

The Self-Reporting Questionnaire (SRQ-20), with scores ranging from zero to 20, was used to screen for the presence of psychic morbidity. Table 6 presents the descriptive statistics for the total SRQ-20 score.

Table 6

Descriptive analysis of SRQ-20 scores in nursing students. Santa Fé do Sul, SP, 2025.

SRQ-20	Mean	SD	Max	Med	Min	Percentile 25	Percentile 50	Percentile 75	Cronbach's Alpha
Total	7.16	±4.76	17	7	0	3.00	7.00	11.00	0.911

Source: Research data, 2025.

The mean of 7.16 (SD±4.76) for the total SRQ-20, with scores ranging from 0 to 17, already suggested a tendency towards a higher risk for psychiatric morbidity in the sample. The internal consistency of the instrument was very high (α=0.911), indicating excellent reliability in symptom assessment.

In addition to the total score, the SRQ-20 was analyzed in its component factors: depressive/anxious mood, somatic symptoms, decrease in vital energy, and depressive thoughts, as detailed in Table 7.

Table 7

Descriptive analysis by SRQ-20 factors in nursing students. Santa Fé do Sul, SP, 2025.

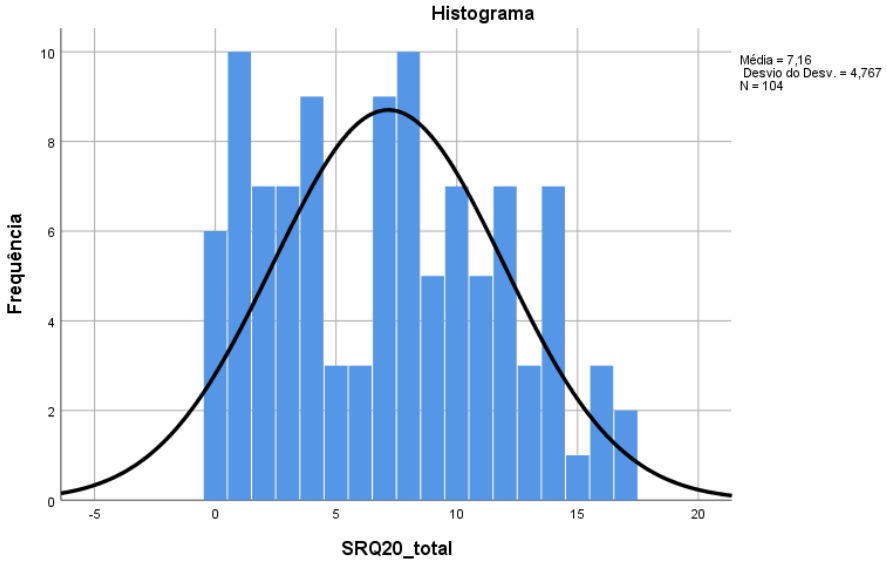
SRQ-20 Factors	Mean	SD	Max	Med	Min	Percentile 25	Percentile 50	Percentile 75	Cronbach's Alpha
Depressive/anxious mood	1.98	±1.35	4	2.00	0	1.00	2.00	3.00	0.848
Somatic symptoms	2.46	±1.80	6	2.00	0	1.00	2.00	4.00	0.868
Decrease in vital energy	2.36	±1.82	6	2.00	0	1.00	2.00	4.00	0.902
Depressive thoughts	0.72	±1.02	3	0.00	0	0.00	0.00	1.00	0.868

Source: Research data, 2025.

The factors "somatic symptoms" (M=2.46, SD±1.80) and "decrease in vital energy" (M=2.36, SD±1.82) showed the highest means, indicating that these were the most impacted domains in students' mental health. The internal consistency (Cronbach's Alpha) for all factors was excellent, ranging from 0.848 to 0.902.

Figure 2

Histogram of total SRQ-20 scores (mean = 7.16; standard deviation = 4.76; n = 104)



Source: Research data, 2025.

The histogram in Figure 2 demonstrates the distribution of total SRQ-20 scores, corroborating the variability in levels of psychic morbidity.

Using the cut-off point of 6 for the SRQ-20 (scores ≤ 6 indicate lower risk; scores ≥ 7 indicate higher risk), a significant prevalence of 55.80% of students were identified as having a higher risk for minor mental disorders, as shown in Table 8.

Table 8

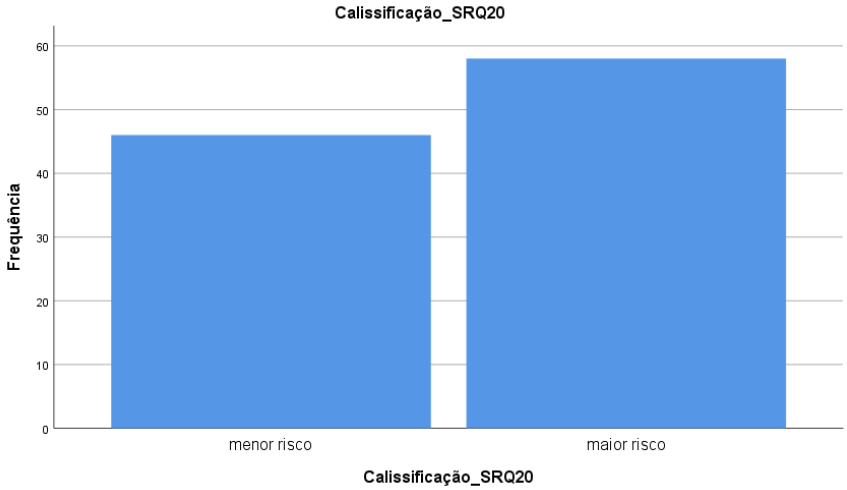
Descriptive analysis of the SRQ-20 psychic morbidity instrument classifying nursing students into lower or higher risk for psychic morbidity. Santa Fé do Sul, SP, 2025.

CMD	n	%
Lower risk	46	44.20%
Higher risk	58	55.80%
Total	104	100%

Source: Research data, 2025.

Figure 3

Frequency of students with lower and higher risk according to the SRQ-20



Source: Research data, 2025.

Figure 3 visualizes this distribution, showing that more than half of the students are in a higher risk zone for minor mental disorders. Table 9 details the prevalence of specific symptoms grouped by factors, revealing that the most frequently reported symptoms were:

Depressive/anxious mood: "Feeling nervous, tense, or worried" (75.00%).

Somatic symptoms: "Having frequent headaches" (56.70%) and "Getting tired easily" (54.80%).

Decrease in vital energy: "Feeling tired all the time" (58.70%) and "Difficulty making decisions" (46.20%).

Depressive thoughts: "Having lost interest in things" (32.70%).

Table 9

Prevalence of CMD symptoms in nursing students according to SRQ-20 symptom groups, Santa Fé do Sul, SP, 2025.

