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Academic performance, adaptation and mental health of nursing students: A cross-sectional study

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ABSTRACT

Aim: To evaluate the institutional indicators of academic success, performance and failure and to identify the factors that influence the performance, academic adaptation and mental health of nursing students.
Design: Descriptive, cross-sectional study.
Methods: Data collection was performed between April 2018 and January 2020, focusing on academic data of nursing students (n = 348) and answers to a questionnaire with active students of the course with at least two years since admission (n = 88).
Results: Academic data indicates negative trends on academic failure and dropouts. Mean academic performance was 7.56 out of 10 and ALEQ-r results showed high academic adaptation in all dimensions, except in the personal dimension of scale. The prevalence of depressive symptoms reported was 60.2% (95%CI: 49.8–70.1%) and presented as predictors of this condition both academic performance and adaptation.
Conclusions: There was found a trend in academic failure and dropouts among nursing students, as well as a relevant prevalence of depressive symptoms despite good average of academic adaptation and academic performance.

1. Introduction

Led by the World Health Organization (WHO) and the International Council of Nurses, the Nursing Now global campaign seeks to empower nursing professionals to take their place at the center of 21st century health challenges and maximize their contribution to achieve the universal health coverage. to promote the valorization of the nursing profession, one of the priority goals is to invest in improvements in nursing education (Crisp and Iro, 2018).

The same perspective for healthcare access and quality is found in the United Nations Sustainable Development Goals that envision to "ensure healthy lives and promote well-being for all at all ages" by 2030 (United Nations, 2021). Therefore, emerges an important discussion about the need to improve and invest in the education of nurses (Pan American Health Organization, 2019), who have a direct impact in populations health indicators and healthcare system success.

The high demand of these professionals globally and their key role for health access and quality of care implies challenges in the education of qualified nurses. From the students' perspective, the academic path is full of obstacles and stress-generating situations that have a negative impact on academic success (Mthimunye and Daniels, 2019; York et al., 2015) and on other aspects of life.

Academic success is a complex construct about the student's experience (York et al., 2015), regarding the following aspects:

- Academic achievements, measured through grades (for courses or tasks) and GPA (Grade Point Average);
- Satisfaction with the course and the university; career aspiration; acquisition of skills and competences;
- Persistence, related to staying in the course (retention); and
- Reaching the learning outcomes predicted by the course.

Within this construct, persistence in the course and academic performance are components strongly influenced by internal and external factors, like motivation to complete the course and engagement and pedagogical and familiar support, respectively (Maroco et al., 2020; York et al., 2015; Lancia et al., 2018). Factors such as difficulty in academic adaptation, to process information and to solve problems, in addition to the struggle in time management, maintenance of study routines and workload have influenced the onset of anxiety and

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depression in nursing students (Maroco et al., 2020; Northall et al., 2016; Tung et al., 2018).

Despite academic adaptation is an important indicator of academic success, it has been scarcely explored by studies on nursing education (Carleto et al., 2018). This construct includes aspects of the student's perception of physical and psychological well-being, as well as the relationship with colleagues and professors, career perspective, studying skills, time management and the perception of the educational institution quality (Granado et al., 2005).

In addition, the relevant prevalence of depression in nursing students (Facioli et al., 2020; Tung et al., 2018), often higher than in the general population (World Health Organization, 2017), arouse alerts to the associated personal and academic factors that such conditions can trigger, raising the need to support students. Therefore, understanding how the stressors influence the academic path and how they are generated is essential for the prevention of these problems.

Despite research indicates many factors that influence low academic performance (Dante et al., 2016; Lancia et al., 2018; Mthimunye and Daniels, 2019), it is still necessary to understand their interrelations and specificities in the search for the improvement of the nurse's education process, important gap in the literature. Therefore, this study aimed: 1. to evaluate the institutional indicators of academic success, performance and failure; 2. to identify the factors that influence the performance, academic adaptation and mental health of nursing students.

