



Profiles of academic stress, evaluation anxiety and resilience: A longitudinal analysis of university dropout intention

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Título: Perfiles de estrés académico, ansiedad ante la evaluación y resiliencia: Un análisis longitudinal de la intención de abandono universitario.

Resumen: El abandono universitario es un problema global que no se ha investigado lo suficiente, a pesar del creciente número de estudios al respecto. La mayoría han adoptado un enfoque transversal, lo que limita la comprensión de los procesos dinámicos que conducen al abandono. El presente estudio tiene como objetivo analizar cómo cambian los perfiles psicológicos de los estudiantes universitarios, caracterizados por los niveles de estrés académico, ansiedad ante la evaluación y resiliencia, a lo largo de tres semestres académicos, y examinar la relación entre estos perfiles y la intención de abandonar la universidad. Se estudió una muestra longitudinal de 307 estudiantes y se realizaron análisis de transición latente. El análisis identificó cuatro perfiles latentes: “vulnerable”, “inquieto”, “equilibrado” y “resiliente”. Los dos primeros perfiles tenían tasas más altas de intención de abandonar los estudios y eran más estables a lo largo del tiempo que los otros dos. Se describe cada perfil y se analiza la influencia del contexto universitario en el desarrollo de la resiliencia, el estrés académico y la ansiedad ante las evaluaciones.

Palabras clave: Abandono. Estrés Académico. Ansiedad ante los exámenes. Resiliencia. Longitudinal.

Abstract: University dropout is a global problem that is under-researched, despite an increasing number of studies. Most of these studies have adopted a cross-sectional approach, which limits the understanding of the dynamic processes leading to dropout. The present study aims to analyse how university students' psychological profiles, characterised by levels of academic stress, evaluation anxiety and resilience, change over three academic semesters and to examine the relationship between these profiles and intention to drop out of university. A longitudinal sample of 307 students was studied and latent transition analyses were conducted. The analysis identified four latent profiles: 'vulnerable', 'restless', 'balanced' and 'resilient'. The first two profiles had higher rates of intention to drop out and were more stable over time than the other two. Each profile is described and the influence of the university context on the development of resilience, academic stress and evaluation anxiety is discussed.

Keywords: Dropout. Academic stress. Test anxiety. Resilience. Longitudinal.

Introduction

Recent decades have seen a notable increase in the number of university students worldwide who choose to stop their courses of study before completing them. The rate of student dropout within the member countries of the Organisation for Economic Co-operation and Development (OECD) varies from 10% to 30% (Hanson, 2024; OECD, 2022). In Spain, the rates are comparable, with the highest rates of dropout observed among first-year students, at approximately 30% (Ministerio de Universidades, 2024).

This has led to increased demand for empirical analysis to identify the underlying causes and to promote specific intervention and prevention measures. Consequently, several theoretical models have been developed to explain the phenomenon of student dropout or retention, considering a range of variables that interact with each other (see Bean & Eaton, 2001; Hadjar et al., 2023; Tinto, 1987).

University dropout has also been addressed as a complex decision-making process, with the approach by Baulke et al. (2022) standing out. Those authors argued that the final decision to drop out is preceded by a lack of adjustment to the institution and recurrent thoughts of dropping out definitively or transferring (changing degree and/or university). These thoughts lead to deliberation and an active search for information about consequences, alternatives and other stu-

dents' experiences. Consequently, it is feasible to conceptualise the pre-dropout phases within the idea of *university dropout intention* (Maluenda-Albornoz et al., 2021).

However, there are very few longitudinal studies that would help us understand the trajectory of university dropout as a gradual, multifactorial process (Véliz-Palomino & Ortega, 2023). Significant longitudinal studies have been conducted in Germany, addressing psychological variables such as motivation, procrastination, perceived academic control, and quality of life (Baalmann, 2023; Bargmann et al., 2022; Lindner et al., 2023; Respondek et al., 2020; Scheunemann et al., 2022). One common theme in these studies is the importance of meticulous longitudinal monitoring of psychological variables, and how it is essential for understanding the variables' dynamics and their impact on the phenomenon of university dropout.

The present study aims to examine the intention to drop out of university, considering perceived levels of academic stress, evaluation anxiety, and resilience, as well as how stable they are over time. In contrast to previous studies that have addressed these variables in an isolated, cross-sectional manner (Kim & Eun, 2021; Tuero et al., 2024), this study takes a more comprehensive approach by exploring the interplay between academic stress, evaluation anxiety, and resilience, and assessing their combined influence on the decision to drop out. It is hoped that this will contribute to the development of intervention programmes for students at risk of dropping out, with a view to encouraging them to stay at university.

