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Profiles of coping strategies in university students in relation to personal and academic variables

Perfiles de estrategias de afrontamiento en estudiantes universitarios en relación con variables personales y académicas

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ABSTRACT

University spaces are characterized by high levels of academic stress derived from various personal and academic variables. Coping, therefore, emerges as a central issue in the university experiences of students due to its consequences both on academic satisfaction and psychosocial well-being. Thus, the aim of the study was to identify profiles of coping strategies among Complutense University students in relation to personal and academic variables. The sample consisted of 2835 students (71.1% women, 28.9% men), with an average age of 21.8 years (SD = 2.97), belonging to the three cycles of different degrees

offered at UCM. Results obtained from a multilevel latent class modelling show that the three-cluster model of students is the most parsimonious and best-fitting. Coping profiles are constructed based on four indicators corresponding to standardized scores of coping strategies: adequate problem-focused coping (Wald = 27.083, p < .001), adequate emotion-focused coping (Wald = 25.823, p < .001), inadequate emotion-focused coping (Wald = 133.691, p < .001), and inadequate problem-focused coping (Wald = 134.628, p < .001). Covariates significantly associated with the identified profiles include, at a personal level, gender, sex, and conflicts that generate greater distress in the university environment, as well as at an academic level, course, area of knowledge, and academic satisfaction. The results reveal high percentages of students using inadequate strategies to cope with stressful situations and how covariates are associated with these strategies. This underscores, due to its consequences on psychosocial well-being, the need for university policies to focus on actions aimed at both learning and experiences of appropriate coping strategies in stressful situations, as well as the identification of variables that could intersectionally promote their development.

Keywords: university students, multilevel latent class analysis, coping strategies, stress, gender, academic satisfaction

RESUMEN

Los espacios universitarios se caracterizan por elevados niveles de estrés académico derivado de variables personales y académicas. El afrontamiento, por tanto, emerge como cuestión medular en las experiencias universitarias del alumnado por sus consecuencias tanto en su satisfacción académica, como en su bienestar psicosocial. Por ello, el objetivo del estudio fue identificar perfiles de estrategias de afrontamiento del alumnado universitario complutense en relación con variables personales y académicas. La muestra está conformada por 2835 estudiantes (71.1% mujeres, 28.9 % hombres), con edad media de 21.8 años (DT= 2.97), pertenecientes a los tres ciclos de las diferentes titulaciones impartidas en la UCM. Los resultados obtenidos a partir de una modelización de clases latentes multinivel evidencian que el modelo de tres clústeres de estudiantes resulta ser el más parsimonioso y con mejor ajuste. Los perfiles de afrontamiento son construidos sobre cuatro indicadores que corresponden a las puntuaciones estandarizadas de estrategias de afrontamiento: manejo adecuado centrado en el problema (Wald=27.083, p < .001), manejo adecuado centrado en la emoción (Wald =25.823, p < .001), manejo inadecuado centrado en la emoción (Wald= 133.691, p < .001) y manejo inadecuado centrado en el problema (Wald= 134.628, p < .001). Las covariables que asocian significativamente con los perfiles identificados son: a nivel personal, género y conflictos que generan mayor malestar en el ámbito universitario, y a nivel académico, curso, área de conocimiento y satisfacción académica. Los resultados muestran elevados porcentajes de alumnado que utiliza estrategias inadecuadas para afrontar situaciones de estrés y cómo las covariables asocian con dichas estrategias. Ello, evidencia, por sus consecuencias en el bienestar psicosocial del alumnado, la necesidad de incidir desde políticas universitarias en actuaciones encaminadas tanto a aprendizajes y

experiencias de estrategias adecuadas de afrontamiento ante situaciones estresantes, como en la identificación de variables que interseccionalmente podrían promover su desarrollo.

Palabras clave: alumnado universitario, análisis de clases latentes multinivel, estrategias de afrontamiento, estrés, género, satisfacción académica

INTRODUCTION

Higher Education spaces are configured as the peak of academic stress derived from different variables that fluctuate between greater workload compared to other educational stages, greater assumption of commitments and responsibilities, new personal and academic networks, psychosocial changes associated with students' own life development (Beck et al., 2003) and the increase in conflicts associated with academic and social variables (Harrison, 2007). In addition, after the COVID-19 pandemic, a considerable amount of research has shown increased stress levels among university students (González et al., 2022).

Stress, in its broadest sense, refers to the possible imbalance a person perceives between the demands placed on them by a situation and their available coping resources (Ongarato et al., 2009). Lazarus and Folkman (1986) define stress as the interaction between personal appraisal of a given situation and the ability to cope with it. In this sense, stress is conceived as a relational process between the person and their environment based on individual characteristics and environmental demands. This relationship can trigger tensions and emotional, cognitive and behavioral responses that affect people's well-being in response to personal appraisals of real or perceived threatening situations (Selye, 1993). It should be noted that stress is considered a public health problem by the World Health Organisation (WHO), as it has a widespread impact on the entire world population, and its prevalence has been increasing in recent decades.

