



Research article

Characteristics and determinants of the academic goals in nursing education: A cross-sectional study

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ABSTRACT

Background: Academic goals guide the learning mode of nursing students, focus their objectives and influence the acquisition of skills. However, research on academic goals and related variables is scarce.

Objective: To study the relationship between different sociodemographic and academic variables with the type of academic goal in nursing students at the Universitat Jaume I (Spain).

Design: Cross-sectional study conducted between September 2020 and June 2021.

Settings and participants: Undergraduate nursing students at Universitat Jaume I ($n = 263$).

Methods: The Academic Goal Orientation questionnaire was administered. In addition, the variables age, gender, route to university, previous health studies, previous training in critical thinking, degree year and average grade on academic record were collected. A descriptive analysis of the sample and an analysis of the association between variables were performed. In addition, exploratory multinomial logistic regression was performed.

Results: The nursing students preferred the Learning Goal (95.8%; $n = 263$), and this increased among the students as their average grade increased. The results of the multivariate analysis indicated that students with a lower average grade, those from advanced years and those without previous training in critical thinking preferred the Work Avoidance and Self-defeating Ego Goals.

Conclusion: The preferred goal among the students was learning. The variables that influenced the type of goal were year, average grade and previous training in critical thinking.

1. Introduction

Nurses are responsible for providing comprehensive, effective, safe and high-quality care to individuals and communities. To maintain these standards, motivated and competent professionals are required, with a high level of training, who can face uncertain challenges in the near future. There is no single definition of motivation since it is a complex concept, but in general, it consists of a personal impulse based on internal or external factors that guide the actions of a person and determine the persistence of the behaviour to meet certain needs or achieve certain goals (Miller, 2016).

Nurses acquire these skills and training in educational program that aim to ensure a suitable and appropriate experience for the student and

where motivation plays an important role. According to Pekrun's theoretical model, academic motivation is the set of processes involved in the activation, direction and persistence of behaviour that guides students towards the achievement of certain academic goals (Pekrun et al., 2006). During their studies, aspects related to the personal situation of each student or characteristics of the educational program can affect their academic goals and affect the acquisition of skills and learning outcomes (Lee et al., 2010), potentially leading to dropout (Mooring, 2016). However, there is little research on academic goals and factors that can affect academic motivation in nursing students.

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2. Background

In a heterogeneous group of students, each one sets its own objectives and makes use of various learning strategies and approaches (Palos, 2018). Since all tasks and teaching-learning activities have a varying degree of difficulty, each student decides how much time and effort they dedicate to those tasks that they believe will allow them to achieve a positive balance between the three components of academic motivation: i) the motivational component of value (the importance of the task from a subjective perspective of the student); ii) the expectation component (self-perception they have about their ability to perform the task); and iii) the affective or emotional component (feelings generated by the student regarding the task). Theories on academic motivation suggest that these three components orient the behaviour of students towards achieving academic objectives or goals (Navea Martín, 2012).

An academic goal is the ultimate goal to which efforts are directed, and goal orientation is defined as the planning of mental processes and the motivational approaches that students adopt to carry out tasks (Barkur et al., 2013). The concept of academic goal becomes important because it defines the content and direction of individual motivation for academic success or failure in a teaching-learning process (Sparfeldt et al., 2015).

Skaalvik (1997) proposed four types of academic goals: i) learning goal or task orientation when the student wants to learn, focusing on their mission and ignoring external rewards (Senko et al., 2013); ii) Work Avoidance goal when the student performs tasks with minimal effort and avoids learning situations that require effort (Deemer et al., 2010); iii) Self-enhancing Ego orientation towards improvement when the student wishes to show-off his or her abilities to others; iv) Self-defeating Ego orientation when the student focuses his or her interests on not being judged negatively by others. In the two ego orientation goals, students seek some type of recognition and not so much to increase their knowledge (Zong et al., 2017).

In turn, the four academic goals can be encompassed in two dimensions. One according to the reference used to assess performance (intrapersonal or normative) and another according to the interpretation of the possibility of success or failure (positive/approach or negative/avoidance) (Elliot and McGregor, 2001). For example, the learning goal is considered intrapersonal because it aims to achieve the requirements of the task itself, with the purpose of achieving its own maximum potential and, at the same time, is considered positive for approaching the possibility of success. In contrast, the Self-defeating Goal is classified as normative because it uses the performance of others as a reference and negative because it focuses its interests on the undesirable possibility of failure and the fear of failing or appearing incompetent (March and Robinson, 2015).

