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Josep Gustems-Carnicer[1], Caterina Calderon[1], Diego Calderon-Garrido[1], Carolina Martin-Piñol[1]

[1] University of Barcelona, Spain

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Josep Gustems-Carnicer, Caterina Calderon, Diego Calderon-Garrido, Carolina Martin-Piñol
University of Barcelona

Abstract

Academic performance among university students is a fundamental factor in the analysis of quality of higher education. Despite the large volume of research on academic performance, there are no conclusive results regarding the influence of some variables on it. While some studies find differences attributable to gender, age, or psychological factors, such as coping strategies, others conclude that they are inexistent or insignificant. This article seeks to deepen about how these variables influence the academic performance of trainee primary-school teachers. Educational improvements in a society are only possible if teacher training guarantees a high qualification of its teachers. In this article we analyze academic progress in a sample of 136 students and the effect of gender, age and coping strategies and psychological symptoms. From the data analysis it can be concluded that all the analyzed variables cause differences in academic performance in teacher students. Therefore, it will be necessary to establish improvement plans for this degree that meet these conditions.

Keywords: academic progress, teacher training, coping strategies, stress.

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Progreso Académico, Estrategias de Afrontamiento y Malestar Psicológico en Estudiantes de Maestro

Josep Gustems-Carnicer, Caterina Calderon, Diego Calderon-Garrido, Carolina Martin-Piñol
University of Barcelona

Resumen

El rendimiento académico es un factor fundamental en la calidad de la educación superior. A pesar del gran volumen de investigaciones sobre el rendimiento académico no hay resultados concluyentes respecto a la influencia de algunas variables sobre el mismo. Mientras que algunos estudios encuentran diferencias atribuibles al género, la edad o a factores psicológicos como las estrategias de afrontamiento, otros concluyen que son inexistentes o insignificantes. Este artículo busca profundizar acerca de cómo dichas variables influyen en el desempeño de los estudiantes del grado de maestro en educación primaria. Las mejoras educativas en una sociedad sólo son posibles si la formación docente garantiza una alta cualificación de su profesorado. En este artículo se analiza el progreso académico en una muestra de 136 estudiantes y el efecto del género, la edad y las estrategias de afrontamiento y los síntomas psicológicos. Del análisis de los datos puede concluirse que todas las variables analizadas provocan diferencias en el rendimiento académico en los estudiantes de maestro, por lo que será necesario establecer planes de mejora de esta titulación que atiendan tales condiciones.

Palabras clave: progreso académico, formación de maestros, estrategias de afrontamiento, estrés.

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Academic progress is a variable of great importance for all university studies, and especially those involving primary-teacher education students. Society can only be improved if university education produces high-quality teachers (Maandag et al., 2017). Developments in our society are rapid and schools and teachers are expected to adapt to them and if possible spur them on (Hofman, Hofman, & Gray, 2015).

Entering university is an inherently stressful and demanding transition (Kwan et al., 2016). Students find themselves in a new, changeable and competitive environment, and for many it is their first opportunity to experience the sensation of independence and responsibility. This usually occurs when they are about 18 years old and during their time at university, they will face numerous challenges and difficulties. To complete their studies, they will develop competencies and adopt coping strategies that will subsequently help or hinder them in their adaptation to the world of work.

A large number of factors contribute to explaining university students' academic progress (Gustems et al., 2019), including academic pressure (Kember & Leung, 2006), excessive workload, financial problems, and personal circumstances (Singh & Upadhyay, 2008). Knowing students' concerns is a subject of particular interest for those working in higher education, since it can assist them in better understanding what undergraduates are going through. In this regard, various authors have discovered differences between men and women in matters related to students' health and eating habits: women are more prone to suffering stress, perceiving themselves to be in poor health and having a higher prevalence of unhealthy eating behaviours than men (Varela-Mato et al., 2012). At the same time, male students tend to employ fewer coping strategies, seek less help from their fellow students and try to sort out their problems alone (Hsieh et al., 2014). Enlisting social support is a relevant factor in the university context, which is an environment that fosters peer and student-teacher relationships. It is therefore important that students take advantage of such interactions to exchange information, establish networks and develop new personal and social skills.