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Academic stress

Academic stress is defined as an adaptive psychological process that occurs when a student perceives a set of demands of the university environment as a stressor, causing an imbalance that forces them to implement a coping strategy (Chávez et al., 2019). Although academic stress is an adaptive response to the demands of the educational environment, it can become problematic when it reaches high levels, as it can lead to several negative consequences (Restrepo et al., 2023).

Recent studies have shown that a significant proportion of university students experience high levels of academic stress. For instance, Mayya et al. (2022) found that 44% of students reported moderate symptoms of academic stress, 16% reported severe symptoms, and 10% reported very severe symptoms. Moreover, longitudinal research by Gómez et al. (2024) and Londoño et al. (2024) underscores that this perception of stress escalates throughout the academic year, with the highest levels of academic stress being seen during the final exam period.

The *Academic Stress Model* (Muñoz, 2004) provides a robust foundation for understanding the repercussions of academic stress on student well-being and performance. This model posits that elevated levels of academic stress are associated with a decline in overall student well-being and a deterioration in student performance. Contemporary authors also appear to favour this model. For instance, Koppenborg et al. (2022) and Zhu et al. (2021) found an association between severe academic stress symptoms and a decrease in hours of sleep, as well as with higher levels of anxiety and depression. In addition, Deng et al. (2022) and León et al. (2021) found that high levels of academic stress are also associated with poorer academic performance, as they can cause students to feel overwhelmed and frustrated, which can interfere with their learning.

Research by Cadariu and Rad (2023) and Kim et al. (2021) lend further support to this perspective on academic stress, identifying a correlation between this form of stress and the propensity to drop out of university. According to these authors, academic stress can impede students' resolve to successfully complete their higher education by prompting them to question whether they can cope with the academic demands of the university environment and to contemplate dropping out of the courses they are on.

Evaluation anxiety

Evaluation anxiety is defined as a state of worry that students experience in an assessment situation that is perceived as threatening (Crisan et al., 2014). Research by Möcklinghoff et al. (2021) and Nazir et al. (2021) indicates that approximately half of university students experience moderate to severe levels of anxiety during the evaluation process. Furthermore, Lotz et al. (2021) and Sommer et al. (2022) found that anxiety is a relatively stable phenomenon

throughout the academic year, although there is a slight increase in anxiety levels in the days leading up to assessment tests.

Stankovska et al. (2018) and Trigueros et al. (2020) observed a correlation between evaluation anxiety and academic stress. Their findings indicated that students who perceived higher levels of academic stress also reported higher levels of evaluation anxiety. The authors hypothesised that this phenomenon may be attributed to the notion of academic stress as a response to perceived excessive and/or threatening demands. They propose that academic stress facilitates the emergence of evaluation anxiety by engendering an atmosphere of high tension and worry. Consequently, they suggest that assessment anticipation and anxiety may amplify academic stress, particularly when exams are perceived as an additional academic stressor. They further posit that high levels of evaluation anxiety may have a detrimental effect on academic performance. This hypothesis is corroborated by recent research from Jehi et al. (2024), who found that students with high levels of evaluation anxiety performed less well academically. One possible explanation for this could be found in the *Theory of Cognitive Interference*, which suggests that intrusive thoughts caused by anxiety make it difficult to encode, store, and retrieve relevant information (Möcklinghoff et al., 2021; von der Embse et al., 2018), compromising the learner's ability to use acquired knowledge and resulting in worse performance in evaluation contexts.

However, despite the increased number of scientific studies analysing university dropout in recent decades (Chiarino et al., 2024; Véliz-Palomino & Ortega, 2023), the relationship between evaluation anxiety and dropout has not been explored in depth. Nevertheless, there is evidence that severe anxiety symptoms (i.e. state anxiety and/or trait anxiety) are associated with greater intention to drop out of higher education (Abbas et al., 2023; Shin et al., 2023). Consequently, considering these findings and the established relationship between academic performance and dropout (Constante-Amores et al., 2021), it can be hypothesised that elevated levels of evaluation anxiety would also be associated with university dropout.

Resilience

Resilience is defined as a student's ability to recover from and successfully overcome learning-related challenges, in other words, the capacity to overcome stressful situations and develop appropriate social, academic and vocational competencies (Coronado-Hijón, 2017). Authors such as Cheung et al. (2021) have demonstrated that, despite experiencing elevated levels of stress during the academic year, resilient students can adapt to and overcome adversity. This underscores the importance of resilience as a pivotal skill in the university setting.