When responses or reactions to the demands of the context take place in the academic environment, it is common to refer to the coping mechanisms that people carry out in terms of academic stress (Rull et al., 2011). Thus, academic stress is defined as a systemic process of an adaptive nature, which appears when students detect a series of demands perceived as stressors (Valdivieso-León, 2020); in addition, Zárate et al. (2018) estimate that academic stress occurs when a student perceives demands from his/her environment causing distress because he/she does not have the resources to cope with them. This can generate physical and emotional symptoms and have academic consequences associated with low performance (Fernandez de Calvo & Luevano, 2018), disinterest, absenteeism or even dropout (Clavabaug & Fields, 2021). Barraza (2009) considers that the persistence of these

stressors produces systemic imbalances that result in the consequences and require students to confront stressful academic situations to regain their equilibrium. For all these reasons, numerous studies have shown the relevance of coping strategies as complex and multidimensional processes with significant consequences for psychosocial well-being (Bello-Castillo et al., 2021; Piergovanni & Depaula, 2018). In this line, it is necessary to consider the growing body of research that has related coping and stress to variables such as socioemotional well-being and resilience (Morales, 2021).

When faced with situations perceived as stressful, people use different coping strategies, defined as those skills and behaviors used by people to cope with internal and/or external demands that they perceive as stressful (Folkman, 1984). Coping is linked to cognitive and behavioral efforts to find individual and environmental resources to manage situations perceived as threatening and/or alarming (Lazarus & Folkman, 1984). These resources may involve seeking to modify the environment or using internal processes that allow reconstructing or reassigning the meaning associated with these stressful situations. Thus, coping involves self-regulation processes as the person detects the discrepancy between the demands of the situation and his or her resources to cope with it (González-Cabanech, 2018). In addition to the above, coping should be considered a dynamic and complex process whose purpose is the adaptation of subjects to contexts of insecurity, conflict and/or threat (González et al., 2007).

In this regard, conflicts arising from personal and academic development are the main stressful situations students face in their university experience (Mendoza et al., 2010). Likewise, conflicts in relationships with peers or with teaching staff represent a clear destabilizing element in emotional well-being (Llanes et al., 2021) and, therefore, Gutiérrez et al. (2021) consider the notable prominence of the coping strategies used by students to manage conflicts in their university experiences. Based on this prominence in people's psychosocial well-being, there are many existing classifications and measurement instruments applicable to coping strategies in psychosocial research. Thus, there are classifications based on the support required to cope self-sufficiently (Litman, 2006), according to the approach or avoidance of the problem (Gol & Cook, 2004), or based on the orientation to solve the problem or regulate the emotional response (Folkman & Lazarus, 1980). In this regard, two relevant issues should be highlighted:

a. The above-mentioned dimensions are not mutually exclusive, as coping strategies may involve different categorizations simultaneously, depending on their function and the context in which they are generated (Stanisławski, 2019).
b. Adaptive processes are mutable, and, therefore, coping flexibility is particularly relevant, i.e., the ability of individuals to modify, interrupt and/

or extinguish coping strategies perceived as inadequate to respond to the stressful situation and implement new strategies that offer appropriate responses to such situations and, therefore, reduce their perception of stress (Kato, 2012). Based on this, coping strategies are not monolithic and immovable variables but responses that may vary in the same person depending on their adaptive capacity for learning, development and well-being (Ziemmer-Gembeck, 2021).

It should be added, as Tobin et al. (1989) point out, that a distinction can be made between adequate coping strategies (their use has a positive impact on psychosocial well-being) and inadequate coping strategies (with a negative impact on psychosocial well-being). Based on these two dimensions, adequate and inadequate strategies, a classification has often been made into four broad categories: adequate problem-focused strategies (problem-solving and cognitive restructuring), adequate emotion-focused strategies (emotional expression and social support), inadequate problem-focused strategies (problem avoidance and desiderative thinking) and inadequate emotion-focused strategies (social withdrawal and self-criticism). It should be noted that despite the historical difficulty in adopting a common position on the possible grouping of adequate and inadequate strategies, it is feasible to evaluate coping strategies to discern which are beneficial and harmful, considering several criteria such as: a) the emotional state of the individual at the time he/she uses them, b) the socio-personal characteristics of each subject, c)the characteristics of each strategy and d) their possible long-term effects (Skinner et al., 2016). Thus, the use of appropriate problem-focused strategies has been associated with better health and reduced stress (Sasaki & Yamasaki, 2007). On the other hand, the use of inappropriate emotion-focused strategies, such as avoidance and social withdrawal, has been related to higher levels of stress and poorer health (Pritchard et al., 2007). Finally, the use of appropriate emotion-focused strategies has been associated with greater emotional well-being (Scheier et al. 1994).

