International Journal of Instruction *January 2024 ● Vol.17, No.1*
e-ISSN: 1308-1470 ● www.e-iji.net *p-ISSN: 1694-609X*
pp. 513-532

Article submission code: 20230110164149
Received: 10/01/2023 Revision: 10/07/2023
Accepted: 01/08/2023 OnlineFirst: 06/11/2023

Engagement and Factors Associated with Academic Performance in Spanish Students Undertaking Teacher Training Degrees

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This goal of this research was to find out the extent and type of engagement, motivation, stress, coping strategies and academic performance in students undertaking teacher training degrees (early childhood education, primary education and double degrees) with a view to establishing relationships between these variables and designing proposals to improve and complement tutorial plans for these programmes. This was a cross-cutting, prospective, exploratory study that combined descriptive and correlational methodologies by means of questionnaires. The sample consisted of 610 students undertaking the early childhood education degree, primary education degree or double degree at the UB. The results indicate a moderate degree of academic engagement. Among the variables involved, the highest scores were obtained for academic engagement, achievement goals and, as a hindering variable, psychological distress. Academic performance (average grade) and the subscales of vigour, dedication and absorption (as facilitating variables) were identified as being involved in the development and maintenance of academic engagement. It is hoped that this research will serve to disseminate data relevant to tutorial action plans for teacher training degrees among the scientific community and, consequently, to improve the academic engagement of these students.

Keywords: academic engagement, academic achievement, teacher training, tutorial action plan, academic motivation, coping strategies

INTRODUCTION

In the educational field, commitment or engagement is a multidimensional concept, a meta-construct made up of many components in which the antecedents and consequences of how a student behaves, feels and thinks are related (Reeve, Cheon, & Jang, 2019). Its study constitutes the starting point of the empirical study of a concept

Citation: Calafell, M. N., Calderon, C. & Gustems, J. (2024). Engagement and factors associated with academic performance in spanish students undertaking teacher training degrees. *International Journal of Instruction*, *17*(1), 513-532. https://doi.org/10.29333/iji.2024.17127a

that will positively influence student performance. In this research we have started from the engagement model proposed by Salanova et al., (2010) and by Appleton, Christenson and Furlong (2008) as a model widely disseminated and applied in multiple investigations.

The explanatory model for predicting academic performance (Salanova et al., 2010) associates engagement with a positive motivational construct by linking it to a cognitive-affective state composed of three elements and their corresponding dimensions: vigour (behavioural dimension), dedication (emotional dimension) and absorption (cognitive dimension). This model has been applied to many research projects and makes it possible to understand the facilitating and hindering variables that are related to academic performance and that influence student engagement or burnout (see Figure 1). For Oporto, this model "is part of a highly practical approach that is reflected in the daily work of a student, since it reveals the presence of hindering and facilitating factors, while seeking to improve academic performance" (Oporto, 2017, p. 38).