The study by Trigueros et al. (2020) highlighted a significant correlation between resilience and the variables noted previously, namely academic stress and evaluation anxiety.

Their findings showed that high levels of resilience were associated with reduced levels of academic stress and evaluation anxiety. The study also indicated that adaptability, which fosters resilience, enabled effective coping with the stressors inherent in the academic environment. This finding is in line with Cummins' (2010) *Theory of Well-Being Homeostasis*, which posits resilience as a fundamental element in maintaining individuals' well-being in the face of adversity. In accordance with this theory, academic stress and evaluation anxiety generate an imbalance in students, who use resilience skills, such as modifying their behaviour, to adapt to the situation and re-establish equilibrium.

Research has also demonstrated a correlation between resilience and academic performance, with students who report higher levels of resilience demonstrating better performance, often due to greater commitment to their studies and the development of skills that promote long-term learning (Alammar et al., 2022; Worku & Gita, 2024). Conversely, a relationship has been identified between resilience and university dropout, with students intending to drop out demonstrating lower levels of resilience compared to those intending to continue their courses (Pertegal-Felices et al., 2022; Tuero et al., 2024). One potential explanation for this phenomenon can be found in the *Academic Resilience Model* developed by Durso et al. (2021). According to the model, students who demonstrate resilience tend to experience higher levels of satisfaction and engagement with their chosen academic discipline. Consequently, these students are more likely to continue with their studies and avoid dropping out.

Objectives

Bearing in mind the theoretical framework outlined above, the main objective of this study is to explore how university students' psychological profiles—characterised by their levels of academic stress, evaluation anxiety and resilience—change over the course of three academic semesters, and to analyse the relationship between the profiles and the intention to drop out of university. This involves three specific objectives:

1. To identify latent profiles in terms of the scores obtained in academic stress, evaluation anxiety, and resilience.
2. To analyse transitions between the latent profiles over three academic semesters (T1: November 2022, T2: April 2023, T3: November 2023).
3. To analyse the intention to drop out of university in each of the latent profiles described.

Of these, objectives 1 and 2 are longitudinal, as they involve tracking changes and transitions across three academic semesters (T1, T2, T3). Objective 3 is cross-sectional, as it analyses the intention to drop out based on the profiles identified, using data from all-time points collectively.

Method

Participants

The final longitudinal sample consisted of 307 students from a university in Northern Spain. It should be noted that there were missing values at each timepoint. At the first timepoint (T1: November 2022), there were 293 students (14.33% with university dropout intention), at the second (T2: April 2023) there were 245 (30.61% with university dropout intention) and at the third (T3: November 2023) there were 264 (26.14% with university dropout intention).

The participants were studying one of the following bachelor's degrees: Primary Education (39.74%), Early Childhood Education (30.61%), Psychology (23.46%), and Speech Therapy (6.19%). The proportion of female participants was 78.18%, while male participants made up 21.82% of the sample. Participants' ages ranged from 17 to 62 years old, with a mean at T1 of 18.63 ($SD = 3.461$), at T2 of 19.19 ($SD = 3.985$) and at T3 of 19.81 ($SD = 3.941$).

Instruments

A questionnaire was developed specifically for this study and administered to the students in an online format at the evaluation timepoints. The instrument collected information on a range of variables, including socio-demographic characteristics such as gender, age and degree, as well as intention to drop out of university, academic stress, evaluation anxiety and resilience.

University dropout intention was measured by the item '*Have you ever thought about dropping out of your current course?*'. This item was adapted from the Early University Dropout Intention Questionnaire -EUDIQ-R- (Bernardo et al., 2022) and has been successfully used in previous research (Campos-Muñoz et al., 2024; Peña-Vázquez et al., 2023).

Academic stress was measured with the *Academic Stressors Scale* -E-CEA- (Cabanach et al., 2016). It consists of 54 items divided into 8 factors (1. teacher methodological deficiencies, 2. student overload, 3. beliefs about performance, 4. public speaking, 5. negative social climate, 6. content value beliefs, 7. Exams, and 8. participation difficulties). Responses are given on a 5-point Likert scale, where 1 = never to 5 = always. These 8 first-order factors give rise to an overall second-order factor, which is the score used in the present study.