Various authors have related stress to coping strategies, specifically to avoidance coping (Holahan et al., 2005). Avoidance coping involves cognitive and behavioural efforts oriented toward denying, minimizing, or

otherwise avoiding dealing directly with stressful demands and is closely linked to distress (Aldwin et al., 2018). For example, cognitive avoidance against incipient stressors such as difficulties with fellow students or teachers, or of a financial nature that are constantly put off or avoided, may eventually become the source of major problems in the future. Behavioural avoidance may lead to the awakening of new stressors; for example, emotional discharge may further aggravate existing tensions with the family or at work (Holahan et al., 2005). Avoidance coping has also been linked to the increased presence of depressive symptoms in university students (Hye-Yun, 2016). In women, the association between avoidance coping and depression has been related to rumination,defined as a passive coping strategy and more frequent in women than men, which is linked to intensive, persistent depressive symptoms (Holahan et al., 2005).

It would also appear that stress levels are generally higher in the first and last years of the degree (Deasy et al., 2016), and especially in the first academic term (Bewick et al., 2010).Some authors suggest that the university context brings out more anxiety than depression because students have to face new environments with formidable intellectual and relational demands, and thus younger individuals tend to be more vulnerable. Moreover, those students who suffer the greatest emotional toll are most prone to experiencing burnout later in their professional career (McCarthy et al., 2017).

In the Spanish context, teacher training studies consist of a 4-year university degree with a workload of 240 credits, which represents a dedication about 30 hours of class per week, in addition to the effort that they must make to complete their apprenticeships and group work. In some cases, this represents a handicap for combining studies with part-time jobs, which contributes to the overload of effort and brings students closer to sources of stress.

Analysis of the factors determining whether undergraduates will successfully complete their university courses is of huge importance, especially in the case of teacher education students, who will have the responsibility of educating future generations. Previous research indicates that academic progress may be affected by a wide variety of academic, cognitive, demographic and psychological factors (Coertjens et al., 2017). Student gender and age also have a significant impact on performance: proportionally fewer men and younger students complete their studies (Jenzer et al., 2019).

Likewise, the academic progress of women tends to be higher than that of their male counterparts (Reilly, Neumann, & Andrews, 2015), as does that of the older students (Farley, Clayton, & Kaka, 2018).

Essentially, the literature indicates that psychological distress is related to coping strategies and that both have implications for academic progress. However, relatively few studies analyze psychological distress, coping and academic progress in teacher education students, comparing academic performance in men and women. This study analyzes a sample of teacher education undergraduates, and has three objectives: 1) to describe the problems the students express, and analyze their differences by gender; 2) to compare coping strategies and psychological symptoms on the basis of gender and age; and 3) to analyze the predictive relationship of coping strategies and psychological symptoms in the academic progress of men and women.

Method

Participants

A convenience sample of 136 undergraduate college students (68 men and 68 women) of the University of Barcelona was studied. The average age of the total sample was 24.2 years (SD = 5.5, range 19-39). The average age for men was 25.1 years (SD = 5.8) and for women it was 23.7 (SD = 5.2), no significant differences between them (t = 1.399, p = .164). The educational grade of the total population were 14.7% (n = 20) students of Early Childhood Education Degree and 85.3% (n = 116) were students of Primary Education Degree. With regard to the academic year, 11.8% (n = 16) were in second year, 55.9% (n = 76) in third year, and 32.4% (n = 44) in fourth year.

Based on Hollingshead four factor index (Hollingshead 2011), the participants' families corresponded to the following categories: 13.4% low Family Socioeconomic Status (FSS), 16.1% FSS low-medium, 23.6% FSS medium, 32.9% FSS medium-high, and 13.7% FSS high. The average FSS for men was 42.2 (SD = 15.8) and for women was 44.5 (SD = 12.1), no significant differences between them (t = -.941, p = .348), see Table 1.