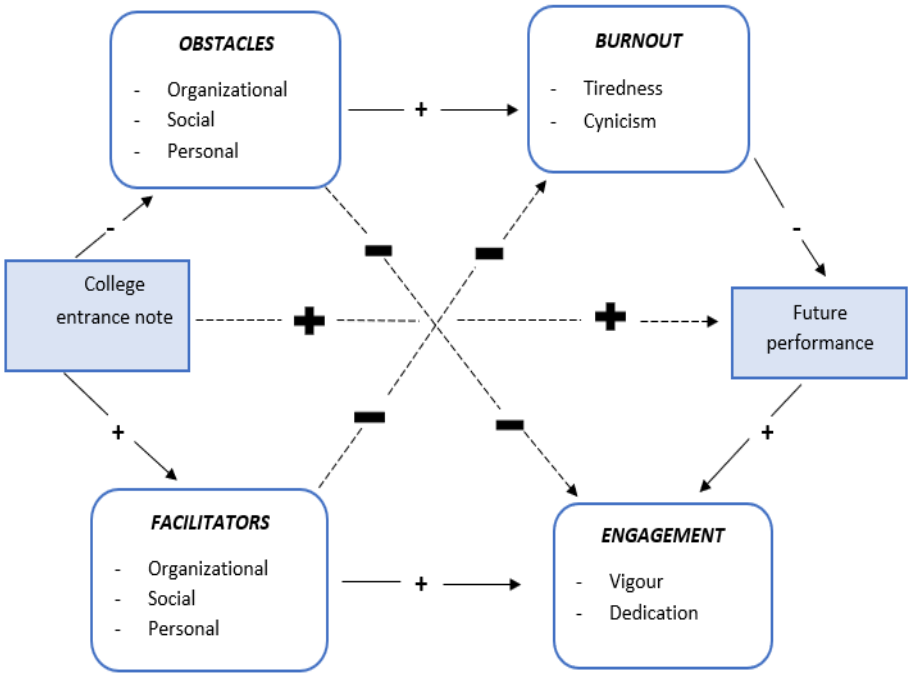

Figure 1
Model for predicting academic performance (Salanova et al., 2010, p. 34)

In the university context, academic engagement and performance are closely related. In recent decades, a number of studies have designed instruments to evaluate the way in which students learn and the degree to which they effectively engage in academic tasks throughout their university education (Gray & DiLoreto, 2016). Specifically, studies carried out with university students in the master's degree reveal that some demotivation

appears among these students throughout the degree, since students in the 1st year tend to score higher than those in the 4th year in expectations regarding the studies and the teaching staff, while the latter score lower in academic stress (Esteban & Mellen, 2016). However, empirical research on engagement is very recent and there are few published works in this field that study the relationship between stress, coping and academic performance. For this reason, in our study, we sought to find out the extent of academic engagement, academic motivation and achievement goals, coping strategies and level of stress among our teacher training students to establish how these relate to their academic performance.

A review of the literature in this field led us to conclude that there are facilitating variables that constitute key elements in the learning process of students, since they affect success, self-regulation, motivation and associated factors such as persistence, effort and interest (Schunk & DiBenedetto, 2021). Meanwhile, there are hindering variables related to psychological distress in university students that negatively influence their academic engagement and performance (Calderón et al., 2020).

According to Salanova et al. (2004), engagement can be understood as a clearly motivational construct since it reflects activation, energy, effort and persistence and is geared towards achieving objectives. The self-determination theory (Deci & Ryan, 2000) distinguishes between two types of motivation based on their components: autonomous motivation, which includes intrinsic motivation, integrated regulation and identified regulation, and controlled motivation, composed of introjected regulation and external regulation. Some quantitative studies in this field have examined the relationships between autonomous and controlled motivation with a wide range of academic achievements and results. In this field, a study by Vansteenkiste et al. (2005) positively associated autonomous motivation with adaptive learning attitudes, academic success and personal well-being among adolescent students.

In addition, coping strategies represent a key component of learning processes and academic performance. Lazarus and Folkman (cited in Obbarius et al., 2021) contextualized these within the framework of their stress response theory and defined them as adaptive responses to a specific stressor; that is, the efforts made by people to modify a stressful situation. According to Song and Vermunt (2021), these strategies allow students to regulate themselves in learning activities to successfully cope with the demands that arise in educational settings. In the university context, students are exposed to multiple demands, in which academic learning and performance are major sources of stress, so-called "academic stress" (Restrepo et al., 2020). This can lead to low academic productivity, attention deficits, concentration problems, etc. The coping strategies employed by students play a key role in maintaining their psychological well-being.

In the field of education, "academic stress" has been studied due to its direct relationship with the psychological well-being of students and is considered to be a barrier to engagement (Grant et al., 2004). It has been associated with physical symptoms (Meca et al., 2020), psychological symptoms such as anxiety and depression (Li et al., 2022), academic performance and engagement, and decreased activity and

productivity (Cheung et al., 2020). Perceived stress may be due to interactions with peers and teachers, the demands of academic work and school rules, and the connection between leisure spaces and school work (Oporto et al., 2022).

In the university context, several studies have revealed that academic stress increases as students' progress through their education and that it peaks during university studies (Cabezas & Escobar, 2022) due to the high workload and the many changes they encounter at this stage of life: separation from their family, entry into the labour market and adaptation to an unfamiliar environment.

On the other hand, the increase in competitiveness, the importance of successfully completing studies and good personal and academic performance also make the study of engagement a topic of growing interest (Pluut et al., 2015). However, few studies have identified the variables that facilitate and hinder academic engagement and success. For this reason, we believe that it is essential to consider them as a whole and this means reflecting on a whole series of internal variables that enable them to commit to the daily challenges of school reality.