Evaluation anxiety was measured with the *Brief Academic Evaluation Anxiety Scale* -EBAEA-3- (Frías-Navarro et al., 2020). It consists of 3 items to assess evaluation anxiety, 1 item for state anxiety and 1 item for trait anxiety. Responses are given on a 10-point Likert scale, where 1 = not anxious to 10 = very anxious.

Resilience was measured with the *Connor-Davidson Resilience Scale* in its reduced version -CD-RISC 10- (Connor & Davidson, 2003), adapted to Spanish by Notario-Pacheco et al. (2011). It consists of 10 items with responses given on a

5-point Likert scale, where 1 = strongly disagree to 5 = strongly agree.

Procedure

Firstly, approval for the study was obtained from the Ethics Committee of the University of Oviedo (Ref.: 22_RRI_2022). Secondly, the three measurements comprising the study were planned. Finally, the teachers of the degree courses (Psychology, Speech Therapy, Primary Education, and Early Childhood Education) were asked to collaborate in the evaluation.

During the 2022/23 and 2023/24 academic years, participants were recruited through classroom-based convenience sampling. With the support of the teaching staff, researchers were allowed to enter classroom during regular university hours to invite students to voluntarily participate in the study. Students were given time during these sessions to complete a battery designed to assess the variables at three measurement timepoints (T1: November 2022, T2: April 2023 and T3: November 2023).

Prior to accessing the online instrument, each participant was required to read a detailed information sheet outlining the study. They were then asked to provide their explicit written consent by ticking a designated box on a secure digital form. This process confirmed their voluntary participation and understanding of the information provided.

The questionnaires the students completed could be matched over time via a participation code, consisting of the last four digits of their national ID numbers. This allows for individual and confidential identification of each participant.

Data analysis

Initially, a comprehensive set of descriptive statistics (mean, standard deviation, skewness, and kurtosis) was calculated for the total scores in academic stress, evaluation anxiety, and resilience. The reliability of these scores was then determined using Cronbach's Alpha.

Subsequently, a latent transitions analysis was conducted with the three standardised variables, incorporating three timepoints (T1: November 2022, T2: April 2023, T3: November 2023) using the IEE model. In this model, equal variances of each variable in the different profiles are assumed, and the variables are considered independent of each other.

To determine the number of existing profiles, the latent profiles at each time point were analysed separately, with 2-7 profiles extracted in each case. Comparative fit was determined using the Akaike Information Criterion (AIC), the Bayesian Information Criterion (BIC), the Sample-Size Adjusted BIC (SABIC) and the log-likelihood comparison of adjacent models with the Lo-Mendell-Rubin test (LMR). The most parsimonious solution would be indicated by lower AIC, BIC and SABIC indices, and a non-significant LMR test when $k+1$ profiles are extracted (Collins & Lanza, 2009; Lanza & Cooper, 2016). In addition, the entropy index was

calculated, which ranges from 0 to 1, with values close to 1 indicating good class separation and values above .80 considered acceptable. Furthermore, the number of profiles representing less than 5% of the sample was estimated, as this is generally an indicator of overestimation of profiles (Collins & Lanza, 2009).

Once the appropriate number of profiles had been established, an analysis was conducted to ascertain the invariance of the profiles at the various timepoints. This was achieved by comparing the log-likelihood of the restricted model (assumes equal means at the three timepoints) with the unrestricted model (assumes different means at each timepoint). If this comparison did not yield a statistically significant result, it was assumed that the profiles were invariant, and the restricted model was selected.

The latter model was used to obtain the means and variances of the latent profiles, as well as the transition probabilities and initial membership for each profile. The university dropout intention was then compared between each subject's membership of each profile using a Chi-square test of independence and Cramer's V as an effect size estimator.

The analysis of invariance between latent profiles and the analysis of latent transitions were performed in MPlus, version 8.6 (Muthén & Muthén, 2017). All other analyses were performed in R, version 4.3.3 (R Core Team, 2023) with the packages *mclust* (Scrucca et al., 2023) and *tidyverse* (Wickham et al., 2019).

Results

Table 1 presents the descriptive statistics for the variables under investigation (academic stress, evaluation anxiety and resilience), accompanied by an analysis of the reliability of the scores.

Table 1.
Descriptive statistics and reliability of the scores used

Variable	Mean	SD	Skewness	Kurtosis	α
Academic stress	175.06	35.82	-.34	-.39	.96
Evaluation anxiety	22.66	5.96	-.94	.31	.92
Resilience	36.38	6.41	-.28	-.14	.81

Note. SD = Standard deviation.

