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**INFLUENCE OF SOCIO-EDUCATIONAL VARIABLES ON**  
**STRESS RESPONSES**

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*Abstract*

Through the present longitudinal study, the development in the perception of stress responses during the completion of degree studies is intended to know, as well as the influence of socio-educational variables of the student in said process. A total of 264 students (58.2% men, 41.8% women) enrolled in the Degree of Physiotherapy of the University of Vigo (Spain) in the academic years from 2010/2011 to 2014/2015 participated voluntarily in the study. In order to obtain this data, a paper format questionnaire was used, with the stress response subscale (RCEA) included in the academic stress questionnaire. The socio-educational variables of Way and Mark of access, First degree option, Course repetition and Level of studies of the mother and father have been considered. The results show a slight influence of the socio-educational variables on the perception of stress symptoms only in the particular case of women. There is a significant relationship observed in the fact that those female students who are repeaters or who have enrolled in the degree as a first option, increase the perception of physical exhaustion and difficulties with sleep, unlike their classmates, who maintain their values stable.

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**Keywords:** Academic stress, higher education, socio-educational variables, university students.



## **1. Introduction**

### **1.1. Students modify the perception of stress responses during their studies**

An interesting research line has focused its interest in the analysis of the adjustment capacity of university students. This process of adjustment can lead to stress, implying for some a maladaptive emotional experience and for others an exciting moment of personal change and development due to the positive confrontation of the situation (Extremera, Rey, & Durán, 2005).

### **1.2. Students modify their stress responses according to certain socio-educational characteristics**

To explain the fact of this variability in the same academic situation, Martín (2007) specifies that there are several factors to be taken into account in this process of emergence of stress responses, such as certain personal variables, the characteristics of the social environment and certain institutional variables that, in a different way, act as stressors or buffers of the pernicious effects of stress on health and personal well-being, which negatively or positively affect university students in their academic work.

## **2. Problem Statement**

### **2.1. Knowing how socio-educational factors influence the perception of stress responses**

In this sense, the study of socio-educational factors that protect students from the negative consequences of the teaching-learning process is important as it helps to understand the mechanisms by which these events generate adaptive problems (Enríquez, 2011).

## **3. Research Questions**

The students modify their perception of responses according to their socio-educational characteristics during the degree.

### **Socio-educational variables determine the development of stress responses**

The higher the educational level of the parents, in particular the one of the mother, the higher academic demands by their mothers they will have and consequently the higher levels of stress (Marchesi, 2000). The fact of combining studies and work or having other obligations besides studying is also related to a greater presence of stress, as they are tasks that leave less time to study. However, studies such as Barraza (2008) could not demonstrate that these events could in any way condition stress suffering.

## **4. Purpose of the Study**

### **Socio-educational variables modulate or facilitate the development of stress responses**

We intend to reach a more exhaustive knowledge of the reactions at health level that stress causes in students, which may be conditioned by socio-educational characteristics that act as facilitators or modulators of stress.

## 5. Research Methods

### 5.1. Participants

The study sample consists of 264 students enrolled in the Degree of Physiotherapy of the University of Vigo (the only degree in health sciences of the University of Vigo) between the academic years of 2010/2011 and 2014/2015, who wanted voluntarily be part of the research, previously being informed in what the investigation consisted, including a 66.33% of the 398 possible students.

### 5.2. Measurement of the variables

A longitudinal study was carried out between 2010 and 2015. The technique used to obtain the data was a paper format questionnaire distributed among the students.

The measured variables were physical exhaustion, difficulties with sleep, irascibility, negative thoughts and physical agitation through the stress response scale (RCEA) that forms part of the Academic Stress Questionnaire (CEA), elaborated by Cabanach, Valle, Rodríguez, & Piñeiro (2008) and Cabanach, Valle, Rodríguez, Piñeiro, & González (2010), and which is composed of a total of 22 items with which it is intended to measure symptoms related to cognitive, behavioural, affective and somatic components linked to academic stress. The student has to answer to what extent he reports the appearance of symptoms on a scale between 1 and 5, in which 1 is "never" and 5 is "always".

In addition, socio-educational variables were taken into account as: *Way of access*, *Access mark*, *First degree option*, *Course repetition*, *Level of studies of the mother and father*. A questionnaire has been used for the collection of socio-educational data. It was a questionnaire with simple questions which answers were positive or negative in most of the cases.

### 5.3. Data analyse

The computer application SPSS-22 was used for the statistical analysis (IBM Corp. launched 2013. IBM SPSS Statistics v 22.0 for Windows, Armonk, NY, USA).

The statistical procedure of repeated measures Anova MR was used for the analysis of the variance of repeated measures in an intragroup factor in order to compare the average between the courses.

The internal consistency of the scale was evaluated by Cronbach's alpha. (0.868).