Studies conducted in the United States (March and Robinson, 2015), Spain (Navea Martín, 2012), Romania (Palos, 2018), Colombia (Manrique-Abril et al., 2020), Turkey (Filiz et al., 2018) and Egypt (Khalifa, 2016) agree that the learning goal or task orientation is the most frequent among nursing students. However, nursing students can pursue different academic goals at the same time (Navea Martín, 2012), and these can be different depending on the academic year (Manrique-Abril et al., 2020). In addition, the type of academic goal can affect learning outcomes (Kim et al., 2016) and the way of facing theoretical and practical assessment tests; for example, fear of failure increases anxiety levels in students with Self-defeating orientation (March and Robinson, 2015). The Self-defeating Goal has also been related to burnout (Kim et al., 2016), poorer critical thinking skills (Martyn et al., 2014; Shakurnia and Baniasad, 2018) and a greater risk of hiding mistakes in clinical practice (Dunn, 2014).

The aforementioned studies show a clear relationship between academic goals and academic outcomes of nursing students and even with their well-being. In fact, some authors suggest that nursing curricula should be based on learning goals and that teachers should have the opinion of students about their goal orientation (Filiz et al., 2018).

Identifying the orientation of the academic goals of nursing students and related variables could help in the review of educational curricula, development and evaluation of educational interventions or in the selection and orientation of students and adaptation of content throughout the curriculum (Barkur et al., 2013; Filiz et al., 2018). However, there are few studies on academic goals and factors that can affect academic motivation in nursing students.

Thus, the general objective of this study was to study the relationship between different sociodemographic and academic variables with the type of academic goal in nursing students at the Universitat Jaume I (Spain). In addition, possible differences in academic outcomes were analysed according to the type of academic goal.

3. Methods

3.1. Study design

We carried out a cross-sectional observational study for the Jaume I University (Spain) nursing degree between September 2020 and June 2021 to study the academic goals of nursing students and to determine their relationship with the study variables.

3.2. Setting and participants

The study population was composed of 420 nursing students from Jaume I University. All students enrolled in one of the four years of the nursing degree and who were present in the classroom on the day that the data were collected were included. Students who did not wish to participate and questionnaires that were not fully completed were excluded. Participants were included through nonprobabilistic convenience sampling.

3.3. Variables and instruments

Sociodemographic variables such as age (between 17 and 26 years; between 27 and 36 years; more than 37 years) and gender (male; female) and other variables related to the studies such as year (first; second; third; fourth) were collected. Average grade of academic record (less than 3; between 3 and 4.9; between 5 and 6.9; between 7 and 8.9; between 9 and 10; does not know), access to university (professional training; baccalaureate; tests of access; other university degrees), previous health studies (professional training; university; informal training; no) and previous training on critical thinking (yes; no).

The academic goals of the students were studied with the Skaalvik Academic Goal Orientation Questionnaire (1997). This questionnaire has 16 items that pose questions about the approaches that guide student learning and are answered with a Likert scale of five levels (1: In total disagreement; 5: In total agreement). The items are organized in four dimensions, according to the types of academic goal orientation: (i) Learning Goal (Items 1,5,9,16); (ii) Self-enhancing Ego Goal (Items 2,6,10,13); (iii) Self-defeating Ego Goal (Items 4,7,11,14); (iv) Work Avoidance Goal (Items 3,8,12,15). The questionnaire does not offer an overall score, but rather each student is classified into his or her predominant academic goal expressed as the one with the highest average score. Navea Martín (2012) validated this questionnaire in a sample of 103 Spanish nursing students, with an average reliability with Cronbach's alpha (α) of 0.72 points and respecting the original structure of the questionnaire validated by Skaalvik (1997). In this study, a value of $\alpha = 0.70$ was obtained.

3.4. Data collection

Data collection took place between October and December 2020, taking advantage of ordinary in-person classes at the university. Before administering the questionnaires, a member of the research team informed the students about the purpose and methodology of the study,

as well as its anonymous and voluntary nature. To ensure a representative sample of the population, data collection took place in paper format. To guarantee the safety of the participants in the face of the COVID-19 pandemic, the researchers respected at all times the measures of social distancing, mandatory use of masks and hand-washing before, during and after data collection.