Table 1

Descriptive statistics of relevant variables (n = 136)

Variables	Men	Women	*t*	*p*
Age. M (SD)	25 (5.8)	23.7 (5.2)	1.399	.164
Academic year. n (%)			.000	1.000
2on year	8 (11.8)	8 (11.8)		
3rd year	38 (55.9)	38 (55.9)		
4th year	22 (32.4)	22 (32.4)		
Bachelor degree. n (%)			.000	1.000
Early childhood education	10 (14.7)	10 (14.7)		
Primary education	58 (85.3)	58 (85.3)		
Not provide information	2 (.6)	2 (.6)		
FSS family. M (SD)	42.2 (15.8)	44.5 (12.1)	-.941	.348
Completed academic credits. M (SD)	142 (47.7)	146.8 (51.0)	-.563	.575
Grade-Point Average M (SD)	7.5 (.41)	7.6 (.47)	-1.871	.064

Measures

The following questionnaires were administered:

The **socio-demographic data sheet** provided information about some characteristics of the group: age, gender, year of study, degree being studied, and Family Socioeconomic Status (FSS, Hollingshead, 2011). For the FSS, education and occupation levels of both parents were taken into account.

Coping Reponses Inventory-Adult Form, CRI-A (Moos, 1993) was used to obtain an indication of the respondents' coping strategies. The Spanish adaptation (Kirchner et al., 2008) of the Coping Responses Inventory-Adult Form (CRI-A) was employed.

The test is structured in two parts: in the first, subjects describe the most difficult event or problem they have had to deal with in the last 12 months; in the second, they respond to 48 questions directly related to the type of coping strategy they employed to resolve the situation described. In assessing the issues the students explained, we followed the coding system based on work carried out by Forns et al. (2004), which breaks the problem down into four categories: nature, content, participants and context. The *nature* category identifies who is suffering the problem, which it organises into three sub-categories: personal, interpersonal and problems of others. The *content* category identifies the substance of the problem, meaning the facts,

circumstances or events that comprise it, and consists in 13 sub-categories: problems of relationships, divorce, guilt, performance, and change of residence, conflicts with rules, victimization, leisure activities, health, addictions, money-work, death, and others. The category of *participants* refers to those who are essentially involved in the conflictive situation, and comprises eight sub-categories: the subject, his or her immediate family or extended family or both, partner, teachers, adults and animals. The *context* category identifies the framework or setting in which the problem occurs and includes five sub-categories: home and extended family, school, leisure time, neighbourhood and other settings, and others.

To evaluate the coping strategies, the 48 items that require participants to indicate their responses on a four-point Likert scale anchored by 'not at all' and 'fairly often'. These responses are measured by four scales: two scales measure approach coping and two scales measure avoidance coping (Moos, 1993). *The cognitive approach coping strategies* include: logical analysis and positive reappraisal. *The behavioural approach coping strategies* comprehend: seeking guidance and support, and problem solving. *The cognitive avoidance coping strategies* include: cognitive avoidance and acceptance/resignation. *The behavioural avoidance coping strategies* comprise: seeking alternative rewards and emotional discharge. The reliability coefficient of the CRI-Adult ranges from .58 to .74, thus indicating moderate to high internal consistency for the test. The Spanish adaptation of the CRI-Adult shows good reliability, with Cronbach's alpha coefficients ranging between .81 and .90. The CRI-Adult is considered to be valid and has been used extensively by researchers (Patiño & Kirchner, 2010).

Brief Symptom Inventory. The BSI-18 (Derogatis, 2001) was used to measure participants' psychological distress. This inventory includes 18 symptoms to assess the degree of distress on a Likert-type five-point scale, ranging from 1 (total absence of symptom) to 5 (full presence of symptom). The scale provides three groups of symptoms: somatization, depression, and anxiety, and a global severity index (GSI). The test-retest reliability ranged from .78 to .90. Cronbach's alpha ranged from .81 to .90 (Derogatis, 2001).

Academic Progress (GPA). The students specified their university grade-point average and the number of academic credits they had successfully completed. The formal curriculum was meant to be completed in 4 years; however, the system was somewhat flexible and a number of students took

longer to complete their studies. Grade-Point Average (GPA) was considered as an indicator of academic progress. Students have access to this information in their intraweb personal space, and it is the information provided in this study.