Factors	Yes	No
Depressive/anxious mood		
Q-4 Easily startled?	47 (45.20%)	57 (54.80%)
Q-6 Feeling nervous, tense, or worried?	78 (75.00%)	26 (25.00%)
Q-9 Feeling sad lately?	42 (40.40%)	62 (59.60%)
Q-10 Crying more than usual?	39 (37.50%)	65 (62.50%)
Somatic symptoms		
Q-1 Do you have frequent headaches?	59 (56.70%)	45 (43.30%)
Q-2 Have you lost your appetite?	21 (20.20%)	83 (79.80%)

Q-3 Do you sleep poorly?	54 (51.90%)	50 (48.10%)
Q-5 Do your hands tremble?	31 (29.80%)	73 (70.20%)
Q-7 Do you have indigestion?	34 (32.70%)	70 (67.30%)
Q-19 Do you get tired easily?	57 (54.80%)	47 (45.20%)
Decrease in vital energy		
Q-8 Do you have difficulty thinking clearly?	45 (43.30%)	59 (56.70%)
Q-11 Do you find it difficult to perform your daily activities with satisfaction?	38 (36.50%)	66 (63.50%)
Q-12 Do you have difficulty making decisions?	48 (46.20%)	56 (53.80%)
Q-13 Do you have difficulty at work (is your work painful, does it cause you suffering)?	16 (15.40%)	88 (84.60%)
Q-18 Do you feel tired all the time?	61 (58.70%)	43 (41.30%)
Q-20 Do you have unpleasant sensations in your stomach?	37 (35.60%)	67 (64.40%)
Depressive thoughts		
Q-14 Are you unable to play a useful role in your life?	14 (13.50%)	90 (86.50%)
Q-15 Have you lost interest in things?	34 (32.70%)	70 (67.30%)
Q-16 Do you feel useless, worthless?	18 (17.30%)	86 (82.70%)
Q-17 Had thoughts of ending your life?	9 (8.70%)	95 (91.30%)

Source: Research data, 2025.

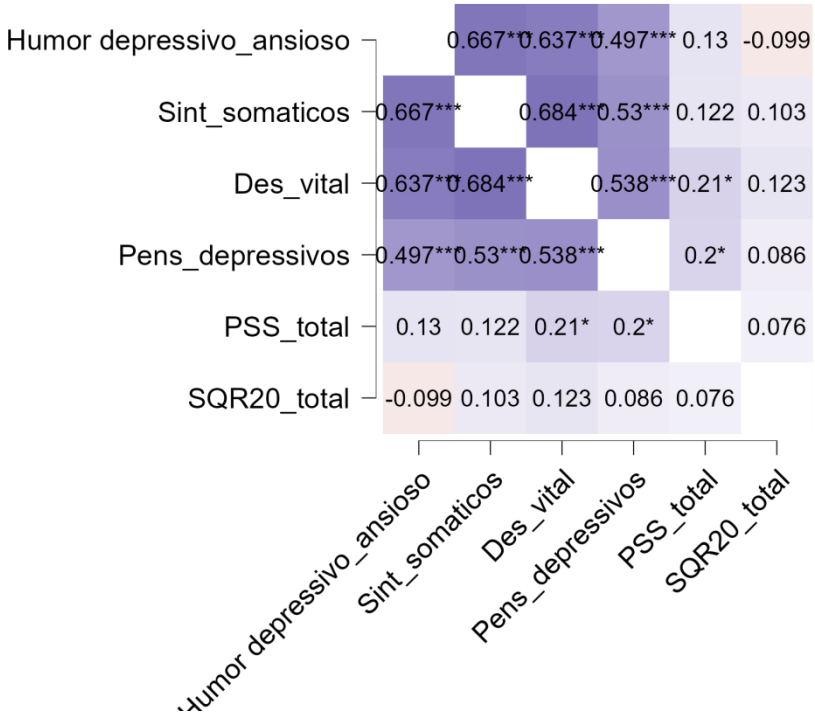
The normality analysis of the scores revealed that "perceived stress" showed a normal distribution (K-S(104) = 0.63, $p>0.05$; S-W(104) = 0.223, $p>0.05$), while the "Self-Reporting Questionnaire" (total SRQ-20) demonstrated a non-normal distribution (K-S(104) = 0.122, $p<0.05$; S-W(104) = 0.952, $p<0.05$). This information was considered for the selection of appropriate statistical tests.

4.3 CORRELATIONS BETWEEN MENTAL HEALTH INDICATORS

Spearman's correlation analysis was performed to investigate the relationships between SRQ-20 factors, perceived stress (PSS), and the total SRQ-20 score. Figure 4 presents a visual summary of these correlations.

Figure 4

*Spearman's correlation analyses between depressive/anxious mood, somatic symptoms, decrease in vital energy, depressive thoughts, perceived stress (PSS), and SRQ20. Santa Fé do Sul, 2025. Note: *p<0.05, **p<0.01, ***p<0.001*



Source: Research data, 2025.

The results showed significant correlations (p<0.05) between some variables:

The "depressive/anxious mood" factor significantly and moderately correlated with "somatic symptoms" (ρ=0.667, p<0.001), "decrease in vital energy" (ρ=0.637, p<0.001), and "depressive thoughts" (ρ=0.497, p<0.001). These are positive correlations, indicating that as one symptom increases, the other also tends to increase. Fisher's r-to-z test showed that the correlation between "depressive/anxious mood" and "somatic symptoms" (ρ=0.667) was significantly stronger than with "depressive thoughts" (ρ=0.497) (z=2.337, p<0.05).

The "somatic symptoms" variable showed a positive and moderate correlation with "depressive thoughts" (ρ=0.53, p<0.001) and "decrease in vital energy" (ρ=0.684, p<0.001). The correlation between "somatic symptoms" and "decrease in vital energy" was significantly stronger (z=2.201, p <0.05).

"Perceived stress (PSS)" correlated significantly, but weakly, only with "decrease in vital energy" (ρ=0.21, p<0.05) and "depressive thoughts" (ρ=0.2, p<0.05). This correlation indicates that a higher level of stress is associated with a slight increase in the decrease of vital energy and negative thoughts. There was no statistically significant difference between these two correlations (z=0.107, p <0.05).

The total score of the SRQ-20 variable did not correlate significantly with any other investigated variable.

These findings highlight the interdependence between different dimensions of psychic suffering, especially between mood, physical symptoms, and vitality, while the overall perception of stress appears to have a more subtle relationship with these factors.

4.4 IMPACT OF SOCIODEMOGRAPHIC VARIABLES ON PERCEIVED STRESS

Comparative analyses of perceived stress (PSS) as a function of sociodemographic variables were performed using Student's t-test for independent samples. The results, summarized in Table 10, revealed that biological sex and gender identity were the only variables that showed a statistically significant difference in perceived stress levels.

Table 10

Comparative analysis of sociodemographic variables and perceived stress. Santa Fé do Sul-SP, 2025

Sociodemographic Variables	n	Mean±SD	t	p-value	ES	CI
Sex						
Female	91	21.36±5.20	2.896	0.005	0.86 (H)	[1.375, 7.351]
Male	13	17.00±4.00				
Gender Identity						
Woman	90	21.49±5.08	3.474	0.001	1.00 (H)	[2.141, 7.837]
Man	14	16.50±4.32				
Age						
0 to 20 years	29	21.76±4.82	1.136	0.258	0.26 (S)	[-0.973, 3.583]
21 years or more	75	20.45±5.40				
Number of children						
None	77	21.04±5.22	0.724	0.490	0.16 (N)	[-1.673, 3.286]
1 or more	27	20.19±5.40				
Family income						
less than or equal to one thousand reais	9	20.56±3.32	-0.155	0.877	0.05 (N)	[-10.96, 0.404]
greater than or equal to 1,001.00	95	20.84±5.41				
Religion						
with religion	90	21.79±6.02	0.739	0.462	0.21 (S)	[-1.885, 4.123]
without religion	14	20.67±5.15				
Elementary School						
all or mostly in public school	91	20.57±4.90	-1.265	0.364	0.37 (S)	[-6.473, 2.539]
all or mostly in private school	13	22.54±7.32				
High School						
all or mostly in public school	92	20.64±5.02	-0.944	0.347	0.29 (S)	[-4.729, 1.678]
all or mostly in private school	12	22.17±6.93				
Course type						

Regular (1st to 3rd year)	90	20.96±5.31	0.678	0.471	0.19 (N)	[-2.045, 3.871]
Supplementary	14	19.93±4.69				
Years since high school completion						
Last year to 5 years ago	60	20.65±4.97	-3.777	0.707	0.08 (N)	[-2.475, 1.684]
6 to more than 10 years ago	44	21.05±5.68				
Attended another higher education course						
Yes	27	20.70±5.86	-0.130	0.897	0.00 (N)	[-2.498, 2.191]
No	77	20.86±5.06				
Completed the course						
Not applicable / not completed	88	20.92±5.41	0.467	0.566	0.12 (N)	[-1.961, 2.908]
Completed	16	20.25±4.40				
Sources of funding						
Own resources	53	20.30±5.33	-1.019	0.342	0.19 (N)	[-3.192, 1.124]
Family/apply for scholarship	51	21.35±5.18				
Employment Status						
Works	90	20.83±5.06	0.078	0.938	0.002 (N)	[-2.893, 3.131]
Does not work	14	20.71±7.47				

Source: Research data, 2025.