3.5. Data analysis

First, a descriptive analysis of the sample and the results of the questionnaire was performed. Taking into account that the Academic Goal Orientation Questionnaire (Skaalvik, 1997) classifies each student into a single academic goal according to the highest average scoring goal, both a quantitative descriptive (analysis of the score with means and standard deviation) and qualitative (analysis of the classification of the students into the different goals with percentages and frequencies) analyses were conducted.

Second, a bivariate quantitative and qualitative analysis was performed to detect associations between the different academic goals and the variables included in the study. On the one hand, comparisons between qualitative variables were studied with the chi-square test (X^2) or with Fisher's exact test (F) when the sample in one of the groups was less than 5 subjects. On the other hand, in the quantitative analysis, the conditions for applying parametric tests were verified using the Kolmogorov-Smirnov test (normality) and the Bartlett test (homoscedasticity). If these conditions were met, Student's *t* test was used to compare the scores of the questionnaire between two groups, and one-way analysis of variance (ANOVA) was used in the case of three or more groups. When the application conditions were not met, the Mann-Whitney *U* test (two groups) or the Kruskal-Wallis test (three or more groups) was used.

Finally, a multivariate analysis was performed using an exploratory multinomial logistic regression. This regression predicts the probability of belonging to each of the categories of the dependent variable. Thus, the type of academic goal was considered a dependent variable, and the learning goal was taken as a reference because it was the predominant goal in the sample. The rest of the variables included in the study were considered independent variables, and the step-by-step method was used, introducing the variables one by one until the best possible model was found. This process was performed manually since it was not automated in the statistical program. The Nagelkerke pseudo- R^2 Determination Coefficient (R^2N) was used as a measure of goodness of fit and to determine the variability explained by the model. Values close to 0.5 are considered acceptable (Agresti, 2002). The statistical analysis was performed with the program Jamovi V1.6.11, and a significance level of $p < 0.05$ was considered in the hypothesis comparisons.

3.6. Ethical considerations

This study was approved by the Deontological Commission of the Jaume I University (file: CD/67/2020) and had the approval of the Department of Nursing. In addition, the project was designed in accordance with Organic Law 3/2018 of December 5 on Protection of Personal Data and Guarantee of Digital Rights. Thus, no personal data were collected that would allow the identification of the participants. Participants received adequate and sufficient information about the objectives and methodology of the study, as well as its voluntary and anonymous nature, before receiving the questionnaires for completion. At all times, the ethical principles established by the Declaration of Helsinki (nonmaleficence, beneficence, autonomy and justice) were respected.

4. Results

4.1. Descriptive analysis of the sample

The study population was composed of 420 nursing students as possible, examined and confirmed participants. A total of 269 questionnaires were returned and included in the study. From them, six were questionnaires were eliminated because they were not fully completed. Thus, a total of 263 questionnaires were analysed, which represents a response rate of 63% of the study population. A total of 90.1% ($n = 237$) of the sample were between 17 and 26 years old, and 83.1% ($n = 217$) were women. A total of 33.1% ($n = 87$) were third-year students, and 81.7% ($n = 215$) had an average grade between 7 and 8.9. Most students entered university after high school (77.9%, $n = 205$), and more than half had no previous health education (58.2%, $n = 153$). A total of 79.8% ($n = 205$) indicated no prior training in critical thinking. Table 1 provides the descriptive analysis of the sample.

4.2. Analysis of the Academic Goal Orientation Questionnaire

The Learning Goal was the most frequent (95.8%; $n = 252$) and obtained the highest average score ($m = 4.61 \pm 0.39$), well above the Self-defeating Ego Goal (3.0%; $n = 8$; $m = 2.68 \pm 0.13$) and the Work Avoidance Goal (1.1%; $n = 3$; $m = 2.14 \pm 0.75$). Finally, the average score of the Self-enhancing Ego Goal was 2.63 (± 0.86), although no student was classified in this goal, and therefore was not included in the qualitative bivariate analysis or in the multivariate analysis.

In the qualitative bivariate analysis, the average grade variable was the only one that showed significant differences with respect to the predominant goal type ($p = 0.003$), so that students with a Work Avoidance Goal had significantly lower grades (Table 2).

Table 3 presents the results of the quantitative bivariate analysis. Thus, the learning goal only showed significant differences with respect to the average grade variable, with significantly higher scores being observed in the group with the highest average grade ($p = 0.022$). The Self-Enhancing Ego Goal did not show significant differences as a

Table 1
Characteristics of the sample.