Procedure

The students of Early Childhood Education Degree and Primary Education Degree were mostly women (4:1 or 3:1, respectively). We want to analyze the differences in men and women regarding the academic progress, coping and psychological symptoms. A total of 94 men from different degree years were invited to take part in the study, of whom 68 accepted and 26 declined (27.6%); the participation of 68 women from the same classes was sought, so invitations were extended to 80, of whom 12 declined (15%).

The questionnaires were applied collectively in groups of 10-20 students over one-hour session in their usual class, accompanied by one or two members of the research team to clarify doubts and help if necessary. This study was approved by the Ethics Committee of the University of Barcelona (Spain) and was conducted in line with the guidelines of the Belmont Report (1978). A consent form to be signed by students was requested the day of the data collection. The participation of study was voluntary and anonymous.

Data Analysis

The characteristics of the students were described. In the case of the quantitative variables, means and standard deviations were calculated; frequencies and percentages were used for qualitative variables. The reliability analysis of the coding problem has been conducted by Cohen Kappa index. Two independent psychologists, properly trained, coded problems. The index was found Kappa Cohen between coders taken in pairs, and the average value of the two index was calculated. The differential analysis by gender of the different categories of problems has been made by X2 technique and calculation of percentage differences. To maintain a nominal rate of type I error is .05. Bonferroni correction applied. Student's *t*-test was used to assess the statistical significance of the difference between gender and age. Bivariate correlations were calculated between academic progress, coping strategies and psychological distress by gender.

Linear regression analysis were used for predicting the relationship between coping strategies and psychological distress in academic progress by

gender in college students. Here, the stepwise method was employed. In the subsequent statistical analysis, university grade-point average served as the predictor variable in the regression analysis, while coping strategies (as measured by the CRI-A), and psychological distress (as measured by the BSI-18), was utilized as the criterion variable. The study used a stepwise selection method and, for the statistical analysis, Version 22.0 of the *Statistical Package for the Social Sciences* (SPSS). For all the tests carried out, bilateral statistical significance was set at p equal to or less than .05.

Results

Problems expressed by students by category and gender

Depending on the **nature** of the problem, male students describe problems they directly involves themselves (44.5%), and linked to the subject's relationship with other people (33.3%). In women, the problem described directly affected themselves (34.6%) or with the others (34.6%).

About the **content**, in male students 33.3% problems appear in the subject's relationship with others, and 26% the problem is limited to guilt, worry, restlessness and dissatisfaction that the subject experiences himself. In women, the problems are due to conflicts with other persons (30.7%) or are problems due to the onset of disease in 23% of cases. Women described more problems related to health issues than men, statistically significant differences ($Z = .029$, $p = .024$).

As **participation** in the problem, in 37% of men, the protagonist is the individual himself and another 37% are involved in the problem friends or colleagues of the subject. In women, 28.8% are problems that are involved in themselves and in 15.4% the problem occurs between them and their friends. Men described problems involving friends or colleagues more than women ($Z = .046$, $p = .031$).

Depending on the **area of occurrence** of the problem, in male students, 37% the problem arises in the employment context, and by 26% the problem occurs in the family context. In women, 34.6% the problem occurs in the neighbourhood and physical and occupational contexts, and in 28.8% the problem occurs in the context of the nuclear family or extended family. See table 2.

Table 2

Classification of problems into categories (CRI-A). Percentages and significance by gender

Categories of problem	% Men	% Women	*Z*	*p*
Nature of the problem				
Personal	44.5	34.6	.466	.270
Interpersonal	33.3	30.8	.805	.505
Others	22.2	34.6	.309	.191
Content of the problem				
Relationships	33.3	30.7	.805	.505
Divorce	3.7	1.9	1.000	.570
Guilt	26	15.4	.365	.202
Academic performance	-	-	-	-
Change of residence	-	-	-	-
Conflicts with rules	-	5.7	-	-
Victimisation	-	-	-	-
Sport, leisure	-	-	-	-
Health	3.7	23	.029	.024
Addictions	3.7	-	-	-
Money, work	14.8	3.9	1.000	.612
Death, suicide	14.8	15.5	.435	.267
Others	-	3.9	-	-
Participants				
Oneself	37	28.8	.459	.311
Immediate family	26	33	.612	.362
Extended family	-	1.9	-	-
Fellow students, friends	37	15.4	.046	**.031**
Partner	--	11.5	-	-
Teachers	--	3.8	-	-
Adults	--	5.6	-	-
Context of the occurrence				
Home	26	34.6	.611	.300
School	7.4	1.9	.268	.268
Leisure, work	14.8	19.3	1.000	.596
Neighbourhood	37	28.8	.497	.435
Non-specific	14.8	15.4	1.000	.612