Specifically, female individuals exhibited significantly higher levels of perceived stress (M=21.36, SD±5.20) compared to male individuals, with a high effect size (Hedge's G=0.86). Similarly, those who identified as women also demonstrated higher levels of stress (M=21.49, SD±5.08) when compared to men, also with a high effect size (Hedge's G=1.00). This indicates a clear gender vulnerability regarding stress perception.

4.5 IMPACT OF SOCIODEMOGRAPHIC VARIABLES ON PSYCHIC MORBIDITY (SRQ-20 AND FACTORS)

The comparative analysis of total SRQ-20 and its factors (depressive/anxious mood, somatic symptoms, decrease in vital energy, and depressive thoughts) in relation to sociodemographic variables revealed more complex and diverse patterns.

4.5.1 Sex and Gender Identity

Biological sex showed statistically significant differences for the factors "somatic symptoms," "decrease in vital energy," and for the total SRQ-20 score, as shown in Table 11.

Table 11

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 2025

Factor	Sex	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	Female	91	2.07±1.34	1.717	0.089	0.50 (M)	[-0.106, 1.468]
	Male	13	1.38±1.26				
Somatic symptoms	Female	91	2.66±1.72	3.074	0.002	0.90 (H)	[0.562, 2.603]
	Male	13	1.08±1.44				
Decrease in vital energy	Female	91	2.56±1.65	3.151	0.004	0.92 (H)	[0.607, 2.668]
	Male	13	0.92±1.65				
Depressive thoughts	Female	91	0.76±1.04	1.265	0.209	0.37 (S)	[-0.218, 0.942]
	Male	13	0.38±0.86				
SRQ-20 Total	Female	91	7.56±4.75	2.594	0.013	0.67 (M)	[0.492, 5.749]
	Male	13	4.38±4.03				

Source: Research data, 2025.

Female individuals presented significantly higher means for "somatic symptoms" (M=2.66, SD±1.72) with a high effect size (Hedge's G=0.90), for "decrease in vital energy" (M=2.56, SD±1.65) also with a high effect size (Hedge's G=0.92), and for the total SRQ-20 score (M=7.56, SD±4.75) with a medium effect size (Hedge's G=0.67). This suggests that female students may face more pronounced challenges and be at higher risk of developing psychic morbidity.

Consistently, gender identity also revealed statistically significant differences for the factors "depressive/anxious mood," "somatic symptoms," "decrease in vital energy," and for the total SRQ-20 score (Table 12).

Table 12

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 2025

Factor	Gender Identity	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	Woman	90	2.09±1.33	2.104	0.038	0.60 (M)	[0.022, 1.497]
	Man	14	1.29±1.26				
Somatic symptoms	Woman	90	2.69±1.75	4.012	0.001	0.97 (H)	[0.727, 2.459]
	Man	14	1.00±1.41				
Decrease in vital energy	Woman	90	2.59±1.75	3.472	0.001	0.99 (H)	[0.655, 2.526]
	Man	14	0.86±1.61				
Depressive thoughts	Woman	90	0.77±1.04	1.431	0.155	0.40 (M)	[-1.151, 0.854]
	Man	14	0.35±0.84				
SRQ-20 Total	Woman	90	7.56±4.77	2.165	0.014	0.40 (M)	[0.755, 5.147]
	Man	14	4.64±3.99				

Source: Research data, 2025.

Women presented higher means for "depressive/anxious mood" (M=2.09, SD±1.33; Hedge's G=0.60, medium effect), "somatic symptoms" (M=2.69, SD±1.75; Hedge's G=0.97, high effect), "decrease in vital energy" (M=2.59, SD±1.75; Hedge's G=0.99, high effect), and for the total SRQ-20 score (M=7.56, SD±4.77; Hedge's G=0.40, medium effect). These results reinforce the greater vulnerability to psychic morbidity for individuals who identify as women.

4.5.2 Age

Participants' age resulted in a statistically significant difference only for the factor "decrease in vital energy," according to Table 13.

Table 13

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 2025

Factor	Age	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	0 to 21 years	29	2.07±1.28	0.412	0.681	0.21 (S)	[-0.413, 0.595]
	21 years or more	75	1.95±1.38				
Somatic symptoms	0 to 21 years	29	2.76±1.70	1.044	0.299	0.21 (S)	[-0.413, 0.595]
	21 years or more	75	2.35±1.84				
Decrease in vital energy	0 to 21 years	29	3.00±1.77	2.281	0.025	0.22 (S)	[0.117, 1.670]
	21 years or more	75	2.11±1.79				
Depressive thoughts	0 to 21 years	29	0.82±1.03	0.655	0.514	0.21 (S)	[-0.297, 0.548]
	21 years or more	75	0.68±1.02				
SRQ-20 Total	0 to 21 years	29	7.28±3.95	0.166	0.874	0.21 (S)	[-1.751, 1.991]
	21 years or more	75	7.12±5.07				

Source: Research data, 2025.

Students aged up to 21 years showed a higher mean in "decrease in vital energy" (M=3.00, SD±1.77), although the effect size was small (Hedge's G=0.22). This suggests that younger individuals may be more susceptible to this type of symptom.

4.5.3 Number of Children

The variable "having children" proved to be a protective factor. Those without children showed statistically significant differences for the factors "decrease in vital energy" and for the total SRQ-20 score (Table 14).

Table 14

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 2025

Factor	Children	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	None	77	2.03±1.30	0.574	0.567	0.12 (N)	[-0.460, 0.761]
	1 or more	27	1.85±1.48				
Somatic symptoms	None	77	2.62±1.80	1.545	0.123	0.34 (S)	[-0.111, 1.330]
	1 or more	27	2.00±1.75				
Decrease in vital energy	None	77	2.69±1.80	3.280	0.002	0.75 (M)	[0.557, 1.961]
	1 or more	27	1.41±1.57				
Depressive thoughts	None	77	0.76±0.99	0.753	0.453	0.16 (N)	[-0.301, 0.614]
	1 or more	27	0.59±1.11				
SRQ-20 Total	None	77	7.96±4.63	2.991	0.006	0.67 (M)	[0.993, 5.061]
	1 or more	27	4.89±4.46				

Source: Research data, 2025.

Students without children showed a higher mean of "decrease in vital energy" (M=2.69, SD±1.80; Hedge's G=0.75, medium effect) and a higher total SRQ-20 score (M=7.96, SD±4.63; Hedge's G=0.67, medium effect) compared to those with one or more children. This suggests that parenthood may act as a protective factor for mental health.

4.5.4 Personal Income

Personal income proved to be an important factor. Individuals with personal income less than or equal to R$ 1,000.00 showed higher means in the total SRQ-20 score (M=10.67; SD±3.31) compared to those with higher income, indicating a higher risk of psychic morbidity for lower-income individuals. The effect size was high (Hedge's G=0.92) (Table 15).