2. Methods

2.1. Design and settings

This is a descriptive and cross-sectional study with a quantitative approach, and it was conducted with nursing students at a Brazilian public university. The undergraduate nursing course admits 50 students annually, that graduate after 4396 h of studies in both theory and clinical practice, during 10 semesters. Clinical practice starts in the first semester, providing initial contact with the healthcare system reality, while students take courses in nursing and other health sciences concomitantly. From the fourth semester on, specific nursing disciplines represent the majority and clinical hours are more significant, especially in the last two semesters during final practicum when the students develop 880 h of clinical practice in different settings of primary health and hospitals.

2.2. Data collection and participants

This study was developed between April 2018 and January 2020 and data collection was performed in two different phases: Phase 1 – Institutional characterization of academic data from the information system of all nursing students that reached the minimum time to conclude the course (n = 348); and Phase 2 - Questionnaire about mental health, performance and academic experiences by 88 active nursing students with at least two years since admission.

For the classification of the student's academic success and analysis of their academic path, success was attributed to those who completed the course in the expected time; while those who have not yet completed the program were lagging in the curriculum flow. The students who abandoned the course without completing it were categorized as dropouts. As a variable of academic performance, the Grade Point Average (GPA), measured on a scale of 0–10, was adopted as a common parameter used by the institution to integrate data such as grades in the disciplines, class hours taken, and number of courses attended.

In the second phase of data collection, the 88 students were asked to complete an electronic questionnaire observing the inclusion criteria: being a nursing academic with at least two years since admission in the course. Students admitted by transfer were not enrolled in this study, as this type of admission may not represent the full academic experience and become be a bias. It is due to the possibility of transferred students to be dismissed of equivalent disciplines completed in the original institution.

For this phase of the study, 154 students were eligible and all of them were invited to participate in the study. After the invitation through e-mail, 88 undergraduate nursing students accepted to participate, representing 57.1% of the population.

2.3. Instruments

Academic Life-Experiences Questionnaire – reduced (ALEQ-r) was developed in Portugal (Almeida et al., 1999) and validated in Brazil (in Portuguese *Questionário de Vivências Acadêmicas reduzido – QVA-r*) (Granado et al., 2005) where had reached excellent reliability (Cronbach's $\alpha = 0.908$). The instrument presents 55 questions on a Likert scale from 1 to 5 and is divided into five dimensions that aim to analyze: Personal dimension (perceptions of physical and psychological well-being); Interpersonal dimension (relationship and bonding with peers); Course/Career dimension (adaptation to the course and career perspective); Study dimension (study skills, habits and time management); and Institutional dimension (adaptation to the institution, use of the resources provided by it and perception of the quality of services) (Almeida et al., 1999).

Beck Depression Inventory-II (BDI-II) is a symptomatic scale developed by Beck et al. (1996), used to track depression symptoms in various populations and was validated in Brazil by Cunha (2001) reaching excellent reliability (Cronbach's $\alpha = 0.948$). This instrument presents 21 items, with four response statements each and scoring from 0 to 3, depending on the statement selected. Exceptionally, the items 16 and 18 present seven statements with no variation in the score system and the respondents choose the answer more applicable to themselves to describe how their feelings for the past two weeks, including the day of responding the instrument.

2.4. Data analysis

Statistical analysis was performed in the R statistical program, version 4.0.3. and the R *ggplot2* statistical package were used to create the graphs (Wickham, 2016). The quantitative variables were described as frequencies, means and standard deviations. To verify normality, the Shapiro-Wilk test was used. The Chi-square test for trend was used to analyze the trend of the academic indicators. The Kruskal-Wallis test, followed by the Dunn test with Bonferroni adjustment, was used to analyze academic performance and fails.

For the analysis of the ALEQ-r, 3.00 was adopted as the cut-off for the classification of good academic adaptation (Soares et al., 2006); and, for BDI-II, the scores indicated minimum (0−11), mild (12−19), moderate (20−35) and severe (36−63) levels of depressive symptoms.