Gender differences in coping, psychological scales and academic progress

The coping strategies used by gender (Table 3) show that both men and women mainly used avoidance coping behaviour ($M = 51.2$, $SD = 6.4$ for men, and $M = 52$, $SD = 7.4$ for women), strategies as emotional discharge with

others persons, involvement in risky activities, relaxing or pleasure activities, etc. Comparing strategies between both genders, women use more cognitive strategies than men (logical analysis [t = 2.071, p = .040] and acceptance or resignation [t = 2.245, p = .026]). Likewise, the index of psychological distress is higher in women than in men (t = 2.376, p = .019), as well as somatization (t = 2.043, p = .043). Women show significantly more somatic problems and psychological distress than men.

Table 3

Mean differences by gender in coping (CRI-A), psychological symptoms (BSI) and academic progress (GPA)

Coping Strategies	Men n = 68 M (SD)	Women n = 68 M (SD)	t	p
Approach cognitive coping	49.5 (8.0)	51.2 (6.3)	-1.348	.180
Logical analysis	47.8 (10.5)	51.1 (7.3)	-2.071	.040
Positive reappraisal	51.2 (7.7)	51.3 (8.5)	-.084	.933
Approach behaviour coping	47.1 (8.9)	49.1 (6.5)	-.789	.432
Seeking guidance	49.9 (10.2)	49.0 (7.5)	.615	.540
Problem solving	46.2 (9.9)	49.9 (8.4)	-1.944	.054
Avoidance cognitive coping	49.6 (8.0)	51.2 (8.1)	-1.151	.252
Cognitive avoidance	51.4 (11.8)	51.2 (9.4)	.128	.898
Acceptance or resignation	47.7 (7.4)	51.2 (10.1)	-2.245	.026
Avoidance behaviour coping	51.2 (6.4)	52.0 (7.4)	-.689	.488
Seeking alternative rewards	50.7 (10.2)	52.9 (11.3)	-1.189	.237
Emotional discharge	51.7 (8.7)	51.7 (7.9)	.379	.705
BSI- Psychological distress	64.3 (7.6)	67.7 (9.0)	-2.376	.019
Somatization	59.0 (8.4)	62.1 (9.5)	-2.043	.043
Depression	60.7 (6.9)	60.4 (6.1)	.339	.735
Anxiety	63.8 (8.5)	63.7 (8.1)	.051	.959
Academic progress (GPA)	7.5 (.41)	7.6 (.47)	-1.877	.064

Note. * p <.05; ** p<.001. M = Means; SD = Standard Deviation

Differences by age in coping, psychological scales and academic progress

The strategies used by younger vs older students (Table 4) show that younger students mainly used more cognitive avoidant strategies (M = 52.8, SD = 7.8, t = 4.880, p = .001), cognitive avoidance (M = 55.1, SD = 9.9, t = 5.837, p < .001), and more anxiety (M = 65.5, SD = 8.1, t = 3.299, p = .001) than the older students. While older students used more approach coping behaviour (M = 50.9, SD = 7.9, t = -2.671, p = .009) and problem-solving (M = 50.8, SD = 9.4, t = -3.049, p = .003) than the young ones, and had better academic performance (M = 7.9, SD = .36, t = -6.537, p <.001).