On the other hand, academic stress has a direct impact on students' academic satisfaction (Castillo et al., 2020) due to the alteration it causes in people at the cognitive, motor and physiological levels (Reddy et al., 2018). In this sense, it seems evident to point out that if there is a proven relationship between academic satisfaction and stress in university students, the first construct can be a determining variable in the analysis and understanding of the implementation of some coping strategies in stressful situations related to the university environment (González et al., 2023). Thus, both pre-pandemic studies (Chraif, 2015) and pandemic studies (Shehadeh, 2020) highlighted the negative association between academic stress

and student satisfaction, in the sense that the greater the stress experienced by students, the lower their satisfaction.

Based on the considerations made, therefore, on the empirical evidence available on the relevance of coping strategies as a key issue in the management of stress processes and, therefore, in the personal, social, emotional and academic well-being of students in stressful situations (Hatunoglu, 2020) and, also, on the concept of flexibility described above, the suitability of studies focused on the person is located. In this sense, the possibility of coexistence in the same person of the four categories of coping detracts relevance from the study of the variable itself, giving prominence to the functionality perceived by individuals to implement those strategies that serve them optimally to the challenges they must face in specific situations (Cheng et al., 2014; Siltanen et al., 2019). Despite a plausible scarcity of studies that analyze coping strategies from this person-centered perspective, Freire et al. (2020) show the existence of coping profiles in Spanish university students that differ in the level of flexibility and the simultaneous use of different strategies.

Likewise, under the person-centered approach, the context in which coping strategies are implemented takes on special relevance. In this sense, in university education, academic stress has a direct impact on students' academic satisfaction (Castillo et al., 2020) due to the alteration it causes in people at the cognitive, motor and physiological levels (Reddy et al., 2018). In addition, previous studies indicate that new students tend to have a higher level of academic stress and lower academic satisfaction (Verger et al.,2009; Cheung et al.,2020), which could be associated with the level of maturity and the ability to adapt to stressful situations, finding that older students (which may correspond to second or third cycle students) show lower levels of anxiety, depression and stress (Bayram & Bilgel, 2008). In relation to gender, female university students tend to use more emotion-focused coping strategies than males (Graves et al., 2021). Finally, despite the scarcity of studies that evaluate coping strategies by subject area, students from Social Sciences and Humanities tend to experience conflict in a more «naturalized» way (Arias & Arias, 2017), which may imply greater flexibility to be able to use, to a greater extent, appropriate coping strategies in relation to students from other subject areas.

In view of the above, firstly, the association between coping strategies and emotional well-being and the relevance of academic satisfaction as a predictor of emotional well-being and, secondly, the scarcity of studies that address the analysis of coping strategies and their possible relationship with academic satisfaction in the university population from a person-centered approach, the aim of the present study is to identify profiles of coping strategies in a sample of university students in Spain and their possible relationship with academic satisfaction and personal and academic variables.

In order to achieve the proposed objective, 4 hypotheses were formulated: hypothesis 1(h1), students use, to a lesser extent, adequate coping strategies, both problem-focused and emotion-focused; hypothesis 2 (h2), students who use to a lesser extent adequate coping strategies focused on the problem and on emotion present lower levels of academic satisfaction and are enrolled in the first year of the Bachelor's degree level; Hypothesis 3 (h3), the students who use to a greater extent adequate coping strategies focused on the problem and on emotion present higher levels of academic satisfaction, are enrolled in postgraduate levels (Master's, Doctorate, or their own degree), belong to the area of knowledge of Arts and Humanities and/or Social and Legal Sciences, and are mostly identified as women, and, finally, hypothesis 4 (h4), students who use inadequate coping strategies focused on the problem and emotion to a greater extent present lower levels of academic satisfaction, identify themselves, for the most part, as men and the university conflicts that cause them the greatest discomfort are a consequence of their relationships with the teaching staff.

METHOD

Participants

Participants were selected through non-probability sampling, and the inclusion criterion was «being enrolled at UCM in the 2021-2022 academic year» and giving informed consent for participation in the study. In that academic year, there were a total of 6,4952 people enrolled at UCM. The final sample comprised 2803 students (71.1% female and 28.9% male), with a mean age equal to 21.8 (SD= 2.97), obtaining an acceptance rate of 4.31%. The instruments were completely answered, and no missing cases were recorded since all the items were obligatory. Regarding the level of studies in which they were enrolled at the time of response, 19.3% were first-year Degree or Double Degree students, 16.8% were second year Degree or Double Degree students, 15.7% were third year Degree or Double Degree students, 18.2% were fourth year Degree or Double degree students, 4.7% were fifth year Degree or Double Degree students, 12% were Master's degree students, 10.5% were Doctoral degree students and 1.7% were Undergraduate students, and 1.7% were students from degrees granted by the Universities. Regarding the distribution by areas, 1106 people belonged to the area of Social and Legal Sciences (39.4%), 597 to the area of Health Sciences (21.3%), 599 to Arts and Humanities (21.4%), 398 to the area of Sciences (14%) and 103 to the area of Engineering and Architecture (3.7%).

Instruments

A sociodemographic questionnaire with closed-ended questions was applied: gender, disability, level of studies, year of enrollment and area of knowledge. To find out the type of conflict that generated the most discomfort in their university experience, a question was asked with four response options: 1) conflicts with the teaching staff, 2) conflicts with the rest of the student body, 3) conflicts with the administrative staff and 4) conflicts with the rules/regulations of the university itself.