Table 15

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 2025

Factor	Personal income	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	less than or equal to one thousand reais	9	2.00±1.11	0.044	0.965	0.01 (N)	[-0.729, 1.020]
	greater than or equal to 1,001.00	95	1.98±1.37				
Somatic symptoms	less than or equal to one thousand reais	9	2.33±1.73	-0.222	0.853	0.07 (N)	[-1.440, 1.131]

	greater than or equal to 1,001.00	95	2.47±1.82				
Decrease in vital energy	less than or equal to one thousand reais	9	2.56±1.81	0.342	0.733	0.11 (N)	[-0.925, 1.565]
	greater than or equal to 1,001.00	95	2.34±1.83				
Depressive thoughts	less than or equal to one thousand reais	9	0.77±1.09	0.172	0.864	0.06 (N)	[-0.530, 0.793]
	greater than or equal to 1,001.00	95	0.71±1.02				
SRQ-20 Total	less than or equal to one thousand reais	9	10.67±3.31	3.173	0.009	0.92 (H)	[0.815, 5.932]
	greater than or equal to 1,001.00	95	6.83±4.72				

Source: Research data, 2025.

This reinforces the correlation between socioeconomic vulnerability and risk of psychic morbidity.

4.5.5 Religion, Previous Schooling, and Employment Status

The variables "religion" (Table 16), "elementary or high school education in public or private school" (Tables 17, 18, 19, 20), "type of elementary and high school education," and "time since high school completion" (Table 21), as well as "employment status" (Table 24), did not show statistically significant differences with the total SRQ-20 scores and its factors. This suggests that, for the sample in question, these factors did not exert a relevant influence on psychic morbidity outcomes.

Table 16

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 2025

Factor	Religion	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	without religion	14	2.00±1.17	0.057	0.089	0.41 (M)	[-0.639, 0.674]
	with religion	90	1.98±1.38				
Somatic symptoms	without religion	14	2.36±1.69	-0.231	0.817	0.01 (N)	[-1.033, 0.847]
	with religion	90	2.48±1.83				
Decrease in vital energy	without religion	14	2.57±1.60	0.231	0.637	0.13 (N)	[-0.621, 1.117]
	with religion	90	2.32±1.86				
Depressive thoughts	without religion	14	0.85±0.86	0.473	0.597	0.15 (N)	[-0.336, 0.636]
	with religion	90	0.70±1.05				
SRQ-20 Total	without religion	14	9.14±4.76	1.685	0.089	0.48 (M)	[-0.320, 5.060]
	with religion	90	6.86±4.71				

Source: Research data, 2025.

Table 17

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 202

Factor	Elementary School	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	All/most public school	91	2.00±1.33	0.383	0.703	0.13 (N)	[-0.658, 1.054]
	All/most private school	13	1.85±1.51				
Somatic symptoms	All/most public school	91	2.38±1.75	-1.151	0.347	0.33 (S)	[-1.720, 0.656]
	All/most private school	13	2.48±1.83				
Decrease in vital energy	All/most public school	91	2.37±1.85	0.263	0.797	0.07 (N)	[-0.753, 1.150]
	All/most private school	13	2.23±1.96				
Depressive thoughts	All/most public school	91	0.73±1.02	0.395	0.725	0.11 (N)	[-0.597, 0.736]
	All/most private school	13	0.61±1.12				
SRQ-20 Total	All/most public school	91	7.03±4.72	-0.737	0.463	0.21 (S)	[-3.853, 1.766]
	All/most private school	13	8.08±5.12				

Source: Research data, 2025.

Table 18

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 2025

Factor	Elementary School Course Type	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	Regular (1st to 3rd grade)	90	1.99±1.32	0.155	0.877	0.06 (N)	[-0.801, 0.946]
	Supplementary	14	1.93±2.51				
Somatic symptoms	Regular (1st to 3rd grade)	90	2.51±1.83	0.708	0.499	0.33 (S)	[-0.545, 1.400]
	Supplementary	14	2.14±1.61				
Decrease in vital energy	Regular (1st to 3rd grade)	90	2.43±1.82	1.099	0.281	0.43 (M)	[-0.551, 1.592]
	Supplementary	14	1.86±1.83				
Depressive thoughts	Regular (1st to 3rd grade)	90	0.74±1.02	0.584	0.561	0.05 (N)	[-0.533, 0.756]
	Supplementary	14	0.57±1.08				
SRQ-20 Total	Regular (1st to 3rd grade)	90	7.23±4.70	0.377	0.707	0.23 (S)	[-2.545, 3.677]
	Supplementary	14	6.71±5.29				

Source: Research data, 2025.

Table 19

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 2025

Factor	High School	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	All/most public school	92	1.99±1.34	0.174	0.862	0.05 (N)	[-0.770, 0.880]
	All/most private school	12	1.92±1.44				
Somatic symptoms	All/most public school	92	2.39±1.80	-1.099	0.274	0.33 (S)	[-1.653, 0.348]
	All/most private school	12	3.00±1.80				
Decrease in vital energy	All/most public school	92	2.35±1.87	-0.122	0.903	0.03 (N)	[-0.970, 0.790]
	All/most private school	12	2.42±1.44				
Depressive thoughts	All/most public school	92	0.72±1.01	0.194	0.846	0.05 (N)	[-0.757, 0.701]
	All/most private school	12	0.66±1.15				
SRQ-20 Total	All/most public school	92	7.01±4.72	-0.903	0.369	0.27 (S)	[-4.274, 1.527]
	All/most private school	12	8.33±5.12				

Source: Research data, 2025.

Table 20

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 2025

Factor	High School Course Type	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	Regular (1st to 3rd year)	82	2.00±1.30	0.279	0.781	0.04 (N)	[-0.546, 0.766]
	Technical/Supplementary	22	1.91±1.54				
Somatic symptoms	Regular (1st to 3rd year)	82	2.59±1.87	1.356	0.178	0.20 (N)	[-1.117, 1.359]
	Technical/Supplementary	22	2.00±1.48				
Decrease in vital energy	Regular (1st to 3rd year)	82	2.52±1.84	1.838	0.065	0.31 (S)	[-0.700, 1.520]
	Technical/Supplementary	22	1.73±1.63				
Depressive thoughts	Regular (1st to 3rd year)	82	0.73±0.99	0.201	0.841	0.16 (N)	[-0.508, 0.577]
	Technical/Supplementary	22	0.68±1.17				
SRQ-20 Total	Regular (1st to 3rd year)	82	7.40±4.71	0.987	0.326	0.10 (N)	[-1.196, 3.284]
	Technical/Supplementary	22	6.27±4.94				

Source: Research data, 2025.

Table 21

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 2025

Factor	Time since high school completion	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	Last year and up to 5 years ago	60	1.98±1.35	0.022	0.985	0.00 (N)	[-0.509, 0.557]
	6 years or more	44	1.98±1.35				
Somatic symptoms	Last year and up to 5 years ago	60	2.48±1.90	1.143	0.887	0.02 (N)	[-0.600, 0.718]
	6 years or more	44	2.43±1.69				
Decrease in vital energy	Last year and up to 5 years ago	60	2.52±1.90	1.049	0.297	0.20 (N)	[-0.355, 1.097]
	6 years or more	44	2.14±1.70				
Depressive thoughts	Last year and up to 5 years ago	60	0.81±1.04	1.107	0.254	0.21 (S)	[-1.555, 0.606]
	6 years or more	44	0.59±0.99				
SRQ-20 Total	Last year and up to 5 years ago	60	7.58±4.37	1.050	0.328	0.20 (N)	[-0.938, 3.020]
	6 years or more	44	6.59±5.25				

Source: Research data, 2025.