Objectives

This research paper pursued two general objectives: first, to acquire a better understanding of the concept of engagement in university students undertaking a teacher training degree; and, second, to analyse the variables that facilitate and/or hinder academic engagement and success: achievement goals, academic motivation, coping strategies, procrastination, perceived stress and psychological distress (somatization, anxiety and depression).

METHOD

Sample

This cross-cutting, prospective, exploratory study combined descriptive and correlational methodologies and used a mixed model that included quantitative and qualitative data, obtained from different instruments, which were complemented and related.

The sample consisted of 610 students undertaking the early childhood education degree (47.5%), primary education degree (43.6%) or double degree (8.9%) at the UB over the course of the 2019-20 and 2020-21 academic years. Of the sample, 82.2% were women, and their ages ranged from 18 to 44 years (mean 21.3 years, SD = 3.3). A total of 33.4% were in first year, 26.9% were in second year, 15.4% were in third year and 24.3% were in fourth year.

The inclusion criteria were: being enrolled in this faculty and being in first to fourth year; having access to their average grade in the previous year's academic record; having signed an informed consent form; and having completed the questionnaires.

Instruments

- **Sociodemographic data**

The questionnaire included sociodemographic data about the students (age, gender, current academic year).

- **Psychometric tests and scales to assess academic engagement and other associated psychological variables:**

- ***Utrecht Work Engagement Scale for Students*** **(UWES-S-9)** (Schaufeli et al., 2002). This is a nine-item **academic engagement scale** that assesses the three academic engagement components according to the theory of these authors: vigour, dedication and absorption. The scale includes questions about the students' thoughts and feelings over the past month regarding some statements. Each item is scored on a seven-point Likert scale.

- ***Perceived Stress Scale*** **(PSS)** (Cohen et al., 1983; Remor, 2006). This is a 10-item **perceived stress scale** that encodes the level of perceived stress over the past month. The scale has satisfactory psychometric properties, with a Cronbach's alpha of 0.87 (Serrano & Andreu, 2016). It is the only empirically validated global measure of perceived stress (Monroe & Kelley, 1995).

- ***Brief COPE*** (Perczek et al., 2000). This is a multidimensional inventory that was developed to assess the different forms of response to stress. It consists of 24 items. The scales measure different coping styles: problem-focused styles (active coping, planning, use of instrumental social support), emotion-focused styles (use of emotional social support, positive reframing, acceptance, denial, turning to religion) and less common styles (venting of emotions, emotional disengagement, mental disengagement, substance use, humour). Each item has four possible responses (from "I usually don't do this at all" to "I usually do this a lot"). The scale has satisfactory psychometric properties, with a Cronbach's alpha ranging from 0.71 to 0.80 (Lara et al., 2013).

- ***Motivated Strategies for Learning Questionnaire*** **(MSLQ)** (Pintrich et al., 1993)**.** The academic motivation scale is composed of 12 items that seek to capture the reasons that students continue with their studies. Responses are scored on a seven-dimension Likert scale, composed of three factors: one that assesses intrinsic motivation (MI), one on extrinsic motivation (ME) and the third on amotivation (AM). Temporal stability is adequate and the test-retest correlation after one month yielded values ranging from 0.69 to 0.87 (Vallerand & O'Connor, 1989). Construct validity was tested with a correlation between the seven subscales, with values between 0.76 and 0.84 (Núñez et al., 2005).

- ***Achievement Goal Questionnaire-Revised*** **(AGQ-R)** (Elliot & Murayama, 2008). This is a questionnaire consisting of 12 questions on achievement goals, with seven-point Likert responses. It has four subscales: mastery-approach, mastery-avoidance, performance-approach and performance-avoidance goals. Its psychometric properties are satisfactory, with a Cronbach's alpha of 0.84 for master-approach, 0.88

for performance-approach, 0.92 for master-avoidance and 0.94 for performance-avoidance in the Spanish version (Sánchez Rosas, 2015).

- ***Brief Symptom Inventory*** **(BSI)** (Derogatis, 1983). The symptom inventory is a short self-report measure of 18 items that assesses psychological distress. Participants have to specify the degree of psychological distress caused by an event over the course of the previous week, using a five-point Likert scale. The scale offers three dimensions: somatization, depression and anxiety.