In addition, the Spanish adaptation of the Academic Satisfaction Scale (Escala de Satisfacción Académica, ESA in Spanish) developed by Medrano & Pérez (2010) and validated in the Spanish university context (González et al., 2023) was applied. The ESA is a measure that evaluates the subjective perception of students regarding their academic satisfaction and is composed of 8 items that are answered on an ordinal scale (1 = never, 4 = always). The ESA has a single dimension structure called academic satisfaction (8 items: «The classes interest me»; «I feel motivated with the course»; «I like my professors»; «I like the classes»; «The course meets my expectations»; «I feel at ease with the course»; «the professors are open to dialogue» and «I feel that the contents of the classes correspond to those of my profession.» The scores range from 8 (lowest level of academic satisfaction) to 32 (highest level of academic satisfaction).

Concerning coping strategies, the Spanish adaptation of the Coping Strategies Inventory (CSI) developed by Cano et al. (2007) based on the original study by Tobin et al. (1989) and validated in the Spanish university context (Dorado et al., 2023) was applied. The CSI is a self-report measure that assesses the subjective perception of individuals regarding the use of coping strategies in stressful situations. It comprises 40 items that are answered on a Likert-type scale (0=not at all, 4=totally). The CSI has a structure of 8 dimensions called: problem-solving (5 items, e.g. «I struggled to solve the problem); self-criticism (5 items, e.g. «I realized that I was personally responsible for my difficulties and I reproached myself»); emotional expression (5 items, e.g. «I let my feelings out to reduce stress»); desiderative thinking (5 items, e.g. «I wished that the situation would never happen again»); and desiderative thinking (5 items, e.g. «I wished that the situation would never happen again»). «I wished the situation had never started»); social support (5 items, e.g., «I found someone who listened to my problem»); cognitive restructuring (5 items, e.g., «I went over the problem again and again in my mind and in the end I saw things differently»); problem avoidance (5 items, e.g., «I didn't let it get to me, I avoided thinking about it too much» and social withdrawal (5 items, e.g., «I spent some time alone»). These 8 dimensions, in turn, are organized around a second-order structure composed of 4 dimensions: problem-focused coping (including the

dimensions of problem-solving and cognitive restructuring), emotion-focused coping (including the dimensions of emotional expression and social support), emotion-focused coping (including the dimensions of social withdrawal and self-criticism), and problem-focused coping (including the dimensions of problem avoidance and desiderative thinking). These dimensions, in turn, can be regrouped into a third-order structure, adequate coping and inadequate coping strategies.

Finally, the factor structures of the scales used in the analysis were evaluated. As shown in Table 1, both scales presented satisfactory goodness-of-fit indices for the factorial structures and the reliability coefficients.

Table 1

Goodness-of-fit indices for confirmatory factor analysis and reliability coefficient

Scale	RMSEA	SRMR	CFI	TLI	λ Min.	λ Max.	ω
ESA	.078	.045	.968	.955	.646	.907	.905
CSI	.072	.078	.928	.912	.612	.921	.918

Note. ESA: Academic Satisfaction Scale; CSI: Coping Strategies Inventory.; RMSEA: root mean square error of approximation; SRMR: Standardized Root Mean Square Residual; CFI: comparative fit index; TLI: Tucker–Lewis index; λ = Factor loadings. ω = Omega de McDonald.

Procedure

The study and the administration of the instruments were financed and collaborated with the UCM Student Observatory. The research was approved by the UCM Research Ethics and Biosafety Committee (ref. CE_20211118-11 SOC). Informed consent was applied to the students participating in the study. The questionnaire was administered online and sent from the UCM Vice-Rectorate for Students via institutional mail to all students enrolled in the 2021-2022 academic year.

Data analysis

First, a preliminary analysis was performed, and the psychometric properties of the scales were evaluated, for which a confirmatory factor analysis (CFA) was implemented. MPLUS v.8.1 (Muthén & Muthén, 2017) was used, operating a matrix of polychoric correlations and the Weighted Least Squares with mean and variance adjusted (WLSMV) estimation method. To assess model quality, three goodness-of-fit indices were used: comparative fit index (CFI ≥ 0.90), Tucker-Lewis index (TLI ≥ 0.90) and the root mean square error of approximation of the indices

and Standardized root mean square residual (RMSEA, SRMR ≤ 0.08) (Schumacker & Lomax, 2016). Subsequently, a latent profile cluster analysis (LPA), estimated through Latent Gold 5.1 software (Vermunt & Magidson, 2016), was used. LPA has several advantages compared to other cluster analysis techniques (Oppewal et al., 2010). The LPA was chosen in this research for three main reasons: (1) the selection of the optimal number of clusters is based on statistical criteria such as the Bayesian information criterion (BIC) or the consistent Akaike information criterion (CAIC); (2) the LPA is particularly useful when the number of clusters is not known in advance, as was the case in this study; and (3) the LPA allows the simultaneous inclusion of variables measured on different types of scale (continuous, ordinal or nominal), which allows flexible characterization of the clusters obtained.