4.5.6 Previous Higher Education Experience

The experience of having previously attended another higher education course showed a statistically significant difference only for the "decrease in vital energy" factor. Students who had already attended another higher level course showed significantly lower means in this factor (M=1.78, SD±1.62) compared to those without this experience, with a medium effect size (Hedge's G=0.43) (Table 22).

Table 22

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 2025

Factor	Attended another higher education course	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	Yes	27	2.04±1.45	0.250	0.803	0.05 (N)	[-0.524, 0.710]
	No	77	1.96±1.32				
Somatic symptoms	Yes	27	2.33±1.96	-0.427	0.670	0.09 (N)	[-0.939, 0.571]
	No	77	2.51±1.75				
Decrease in vital energy	Yes	27	1.78±1.62	-1.936	0.042	0.43 (M)	[-1.519, -0.098]
	No	77	2.56±1.86				
Depressive thoughts	Yes	27	0.74±1.12	0.114	0.909	0.02 (S)	[-0.435, 0.496]
	No	77	0.71±0.99				
SRQ-20 Total	Yes	27	7.93±5.48	0.966	0.337	0.21 (S)	[-1.167, 3.162]
	No	77	6.90±4.49				

Source: Research data, 2025.

Even more accentuated, having completed another higher education course showed statistically significant differences in the factors "decrease in vital energy" and "SRQ-20 Total." Students who fully completed a previous course showed significantly lower means in these aspects (M=1.31, SD±1.13 and M=3.81, SD±2.81, respectively), with medium (Hedge's G=0.68) and high (Hedge's G=0.86) effect sizes (Table 23). This suggests that successful and complete academic experience can develop more effective coping strategies.

Table 23

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 2025

Factor	Completed the course	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	Not applicable / not completed	88	1.89±1.33	-1.686	0.0705	0.45 (M)	[-1.252, 0.096]
	Completed	16	2.50±1.36				
Somatic symptoms	Not applicable / not completed	88	2.49±1.81	0.357	0.684	0.09 (N)	[-0.818, 1.248]
	Completed	16	2.31±1.81				
Decrease in vital energy	Not applicable / not completed	88	2.55±1.86	2.548	0.001	0.68 (M)	[0.607, 1.896]
	Completed	16	1.31±1.13				
Depressive thoughts	Not applicable / not completed	88	0.73±0.99	0.405	0.583	0.10 (N)	[-0.608, 0.699]
	Completed	16	0.62±1.20				
SRQ-20 Total	Not applicable / not completed	88	7.77±4.80	3.190	0.001	0.86 (H)	[2.446, 5.428]
	Completed	16	3.81±2.81				

Source: Research data, 2025.

4.5.7 Sources of Funding

Finally, the "sources of funding" variable also showed significant differences for the factors "somatic symptoms," "decrease in vital energy," and for the total SRQ-20 score (Table 25).

Table 25

Comparative analysis of sociodemographic variables and SRQ-20 total and by factors. Santa Fé do Sul-SP, 2025

Factor	Sources of funding	n	Mean±SD	t	p-value	ES	CI
Depressive/anxious mood	Own resources	53	1.89±1.41	-0.722	0.472	0.14 (N)	[-0.712, 0.313]
	Family/apply for scholarship	51	2.08±1.29				
Somatic symptoms	Own resources	53	1.98±1.68	-2.861	0.009	0.55 (M)	[-1.618, -0.326]
	Family/apply for scholarship	51	2.96±1.81				

Decrease in vital energy	Own resources	53	1.87±1.69	-2.872	0.008	0.55 (M)	[-1.673, -0.353]
	Family/apply for scholarship	51	2.86±1.83				
Depressive thoughts	Own resources	53	0.58±0.96	-1.384	0.170	0.26 (S)	[-0.653, 0.071]
	Family/apply for scholarship	51	0.96±1.07				
SRQ-20 Total	Own resources	53	6.09±4.65	-2.384	0.018	0.46 (M)	[-3.978, -0.412]
	Family/apply for scholarship	51	8.27±4.67				

Source: Research data, 2025.

Participants who used "own resources" to fund their studies showed significantly lower means in "somatic symptoms" (M=1.98, SD±1.68; Hedge's G=0.55, medium effect), "decrease in vital energy" (M=1.87, SD±1.69; Hedge's G=0.55, medium effect), and in the total SRQ-20 score (M=6.09, SD±4.65; Hedge's G=0.46, medium effect). This suggests that financial autonomy is associated with lower levels of psychic suffering.

In summary, the results section outlined a worrying panorama of nursing students' mental health, with moderate stress levels and a high prevalence of risk for minor mental disorders. Gender disparities, personal income, parenthood, and previous academic experience emerged as key factors modulating psychic well-being in this group.

5 DISCUSSION OF FINDINGS

The analysis of the results of this study on perceived stress and psychic morbidity in nursing students, in relation to their sociodemographic determinants, reveals a multifaceted scenario that corroborates and expands the existing literature in the field of university mental health. The following discussion integrates the findings with theoretical and empirical references, offering an in-depth understanding of the complex interactions between academic life, personal factors, and psychological well-being.

5.1 THE SCENARIO OF MENTAL HEALTH VULNERABILITY IN NURSING STUDENTS

The finding that 55.80% of the evaluated nursing students showed a risk for minor mental disorders (MMD), along with moderate levels of perceived stress (mean PSS = 20.82), is an alarming datum that aligns perfectly with the body of contemporary research. The nature of the nursing course, which involves continuous contact with human suffering, significant responsibilities, and a high theoretical and practical workload, creates an intrinsically stressful environment. Academic demands, the need to adapt to new contexts, long study routines, and pressure for performance are consistently pointed out as triggers for stress and mental disturbances (Lavoie-Tremblay et al., 2022).

The most prevalent symptoms identified – "feeling nervous, tense, or worried," "frequent headaches," "getting tired easily," and "feeling tired all the time" – are classic manifestations of common mental disorders (CMD), which the SRQ-20 aims to screen. These findings underline that mental suffering is not limited to purely psychological aspects but expresses itself somatically, affecting students' vital energy. The high frequency of these symptoms indicates an overload that can compromise not only individual well-being but also the learning capacity and future professional performance of these academics, echoing the concerns raised by Aloufi et al. (2021) and Merino-Soto et al. (2024).

It is imperative that educational institutions recognize this reality and implement early prevention and intervention strategies. Passivity in the face of these indicators of suffering can lead to serious consequences, such as the worsening of psychopathological conditions, poor academic performance, dropout, and the formation of professionals with already fragile mental health even before fully entering the job market.

5.2 THE INTERCONNECTIVITY OF PSYCHIC SUFFERING SYMPTOMS

The correlation analysis between SRQ-20 factors and PSS offers a finer lens to understand the dynamics of psychic suffering. The strong positive correlation between "depressive/anxious mood" and "somatic symptoms," "decrease in vital energy," and "depressive thoughts" points to a complex interconnectivity between these domains. This suggests that the experience of negative affective states, such as anxiety and depression, does not manifest in isolation but permeates the body and mind, affecting vitality and cognition. The finding that the correlation between depressive/anxious mood and somatic symptoms is statistically stronger than with negative thoughts highlights the importance of addressing the physical manifestations of mental suffering, which can often be underestimated or disregarded. This is especially relevant in nursing, where students are trained to identify and intervene in physical symptoms but may have difficulty recognizing their psychosomatic roots.

In contrast, "perceived stress" (PSS) showed positive, but weak, correlations only with "decrease in vital energy" and "depressive thoughts." The total SRQ-20 score, in turn, did not correlate significantly with any other variable. This distinction is crucial. Although stress is a risk factor and a trigger for MMD symptoms, the absence of strong correlations with the total SRQ-20 suggests that perceived stress and psychic morbidity are related but not identical constructs, and that the full manifestation of MMD may depend on a more complex network of factors beyond the immediate perception of stress (Mohamed et al., 2022). Mental health is a multifactorial phenomenon, and the evaluation of different dimensions of suffering

is fundamental for a more precise diagnosis and intervention, avoiding the simplification of a complex problem.