Table 4

Mean differences by age (younger vs older students) in coping (CRI-A), psychological symptoms (BSI) and academic progress (GPA)

Coping Strategies	Younger n = 85 M (SD)	Older n = 51 M (SD)	*t*	*p*
Approach cognitive coping	49.9 (7.5)	51.1 (6.8)	-.876	.383
Logical analysis	48.9 (8.4)	50.4 (10.3	-.932	.353
Positive reappraisal	50.9 (8.8)	51.7 (6.8)	-.512	.610
Approach behaviour coping	47.3 (7.4)	50.9 (7.9)	-2.671	.009
Seeking guidance	48.6 (9.1)	50.9 (8.8)	-1.473	.143
Problem solving	46 (8.7)	50.8 (9.4)	-3.049	.003
Avoidance cognitive coping	52.8 (7.8)	46.3 (6.9)	4.880	.0001
Cognitive avoidance	55.1 (9.9)	45.1 (8.9)	5.837	.0001
Acceptance or resignation	50.6 (9.1)	47.6 (8.6)	1.919	.057
Avoidance behaviour coping	51.9 (7.3)	51.2 (6.2)	.539	.591
Seeking alternative rewards	51.9 (11.3)	51.8 (10)	.053	.958
Emotional discharge	51.9 (8.4)	50.7 (8.2)	.830	.408
BSI- Psychological distress	66.2 (8.8)	65.8 (7.9)	.280	.780
Somatization	60.6 (9.1)	60.5 (9.2)	.080	.937
Depression	60.4 (6.4)	60.8 (6.8)	-.357	.721
Anxiety	65.5 (8.1)	60.8 (7.7)	3.299	.001
Academic progress (GPA)	7.4 (.40)	7.9 (.36)	-6.537	.000

Note. * p <.05; ** p<.001. M = Means; SD = Standard Deviation

Bivariate correlations between GPA and psychological scales

The relationship between academic progress (GPA), coping (CRI-A), and psychological symptoms (BSI) was analyzed considering gender (Table 5). In men, the results show positive relationship between academic progress and psychological distress (r = .272, p = .030), negative relationship between academic progress and cognitive avoidance coping (r = -.523, p<.001) [that includes cognitive avoidance (r = -.552, p <.001), and acceptance (r = -.247, p = .049)], and also negative relationship between academic progress and anxiety (r = -.291, p = .020). In women, the results indicate positive relationship between academic progress and problem solving (r = .289, p = .017), psychological distress (r = .335, p = .005), anxiety (r = .346, p = .004), and somatization (r = .243, p = .046),and a negative relationship with positive reappraisal (r = -.399, p = .001), approach behaviour coping (r = -.312, p = .010), cognitive avoidance (r = -.270, p = .026), and approach cognitive coping (r = -.264, p= .030).

Table 5
Correlations between academic progress (GPA), coping (CRI-A) and psychological distress (BSI) by gender

Coping Strategies	Men n = 68	Women n = 68
Approach cognitive coping	.042	-.264*
Logical analysis	.016	.009
Positive reappraisal	.065	-.399**
Approach behaviour coping	.156	-.312**
Seeking guidance	.159	.210
Problem solving	.118	.289*
Avoidance cognitive coping	-.523**	-.190
Cognitive avoidance	-.552**	-.270*
Acceptance or resignation	-.247**	-.053
Avoidance behaviour coping	-.077	-.059
Seeking alternative rewards	-.036	.104
Emotional discharge	-.075	.039
BSI- Psychological distress	.272*	.335*
Somatization	.235	.243*
Depression	.204	.214
Anxiety	-.291*	.346**

Note. * p <.05; ** p<.001

Results of linear regression analysis for significance variables

To examine the predictive relation between coping strategies (avoidance cognitive coping, cognitive avoidance, and acceptance), BSI (psychological distress and anxiety) and academic progress in men, a linear regression analysis was conducted. The results of the linear regression indicated that psychological distress, cognitive avoidance, and age described 47% of the variance in academic progress in men (F = 19.686, p <.001). In women, a linear regression analysis was conducted between coping strategies (approach cognitive coping, approach behaviour coping, positive reappraisal, problem solving, and cognitive avoidance), BSI scales (psychological distress and anxiety) and academic progress. The results indicated that the positive revaluation, problem solving, anxiety and age described 41% of the variance in academic progress in women (F = 11.290, p <.001). See table 6.