The proposed model includes (1) four indicators that correspond to the standardized scores of coping strategies: adequate coping focused on the problem, adequate coping focused on the emotion, inadequate coping focused on the emotion and inadequate coping focused on the problem; (2) a series of covariates (used to characterize the groups obtained: gender, course, area of knowledge, university conflicts generating the highest levels of discomfort and academic satisfaction); (3) and a series of covariates (used to characterize the groups obtained: gender, course, area of knowledge, university conflicts generating the highest levels of discomfort and academic satisfaction.

The selection of the optimal number of clusters was based on the following goodness-of-fit criteria: the Bayesian Information Criterion (BIC, Schwars, 1978), the Akaike Information Criterion (AIC, Akaike, 1987) and the sample-size adjusted Bayesian information criterion (SABIC). Such criteria are more conservative than the Akaike information criterion (CAIC) and tend to favor the choice of simpler (parsimonious) models in the case of LPA models (Tein et al., 2013; Wedel & Kamakura, 2000). Both criteria are more conservative than the Akaike information criterion (AIC) and tend to favor the choice of simpler (parsimonious) models (Wedel & Kamakura, 2000). Full details on the parameter estimation method with Latent Gold 5.1 are available in the work of Vermunt and Magidson (2016).

RESULTS

Preliminary analysis

First, the bivariate correlations between the model indicators were analyzed. As shown in Table 2, the indicators presented positive and significant correlations, demonstrating their association and relevance for inclusion in subsequent analyses. In addition, the results of the descriptive analysis are presented for each indicator.

Table 2

Pearson's r correlation matrix and descriptive statistics

	Adequate problem-centered management	Adequate emotion-focused management	Inadequate emotion-focused management	Inadequate problem-focused management
Adequate problem-centered management	1	.607**	.248**	.,376**
Adequate emotion-focused management	.607**	1	.156**	.324**
Inadequate emotion-focused management	.248**	.156**	1	.889**
Inadequate problem-focused management	.376**	.324**	.889**	1
	Mean	Standard Deviation	Asymmetry	Kurtosis
Adequate problem-centered management	18.4085	8.26573	-.066	-.226
Adequate emotion-focused management	18.183	8.77767	.016	-.425
Inadequate emotion-focused management	10.1891	8.8284	.857	.157
Inadequate problem-focused management	28.2483	14.65403	.361	-.123

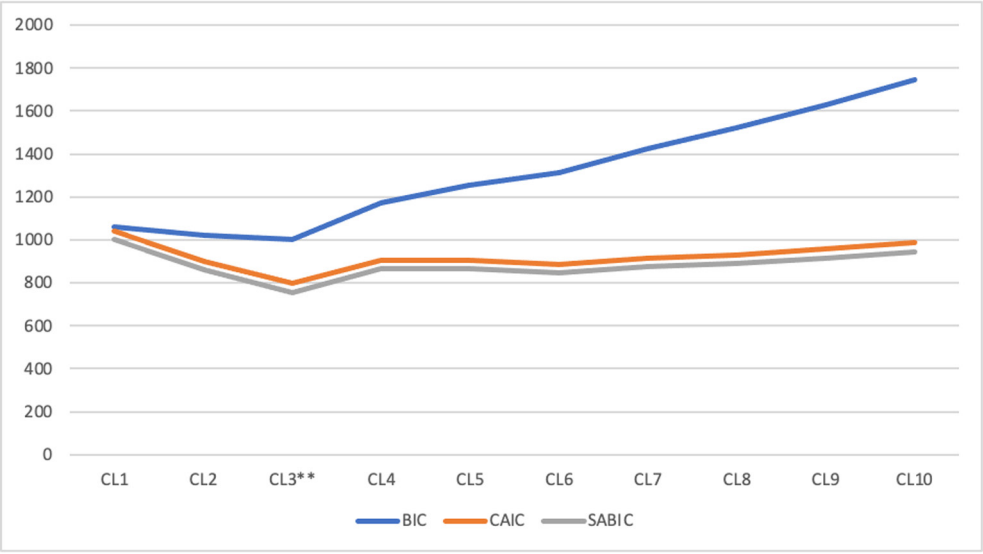
Note. ** = $p < .001$, the correlation is statistically significant (bilateral).

Identification of the number of coping style clusters, utility of indicators and covariates

The BIC, CAIC, and SABIC criteria were used to determine the optimal number of latent profiles. Ten different models ranging from 1 cluster (representing complete homogeneity in the sample) to 10 clusters were evaluated. The three-cluster model obtained the lowest values for all three criteria, indicating that it was the most parsimonious and best fit for the data, as shown in the figure below.

Figure 1

Criteria for selecting the number of coping strategy clusters



Note. BIC: Bayesian information criterion; CAIC: Akaike's consistent information criterion; SABIC: Bayesian information criterion adjusted for sample size. **Best model according to BIC, CAIC, and SABIC.