	% (n)
Age	
Between 17 and 26 years	90.1 (237)
Between 27 and 36 years	5.3 (14)
More than 37 years	4.6 (12)
Gender	
Male	16.9 (46)
Female	83.1 (217)
Year	
First	19.4 (51)
Second	26.6 (70)
Third	33.1 (87)
Fourth	20.9 (55)
Average grade	
Between 5 and 6.9	6.5 (17)
Between 7 and 8.9	81.7 (215)
Between 9 and 10	6.5 (17)
Does not know	5.3 (14)
Access to University	
Baccalaureate	77.9 (205)
Professional training	12.9 (34)
Test access	6.8 (18)
Other university degree	2.3 (6)
Previous health studies	
Professional training	17.9 (47)
University	4.2 (11)
Informal training	19.8 (52)
No	58.2 (153)
Previous training on critical thinking	
Yes	20.2 (52)
No	79.8 (205)

Table 2
Qualitative analysis of the predominant goals and variables included in the study.

	Learning goal (n;%)	Self-defeating Ego Goal (n; %)	Work Avoidance Goal (n;%)	p ^a
Age				0.868
Between 17 and 26 years	226 (89.7)	8 (100.0)	3 (100.0)	
Between 27 and 36 years	14 (5.6)	0 (0.0)	0 (0.0)	
More than 37 years	12 (4.8)	0 (0.0)	0 (0.0)	
Gender				0.329
Male	43 (17.2)	0 (0.0)	1 (33.3)	
Female	207 (82.8)	8 (100.0)	2 (66.7)	
Year				0.467
First	50 (19.8)	1 (12.5)	0 (0.0)	
Second	68 (27.0)	2 (25.0)	0 (0.0)	
Third	82 (32.5)	4 (50.0)	1 (33.3)	
Fourth	52 (20.6)	1 (12.5)	2 (66.7)	
Average grade				0.003
Between 5 and 6.9	15 (6.0)	0 (0.0)	2 (66.7)	
Between 7 and 8.9	207 (82.1)	7 (87.5)	1 (33.3)	
Between 9 and 10	16 (6.3)	1 (12.5)	0 (0.0)	
Does not know	14 (5.6)	0 (0.0)	0 (0.0)	
Access to University				0.729
Baccalaureate	195 (77.4)	8 (100.0)	2 (66.7)	
Professional training	33 (13.1)	0 (0.0)	1 (33.3)	
Test access	18 (7.1)	0 (0.0)	0 (0.0)	
Other university degree	6 (2.4)	0 (0.0)	0 (0.0)	
Previous health studies				0.322
Professional training	46 (18.3)	0 (0.0)	1 (33.3)	
University	11 (4.4)	0 (0.0)	0 (0.0)	
Informal training	51 (20.2)	0 (0.0)	1 (33.3)	
No	144 (57.1)	8 (100.0)	1 (33.3)	
Previous training on critical thinking				0.660
Sí	51 (20.6)	1 (12.5)	0 (0.0)	
No	196 (79.4)	7 (87.5)	2 (100.0)	

^a Chi-square test.

function of any variable. However, the Self-defeating Ego Goal only showed significant differences with respect to the variable previous training in critical thinking, so students who responded not having this training obtained a higher score ($p = 0.010$). Finally, the Work Avoidance Goal showed significant differences depending on the age of the participants, increasing with age ($p = 0.011$). Likewise, the score in this goal increased significantly over the four years ($p = 0.019$), as the average grade dropped ($p = 0.003$) and in students who had not received training in critical thinking ($p = 0.001$).

4.3. Multivariate analysis

No student was classified into the Self-Enhancing Ego Goal and therefore this category was excluded from the multinomial logistic regression. The reference categories were learning goal, age between 17 and 26 years, female gender, first academic year, average grade between 7 and 8.9, access via high school and students without previous health education. The best model included all variables, except previous training in critical thinking. Despite this, the model was not significant and showed an R^2N of 36.6% ($X^2 = 36.5$; $df = 30$; $p = 0.191$).