Table 6

Regression model to study the link between psychological scales (BSI) and academic progress (GPA)

Independent Variable	Dependent Variable	Adjusted *R* Square	Unstandardized Coefficients		Standardized Coefficients	*t*	Sig.
			B	Std. Error	Beta		
Men							
Constant	Academic Progress[1]	.471	7,070	,422		16,765	,000
Psychol. Distress			,017	,006	,294	2,889	,005
Avoidance cognitive			-,023	,006	-,453	-4,148	,000
Age			,021	,008	,311	2,828	,006
Women							
Constant	Academic Progress[1]	.413	5,808	,609		9,542	,000
Positive Reeval.			-,020	,006	-,370	-3,581	,001
Problem solving			,014	,006	,244	2,419	,019
Anxiety			,019	,006	,332	3,437	,001
Age			,020	,010	,224	2,106	,039

Notes. Control variables: age

[a] PSS. Perceived Stress Scales. Raw score.

[1] Grade-point average in the student's academic transcript

Discussion

The first goal we set in this study was to describe the problems the subjects explained to us and determine whether any difference existed between men and women. The results indicate that, regardless of gender, the students differ little in the context of what happened, though differences were encountered in the nature, content and participation in the problem.

With regard to nature, the men spoke more of problems in which they felt personally involved; in terms of content, the women described more health-related problems than the men; in the participation category, the men described more problems in which friends and/or fellow students were involved.

The men in our sample tended to focus their problem on themselves more than the women, whose concern for their health in this study is in line with previous findings (Ansari et al., 2014) presenting a greater tendency to worry about such problems than male students (Varela-Mato et al., 2012). These differences may be motivated by psychosocial determinants, structural contexts, lifestyles and vulnerabilities inherent in each gender, as Rodriguez et al. (2019) suggest. In the case of interpersonal difficulties, which are a common cause for concern among university students, the male subjects in our study described more conflicts with their peers than the females, a circumstance which may be related to their experiencing greater difficulties in handling social relationships (Hsieh et al., 2014).

The second aim of this study was to compare coping strategies and psychological symptoms on the basis of gender. Pedrelli, Borsari, Lipson, Heinze, and Eisenberg (2016) found that the way university students coped in the face of stressful situations varied according to gender: men drank more alcohol, while women suffered greater psychological distress. Both men and women in our sample employed avoidance coping behaviour such as emotional discharge and seeking alternative rewards. Avoidance coping involves strategies oriented towards denial, minimising or avoiding dealing directly with the situation causing the stress and is closely linked to distress and depression (Alwinet al., 2018). Although the role played by potential stress-generating situations in choosing the style of avoidance coping is unknown, that choice seems likely to produce a broad range of stressors. For example, behavioural avoidance may promote new stress situations, such as

when emotional discharge aggravates a family conflict or strains relationships at work (Davoren at el., 2015), or when the search for alternative reinforcement (as in alcohol, tobacco or cannabis consumption) leads to additional problems (Butler, Dodge, & Faurote, 2010).

In our sample, the women employed more logical analysis and acceptance or resignation and presented more distress and somatisation than the men. Holahan et al. (2005) suggest that women's use of cognitive strategies may be due to the role played by rumination, linked to the presence of depressive symptoms and more common in women than in men (Holahan et al., 2005). Future studies should analyze the possible role of rumination in the mediation between coping strategies and psychological distress. Acceptance or resignation coping has been associated with a higher risk of psychological distress and even increased suicidal ideation among Chinese university students (Tang & Qin, 2015). The greater presence of psychological distress in women than in men is consistent with results obtained by other authors (Deasy et al., 2014).

With regard to age, Bewick et al. (2010) found that students in the first years show more stress than others. Our results suggest that younger university students present a more avoidance-based coping profile and experience more anxiety than their older colleagues. It could be thought that older students would suffer more stress because they are under more pressure from financial problems or difficulties in finding a job; however, our findings show that anxiety is more present in the young. This could be connected with their adaptation to the academic environment which, in turn, may be linked to the resources available to them and their use of ineffective strategies that hinder their adaptation. In our study, young students tended to use less adaptive strategies to combat stress, a finding in line with literature on the subject which indicates that younger students are more likely to ignore their mental health (Davoren et al., 2015).