5.3 SOCIODEMOGRAPHIC FACTORS: RISKS AND PROTECTIONS

The investigation into the influence of sociodemographic variables on mental health scores revealed crucial risk and protective factors, offering valuable insights for planning targeted and more effective actions.

5.3.1 Gender and Identity: An Exacerbated Vulnerability

Gender disparity in the mental health of nursing students was one of the most striking findings of the study. Both biological female sex and identification as a woman were associated with significantly higher levels of perceived stress and greater psychic morbidity, with effect sizes classified as medium to high. These results are consistent with the vast literature that points to a higher prevalence of anxiety and depression disorders in women, both in the general population and in specific subgroups, such as university students (Dabney et al., 2023; Berdida, 2023).

The reasons for this female vulnerability are complex and multifaceted, involving an interaction of biological, social, cultural, and contextual factors. From a sociocultural perspective, women frequently face distinct gender expectations and pressures, which include domestic and caregiving responsibilities, in addition to socialization that may encourage the internalization of emotions or the expression of suffering in more easily identifiable ways. Many university students, especially in nursing, accumulate "multiple journeys," reconciling academic demands with family, domestic, and sometimes professional responsibilities, resulting in physical and mental overload (Cao et al., 2025).

The nature of the nursing course, predominantly female, can also intensify these pressures. Constant exposure to emotionally draining situations, combined with performance expectations and the high degree of empathy required, can further burden female students. This scenario reinforces the need for educational institutions to implement psychosocial support policies and programs sensitive to gender issues, recognizing and addressing the disproportionate burdens that many women carry.

5.3.2 Parenthood: An Unexpected Protective Factor

Contrary to the initial intuition that parenthood would add an extra burden to academic life, the study revealed that having children can act as a protective factor for the mental health of nursing students. Those without children showed a greater "decrease in vital energy" and

a higher "total SRQ-20 score," with medium to high effect sizes, compared to those with one or more children.

This resilience observed in student parents can be explained by several perspectives (Borrell-Porta et al., 2023; Hargreaves et al., 2025). The demands of parenthood can foster the development of enhanced time management, organizational, and prioritization skills. The need to balance multiple responsibilities can lead these students to optimize their routines and resources, translating into greater efficiency and a lower perception of academic overload. Furthermore, the presence of children can provide a powerful sense of purpose and intrinsic motivation. The pursuit of academic training, driven by the desire to provide a better future for the family, can offer a broader perspective on university challenges, making them less overwhelming and strengthening perseverance. The experience of parenthood demands and develops a high degree of maturity and resilience, enabling individuals to deal more effectively with adversities and to maintain vitality in the face of pressures.

This finding highlights the importance for educational institutions to recognize the unique strengths and competencies that student parents bring to the university environment, moving away from prejudices and seeking to understand the sources of resilience within this subpopulation.

5.3.3 Personal Income: The Cruel Socioeconomic Reality

The socioeconomic dimension, specifically personal income, emerged as one of the most significant predictors of students' mental health. Those with lower personal income (≤ R$ 1,000.00) exhibited a substantially higher risk of psychic morbidity, with significantly higher means in the "total SRQ-20 score" and a high effect size.

This finding corroborates a vast literature that points to socioeconomic deprivation as a chronic stressor and a fundamental determinant of mental health (Shapiro et al., 2023). Financial difficulty, for students, transcends the mere scarcity of resources; it manifests as a constant source of anxiety and insecurity, impacting the ability to afford studies, transportation, food, and housing. This "allostatic load" can lead to a depletion of psychological resources and severely limit access to leisure activities, health services, and the ability to disconnect from academic pressures. The need to reconcile studies with work for subsistence can generate an exhaustive double journey, compromising study and rest time and intensifying physical and mental exhaustion.

The implications for university policies are clear: it is fundamental to develop and strengthen financial aid programs, scholarships, and facilitated access to resources to alleviate economic pressure on low-income students. The integration of psychosocial

support services that understand and address the complex interactions between mental health and socioeconomic factors becomes indispensable to promote a more equitable academic environment conducive to the well-being and success of all students.

1.5.3.4. Previous Higher Education Experience: Building Resilience

Previous experience in higher education courses, and especially their completion, proved to be a notable protective factor for the mental health of nursing students. Those who had already attended another higher level course, and especially those who completed it, showed lower levels of "decrease in vital energy" and a lower "total SRQ-20 score," with medium to high effect sizes.

This finding suggests that living in a previous university environment provides a valuable set of skills and knowledge that promote greater resilience in the face of the demands of the new nursing degree (Labrague et al., 2025; Catarelli et al., 2023). Familiarity with academic dynamics – time management, interaction with professors, access to university resources – can reduce anxiety and stress. In addition to procedural familiarity, previous experience can equip students with a more robust repertoire of coping strategies. Having overcome the challenges of a previous degree may have developed in them greater self-confidence in their ability to deal with academic pressures, as well as to identify and seek support when necessary.

The implications of this result are relevant for planning academic support and reception programs. Institutions can focus their intervention and support efforts more intensely on freshmen who enter directly from high school or who do not have this prior experience, offering them specific guidance and resources for the development of coping and adaptation skills to the university environment (Visier-Alfonso et al., 2024).

5.3.5. Financial Autonomy: The Control that Protects

In line with the relevance of personal income, the main source of funding for studies also emerged as a distinguishing factor. Students who used "own resources" to finance their education showed lower means in "somatic symptoms," "decrease in vital energy," and in the "total SRQ-20 score," with medium to high effect sizes.

This finding reinforces the hypothesis that financial autonomy and the capacity for self-sufficiency confer a significant sense of control and security, crucial elements for mental health. When a student is responsible for their own expenses, they can experience a reduction in the anxiety and worries that frequently accompany financial dependence. This independence can mitigate the stress resulting from uncertainty about continuous support, the pressure not to "waste" third-party investment, or the accumulation of future debts. The perception of being able to cover one's own academic and personal expenses fosters a

feeling of self-sufficiency and self-efficacy, positive psychological attributes that are recognized as protective factors against stress and promoters of resilience (Berdida et al., 2023).

Although the use of own resources may imply a double journey (work and study), the fact that this choice is autonomous and provides the necessary sustainability seems to have a protective effect. This contrasts with situations where low income is an imposed and unmanaged condition, generating greater insecurity. Educational institutions should, therefore, consider not only the provision of resources but also how these resources are made available to foster the student's autonomy and sense of control.

5.3.6. Variables without Significant Difference: Reflections and Perspectives

An equally important aspect of the analysis is the identification of sociodemographic variables that did not show statistically significant differences in relation to perceived stress scores or minor mental disorders and their factors. Variables such as religion, type of prior education, time since high school completion, and employment status did not prove to be determining factors in this study.

Non-statistical significance, in this context, does not imply absolute irrelevance, but suggests that the influence of these factors may be more complex, mediated by other variables, or that, for the sample in question, their impact was masked by other more prominent elements. Literature frequently attributes a protective role to religiosity in mental health (Aryuwat et al., 2023), but the absence of significance in this study may indicate that, for this specific population, the benefits of religious practice were not sufficient to generate an observable statistical difference, perhaps due to the predominance of other stressors.

Similarly, employment status (working or not working) did not show a statistically significant impact on mental health. Although reconciling work and study is commonly pointed out as a stressor (Tsui & Adam, 2023), it is possible that students who work already have a profile with greater organizational capacity or resilience, or that the stressors inherent in the nursing course are so intense and generalized that they homogenize the experience, minimizing variations that could be observed in other contexts or populations (Wu et al., 2024).