- ***Procrastination Assessment Scale-Student*** **(PASS)** (Solomon & Rothblum, 1984). This instrument assesses the prevalence of procrastination in six academic areas: writing a term paper, studying for an exam, keeping up with weekly reading assignments, performing administrative tasks, attending meetings and performing academic tasks. Subjects are asked to indicate, on a five-point Likert scale, the degree to which they procrastinate with respect to 12 questions related to these tasks. Cronbach's alpha is 0.76 (Ozer et al., 2009).

- **Performance tests.** Average final grades for the academic year and the number of credits passed were used to assess the students' academic performance (Parra, 2010).

Procedure

During the first semester of the 2019-20 academic year, the self-administered paper questionnaires were completed at the same time in the classrooms of the UB's Faculty of Education to ensure that they were answered fully and in the correct manner. In the 2020-21 academic year, Covid-19 restrictions meant that online questionnaires had to be emailed to the students, who could complete them via any computer during the specified period. Once the answers had been obtained, the corresponding statistical analyses were carried out.

Data analysis

Descriptive analyses of the variables under study were performed. For the nominal and ordinal variables, we used the statistics of mode, median, frequency and percentages, and for the continuous variables, we used the measures of central tendency (mean, median and interquartile range) and dispersion (standard deviation, variance and range of scores). Comparison between means was used to analyse the differences between the results of our questionnaires and the results obtained in other studies. The Student's *t*-test was used to analyse differences between groups (men and women) in the academic engagement scales (UWE-S-9) and the other scales used; prior to the analysis, the fundamental assumptions of normality and homoscedasticity were verified.

Pearson's correlation was used to analyse the relationship between academic engagement and its facilitating and hindering variables. In addition, linear regression models were used to assess the specific contribution of academic engagement and its psychosocial variables. A p-value of <0.05 was considered statistically significant for all analyses.

Statistical analyses were carried out using the Statistical Package for Social Sciences (SPSS) version 23.0 for Windows (SPSS Inc., Chicago, Illinois, USA).

FINDINGS

The most relevant results obtained from applying the instruments to the sample of students are briefly described below:

- With respect to **academic engagement**, our students obtained an average score (3.46) in degree of effort, enthusiasm and conformity, according to the UWES-S-9, See Table 1.

Table 1
Comparative scores between our study and the study by Carmona-Halty, Schaufeli and Salanova (2019)

Variable	Our studio M (DT)	Another studio [a] M (DT)	t	p
Utrecht Work Engagement Scale for Students (UWES-9)				
- Vigor	2.60 (1.22)	3.27 (1.41)	-13.544	0.001
- Dedication	4.19 (1.25)	3.77 (1.35)	8.278	0.001
- Absorption	3.60 (1.10)	3.17 (1.48)	9.708	0.001
- Full engagement	3.46 (1.05)	3.40 (1.25)	1.537	0.125

[a] Carmona-Halty, Schaufeli y Salanova (2019), (n = 1502)

The students' average grade in their studies was 7.47 (SD = 0.6).

In relation to the psychological variables analysed, the highest scores were obtained in achievement goals (AGQ-R), specifically in performance-approach (M = 3.7; SD = 1.5), performance-avoidance (M = 4.6; SD = 1.3) and mastery-avoidance (M = 4; SD = 1.5). High scores were also obtained in psychological distress, according to the BSI, specifically on the somatization scale (M = 69.5; SD = 5.8), see Table 2.

Table 2
Comparative scores between our study and the study by Raccanello, Brondino, Pasini and De Bernardi (2014) on achievement motivation

Variable	Our studio M (DT)	Another studio [a] M (DT)	t	p
Achievement Goal Questionnaire-Revised (AGQ-R)				
- Performance approach	4.5 (1.2)	2.2 (1.0)	11.769	0.001
- Approach to mastery	2.9 (1.6)	3.2 (1.0)	28.092	0.001
- Performance Avoidance	4.1 (1.4)	2.2 (1.0)	48.729	0.001
- Mastery Avoidance	5.5 (1.2)	4.1 (0.7)	16.442	0.001

[a] Raccanello et al. (2014), (n= 77)

With respect to the variables analysed, the lowest scores were obtained in academic motivation and perceived stress. In relation to academic motivation, the lowest scores according to the MSLQ were obtained on the test anxiety scale (M = 3.5; SD = 1.5) and the extrinsic goal orientation scale (M = 4.0; SD = 1.5). And, in perceived stress, the results obtained in the Perceived Stress Scale (PSS-10) revealed that our students present low stress levels (17.5; SD = 5.6, with a range from 1 to 40).