Table 2 shows the fit indices for the latent profiles at each of the designated time points (T1: November 2022, T2: April 2023, T3: November 2023). For example, for timepoint 1, the solution with four profiles demonstrates a robust theoretical foundation, exhibiting the lowest BIC and being the last solution where all groups represent more than 5% of the sample. Furthermore, the LMR statistic shows that the 5-factor solution does not statistically significantly enhance the explanatory power of the model. In consideration of the indices presented in Table 2, the four-profile solution are selected to represent the latent structure over the three time points, prioritising model parsimony and theoretical interpretability.

Table 2*Fit of latent profiles at each timepoint*

<i>k</i>	AIC	BIC	SABIC	Entropy	k < 5%	Log-Lik	np	LMR (p)
Timepoint 1								
2	1465.99	-1498.08	1456.27	.73	0	-722.99	10	109 (< .001)
3	1442.42	-1487.36	1428.82	.79	0	-707.21	14	31.57 (< .001)
4	1411.10	-1468.87	1393.61	.74	0	-687.55	18	39.32 (< .001)
5	1414.21	-1484.82	1392.83	.75	1	-685.10	22	4.90 (.30)
6	1400.76	-1484.21	1375.50	.78	1	-674.38	26	21.45 (< .001)
7	1401.96	-1498.24	1372.81	.77	1	-670.98	30	6.80 (.15)
Timepoint 2								
2	1437.29	-1469.39	1427.58	.86	0	-708.65	10	137.70 (< .001)
3	1409.87	-1454.80	1396.27	.74	0	-690.93	14	35.42 (< .001)
4	1404.56	-1462.34	1387.08	.70	0	-684.28	18	13.30 (.01)
5	1400.46	-1471.07	1379.09	.72	0	-678.23	22	12.11 (.02)
6	1398.52	-1481.97	1373.26	.78	0	-673.26	26	9.94 (.04)
7	1401.49	-1497.78	1372.35	.78	1	-670.75	30	5.03 (0.28)
Timepoint 3								
2	1409.76	-1441.85	1400.04	.85	0	-694.88	10	165.23 (< .001)
3	1367.29	-1412.22	1353.69	.76	0	-669.64	14	50.47 (< .001)
4	1357.14	-1414.91	1339.65	.76	0	-660.57	18	18.15 (< .001)
5	1321.07	-1391.68	1299.70	.83	0	-638.54	22	44.07 (< .001)
6	1322.48	-1405.93	1297.22	.77	0	-635.24	26	6.59 (.16)
7	1329.46	-1425.74	1300.31	.72	0	-634.73	30	1.02 (.91)

Note. k < 5% = Groups with less than 5% of the total sample; np = number of parameters.

The results of the invariance analysis for the four-profile model are presented in Table 3. The model comparison did not attain statistical significance ($X^2 = 16.82$, $gl = 24$, $p =$

.14), supporting the hypothesis that invariance of the profiles over time can be assumed.

Table 3*Test for invariance of latent profiles*

<i>k</i>	AIC	BIC	SABIC	Entropy	k < 5%	Log-Lik	np
Free model (non-invariance)							
4	5546.34	5814.64	5586.28	.91	0	-2701.15	72
Restricted model (invariance)							
4	5515.12	5694.01	5541.77	.90	0	-2709.56	48

Note. k < 5% = Groups with less than 5% of the total sample; np = number of parameters.

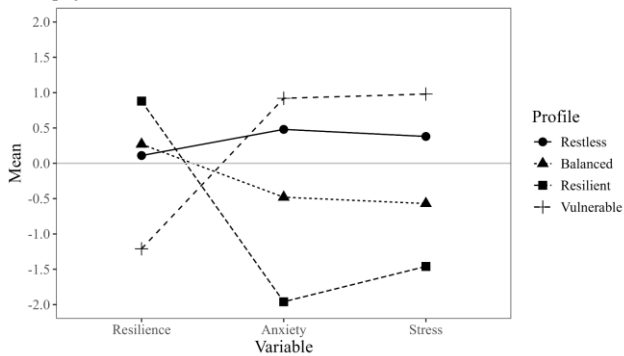
In the subsequent phase of the study, the means of resilience, academic stress and evaluation anxiety were analysed for the four latent profiles. The results are presented in Ta-

ble 4, which shows the means for each profile (see Figure 1 for graphical representation) and the probabilities of initial membership.