In the bivariate analysis, for the parametric variables, we adopted the Student's *t*-test for independent samples and, for the non-parametric variables, the Wilcoxon test (Rank-Sum) for independent samples. The Odds-Ratio with 95% confidence intervals and the Chi-square test of independence were estimated to verify the relationship with the qualitative variables and the depressive symptoms. A multiple linear regression, through the Backward method, which was used to identify a model for predicting depressive symptoms. A confidence level of 95% ($p < 0.05$) was established in all the analyses.

2.5. Ethical aspects

The research project was approved by the research ethics committee (number 2446,291) and all the stages of the study observed the national and international current ethical recommendations.

3. Results

3.1. Institutional indicators (n = 348)

With an annual mean of 58 students between 2010 and 2015, most of the students (44.8%; n = 156) completed the course in the minimum time, while 26.4% (n = 92) dropped out of the course and 28.7% (n = 100) remained on their academic path with some lag in the curriculum flow. A decreasing trend was observed in the percentage of students who completed the course in the minimum time [$X^2(1) = 35.897$; $p < 0.001$] and an increasing trend in dropout [$X^2(1) = 15.622$; $p < 0.001$] and lag in the curriculum flow [$X^2(1) = 7294$; $p = 0.006$] (Fig. 1).

Greater negative outcomes were observed among new students in 2013 and 2014 regarding dropout and lag in the curriculum flow, as well as in the distribution of academic failures per year of enrollment [H (5) = 51.493; $p < 0.001$] (Fig. 2A) and, among the 348 students, 59.2% (n = 206) presented fails in their academic path.

With regard to the GPA, the Kruskal-Wallis test showed a significant difference in academic performance among new students from different years [H(5) = 76.110; $p < 0.001$], suggesting a decrease in academic performance over the analyzed years (Fig. 2B).

Analyzing the difference of GPA means between the academic population (n = 348/μ = 7.36) and the sample that answered the questionnaire (n = 88/μ = 7.56), a p-value = 0.12 was verified, confirming the null hypothesis that the students had a GPA mean statistically equal to the population that did not answer the questionnaire, favoring statistical inference for more students in the same context.

3.2. Academic indicators (n = 88)

3.2.1. Characterization of the sample

The mean age of the sample was 23.02 years old (±2.69), with a predominance of women (94.31%; n = 83), single (89.77%; n = 79), non-white (52.27%; n = 46) and living with parents or spouses (69.31%; n = 61). Nearly 13.7% (n = 12) of the sample reported working, up to 20 h a week (8%; n = 7), between 21 and 39 h a week (2.3%; n = 2) and over 40 h a week (3.4%; n = 3).

3.2.2. Academic performance, adaptation and depressive symptoms

It was found a GPA mean of 7.56 (±0.93). The ALEQ-r mean score (3.53 ± 0.47) showed high academic adaptation and 81.8% of the sample presented scores above 3.00. Except for the Personal dimension (2.87 ± 0.85), high academic adaptation was verified in the Interpersonal (3.20 ± 0.67), Career/Course (3.90 ± 0.65), Study (3.24 ± 0.78) and Institutional (4.29 ± 0.48) dimensions.

The prevalence of depressive symptoms reported among the students was 60.2% (95% CI: 49.8–70.1%) and from those, 20.5% (n = 18) reported mild symptoms, 13.6% (n = 12) moderate symptoms and 26.1% (n = 23) severe symptoms.

3.2.3. Relationship with the sociodemographic and academic variables

Bivariate analyses were performed to verify the relation of the sociodemographic and academic variables with performance, adaptation and depressive symptoms (Table 1).

Aiming to understand the relationship between academic adaptation, measured by ALEQ-r, with color and lag in the curriculum flow, the independent *t*-test was used to assess which dimensions of the instrument had influenced the result. Thus, the analysis demonstrated that the Study dimension [$t(86) = -2.40$; $p = 0.018$] was better for white individuals and the Personal [$t(81) = -4.70$; $p < 0.001$], Interpersonal [$t(81) = -3.89$; $p < 0.001$] and Study dimensions [$t(81) = -4.55$; $p < 0.001$], were better for students without lag in the curriculum program.