With respect to differences between men and women, the results indicate significant differences between the sexes only in coping strategies, perceived stress and psychological distress. In terms of coping strategies (COPE), women scored significantly higher than men in emotional support (F = 7,454; p = 0.021, $\eta 2$ = 0.021), instrumental support (F = 10,347; p = 0.017, $\eta 2$ = 0.017), self-distraction (F = 4,411; p = 0.036, $\eta 2$ = 0.007) and expression of negative emotions (F = 18,347; p = 0.001, $\eta 2$ = 0.029). Meanwhile, men reported significantly higher scores in acceptance (F = 8,629; p = 0.030, $\eta 2$ = 0.014), humour (F = 9,557; p = 0.020, $\eta 2$ = 0.015) and substance use. In perceived stress, women obtained higher scores (M = 17.9, SD = 5.5) than men (M = 15.6; SD = 5.5, F = 14,644; p = 0.001, $\eta 2$ = 0.024), with the difference being moderate. In psychological distress (BSI), women reported more symptoms of anxiety (F = 8,407; p = 0.004, $\eta 2$ = 0.014) and psychological distress (F = 6,066; p = 0.014, $\eta 2$ = 0.010) than men.

Regarding the relationships between the variables under study, significant positive and negative correlations were observed in facilitators and obstacles, respectively. Among the facilitating variables, of note was the correlation between engagement and academic performance (r = 0.237; $p < 0.001$) in vigour (r = 0.238;c $p < 0.001$), dedication (r = 0.179, $p < 0.001$) and absorption (r = 0.210, $p < 0.001$), as well as with somatization (r = 0.195, $p < 0.001$). Meanwhile, with respect to obstacles, engagement correlated with stress (r = -0.122, p = 0.003), voluntary delaying of tasks (r = -0.188, $p < 0.001$), mind-wandering (r = -0.253, $p < 0.001$), procrastination (r = -0.250, $p < 0.001$) and symptoms of depression (r = -0.149, $p < 0.001$), see Table 3.

Table 3
Correlation between commitment and the average mark with the rest of the variables under study for the total sample (n = 603)

	Variable to correlate: academic engagement		Variable to correlate: average score	
Scales	*r*	*p*	*r*	*p*
Engagement (academic commitment)	1		0.237	0.001
Average grade	0.237	0.001	1	
Socioeconomic level	0.144	0.001	0.015	0.715
Facilitating variables:				
COPE. Active coping	0.158	0.001	0.100	0.044
COPE. Planification	0.050	0.213	0.048	0.331
COPE. Positive reinterpretation	0.124	0.002	0.041	0.410
COPE. Acceptation	0.084	0.038	0.018	0.721
COPE. Humour	0.001	0.979	-0.027	0.593
COPE. Religion	0.051	0.210	0.020	0.681
COPE. Emotional support	0.117	0.004	0.048	0.334
COPE. Instrument support	0.088	0.030	-0.042	0.400
COPE. Self-distraction	0.093	0.023	0.056	0.262
COPE. Negation	0.062	0.125	-0.028	0.569
COPE. Expression negative emotions	0.058	0.156	0.062	0.212
COPE. Substance use	-0.101	0.013	-0.040	0.417
COPE. Behavioral disengagement	-0.092	0.024	-0.076	0.125
COPE. Self-blame	0.106	0.009	0.065	0.191
AGR-R. Performance approximation	0.422	0.001	0.219	0.001
AGR-R. Approach to mastery	0.218	0.001	0.097	0.050
AGR-R. Performance avoidance	0.120	0.001	0.096	0.001
AGR-R. Mastery avoidance	0.224	0.001	0.019	0.700
MSLQ. Orientation to intrinsic goals	0.098	0.015	0.177	0.001
MSLQ. Extrinsic goal orientation	0.182	0.001	0.045	0.363
MSLQ. Task value	0.637	0.001	0.196	0.001
MSLQ. Control beliefs	-0.200	0.001	-0.072	0,111
MSLQ. Self-efficacy for learning	0.303	0.001	0.230	0.001
MSLQ. Test anxiety	0.020	0.624	-0.088	0.075
NGSES. Self-efficacy	-0.005	0.001	0.099	0.045
Hindering variables:				
PSS-10. Perceived stress	-0.122	0.003	-0.051	0.300
PASS. Voluntarily delay	-0.188	0.001	-0.249	0.001
PASS. Wandering off involuntarily	-0.253	0.001	-0.262	0.001
PASS. Procrastination	-0.250	0.001	-0.272	0.001
BSI. Somatization	0.195	0.001	0.101	0.041
BSI. Anxiety nsiedad	0.056	0.171	0.052	0.293
BSI. Depression	-0.149	0.001	0.008	0.874
BSI. Psychological discomfort	0.033	0.413	0.034	0.489