Once the number of clusters (3 latent profiles) was determined, we proceeded to evaluate the significance of the indicators used to classify the groups and of the covariates that contributed to their characterization. Regarding the four indicators, it was found that the Wald statistic showed significance levels below .001, indicating that the four indicators used were statistically significant for the segmentation of the sample into three distinct groups based on the perception of adequate problem-focused coping, adequate emotion-focused coping, inadequate emotion-focused coping, and inadequate problem-focused coping. The percentage

of variance explained by these four indicators ranged from 16.88% for adequate problem-centered coping to 65.15% for inadequate problem-centered coping. As for the covariates, significant effects were observed for gender, course, level of studies, area of knowledge, conflicts that generate greater stress in the university context and academic satisfaction, which were used to characterize the groups obtained (Table 3).

Table 3

Significance values and proportion of variance explained for model indicators

Indicators	Robust Wald statistic	p	R^2
Zadequate problem-centered management	27.083	<.001	.1791
Zadequate emotion-focused management	25.823	<.001	.1688
Zinadequate emotion-focused management	133.691	<.001	.6303
Zinadequate problem-focused management	134.628	<.001	.6515
Covariates			
Gender	106.1356	<.001	
Course	109.4901	<.001	
Knowledge area	99.8727	<.001	
Conflicts that generate the greatest unrest in the university environment	115.8677	<.001	
Academic satisfaction	8.1916	.017	

Note. Variables with a «Z» in front of the indicators were introduced in the latent profile model as typed variables. (M = 0 y DT =1).

Description of academic coping style profiles

Figure 2 shows the three profiles corresponding to the three clusters. Each cluster represents an underlying pattern of students' coping styles, and the standardized average of each indicator is shown. An analysis of the behavior of each profile, as well as the associations with the model's covariates, is presented below:

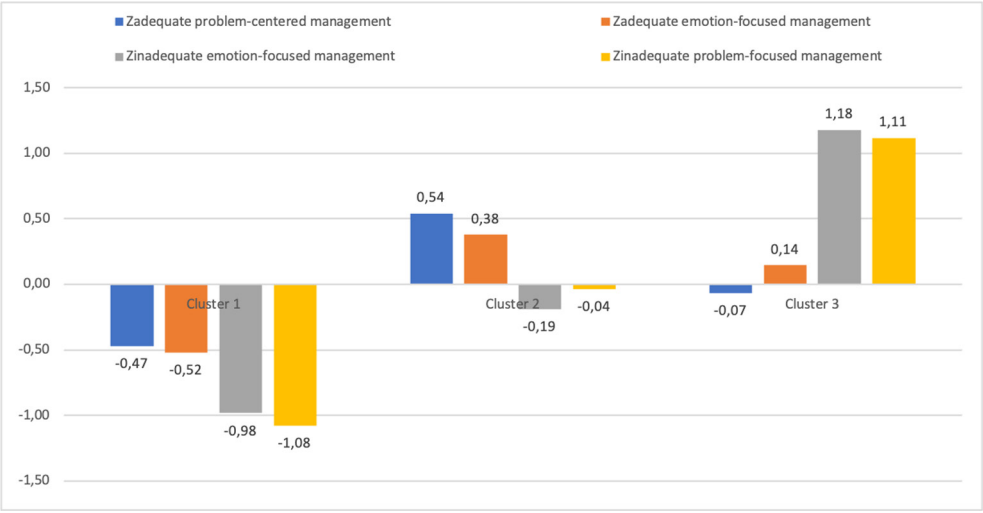
Cluster 1 (BNMA): «Students with low levels of adequate management of coping strategies.» This group of students constitutes the largest of the three clusters, representing 48.6% of the sample. Students in this cluster manifest the lowest levels of adequate coping, both problem-focused and emotion-focused. In addition, this cluster is characterized by the lowest levels of academic satisfaction, with a mean of 14.72. Most of the students in this cluster are in the first year of a Bachelor's or Double Degree, representing 30.2% of them.

Cluster 2 (ANMA): «Students with high levels of problem-focused and emotion-focused coping strategies» This group represents 29.65% of the student body and obtains the highest scores in the dimensions «problem-focused coping» and «emotion-focused coping.» They are characterized by belonging mostly to the Master's and Doctorate level (5.4%), to the Health Sciences area of knowledge (34.8%) and identify as women (53.78%).

Cluster 3 (ANMI): «Students with high levels of inadequate management of coping strategies.» This group is the smallest, representing 21.76% of the student body. This student body presents the highest levels of «inadequate emotion-focused coping» and «inadequate problem-focused coping.» Likewise, this cluster is characterized by low levels of academic satisfaction (M = 15.46); the students perceive that the conflicts that cause them the most discomfort are those derived from university rules and regulations, and, in addition, most of them define themselves as men (52.57%).

Figure 2

Average scores on the indicators for the three clusters.



Note. Indicators incorporate a «Z» before their acronym because they were introduced in the latent profile model as typed variables (M = 0 and DT =1).