3.2.4. Multiple linear regression

Multiple linear regression revealed that GPA, ALEQ-r score and its personal and study dimensions, in addition to living with parents or spouses, were predictors of the score for depressive symptoms (Table 2), being able to explain 74.6% of the variation in the BDI-II scores [$Z(5.82) = 52.3$; $p < 0.001$; Adjusted $R^2 = 0.746$].

4. Discussion

4.1. Institutional indicators

Almost half of the students admitted in the nursing course graduated on time, which is similar to the national graduation rate for all courses (45.6%) (Lima and Zago, 2018), but still alarming and drawing attention to educational policies for the prevention of academic failure and actions to strengthen the adaptation of students to university.

Dropout occurs due to difficulties in adapting to university, including sociodemografic factors such as age, gender and having an employment contract; and academic factors, related to the difficulty in acquiring skills, performance, development of critical thinking, need for support and academic engagement and burnout (Mthimunye and Daniels, 2019; Maroco et al., 2020).

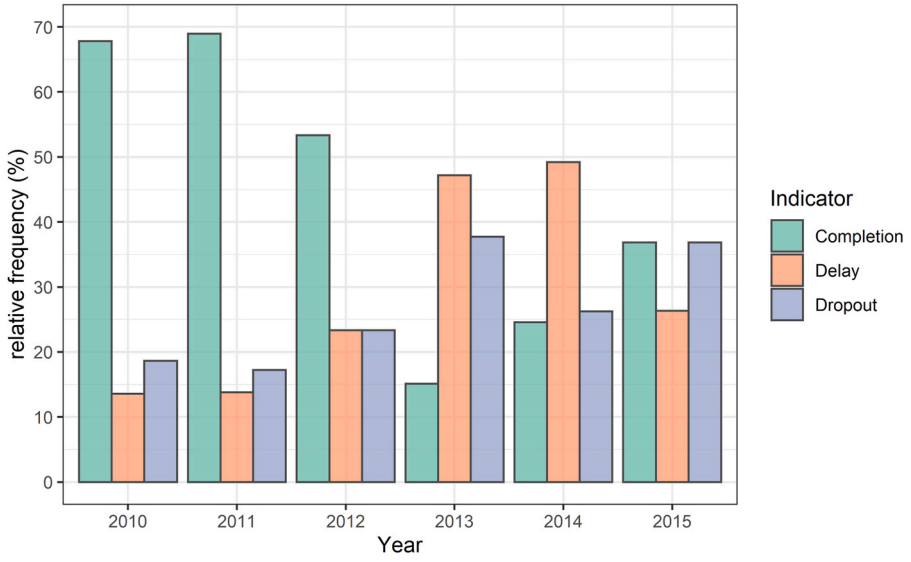

Fig. 1. Academic indicators of nursing students from a Brazilian Public University among the new students from 2010 to 2015 (N = 348).