Table 4*Latent profile means and proportions of profile membership*

	Mean			Proportions		
	Resilience	Academic stress	Evaluation anxiety	T1	T2	T3
Vulnerable	-1.21	.98	.92	.18	.18	.18
Restless	.11	.38	.48	.41	.41	.41
Balanced	.27	-.57	-.48	.30	.27	.30
Resilient	.88	-1.46	-1.97	.12	.14	.11

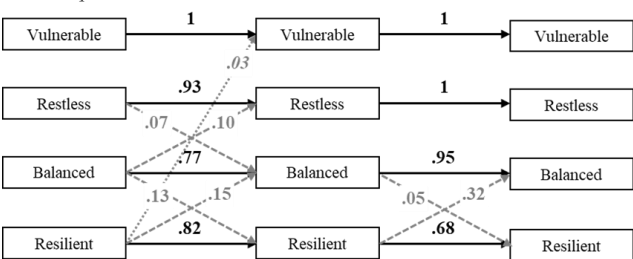
Figure 1
Latent profile means



The 'vulnerable' profile (18% of students) is characterised by very low scores in resilience and high scores in academic stress and evaluation anxiety. The 'restless' profile (41% of students) is characterised by medium resilience scores and medium-high academic stress and evaluation anxiety scores. The 'balanced' profile (30% of students) is characterised by medium scores in resilience and medium-low scores in academic stress and evaluation anxiety. Finally, the 'resilient' profile (12% of students) is characterised by high resilience scores and very low academic stress and evaluation anxiety scores.

To determine how stable the profiles were, an analysis was conducted of the transition probabilities between the various time points (see Figure 2). The 'vulnerable' and 'restless' profiles were the most stable, given that most students who were included in these profiles at T1 continued in them over time. In contrast, the 'balanced' profile exhibited greater variability, particularly in the transition from T1 to T2, where 10% of students could be classified as 'restless' and 13% as 'resilient'. In addition, the data showed that students in the 'resilient' profile were more likely to transition to other groups, particularly the 'balanced' profile, at 15% at T2 and 32% at T3.

Figure 2
Transition probabilities



Finally, the university dropout intention was examined in each of the four identified latent profiles. The results presented in Table 5 show that the percentage of students in the 'vulnerable' and 'restless' profiles who intended to drop out was higher than in the 'balanced' and 'resilient' profiles. The percentages for the 'vulnerable' and 'restless' profiles were

29.58% and 24.60%, respectively, compared to 19.17% and 14.77% for the 'balanced' and 'resilient' profiles. The Chi-Square test value indicates a statistically significant relationship ($X^2 = 10.02$, $df = 3$, $p < .05$), albeit with a small effect size (Cramer's $V = .11$).

Table 5
Table of continuities between profiles and university dropout intention

	University dropout intention	
	Yes	No
Vulnerable	42 (29.58%)	100 (70.42%)
Restless	85 (25.60%)	247 (74.40%)
Balanced	46 (19.17%)	194 (80.83%)
Resilient	13 (14.77%)	75 (85.23%)

Note. The percentage is calculated within each latent profile.

Discussion

Over recent years, increased attention has been paid to university dropout, yet longitudinal research that would help understand the phenomenon as a gradual, multifactorial process remains limited (Véliz-Palomino & Ortega, 2023). Consequently, the present longitudinal study aimed to explore how university students' psychological profiles—characterised by their levels of academic stress, evaluation anxiety and resilience—change over three academic semesters, and to analyse the relationship between these profiles and the intention to drop out of university.

To identify the latent profiles, the data were ordered from least to highest level of resilience, indicating four distinct profiles: 'vulnerable', 'restless', 'balanced' and 'resilient'. The 'vulnerable' profile, which constituted 18% of the students in the sample, was characterised by very low resilience scores and high scores in academic stress and evaluation anxiety. This finding is consistent with the study by Kökcam et al. (2022), who found that students experiencing high levels of stress derived from the university context have a low level of resilience. This profile is therefore the least favourable for learning, since the low level of resilience can cause academic demands to be perceived as overwhelming (Trigueros et al., 2020), resulting in a high perception of academic stress and evaluation anxiety, which can lead to poorer academic performance (Niño et al., 2024). Consequently, this profile has the highest dropout intention, amounting to 29.58%. This is consistent with previous research, including studies by Caballero-Domínguez et al. (2020) and Cadariu and Rad (2023), which identified academic stress and anxiety as risk factors for university dropout.