The final aim of our study was to analyze the predictive relationship of coping strategies and psychological symptoms in the academic progress of men and women. One of the main findings of this study is that academic progress varies according to gender and that coping, psychological symptoms and age play a significant role in performance. Greater academic progress in men can be explained by reduced cognitive avoidance coping and the presence of a certain degree of stress or psychological distress, which seems to increase

with age. In women, better academic performance seems to be related to a reduction in positive reappraisal together with increased approach coping and anxiety, and the latter also seems to rise with age.

In our sample, both men and women needed a certain amount of distress or anxiety in order to achieve improved progress. This coincides with the explanatory model of optimal challenge proposed by Csikszentmihalyi (2014), which holds that the most motivating activities are those in which there is initially an imbalance between the skills the individual has and those necessary to meet the challenges presented by a situation, but that through reasonable voluntary effort this imbalance can be corrected. However, should this not occur, two different outcomes are possible: if the challenge is greater than the individual's skills, the resulting difficulty produces an excess of anxiety; and if the skills far outweigh the challenges, the individual becomes bored and feels less motivated. This suggests that in an increasingly competitive academic environment the absence of stress or anxiety could reduce students' performance.

Likewise, a reduced use of avoidance strategies would also be linked to improved academic progress. Avoidance coping has traditionally been considered a maladaptive strategy in the academic context (Gustems & Calderon, 2013); students that resort to it tend to consume more alcohol (Butler et al., 2010) and tobacco (Davoren et al., 2015), and present more eating disorders (Tavolacci et al., 2013), depression (Hye-Yun, 2016) and psychological distress (Panova et al., 2019). However, coping strategies are not always prejudicial. When the situation is inevitable (such as the death of a family member or losing a job) cognitive avoidance may prove adaptive (Gustems et al., 2019), while in the university context students are expected to adopt a more proactive attitude, since the challenges they have to overcome are usually within their capabilities.

Although approach coping is related to reduced depression (Highighatgou & Peterson, 1995), it seems a reduction in positive reappraisal plays a role in the improvement of academic progress in women. This could be related to their propensity for rumination: a moderate use of cognitive reappraisal may be adaptive and positive, but used in excess could lead to despair, passivity and symptoms such as depression, a suggestion put forward by Holahan et al. (2005). As negative thinking has been linked to maladaptive strategies and anxiety (Mahmoud, Staten, Lennie, & Hall, 2015), social support may help

students better cope with the stressful situations encountered at university and reduce avoidance behaviours (Saïas et al., 2014).

Conclusions

The ability of teacher education students to withstand the growing pressure of university life is crucial for their well-being, academic progress and training. The results of this study demonstrate that the adaptation mechanisms of younger students, both male and female, are not well suited to this purpose, as they primarily employ conflict avoidance strategies. Gender analysis should be taken into account in future studies of university students, especially when related to degrees associated with the initial education of primary school teachers, to ensure that their curricula address the different needs of male and female undergraduates.

It is apparent that the teachers of this new millennium have, among other challenges, to confront the inequalities that afflict our society and to find a way of bringing the curriculum to people of all cultures (Byrd, 2012). The happiness of future generations depends on our teaching them to be happy people through the exercise of good behavior. The selection of teachers before and after their training should be based on an appropriate profile which allows them to feel and provoke well-being, to be a reference in this respect for their students and to stay in the profession for a long time. Teacher training must be an opportunity for exploring possibilities in order to improve academic achievement, improve students' coping strategies, and reduce psychological distress among them.

The results of this study provide information that is potentially useful for changing and improving coping strategies through the development of social networks involving the student body and, in particular, its younger members. These could include a system of cross-curricular tutorials that support students in the transition and challenges of the new academic environment, a guide to help first-year students establish reasonable goals, the organisation of extra-curricular activities in which students could develop their social skills, and initiatives to foster their desire for knowledge and technology innovation. All of these initiatives would enhance their potential and establish a sound basis for their professional future.

In future research it would be interesting to study the role of social support in relation to university students' commitment and academic progress.

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Josep Gustems-Carnicer, Caterina Calderon, Diego Calderon-Garrido and **Carolina Martin-Piñol** are professors and/or researchers at the University of Barcelona.

Contact Address: Correspondence regarding this article should be addressed to Caterina Calderon, email: ccalderon@ub.edu