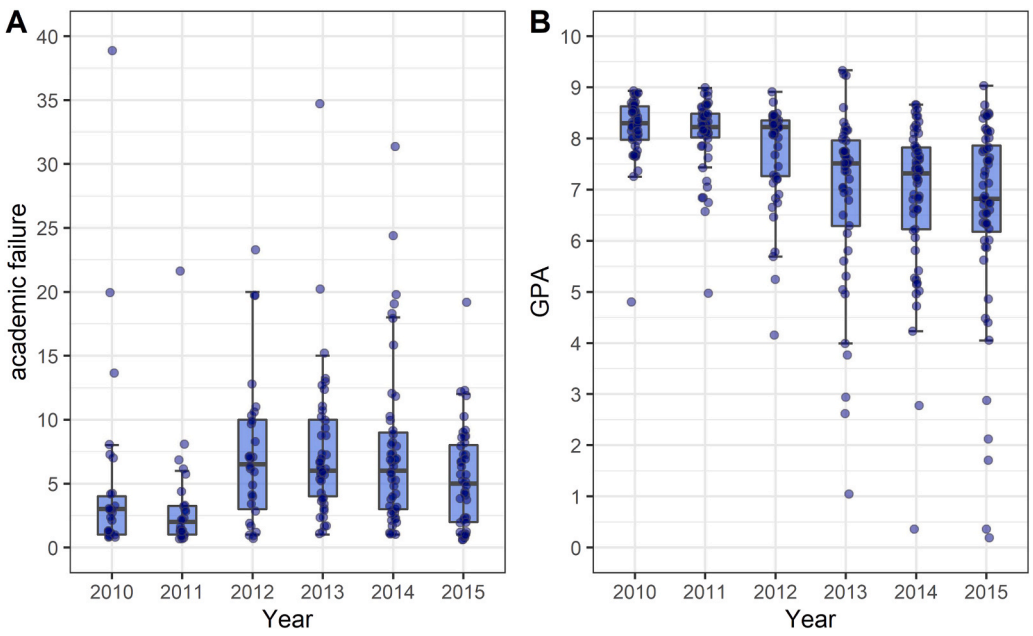

Fig. 2. GPA and academic failure of nursing students from a Brazilian Public University among the new students from 2010 to 2015 (N = 348).

This is not an exclusive phenomenon of nursing in Brazilian higher education, as denoted in studies from other areas of knowledge (Lima and Zago, 2018) in the country, as well as in the international scenario (Van Hoek et al., 2019; Roso-Bas et al., 2016), with dropout rates varying between 20% and 30%, corroborating the results of this study, which was 26.4%.

The high dropout rates found in this study may be associated with many factors such as early entry into higher education, reflected in the possible difficulty of academic adaptation (Mthimunye and Daniels, 2019), learning difficulties (Lima and Zago, 2018) and burnout (Maroco et al., 2020). A recent study found that burnout among university students is a predictor of dropout and it is usually due to workload, time pressure, conflicts and personal demands (Maroco et al., 2020). To address this challenge in the universities, it is possible to improve academic tutoring and counseling (Chan et al., 2019), as well as to promote students' engagement, provide coping strategies and social support with guided interventions (Maroco et al., 2020).

In this study, we had observed a decline in graduation using the minimum time and an increase both in lag in the curriculum flow and in dropout among students from different years, alerting to the need for assertive actions by professors and educational managers. Santos et al. (2017) reinforce the importance of university and permanence policies in different perspectives in the student's decision to stay or dropout, such as infrastructure, course curriculum, use of active methodologies and scholarships.

The mean lag in the curriculum program was 28.7%, increasing over the years, being 30 times higher among those enrolled in 2014 compared with 2010, emphasizing the need to understand differences in curriculum changes and related factors as well as students' profile. It is necessary to the universities to be attentive to the factors that interfere in the teaching-learning processes, identifying the students' profile, their learning needs and the weaknesses in the curriculum, improving the processes involved especially regarding the pedagogical project of courses.

It is an important point of discussion as it interferes in the dynamics of the institution's course coordination, in the number of qualified nurses per year acting in the healthcare system and in cost management, which can negatively affect universities and the State in the case of public or State-subsidized universities and the student's savings, when this occurs in the context of private institutions.

The frequency of students with academic failure was higher than the findings of Elmir et al. (2019) (20%) in a recent Australian study. Such indicators provide essential information for decision-making regarding strategic planning, especially when coping with low academic performance, that generates onerous costs to the public administration (Andriola and Castro Araújo, 2016).

A study carried out with the same population as this study showed that academic failures occurred mainly in the first two years of graduation and were associated with students aged 22 or over, family income below 2 minimum wages and lag in the curriculum program, suggesting the need for psychological and pedagogical support for students (Oliveira-Silva et al., 2021).