Regarding previous schooling and time since high school completion, the absence of significant differences may suggest that pre-university training or the time since high school completion does not exert a lasting impact on mental health during nursing undergraduate studies. The demands of higher education, especially in a high-demand course like nursing, may be so distinct from previous experiences that current challenges and stressors become more relevant than the characteristics of the prior educational path.

In summary, the results highlight the imperative need to implement personalized and accessible psychosocial support strategies in the university environment. It is crucial that interventions are sensitive to gender differences, offering specific support for female students. Furthermore, financial aid programs and guidance for resource management can mitigate the negative impact of low income on mental health. Valuing previous life and academic experience, as well as considering family support networks (such as parenthood), can inspire the creation of mentorships or support groups among students, where the exchange of experiences and effective coping strategies is encouraged. The university, as a space for integral development, must go beyond technical training, actively recognizing and promoting the mental well-being of its future health professionals, who will be the frontline of care for society.

6 FINAL CONSIDERATIONS

This chapter, based on robust research conducted with nursing students, reaffirms the urgency and relevance of addressing mental health as an essential pillar in academic and professional training. The findings quantified a worrying prevalence of moderate stress and significant risk for minor mental disorders among nursing students, painting a picture of vulnerability that demands immediate attention and strategic interventions.

The investigation revealed a complex web of sociodemographic factors that act both as vulnerability elements and as powerful protectors of psychic well-being. The persistent gender disparity, with female students and those who identify as women presenting higher levels of stress and psychic morbidity, highlights the need for support policies and programs that are sensitive to the specific nuances and social and cultural pressures that this group faces. The weight of socioeconomic inequality, evidenced by higher psychic morbidity among low-income students, also calls for equitable actions and the strengthening of financial aid that can mitigate the chronic stressor of economic instability.

On the other hand, the study brought to light unexpected factors of resilience. Parenthood, for example, emerged as a protective factor, suggesting that family responsibilities can catalyze the development of organizational skills, purpose, and coping. Similarly, previous experience in higher education and financial autonomy, derived from using one's own resources to fund studies, proved to be important bulwarks against psychic suffering, probably by conferring greater maturity, consolidated coping strategies, and a sense of control over one's own trajectory.

Given these findings, it is undeniable that higher education institutions have an urgent responsibility and a central role in promoting the mental health of their nursing students. It is

fundamental that technical and scientific training be complemented by an academic environment that transcends mere teaching, acting as a welcoming and protective space. This implies the implementation of institutional policies that recognize the diversity of the student body, offer personalized psychosocial support, value life experiences, and foster the creation of support and resilience networks. Mentorship programs, stress management workshops, accessible psychological counseling services, and academic flexibility policies for students with additional responsibilities are examples of actions that can make a difference.

Ultimately, the mental health of future nurses is not just an individual issue but a social imperative. Health professionals with psychic well-being are more capable of offering empathetic, safe, and quality care, directly impacting the health of the population. By investing in the mental health of its students, universities are not only training technicians but cultivating robust and resilient human beings, ready for the challenges of a vital and demanding profession, thus contributing to a healthier and more equitable society.

7 STUDY LIMITATIONS AND PERSPECTIVES FOR FUTURE RESEARCH

This study, although providing significant contributions to the understanding of mental health in nursing students, presents limitations inherent to its methodological design that should be recognized and considered in interpreting the results, as well as in guiding future investigations.

One of the main limitations lies in the cross-sectional nature of the study. Although this approach is effective for identifying the prevalence of phenomena and associations between variables at a given point in time, it does not allow establishing cause-and-effect relationships. This means that, although we identified that female sex, low income, or lack of prior academic experience are associated with greater psychic morbidity, it is not possible to state, from this design, that these factors are the direct cause of mental suffering. Longitudinal studies would be necessary to track the evolution of symptoms and the real temporal influence of determinants.

Additionally, the use of self-report instruments (SRQ-20 and PSS), although validated and widely accepted, may be subject to response biases. Participants may, consciously or unconsciously, distort their responses due to social desirability (answering what they believe to be socially acceptable) or a subjective and varied understanding of the questions. Although anonymity was guaranteed, the stigma associated with mental health problems can still influence responses.

Another important limitation concerns the study sample. Although representative of the specific institution where the research was conducted (UNIFUNEC), the origin from a single university may limit the generalization of results to other academic realities, geographical regions, or types of educational institutions (public versus private). Contextual, cultural, and socioeconomic differences can distinctly influence the mental health of students in other environments. Furthermore, the sample size (n=104), although adequate for the proposed analyses, may have restricted the ability to identify statistically significant differences in smaller subgroups or to perform more complex analyses, such as multifactorial predictive models that considered the interaction between multiple variables.

Given these limitations, important perspectives for future research emerge:

Longitudinal Studies: It would be highly valuable to conduct longitudinal studies that follow nursing students from admission to course completion. This approach would allow understanding the trajectory of psychic suffering, identifying risk and protective factors that act at different stages of training, and establishing more robust causal relationships.

Mixed Approaches (Quantitative and Qualitative): The combination of quantitative methods, as used in this study, with qualitative approaches (in-depth interviews, focus groups) could deepen the understanding of the underlying mechanisms by which parenthood, financial autonomy, and prior academic experience influence mental health. Students' narratives and lived contexts would enrich numerical data, offering a more holistic and contextualized view.

Multi-center Studies: Conducting multi-center research, involving various higher education institutions (public and private) in different regions of Brazil, would be crucial to broaden the external validity and generalization of the findings. This would allow for a more comprehensive overview of the mental health of nursing students in the country and identify regional or institutional specificities.

Investigation of Other Factors: Future studies could explore the influence of other factors not addressed in detail in this work, such as social support (family, friends, institutional), coping strategies used, the impact of specific stressful life events, the type of bond with the institution, and exposure to traumatic experiences during clinical internships.

Development and Evaluation of Interventions: Based on the findings of research like this, it is fundamental that future initiatives focus on the rigorous development, implementation, and evaluation of psychosocial intervention and support programs in universities. The effectiveness of these interventions, aimed at the most vulnerable groups and strengthening protective factors, would need to be systematically measured.

By considering these limitations and exploring the proposed perspectives, the academic community can build an increasingly solid and applicable body of knowledge, effectively contributing to the promotion of mental health and well-being of future nursing professionals, who are the frontline of care for society.

REFERENCES

Aloufi, M. A., Jarden, R. J., Gerdtz, M. F., & Kapp, S. (2021). Reducing stress, anxiety and depression in undergraduate nursing students: Systematic review. Nurse Education Today, 102, Article 104877. https://doi.org/10.1016/j.nedt.2021.104877

Almarzouki, A. F. (2024). Stress, working memory, and academic performance: A neuroscience perspective. Stress, 27(1), Article 2364333. https://doi.org/10.1080/10253890.2024.2364333

Aryuwat, P., Asp, M., Lövenmark, A., Radabutr, M., & Holmgren, J. (2023). An integrative review of resilience among nursing students in the context of nursing education. Nursing Open, 10(5), 2793–2818. https://doi.org/10.1002/nop2.1555

Berdida, D. J. E. (2023). Resilience and academic motivation's mediation effects in nursing students' academic stress and self-directed learning: A multicenter cross-sectional study. Nurse Education in Practice, 69, Article 103639. https://doi.org/10.1016/j.nepr.2023.103639

Berdida, D. J. E., Lopez, V., & Grande, R. A. N. (2023). Nursing students' perceived stress, social support, self-efficacy, resilience, mindfulness and psychological well-being: A structural equation model. International Journal of Mental Health Nursing, 32(5), 1390–1404. https://doi.org/10.1111/inm.13158

Borrell-Porta, M., Contreras, V., & Costa-Font, J. (2023). Is employment during motherhood a "value-transforming experience"? Advances in Life Course Research, 56, Article 100528. https://doi.org/10.1016/j.alcr.2023.100528

Cao, C., Chen, D., & Zhou, Y. (2025). Perceived stress and academic procrastination among higher vocational nursing students: The mediating roles of positive and negative emotions. BMC Nursing, 24(1), Article 36. https://doi.org/10.1186/s12912-025-01736-5

Cardoso, P. F. (2022). Prevalence of anxiety and depression in Brazilian university students: An integrative review [Monograph]. Federal University of Rio de Janeiro.