The 'restless' profile is characterized by medium scores in resilience and medium-high scores in academic stress and evaluation anxiety. This was the largest group, comprising 41% of the participating students. However, although it had better scores than the 'vulnerable' profile, it is not an optimal profile for learning, since levels of academic stress and evaluation anxiety are higher than the level of resilience. Therefore, these are students who may not possess sufficient skills to cope with the demands of the environment, resulting in a

high dropout intention, amounting to 25.60%. This finding again reflects the fact that academic stress and evaluation anxiety can trigger academic disengagement processes (Kim et al., 2021), especially when students lack personal resources. According to the *Academic Resilience Model* proposed by Durso et al. (2021), when students do not have resilient mechanisms to overcome the adversities of the university context, they tend to feel more dissatisfied and disengaged with their studies and, consequently, their probability of dropping out increases.

The 'balanced' profile made up a significant proportion of the participants, representing 30% of the total. It exhibited average levels of resilience, comparable to the 'restless' profile. However, in contrast to the 'restless' profile, the 'balanced' profile is distinguished by medium-low scores in academic stress and evaluation anxiety. This profile is therefore better geared towards teaching and learning processes, with resilient skills that, although not high, exceed perceptions of academic stress and anxiety (Cheung et al., 2021). Consequently, the intention to drop out was lower than the two previous profiles, at 19.17%. Nonetheless, further exploration is warranted into other variables, such as self-efficacy and emotional intelligence, which may offer a more comprehensive explanation for the observed phenomenon (Ha, 2023). Specifically, the students in the 'balanced' profile exhibited comparable levels of resilience yet indicated lower perceptions of academic stress and evaluation anxiety, resulting in lower intention to drop out. These students may have greater self-efficacy in their ability to cope with academic demands and/or better emotional management skills, which would enable them to respond more adaptively to stressful situations and stay on their university courses (Kartol et al., 2024; León et al., 2019).

Finally, the 'resilient' profile is the most favourable for learning, since it is characterised by high scores in resilience and very low scores in academic stress and evaluation anxiety. Therefore, although it was the smallest profile (representing 12% of the student body), it includes the most resilient students, who can successfully cope with the demands of the university environment, and who experience low levels of academic stress and evaluation anxiety. This finding is consistent with research by Kökcam et al. (2022), who found that groups with higher levels of resilience also reported lower levels of academic stress. Consequently, this is the profile with the lowest rate of intention to drop out, at 14.77%. This is consistent with previous studies highlighting the protective role of resilience in the phenomenon of university dropout (Pertegal-Felices et al., 2022; Tuero et al., 2024).

When the four latent profiles are considered as a whole, it is evident that the 'vulnerable' and 'restless' profiles exhibit the highest propensity to drop out. This phenomenon can be attributed to the observation that students within these groups demonstrate medium to high levels of academic stress and evaluation anxiety, which supersedes their levels of resilience. Conversely, the 'balanced' and 'resilient' profiles exhibit less intention to drop out, along with greater re-

silience in comparison to academic stress and evaluation anxiety. These outcomes are consistent with the *Well-Being Homeostasis Theory* (Cummins, 2010) outlined in the theoretical framework. This theory posits that stress, and anxiety can damage a student's equilibrium. When students have higher levels of resilience than these variables, they can re-establish equilibrium, which in this case is reflected less likelihood of dropping out.

In addition, the transition probabilities between the designated timepoints (T1: November 2022, T2: April 2023, T3: November 2023) were analysed to understand the dynamics of these profiles. The stability of the profiles was assessed by quantifying the probability that a student assigned to each profile at the initial timepoint would be classified as belonging to another profile at subsequent timepoints.

The 'vulnerable' profile was the most stable, with the probability of transitioning to another profile approaching zero. This suggests the development of inflexible coping patterns over time, which may impede the ability to adapt to new circumstances (Jiang et al., 2024). Moreover, given that this profile reported the highest intention to drop out, the high stability of this group may increase the risk that these students will end up dropping out (Bäulke et al., 2022).

The 'restless' profile exhibited a 7% probability that a student in this group would subsequently be classified in the 'balanced' profile. This suggests that, during their first year, some of these students—despite unchanged levels of resilience—were able to reduce their perceptions of academic stress and evaluation anxiety. This may be because of the adaptation processes university students undergo during their first year. As Rodríguez-Pineda and Zamora-Araya (2021) suggested, the first few months at university are a period of profound adjustment to the new academic environment. After this, when students demonstrate a satisfactory level of adaptation, they tend to develop more effective strategies to cope with the demands they face (Yun et al., 2021; Zhang et al., 2021).