Corroborating these results, a recent study evaluated the perception of nursing students who had failed in one or more subjects in the first year of the course. It identified the following factors related to this phenomenon: difficulty in adapting to the university (academic writing, large amount of content to study, multitasking), lack of family support and need for work, resulting in stress and feelings of frustration in the students (Elmir et al., 2019), which can be a trigger for depression.

It appeared especially important among black and brown students, considering the statistically significant values for this population in the mental health instrument as well as in the Study domain of ALEQ-r, which contains the variables: method of study, knowledge basis, time management and anxiety during evaluations. It could be related to difficulty in adaptation to the school dynamics over the years endorsed by social challenges of equality.

4.2. *Prevalence of depressive symptoms*

A prevalence of depressive symptoms (60.2%) was identified in the sample. In a systematic review, a global prevalence of 34.0% was identified (95% CI: 28.0–40.0%) in nursing students (Tung et al., 2018), emphasizing the preoccupant findings in the present study. Similar results were found by studies in the past showing a consistent challenge that university did not overcome through the years, as Chatterjee et al. (2014) (63.3%), Papazisis et al. (2014) (61.8%), Urasaki et al. (2009) (67.8%), found in India, Cyprus and Japan, respectively.

Prevalence data raises concerns, considering that the findings reveal a rate higher than other studies with nursing students in Brazil (Facioli et al., 2020; Pinheiro et al., 2020) and internationally, as previously

Table 1
Association of the study variables with performance, adaptation, and depressive symptoms.

Variables	N	GPA		ALEQ-r		Depressive Symptoms			
		Mean (SD)	p-value[a]	Mean (SD)	p-value[b]	Yes (%)	No (%)	OR (95% CI)	p-value[c]
Gender									
Female	83	7.58 (±0.89)	0.935	3.52 (±0.46)	0.876	49 (59.0)	34 (41.0)	0.36(0.03–3.36)	0.644[d]
Male	5	7.24 (±1.51)		3.49 (±0.66)		4 (80.0)	1 (20.0)		
Age									
≤22 years old	40	7.72 (±0.95)	0.108	3.56 (±0.46)	0.452	24 (60.0)	16 (40.0)	0.98(0.41–2.31)	0.968
≥23 years old	48	7.43 (±0.89)		3.49 (±0.48)		29 (60.4)	19 (39.6)		
Marital status									
Single	79	7.61 (±0.85)	0.879	7.60 (±0.85)	0.775	49 (62.0)	30 (38.0)	2.04(0.50–8.20)	0.474[d]
Married/Stable union	9	7.20 (±1.45)		7.20 (±1.45)		4 (44.4)	5 (55.6)		
Color									
White	42	7.74 (±0.66)	0.254	3.63 (±0.38)	0.032*	22 (52.4)	20 (47.6)	0.53(0.22–1.26)	0.15
Non-white	46	7.41 (±1.1)		3.42 (±0.52)		31 (67.4)	15 (32.6)		
Living with									
Parents/Spouse	61	7.51 (±0.96)	0.436	3.52 (±0.46)	0.991	39 (63.9)	22 (36.1)	1.64(0.65–4.12)	0.285
Others	27	7.67 (±0.84)		3.52 (±0.52)		14 (51.9)	13 (48.1)		
Work									
Yes	12	6.95 (±1.11)	0.018*	3.41 (±0.39)	0.404	10 (83.3)	2 (16.7)	3.83(0.78–18.71)	0.113[d]
No	76	7.66 (±0.86)		3.54 (±0.48)		43 (56.6)	33 (43.4)		
Family income									
Up to 2 MWs	27	7.32 (±1.09)	0.112	3.42 (±0.43)	0.194	21 (77.8)	6 (22.2)	2.83(1.05–7.65)	0.035*
More than 2 MWs	59	7.68 (±0.81)		3.57 (±0.49)		31 (52.5)	28 (47.5)		
School									
Public	47	7.4 (±1.12)	0.211	3.47 (±0.45)	0.259	33 (70.2)	14 (29.8)	2.47(1.03–5.93)	0.04*
Private	38	7.75 (±0.6)		3.58 (±0.51)		20 (52.6)	18 (47.4)		
Affirmative Action**									
Yes	37	7.47 (±0.99)	0.675	3.48 (±0.41)	0.441	27 (73.0)	10 (27.0)	2.59 (1.04–6.44)	0.037*
No	51	7.63 (±0.88)		3.56 (±0.51)		26 (51.0)	25 (49.0)		
Fails									
Yes	60	7.24 (±0.91)	<0.001*	3.46 (±0.45)	0.057	40 (66.7)	20 (33.3)	2.30 (0.92–5.76)	0.07
No	28	8.25 (±0.48)		3.66 (±0.50)		13 (46.4)	15 (53.6)		
Lag in the Curriculum Flow									
Yes	56	7.19 (±0.92)	<0.001*	3.42 (±0.44)	<0.001*	38 (67.9)	18 (32.1)	3.07 (1.18–7.94)	0.018*
No	27	8.29 (±0.45)		3.80 (±0.41)		11 (40.7)	16 (59.3)		