Table 4 presents the results of the multinomial logistic regression. On the one hand, it was found that there was a greater probability that second-, third- and fourth-year students would have Self-defeating Ego Goals rather than learning goals compared to first-year students ($p < 0.001$). It was also observed that Self-defeating Ego Goals predominated over learning goals in students with excellent grades compared to those with grades "between 7 and 8.9" ($p < 0.001$). On the other hand,

fourth-year students showed a greater preference for the Work Avoidance Goal over the learning goal than first-year students ($p < 0.001$). In turn, the latter showed greater preference for the Work Avoidance Goal than second-year students ($p < 0.001$). It was also found that students with an average grade between 7 and 8.9 were more likely to pursue the Work Avoidance Goal compared to the Learning Goal than those with an excellent average grade ($p < 0.001$) and those who did not know their average grade ($p < 0.001$). Finally, the youngest students were more likely to pursue the Work Avoidance goal ($p < 0.001$).

5. Discussion

The Learning Goal (the student gives importance to wanting to learn as the main motivation) was the most frequent in the studied sample. These results could be justified by the vocational nature of the profession, coinciding with previous studies (Filiz et al., 2018; Kim et al., 2016; Manrique-Abril et al., 2020; Navea Martín, 2012; Palos, 2018). However, no student was classified in the Self-enhancing Ego goal, and only a low percentage of students in the Self-defeating Ego or Work Avoidance Goals, especially in the final years of the degree. Perhaps the current work and health context, with a high demand for nurses (World Health Organization, 2020), decreases the competitiveness of nursing students. However, these results must be interpreted with caution since previous studies indicate that students can pursue several academic goals at the same time (Khalifa, 2016; Navea Martín, 2012). In addition, previous studies on academic goals in nursing students focused on the analysis of the average scores of each goal and not on the classification of students in the different goals, which makes comparisons difficult.

In this study, there were no significant differences in the academic goals of the students as a function of the access route to the university, previous health studies or gender. The results on gender do not coincide with previous studies that indicate that women tend to value the Learning Goal more than men (Filiz et al., 2018) and that men prefer the Self-enhancing Ego Goal (Manrique-Abril et al., 2020). They also do not coincide with other studies suggesting that the Learning Goal is associated with men and the Self-enhancing Ego Goal with women (Khalifa, 2016). However, differences in the cultural context, the perception of sexuality or the small men sample size in this study can influence these differences, so that international studies and with larger samples of men are necessary to explore these aspects.

Another variable of interest is academic performance, measured in this case through the average grade reported by the student. None of the participants in the sample indicated having an average grade lower than 5. The higher the average grade, the higher the Learning Goal score, which could be the consequence of an interest in a deep approach to learning that helps in internalizing the contents learned and obtaining better results (Palos, 2018). On the other hand, the two groups with the worst performance in the study showed a stronger preference for the Work Avoidance Goal, coinciding with another study conducted with medical students (Barkur et al., 2013). However, it is noteworthy that excellent students opted for the Self-defeating Ego Goal over the Learning Goal compared to students with intermediate grades. This fact is contradictory if one considers that the Self-defeating Ego orientation usually generates maladaptive strategies and behaviours in students with respect to learning (March and Robinson, 2015). It may be that the combination of the learning goal (wanting to learn) and the Self-defeating Ego Goal (fear of failing) drives students to achieve excellent results, although it is necessary to confirm this hypothesis in future studies.

Studying the evolution of motivation and academic goals of nursing students throughout the degree can provide relevant information on the structure of the curriculum, academic burden or personal factors that may determine a change in trend. However, this does not seem to arouse great interest in researchers. In this study, it was observed that students in the later years of the degree had a greater preference for the Work Avoidance and Self-defeating Ego Goals than first-year students. More

Table 3
Quantitative analysis of the predominant goals and variables included in the study.