DISCUSSION AND CONCLUSIONS

This study aimed to analyze the coping strategies used by Spanish university students according to gender, academic year, area of knowledge, type of university conflicts that generate greater discomfort in the university environment, and academic satisfaction.

The results confirmed the first hypothesis (h1), which indicates that students use less adequate coping strategies, both problem-focused and emotion-focused. In this sense, ANMA is shown to be the only cluster in which students use to a greater extent adequate coping strategies focused on the problem and on emotion, accounting for 29.65% of the total university population analyzed (therefore, 70.35% of students use inadequate strategies to a greater extent). In this sense, post-COVID studies indicate how the university population is increasingly considered a vulnerable population due to high levels of anxiety and stress (Browning et al., 2021). In this regard, we should bear in mind that Generation Z (people born between 1995 and 2012 and who are currently the majority population at university) is a generation that has developed in a culture of more overprotective parents and less face-to-face social interaction, which may imply a lower development of certain management

and coping skills in stressful situations (Gabrielova & Buchko, 2021). Thus, we agree with Luna (2020) on the need to generate more knowledge about the coping strategies of students, in this case, university students, and to influence the design of university policies aimed at acquiring adequate coping skills for students to deal with stressful situations.

In relation to (h2), the results confirm, based on the BNMA, that the students who used less adequate coping strategies (both problem and emotion-focused) would present lower levels of academic satisfaction and would be in the initial levels of undergraduate studies. Stress in the university environment is linked to academic success (Ocaña et al., 2021) and also to academic satisfaction (Naeem et al., 2020); therefore, the use of appropriate coping strategies is a determining factor in ensuring correct development, both personal and curricular, in higher education spaces (Cabras & Mondo, 2018). In addition to the above, the transition to adulthood increases vulnerability to stress in university students (Towbes & Cohen, 1996). This fact becomes even more latent in first-year students since the transition from secondary education to university can pose a challenge related to the beginning of an independent life, the modification of previously assigned roles, the adaptation to new academic demands (Brougham et al., 2009), new personal and interpersonal relationships, the modification of study techniques and the establishment of new beliefs and values to adapt to the university sociocultural context (Páramo Fernández et al., 2017). All these issues require the use of adaptive resources to face such change processes (Cabras & Mondo, 2018), being the first university course, the occasion in which they must adapt to all the new circumstances mentioned. In this sense, such issues favor that first-year students present a greater vulnerability concerning the development of pathologies related to depression (Brandy et al., 2015) and, therefore, lower levels of academic satisfaction are observed for students in higher courses. Analogous studies identify how age is a fundamental factor in the configuration and implementation of appropriate coping strategies, observing how first-year students have greater difficulties adapting (through such strategies) to stressful situations (Alarcón et al., 2013; Cabras & Mondo, 2018).

In relation to the third hypothesis (h3), the results obtained in the ANMA partially confirm its predictions, in the sense that students who use adequate coping strategies to a greater extent present higher levels of academic satisfaction, are enrolled in Master's and/or Doctoral programs and identify themselves, for the most part, as women. However, the prediction that this would be associated, for the most part, with the area of knowledge Arts and Humanities and/or Social Sciences rather than, as has been shown with Health Sciences, is not confirmed. In this sense, there are studies that report that, for the most part, health sciences students adopt positive attitudes to stressful events using appropriate coping strategies (Awoke et al., 2021), mainly problem-focused (Henderson et al., 2021).

It is worth noting empirical evidence on how the use of appropriate coping strategies is related to greater emotional intelligence to cope with stressful situations (Majumdar & Ray, 2010), as well as to personal socioemotional skills (Freire et al., 2020). Likewise, how a person copes with stressful situations determines the impact that these situations will have on his or her well-being, health and quality of life (Gustems-Carnicers & Calderón, 2013), and finally, with the number of occasions that a person has faced a given stressful and/or conflictive situation and, therefore, with the degree of experience in coping with such situations. Taking into account that Master's and/or Doctoral students are people who have already completed a Bachelor's Degree at the University and, therefore, have a background in coping with stressful situations related to the field of Higher Education, as well as a greater support network than first-year students, they may have a greater number of appropriate strategies to cope with such situations. In this sense, the use of appropriate coping strategies is directly related to stress and academic success (Karaman et al., 2019).

Regarding gender, the results are consistent with other research that confirms that female university students use more appropriate emotion-focused coping strategies compared to men (Brougham et al., 2009). Female university students tend to report greater use of coping strategies such as emotional expression and social support (Eaton & Bradley, 2008). Additionally, studies have reported that the greater use of appropriate emotion-focused strategies could be due to the socialization process of female university students and the adoption of 'traditional gender roles' related to caregiving (Dyson & Renk, 2006).