The transition analysis indicates a predominance of flows between the 'balanced' and 'resilient' profiles. A student classified as 'balanced' at the initial timepoint (13% probability) may be re-classified as 'resilient' at subsequent timepoints (5% probability). This suggests that resilience skills may be improved, particularly during the first year, and that perceived academic stress and evaluation anxiety may be mitigated. This is consistent with Cobo-Rendón et al. (2020), who reported an improvement in student well-being throughout the first year at university, suggesting that the university environment may help students develop and refine their coping mechanisms. This is in line with the literature on coping processes, noting that when students are confronted with the demands of university life, they develop competencies that facilitate resilience, reducing academic stress and evaluation anxiety (Fullerton et al., 2021; Lomberg & Jordaan, 2024). Consequently, these students may be less likely to intend to drop out, leading to them successfully completing their courses (Young & Woo, 2021).

In contrast, there was a much higher probability that a student from the ‘resilient’ profile would be classified as falling within the ‘balanced’ profile at the second timepoint (probability of 15%) and especially at the third timepoint (probability of 32%). This final number is worth noting, as it follows the transition from first to second year, meaning that a third of the students who started in the ‘resilient’ profile (high resilience and very low academic stress and evaluation anxiety) in their first year would be in the ‘balanced’ profile (medium resilience and medium-low academic stress and evaluation anxiety) at the start of their second year. The university experience, characterised by an increase in academic load and autonomy, may also contribute to increased academic stress and evaluation anxiety after final evaluations (Londoño et al., 2024; Panadero et al., 2022). The findings from Omar et al. (2019) support this, indicating that second—and third-year—students report the highest levels of academic stress, suggesting that the university environment, with its increasing demands, may have a detrimental effect on perceptions of academic stressors. This could potentially compromise personal skills and lead to a decline in resilience among some students (Trigueros et al., 2020). Moreover, it may even result in an increase in the intention to drop out (Lindner et al., 2023). However, the heterogeneity of the findings indicates the need to explore the subject further to improve our understanding of the factors involved in increasing or decreasing both resilience and academic stressors during university, as well as their influence on university dropout.

Conclusions

The present study allowed four latent profiles to be identified according to levels of resilience, academic stress and evaluation anxiety: ‘vulnerable’, ‘restless’, ‘balanced’ and ‘resilient’. The first two profiles exhibited greater intentions to drop out, which may be attributable to the low level of resilience and high levels of academic stress and evaluation anxiety. Conversely, the ‘resilient’ and ‘balanced’ profiles exhibited less likelihood of dropping out, attributable to better resilience, which enables effective coping with the stressors encountered in the university environment.

Furthermore, the transition probabilities suggest a certain stability within the ‘vulnerable’ and ‘restless’ profiles, along with a transition flow between the ‘balanced’ and ‘resilient’ profiles. This underscores the potential impact of the university environment on students’ development of resilience-related skills, as well as the prevalence of academic stress and evaluation anxiety.

Considering these findings, it is worth highlighting the importance of strengthening emotional competencies during the early stages of university education. Given the mediating

role that these competencies appear to play in resilience and stress perception, implementing support programmes focused on stress management and coping strategies could contribute to reducing dropout intention.

Limitations and future lines

The present study does have some limitations, which also inform potential lines of future research. Despite the longitudinal design, the small sample size and the fact that participants were drawn from a single university and only four-degree programmes may limit the generalizability of the results. Therefore, the finding should be interpreted as a first approximation and require further validation and expansion through additional, preferably international, research.

Additionally, the data were collected through self-report measures, which may be subject to biases such as social desirability or inaccurate self-perception. This limitation is compounded using a unidimensional measure of dropout intention, which may not fully capture the complexity of the decision-making process involved in university dropout. Future research could benefit from incorporating multidimensional tools and complementary data sources.

Finally, the study did not include multilevel analyses, which would allow for the consideration of contextual or institutional variables that may influence students’ psychological profiles and dropout intention.

Despite these limitations, the identification of distinct profiles offers a valuable foundation for the design of targeted interventions programmes. Depending on the characteristic of each profile, such programmes could focus on strengthening resilience, reducing academic stress, or addressing evaluation anxiety. Tailoring interventions to the specific need of each group may enhance their effectiveness in reducing dropout intention and promoting student well-being.

Complementary information

Ethical considerations: The Ethics Committee of the University of Oviedo reviewed and approved this study (Ref.: 22_RRI_2022).

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