	Academic goals							
	Learning		Self-enhancing		Self-defeating		Work avoidance	
	m (sd)	p	m (sd)	p	m (sd)	p	m (sd)	p
Age ^a		0.438		0.364		0.069		0.011
Between 17 and 26 years	4.61 (0.387)		2.66 (0.851)		2.73 (1.03)		2.13 (0.726)	
Between 27 and 36 years	4.71 (0.365)		2.30 (0.936)		2.25 (1.11)		1.71 (0.634)	
More than 37 years	4.60 (0.559)		2.44 (0.989)		2.21 (1.26)		2.77 (1.05)	
Gender ^b		0.376		0.052		0.07		0.218
Male	4.56 (0.427)		2.89 (0.833)		2.40 (0.925)		2.29 (0.863)	
Female	4.62 (0.388)		2.58 (0.864)		2.74 (1.07)		2.11 (0.728)	
Year ^a		0.356		0.174		0.925		0.019
First	4.65 (0.425)		2.52 (0.866)		2.67 (0.870)		1.87 (0.631)	
Second	4.67 (0.309)		2.56 (0.794)		2.75 (0.988)		2.11 (0.719)	
Third	4.56 (0.438)		2.79 (0.827)		2.67 (1.17)		2.22 (0.673)	
Fourth	4.58 (0.385)		2.57 (0.979)		2.63 (1.12)		2.31 (0.949)	
Average grade ^a		0.022		0.653		0.897		0.003
Between 5 and 6.9	4.38 (0.452)		2.41 (0.960)		2.60 (1.15)		2.68 (0.983)	
Between 7 and 8.9	4.62 (0.377)		2.65 (0.851)		2.71 (1.07)		2.15 (0.725)	
Between 9 and 10	4.71 (0.502)		2.65 (0.791)		2.50 (0.740)		1.78 (0.458)	
Does not know	4.71 (0.365)		2.59 (1.06)		2.64 (1.17)		1.80 (0.827)	
Previous training on critical thinking ^b		0.334		0.914		0.01		0.001
Yes	4.65 (0.393)		2.63 (0.817)		2.35 (0.902)		1.82 (0.572)	
No	4.60 (0.394)		2.62 (0.878)		2.75 (1.07)		2.22 (0.765)	
Previous health studies ^a		0.601		0.857		0.339		0.795
Professional training	4.64 (0.403)		2.59 (0.811)		2.44 (1.08)		2.24 (0.888)	
University	4.52 (0.410)		2.77 (0.480)		2.55 (0.485)		2.11 (0.303)	
Informal training	4.66 (0.335)		2.70 (0.877)		2.77 (0.965)		2.20 (0.832)	
No	4.59 (0.409)		2.61 (0.898)		2.74 (1.10)		2.09 (0.705)	
Access to University ^a		0.112		0.633		0.067		0.676
Baccalaureate	4.60 (0.399)		2.67 (0.864)		2.76 (1.05)		2.13 (0.729)	
Professional training	4.63 (0.390)		2.57 (0.763)		2.54 (0.865)		2.08 (0.795)	
Test access	4.75 (0.364)		2.32 (1.08)		2.08 (1.40)		2.22 (1.01)	
Other university degree	4.42 (0.258)		2.75 (0.548)		2.75 (0.447)		2.42 (0.606)	

^a A Kruskal-Wallis test.

^b Mann-Whitney test.

Table 4
Multinomial logistic regression.

Learning goal Self-defeating Ego Goal				
Predictor	Estimated	Z	p	OR (95CI%)
Year				
Second first	13.417	20.24	<0.001	671,587.5 (183,155.1 992.4)
Third first	13.814	25.916	<0.001	998,863.1 (351,377.1 1145.7)
Fourth first	13.047	15.092	<0.001	463,725.4 (85,190.9 1016.6)
Average grade				
Between 9 and 10 between 7 y 8.9	13.894	15.678	<0.001	435.703 (190,495.8 2481.1)
Learning goal Work Avoidance Goal				
Predictor	Estimated	Z	p	OR (95CI%)
Age				
Between 27 and 36 between 17 and 26	-27.541	-0.018	<0.001	<0.001 (<0.001 <0.001)
Year				
Second first	-3.856	-177.354	<0.001	0.0212 (0.02 0.02) 26,010.8
Fourth first	21.889	23.361	<0.001	(15,262.5 44273.1)
Average grade				
Between 9 and 10 between 7 and 8.9	-2.319	-0.006	<0.001	0.098 (0.098 0.098)
Does not know between 7 and 8.9	-1.935	-24.725	<0.001	0.144 (0.124 0.168)
Model results				
Nagelkerke's R ² = 36.6%; X ² = 36.5; df = 30; p = 0.191.				

research is needed to confirm these results and understand why students enter university with the desire to learn and finish their studies with the intention of making a minimum effort and fear failure. Perhaps this fact can be explained by the gradual development of burnout syndrome in students. Burnout syndrome is defined as the personal circumstance where one feels that they cannot give more of oneself and is accompanied by loss of interest, doubts about one's own abilities and negative criticism towards oneself. A previous study conducted in this same centre suggested that the symptoms of emotional exhaustion and depersonalization that characterize this syndrome increase as students advance (Valero-Chillerón et al., 2019). However, both studies base their conclusions on a cross-sectional study, and it is necessary to carry out a longitudinal study on the same sample throughout the four years of the degree to confirm these hypotheses.