Note:
* $p < 0.05$.
** Public policy regulated by Law 12,711/2012 aimed at allocating vacancies for entry into Higher Education to students from minority groups, coming from public schools with a family income of less than 1.5 minimum wages or self-declared black-skinned, brown-skinned or indigenous students; MWs = Minimum Wages; OR = Odds-Ratio; CI = Confidence Interval;
[a] : Wilcoxon test (Rank-Sum);
[b] : Student's *t*-Test;
[c] : Pearson's Chi-Square Test;
[d] : Fisher's Exact Test.

Table 2
Multiple linear regression model for the prediction of the depressive symptoms.

Model	*β*	Standard error	*t*-test	p-value
Constant	76.198	7.857	9.953	<0.001*
GPA	-1.365	0.840	-1.625	0.107
ALEQ-r total score	-7.697	2.734	-2.816	0.006*
ALEQ-r Personal dimension	-10.456	1.268	-8.249	<0.001*
ALEQ-r Study dimension	2.403	1.274	1.887	0.062
Living with (Parents/Spouses)	-2.555	1.102	-2.319	0.022*

Note:
* $p < 0.05$; $R^2 = 0.761$; Adjusted $R^2 = 0.746$.

presented. This study identified that students from public schools who have a family income of less than 2 minimum wages or who entered higher education through affirmative actions, are more likely to have depressive symptoms, once again highlighting the influence of social factors on academic success and the need for public policies.

Considering the change in admission process in public universities with the implementation of affirmative actions and the democratization of access to higher education in recent years, people who were historically excluded from the university in Brazil began to participate of this context (Pereira Souza, 2020). To maintain expanded access, the results of the present study suggest that this population should be the focus of permanence policies and strategies for recognizing the needs for learning and academic adaptation, initiatives that are already present in the university under study.

In addition, the results of this study did not allow us to infer whether students developed depressive symptoms before or after entering higher education. However, future research can address when it appears in this population.

4.3. Academic performance

Most of the students (65.9%) had a regular academic performance, with working, failing and lagging in the curriculum program being predictors of low performance. Although the minority of the students work, this variable was significantly associated with lower performance. It was similar to the findings of a recent study (Oliveira-Silva et al., 2021) and it reinforces the students' difficulty in reconciling work and study, especially when considering that the course is offered full time at the institution under study.

4.4. Academic adaptation

The participants in this study showed a good level of academic adaptation verified by the mean ALEQ-r score, with higher mean values in the Institutional dimension. Conceptually, these results suggest that

the students understand and enjoy the university, are adapted to the infrastructure and are interested in remaining in the institution (Soares et al., 2006).