Finally, and in relation to hypothesis 4 (h4), the results obtained in the ANMI cluster are partially confirmed in the sense that students who use inadequate coping strategies to a greater extent (both those focused on the problem and emotion) present low levels of academic satisfaction and identify themselves, for the most part, as men. However, h4 is not confirmed in the sense that the conflicts that generate greater student discomfort are those derived from university rules and not those produced because of relationships with the faculty. In this regard, previous studies have found a direct relationship between coping strategies and academic satisfaction and performance (Meneghel et al.,2019). This could be explained using appropriate coping strategies, which are directly associated with stress reduction, and, in turn, this appears to be related to increased self-efficacy and satisfaction (Crego et al., 2016).

As mentioned above, coping strategies are mostly implemented by students to cope with conflict situations that generate stress. Conflict management in university life requires the use of coping strategies that can lead to a) emotionally adverse consequences (related to the use of inadequate coping strategies or b) constructive processes that facilitate social, emotional and personal development

(Arias & Arias, 2017) and, therefore, an increase in academic satisfaction (Palomino, 2018).

Taking into account that conflict is an inevitable part of coexistence and personal and social development (Dorado et al., 2015), it should be taken into account that the experiences that students accumulate throughout their university experience will determine, to a large extent, their ability to modify and adapt the coping strategies they will use in the future to manage stressful situations derived from conflicts (González & Jurado, 2022). In this sense, previous research highlights gender differences in relation to the use of coping strategies, finding that men tend to use avoidant strategies more frequently than women (Eschenbeck et al., 2007), and women more frequently use strategies related to emotional expression and social support (Salgado & Leria, 2018). This could be due to the roles socially assigned to the male gender and its relationship with a greater burden of competitiveness and individualism. Thus, Gatinno et al. (2015) state that there is a direct relationship between the use of inadequate coping strategies in men and the decrease in their quality of life.

It should be added that despite the scarce existence of person-focused studies that associate coping strategies with the variables analyzed in the present research, some of the results are analogous to those obtained in similar studies. In this regard, Freire et al. (2016) found how the use of adequate coping strategies was related to greater psychological well-being in university students, which can be associated with the results obtained in the present study on the relationship between higher levels of academic satisfaction and the use of adequate problem-focused and emotion-focused strategies. Along the same lines, studies conducted during the pandemic caused by COVID-19 showed how younger students used inadequate coping strategies to a greater extent (Babicka-Wirkus et al., 2021). In addition to the above, recent research conducted through latent profile analysis has identified how university students who use adequate coping strategies are more confident and optimistic with respect to discouraged students who use such strategies to a lesser extent (Zhao, 2024).

Based on the results obtained and in line with the recommendations issued by the World Health Organization (WHO), the need to implement strategic actions aimed at increasing emotional well-being and reducing academic stress as a vehicle for improving the mental health of students becomes a priority; for this, it is essential to develop skills related to the use of appropriate coping strategies to minimize the impact of stress-generating situations of a conflictive nature (De Vicente & Villamarín, 2018). In this scenario, Higher Education should be established as a space capable of favouring spaces, both in proactive and reactive mode, for learning and development of flexibility and adaptation competencies in the coping

of students, focused on reducing the negative effects of stress both in physical and emotional well-being and in academic satisfaction.

In conclusion, the results of the present study bring as a novelty the plausible relationship between the coping strategies used by university students and variables such as gender, course, perception of the discomfort of conflicts in the university experience and academic satisfaction. In this sense, the results obtained, firstly, provide innovative evidence on how the use of appropriate coping strategies is related to greater academic satisfaction of students based on latent profile analysis, and, secondly, how this is conditioned by gender, course, level of studies in which they are enrolled and the perception of students in relation to the conflicts that generate greater discomfort during their university experience.

Therefore, coping strategies emerge as a key element in the design of university curricula since they should be considered determinants both for improving students' university experiences and, therefore, their academic satisfaction and for facilitating learning spaces and training in the adequate management of stressful situations in their future professional and personal environments. Likewise, coping strategies should be understood as a consubstantial element of the emotional well-being of university students and, therefore, as a key factor in relation to the increased concern for the mental health of young people.

We agree with Casullo and García (2015) that analyzing the personal resources of students to successfully face situations of adversity (from a person-centered approach) should be considered an exciting challenge in the context of Higher Education. Universities are, today more than ever, not only producers, depositories and transmitters of knowledge but also responsible for promoting the welfare of citizens and with an outstanding social projection aimed at the development of human relations based on respect and dignity of people.

To conclude, the present study is not free of limitations that should be considered for future research. In this regard, despite the significant size of the sample, all the students participating in the study belong to the same public university (UCM), so it would be interesting in future research to replicate this study in other universities, both national and international, as well as in the private sector. Likewise, it would be interesting to include variables associated with both mental health and stress perception to analyze possible relationships with the coping strategies of university students. There are also limitations derived from the study methodology itself since its cross-sectional design has provided data from a single survey at a given time. This issue does not facilitate the understanding and analysis of the flexibility and continuous adaptation of students to stressful situations. A longitudinal design would be required to deepen and analyze possible changes over time. Finally, the output of the software used in the present study does not allow the recording of adjustment and classification statistics, so in future

research, it would be advisable to use software that allows these parameters to be performed to determine with greater robustness the suitability of the chosen profiling solution.

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