On the other hand, critical thinking is an effective, regular, logical and evidence-based form of understanding that is carried out to make decisions and understand complex information (Shakurnia and Baniasad, 2018). A previous study concluded that critical thinking ability and Learning Goal orientation are associated, both being higher in nursing students than in business, engineering or education students (Poondej et al., 2013). Another study concluded that medical students with a learning goal used more strategies of critical thinking and had more interest in problem solving (Shakurnia and Baniasad, 2018). Our study showed that students who indicated no previous training in critical thinking were oriented more towards Work Avoidance and Self-defeating Ego Goals. However, we believe that it is important to clarify that there is no specific training or education in critical thinking in our nursing degree, beyond individual initiatives of the teaching staff. This can justify the high percentage of students without training in critical thinking and, in addition, this may be biasing these results.

It is necessary to mention that the results of this study should be

interpreted with caution due to a series of limitations that can affect the internal validity of the results and should be considered when generalizing the results. On the one hand, it is a cross-sectional study developed in a single university and with a nonrandomized sample, so the results cannot be extrapolated to other populations. Moreover, it is possible that the variance of the sample was limited since most of the participants were women and third-year students with high mean scores. However, it is necessary to mention that the response rate can be considered adequate according to the recommendations of Nulty (2008) and that it is similar in previous studies that also collected face-to-face data with a paper survey (Manrique-Abril et al., 2020). In addition, the size of the groups can influence the results of the multinomial logistic regression, overestimating the association between the type of academic goal and the variables included in the study. However, it is possible to find previous studies (Cervera-Gasch et al., 2018) that use logistic regression analysis on groups with small sizes.

On the other hand, there are possible information biases, such as systematic error (when the interviewee answers the questions of the Likert scale automatically) and procedural biases (when students want to complete the questionnaire quickly to finish their school day) or measurement biases (possible errors of the researcher when manually transferring the results of the paper questionnaires to the electronic database) related to the instruments and the data collection procedure. In addition, this study was carried out at a time of high uncertainty for students, teachers and educational institutions due to the COVID pandemic, which has led to changes in the teaching and learning methods. In fact, final year students focused more on task avoidance goals and this may be related, for example, to an increase in the stress of clinical practices during the pandemic, the adaptation of the program and teaching methodologies to a new reality or changes in social and family circumstances. Thus, future studies should consider the impact of these variables on academic goals and student burnout.

6. Conclusions

In general, the nursing students of the studied sample pursued a Learning Goal in their studies, while no student was classified solely under the self-enhancing ego goal category. On the other hand, academic outcomes varied depending on the type of academic goal pursued by the student. Thus, students with the highest average grade opted for the learning goal and Self-defeating Ego Goal, while those with low performance presented the Work Avoidance goal. Finally, differences were observed in the type of academic goal depending on the degree year, the average grade and previous training in critical thinking.

Despite the limitations, we think that our results show the importance of learning goals in the teaching-learning process of nursing students and indicate some variables that may influence the choice of academic goal. Thus, knowing the academic goals of students can help teachers in the academic orientation of a student or in the choice of teaching methodologies. Likewise, it can help decision-makers in the review and design of study plans or analysis of the academic burden. However, some of the hypotheses proposed, such as the evolution of academic goals and burnout throughout the degree, the impact of the academic goal on academic outcomes or the relationship between academic goals and critical thinking, require more complex longitudinal studies to be verified and, in addition, other variables related to cultural and social factors such as family environment, lifestyles, income level, work activity, learning tools or use of study techniques should be included.

CRedit authorship contribution statement

The details of authorship of the work are as follows:

- María Jesus Valero Chilleron: analysis and interpretation of data of data, drafting the article.

- Lucía Morán-Lazcano: acquisition, analysis and interpretation of data of data.
- Víctor M González-Chorda: conception and design of the study, revising the article critically for important intellectual content.
- Fred Manrique Gustavo-Abril: conception and design of the study, revising the article critically for important intellectual content.
- Águeda Cervera-Gasch: drafting the article.
- Desirée Mena-Tudela: drafting the article.
- Laura Andreu-Pejo: drafting the article.

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Declaration of competing interest

None.

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