Abrev.: COPE: Brief COPE; AGRQ-R: Achievement Goal Questionnaire-Revised; MSLQ: Motivated Strategies for Learning Questionnaire; NGSES: New General Self-Eficacy Scale; PSS-10: Perceived Stress Scale; PASS: Procrastination Assessment Scale-Student; BSI: Brief Symptom Inventory

Figure 1 offers a graphic summary of the variables that have been significant with the commitment and the average grade. The correlation between average grade and the rest of the variables under study correlated significantly and positively with many of the variables analysed. According to the data obtained (Figure 2), the students who are most engaged with their studies and obtain the best grades are driven mainly by achievement goal strategies, specifically in performance-approach (r = 0.219; p = 0.001), mastery-approach (r = 0.097; p = 0.050) and task value (r = 0.196, p < 0.001). This would indicate that they use strategies to achieve academic success focused on the assigned task and the achievement of intrapersonal skills. In other words, these students would be motivated to carry out their academic tasks adequately with the aim of improving themselves. They would mainly be motivated by obtaining knowledge and stimulating experiences through said school tasks, although to some extent they would also compare themselves with other classmates. Likewise, they would be the students whose beliefs about their abilities and possibilities of success would give them better grades and average levels of academic commitment. However, those who register lower levels of engagement and worse grades would engage in more procrastination behaviors, involuntary loitering and would have less sense of control. In this way, they would perceive that there are no contingencies between their behavior and its consequences, they would exhibit more violent behavior, more relationship problems with their peers, and they would appreciate more stressful events in the face of which they would resort to coping strategies that would include reducing efforts to face them.

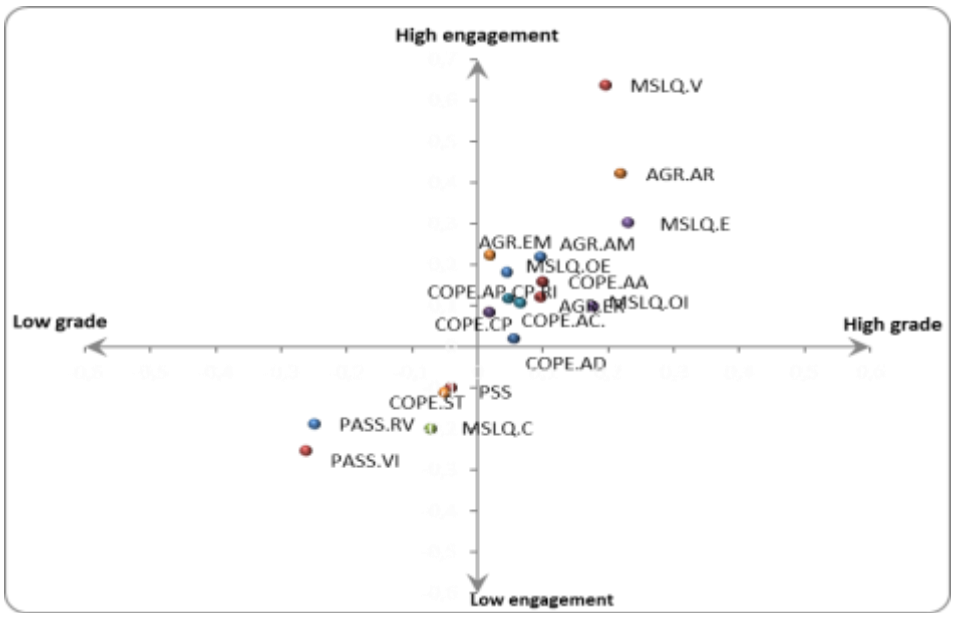

Figure 2
Significant correlations between engagement and average grade with the rest of the variables under study