The Career/Course dimension was also highlighted, suggesting that the students identify themselves with the Nursing course and have expectations of professional fulfillment. However, the Personal dimension had a lower mean, suggesting that the students have a low perception of physical and psychological well-being (Soares et al., 2006).

These findings are aligned with those from the national literature (Carleto et al., 2018; Soares et al., 2016) and instigate the challenge of following-up these students and offering support services, especially considering the prevalence of depressive symptoms found in the sample. It is worth noting that, regarding this finding, the participants had access to the results of the research and were instructed to seek the mental health support service offered by the university.

Statistically, color of skin and lag in the curricular flow had an impact on academic adaptation in general, showing higher integration in all domains (personal, career, study, interpersonal and institutional) for white people and students with no lag in the curricular flow. It can be due to the impact of social conditions throughout students' life, affected by history and to difficulties related to what happens in students' life after academic failure (Dante et al., 2016), such as negative judgment, barriers to sustain contact with friends and need to integrate in new groups of students and so on (Mthimunye and Daniels, 2019).

The findings showed borderline indexes in the Interpersonal and Study dimensions, that represent the students' engagement with the course and the comprehension and participation of institution's dynamics.

4.5. Predictors of the depressive symptoms

Emphasizing findings from other studies (Mthimunye and Daniels, 2019; Chen et al., 2015), the multiple linear regression reinforced that the academic path is complex and that situations both internal and external to the academic experience can influence the onset of depressive symptoms. Furthermore, these findings reinforce the role of self-perception, interpersonal relationships and family support as protective factors against psychosomatic disorders (Carleto et al., 2018).

Corroborating the findings of the present study, Chen et al. (2015) identified a negative correlation between depression and academic performance, reinforcing that, as stressors have an impact on the onset of anxiety and depression, they also influence the students' study behaviors and, consequently, their academic performance. Despite the academic performance verified by the GPA being present in the regression model, it did not obtain statistical significance.

Similarly, the study behaviors were present in the model, despite no statistically significant. However, in another study carried out with the same population, assertive study behaviors – like following the pace of classmates, making good time management, keeping the academic work always up to date, establishing priorities with regard to the organization of time and being effective in preparing for the tests – were protective factors against academic failures and consequently, for emotional and psychosocial aspects, which that can be improved with psychopedagogical support to the student (Oliveira-Silva et al., 2021).

4.6. Limitations

Limitations are related to the inclusion of only one university in the study, however, the institution is an important pole for the formation of nurses in the Brazilian scenario, receiving students from different regions of the country. In addition, we suggest future studies in the area through the mixed method design, which can contribute to present the panorama, as well as analyze it in depth.

5. Conclusions

The institutional indicators of academic success showed an increase in dropout, lag in the curricular flow and failures per student, in addition to a decrease in completion rates in minimum time and academic performance. Academic performance and adaptation were predictors of depressive symptoms, suggesting that not only external situations, but those experienced in the academic context also have an impact on the mental health of nursing students.

The results suggest the need for greater investment in institutional policies for psychological and pedagogical support, which can influence students' decision to stay or dropout. We conclude that other necessary measure is to analyze the nursing curriculum in the perspective of pedagogical approaches, educational philosophy, structure and flexibility and promote strategies for students' engagement, autonomy and leadership.

This investigation contributes to education in nursing aiming to analyze students' academic path and educational trajectory to become a nurse, potentially leading to improvement strategies. We suggest that new studies be carried out to identify a causal relationship between the variables analyzed, in addition to assessing the impact of affirmative action policies on the path of nursing students.

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CRediT authorship contribution statement

George Oliveira Silva: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Writing – original draft, Writing – review & editing. **Natália Del Angelo Aredes:** Conceptualization, Data curation, Formal analysis, Methodology, Writing – original draft, Writing – review & editing. **Hélio Galdino-Júnior:** Conceptualization, Investigation, Methodology, Project administration, Supervision, Writing – original draft, Writing - review & editing.

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Conflict of interest

None.

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