Catarelli, B., Nobles, P., Aull, M., & Yi, F. (2023). Evaluating burnout and resiliency in new graduate nurses: A cross-sectional study. Journal of Nursing Administration, 53(5), 259–265. https://doi.org/10.1097/NNA.0000000000001280

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. Journal of Health and Social Behavior, 24(4), 385–396. https://doi.org/10.2307/2136404

Dabney, B. W., Linton, M., July, J., & Miles, M. (2023). RN-to-BSN student reports of work experiences, academic performance, and program progression during the COVID-19

pandemic. Nursing Outlook, 71(4), Article 102019. https://doi.org/10.1016/j.outlook.2023.102019

Derrick, B., Toher, D., & White, P. (2016). Why Welch's test is type I error robust. The Quantitative Methods for Psychology, 12(1), 30–38. https://doi.org/10.20982/tqmp.12.1.p030

Diniz, G. C. (2023). Promoting mental health in schools: Strategies and interventions for student well-being. Revista Multidisciplinar do Nordeste Mineiro, 9(1), 1–12.

Faria, E. L., Silveira, E. A. A., & Viegas, S. M. F. (2023). Everyday undergraduate experiences and the impact on students' mental health: Scoping review. SciELO Preprints. https://doi.org/10.1590/SciELOPreprints.2744

Field, A. P. (2018). Discovering statistics using IBM SPSS statistics (5th ed.). Sage.

Grice, J., Barrett, P., Schlimgen, L., & Abramson, C. (2017). Four bad habits of modern psychologists. Behavioral Sciences, 7(3), Article 53. https://doi.org/10.3390/bs7030053

Hargreaves, S., Ayton, J., Young, S., & Hansen, E. (2025). Young mothers' experiences of maternity care: A qualitative research synthesis. Midwifery, 143, Article 104305. https://doi.org/10.1016/j.midw.2025.104305

Haukoos, J. S., & Lewis, R. J. (2005). Advanced statistics: Bootstrapping confidence intervals for statistics with "difficult" distributions. Academic Emergency Medicine, 12(4), 360–365. https://doi.org/10.1197/j.aem.2004.11.018

Iacoponi, E., & Mari, J. J. (1989). Reliability and factor structure of the Portuguese version of Self Reporting Questionnaire. International Journal of Social Psychiatry, 35(3), 213–222. https://doi.org/10.1177/002076408903500304

Labrague, L. J., Rosales, R. A., Arteche, D. L., Santos, M. C., Calimbas, N. L., Yboa, B. C., Sabio, J. B., Quina, C. R., Quino, L. Q., & Apacible, M. A. (2025). Psychological resilience as a mediator between nurse faculty support and student nurses' clinical adjustment: Implications for nursing education. Journal of Professional Nursing, 57, 1–7. https://doi.org/10.1016/j.profnurs.2025.01.001

Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for t-tests and ANOVAs. Frontiers in Psychology, 4, Article 863. https://doi.org/10.3389/fpsyg.2013.00863

Lavoie-Tremblay, M., Sanzone, L., Aubé, T., & Paquet, M. (2022). Sources of stress and coping strategies among undergraduate nursing students across all years. Canadian Journal of Nursing Research, 54(3), 261–271. https://doi.org/10.1177/08445621211073459

Lenhard, W., & Lenhard, A. (2014). Hypothesis tests for comparing correlations. Psychometrica. https://www.psychometrica.de/correlation.html

Matos, E. R. M., & Mato, F. R. (2022). Instruments for measuring student burnout syndrome: Integrative literature review. Revista Psicologia IMED, 14(1), 121–140.

Merino-Soto, C., Angulo-Ramos, M., Llaja-Rojas, V., & Chans, G. M. (2024). Academic performance, emotional intelligence, and academic burnout: A cross-sectional study of a mediational effect in nursing students. Nurse Education Today, 139, Article 106221. https://doi.org/10.1016/j.nedt.2024.106221

Mohamed, Z., Jit Singh, G. K., Dediwadon, N. S., Mohamad Saleh, N. A., Jupri, N. N., & Ganesan, Y. (2022). Adult personality and its relationship with stress level, coping mechanism and academic performance among undergraduate nursing students. Malaysian Journal of Medical Sciences, 29(5), 117–125. https://doi.org/10.21315/mjms2022.29.5.10

Nunes, L. F. O. M., Silva, T. A. S. M., Silva, E. A., Souza, A. S., Ricci, A. Q., & Alves, M. (2022). The impacts of academic trajectory on the mental health of undergraduate students. Revista Pró-UniverSUS, 13(1), 118–123.

Oliveira, N. P., Rocha, A. B., Paz, C. S., & Brasileiro, A. L. (2022). Signs and symptoms of anxiety and depression in nursing students: Literature review. Research, Society and Development, 11(11), Article e254111133396. https://doi.org/10.33448/rsd-v11i11.33996

Razali, N. M., & Wah, Y. B. (2011). Power comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling tests. Journal of Statistical Modeling and Analytics, 2(1), 21–33.

Rocha, M. W. D. (2019). Instruments for stress assessment in nursing students: An integrative review [Monograph]. Federal University of Rio Grande do Sul.

Santos, K. O. B., Araújo, T. M., & Oliveira, N. F. (2009). Fatorial structure and internal consistency of the Self-Reporting Questionnaire (SRQ-20) in an urban population. Cadernos de Saúde Pública, 25(1), 214–222. https://doi.org/10.1590/S0102-311X2009000100023

Santos, K. O. B., Araújo, T. M., Pinho, O. S., & Silva, A. C. C. (2010). Evaluation of a psychic morbidity measurement instrument: Validation study of the self-reporting questionnaire (SRQ-20). Revista Baiana de Saúde Pública, 34(3), 544–560.

Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: Appropriate use and interpretation. Anesthesia & Analgesia, 126(5), 1763–1768. https://doi.org/10.1213/ANE.0000000000002864

Shapiro, A. L., Coddington, H., Beckman-Sirk, K., & Raschella, R. (2023). Stress, sleep, and resilience among rural BSN students in a new nursing program. Nurse Educator, 48(6), E186–E190. https://doi.org/10.1097/NNE.0000000000001492

Tsui, J., & Adam, S. (2023). Resilience in nursing education: An evolutionary concept analysis. International Journal of Nursing Education Scholarship, 20(1). https://doi.org/10.1515/ijnes-2022-0056

Visier-Alfonso, M. E., Sarabia-Cobo, C., Cobo-Cuenca, A. I., Nieto-López, M., López-Honrubia, R., Bartolomé-Gutiérrez, R., Alconero-Camarero, A. R., & González-López, J. R. (2024). Stress, mental health, and protective factors in nursing students: An

observational study. Nurse Education Today, 139, Article 106258. https://doi.org/10.1016/j.nedt.2024.106258

Wu, X., Lu, Y., Zeng, Y., Han, H., Sun, X., Zhang, J., Wei, N., & Ye, Z. (2024). Personality portraits, resilience, and professional identity among nursing students: A cross-sectional study. BMC Nursing, 23(1), Article 420. https://doi.org/10.1186/s12912-024-02120-5