DISCUSSION

The main objective of this paper was to acquire a better understanding of the concept of engagement in university students undertaking teacher training degrees. The results obtained for academic engagement, according to the UWES-S-9, which assesses vigour, dedication and absorption, placed our students in a medium range. The results of this research were consistent with the total score for academic engagement (t = 1,537, p = 0.125) obtained in a study by Carmona-Halty et al. (2019), which was carried out with a sample of 1,502 Chilean university students. When comparing the two studies, the UB students were found to present a good level of dedication to their work, adequate participation and moderate attention, but a slightly lower drive and lower levels of energy and mental resilience. In this regard, it is essential that university teachers are able to cultivate positive emotions and behaviours in students, since a passion for teaching is often awakened by such influences. Therefore, we believe it is vital to safeguard spaces for face-to-face contact and personalized attention that foster interest and communication between teachers and students (Flores & Niklasson, 2014).

This engagement is mediated by psychological variables that can facilitate or hinder it, which responds to the second objective of this work. With respect to the mean scores obtained in the 10 variables analysed, the highest were found in academic engagement, achievement goals and psychological distress, while the lowest were for average grade, academic motivation and perceived stress. Compared to other studies with similar samples (such as Carmona-Halty et al., 2019), the results were in the same, moderate range. However, it is worth noting the significant differences observed in some of the variables, which is consistent with previous studies (Gungor, 2019).

With respect to achievement goals, our students scored higher in performance-approach, performance-avoidance and mastery-avoidance. Compared to a study by Raccanello et al. (2014), which used a similar sample of university students, our students scored higher on all scales. This would indicate that our students are guided by a need to succeed, intrinsic motivation and achievement of competence in relation to other students. In terms of performance-avoidance and mastery-avoidance, the data obtained indicate that our students try to avoid tasks they are seemly incapable of doing (i.e. they avoid incompetence) and that they avoid being worse than other students. Thus, UB students are driven more by becoming competent in relation to others. To achieve this, they employ more strategies related to the need for achievement, intrinsic motivation or interest in the task. These data are consistent with other research demonstrating how facilitating variables are related to longitudinal increases in positive academic outcomes (Denovan et al., 2020).

With regard to psychological distress, the UB students reported symptoms that would indicate a certain degree of stress. Compared to a study by Gustems et al. (2020), conducted with university students with similar characteristics, the results showed significant differences in the somatization, anxiety, depression and psychological distress scales. This would suggest that our students report significantly less feelings of worry, anxiety, loneliness and inferiority or insecurity than the abovementioned group, which could be explained by the fact that UB students perceive fewer life situations as

stressful and find that their life is predictable, controllable and not overburdened. In this regard, they should enjoy greater emotional stability when carrying out academic work, which would be in line with the research by Kotera et al., (2022) who related low academic stress with psychological well-being.

On the other hand, the lowest scores in academic motivation, according to the MSLQ, were found in the test anxiety scale and the extrinsic goal orientation scale. The results indicate that our students have the skills to cope with academic tasks and are intrinsically motivated to acquire knowledge and that their results depend on their own effort and study. When comparing these data to a study by Ramírez et al. (2013), we found significant differences for the intrinsic goal orientation, extrinsic goal orientation, task value, control beliefs, self-efficacy for learning and test anxiety scales. In other words, according to this questionnaire, UB students have the skills to cope with academic work, their results depend on their own effort and their way of studying, and their engagement in studies is motivated by intrinsic goals such as challenges, curiosity and a desire to learn. However, our students presented lower scores in academic motivation compared to the other study.

In the hindering variable of perceived stress (PSS-10), the results showed average scores, thus indicating a low level of stress in our university students, especially when compared to other studies (Oporto, 2017). The data indicate that UB students perceive fewer life situations as stressful, find their life predictable, controllable and not overburdened, and enjoy greater emotional stability when performing academic work and better psychological well-being, which are predictive of a higher level of academic engagement in their studies.

In terms of the sex of the students, the men and women in our sample did not behave similarly with respect to coping strategies, perceived stress and psychological distress. In terms of coping strategies (COPE), women scored significantly higher than men in emotional support, instrumental support, self-distraction and expression of negative emotions. Meanwhile, men reported significantly higher scores in acceptance, humour and substance use. When these results were compared to other studies by Coppari et al. (2019) with a sample of university students, women also scored higher than men in seeking social support, worrying, seeking to belong and seeking relaxing activities. These findings were consistent with the suggestion of Frydenberg and Lewis (1991), confirmed in various studies (González et al., 2002), that "when women encounter difficulties, they seek more social support and tend to focus on relationships more than men, since they are more likely to accept understanding and support and tend to share their feelings more than men" (Scafarelli & Garcia, 2010, p. 3).

With respect to perceived stress, the difference observed between women and men was moderate. These results are consistent with studies by Arntz et al., (2022), carried out with students of similar characteristics, who affirm that there is an association between the female sex and the levels of anxiety, stress and depression. In both studies, women scored significantly higher than men in the analysis of stressful situations. This greater vulnerability to stress in females could be explained by their context dependence

(Farkas, 2002), their greater desire to please adults, especially parents and teachers (Pomerantz et al., 2001), or their way of approaching and viewing the assessment.

In psychological distress (BSI), women also presented more symptoms of anxiety and psychological distress than men. These differences between the sexes were also confirmed in the Spanish National Health Survey (2006), which revealed that mental health problems were more prevalent in women (24.6%) than in men (14.7%) (Rocha et al., 2010). In general, the data indicate that women have higher levels of psychological distress than men and this has an impact on their academic performance (Soto et al., 2022).

In relation to the psychosocial variables related to academic engagement, this correlated significantly with academic performance (average grade) and the subscales of vigour, dedication and absorption (as facilitating variables). Meanwhile, among the hindering variables, engagement correlated with stress, voluntary delaying of tasks, mind-wandering, procrastination and symptoms of depression. The high results obtained in the subscales of vigour, dedication and absorption and in academic performance (average grade) revealed high scores in our students, which would suggest that students with higher levels of academic engagement also present better grades. In other words, good academic performance is positively related to engagement (Cobo-Rendón et al., 2022).

Moreover, average grade correlated with 12 of the 35 variables analysed, the most positive and significant being extrinsic goal orientation and task value. This would indicate that students who perceive a task in terms of mere personal satisfaction (as a way of increasing their knowledge) tackle academic challenges effectively, are consistent in their actions and consequences, and obtain higher grades. This is relevant and coincides with the studies by Polanco et al. (2014) who evaluated academic engagement in a sample of 184 medical students and found a direct relationship between average grades and academic engagement.

CONCLUSIONS

To shed light on engagement and the factors associated with academic performance in students undertaking teacher training degrees, this research consisted, on the one hand, of *gaining in-depth knowledge of the concept of engagement in university students on teacher training degrees* and, on the other, of *analysing certain variables that may facilitate and/or hinder academic engagement and success*. In relation to the first objective, we found that academic engagement represents a multidimensional concept consisting of many powerful components for university students' personal and academic training (Reeve, 2012).

In relation to the second objective, the results reflected the profile and (moderate) level of academic engagement of our students, in line with other studies. The data obtained indicated that our students present a good level of dedication to their work, adequate participation and moderate attention. With respect to the psychosocial variables involved in the development and maintenance of academic engagement in the sample, we expected some of the facilitating and hindering variables to show a relationship with academic engagement and to predict the level of this concept in our students. In our

case, academic performance (average grade) and achievement goals presented a positive relationship with academic engagement. By contrast, stress, procrastination and psychological distress showed a negative relationship. This would suggest that our students show greater dedication and are strongly engaged in their studies, but present lower levels of energy and mental resilience. These students should therefore be motivated, effective and emotionally balanced. There were no differences in academic engagement by sex, although there were differences in some psychological variables.

Helping students at this stage of their training is key to developing and reviewing their academic, professional and personal aspirations throughout their university education. In this regard, the tutorial action plan (PAT) in the University of Barcelona's Faculty of Education is a resource that contributes to the integral development of students and personalized attention that translates into training and guidance activities between teachers and students, tailored to students' circumstances, needs and characteristics. All this should have a direct impact on students' academic engagement and guarantee the quality of the university tutorial system, which is one of the major accreditation standards in evaluations of the world's top-rated universities.

Finally, studying the origin and evolution of students' academic engagement throughout their education in university teacher training degrees is a key factor, since this will lead to quality teaching for prospective students, the raison d'être of the educational system.

ACKNOWLEDGEMENTS

This work is the result of a doctoral thesis and funds from the UB's REDICE 22-3240 programme. We thank all students who participated voluntarily by providing their data anonymously.

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