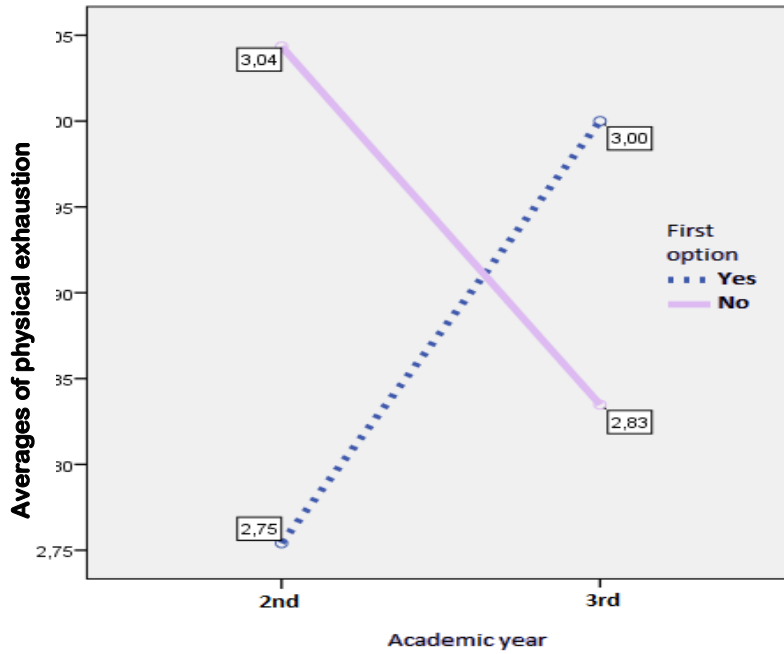
## 6. Findings

Only significant effects for women have been found in the change between 2<sup>nd</sup> and 3<sup>rd</sup> year and in only 2 of these factors. One of them is the *First degree option* on the symptom of physical exhaustion ( $p < .05$  and low effect). The other significant effect has been found in the *Course repetition* factor on the difficulties in sleep symptom ( $p < .05$  and mild size of the effect).

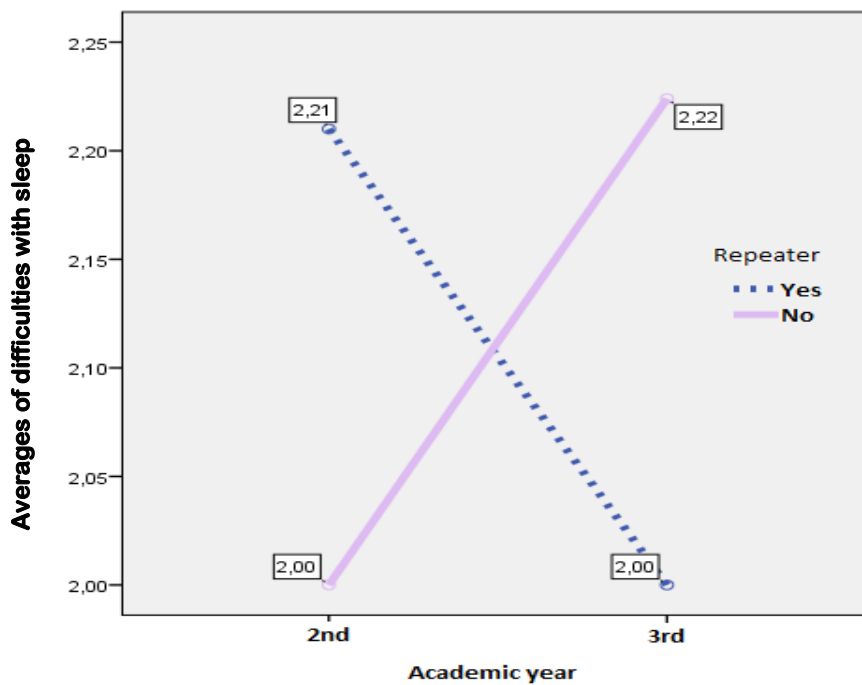
### 6.1. Enrolling at the *First degree option* influences on physical exhaustion

The significance is due to the fact that in 2<sup>nd</sup> year, those who did not choose Physiotherapy as the first option score higher, but in 3<sup>rd</sup> year the situation is inverted and those who did choose it are also those who score more (Figure 01).

While in 2<sup>nd</sup> year the non-repeaters score higher, in 3<sup>rd</sup> year the order is inverted and the repeaters are the ones that score higher. For their part, for men (Table 1) no factor was found that exerts a significant effect on changes in symptoms ( $p > .05$ ).



**Figure 01.** Averages diagram. Symptom: Physical exhaustion. Effect of the factor: *First degree option* in the change between the 3<sup>rd</sup> and 2<sup>nd</sup> academic year



**Figure 02.** Averages diagram. Symptom: Irascibility. Gender: women. Effect of the factor: *Combining work and studies* in the change between the 3<sup>rd</sup> and 2<sup>nd</sup> academic year

**Table 01.** Averages differences: 2 factors ANOVA, 1 intragroup + 1 intergroup. Effect of the SOCIO-EDUCATIONAL factors in the variation of stress response symptoms between 2nd and 3rd year.

Stress variable	Socio-educational intergroup factor	WOMEN			MEN		
		F	p-value	Effect size: R <sup>2</sup>	F	p-value	Effect size: R <sup>2</sup>
Physical exhaustion	Way of access	0.36	.873 <sup>NS</sup>	---	0.98	.424 <sup>NS</sup>	---
	Access mark	1.64	.134 <sup>NS</sup>	---	1.49	.328 <sup>NS</sup>	---
	First degree option	5.00	.028 <sup>*</sup>	.057	0.01	.937 <sup>NS</sup>	---
	Repeater	3.85	.053 <sup>NS</sup>	---	0.02	.893 <sup>NS</sup>	---
	L. of studies of the father	0.15	.989 <sup>NS</sup>	---	2.10	.086 <sup>NS</sup>	---
	L. of studies of the mother	1.63	.162 <sup>NS</sup>	---	1.20	.324 <sup>NS</sup>	---
Difficulties with sleep	Way of access	0.78	.571 <sup>NS</sup>	---	1.25	.303 <sup>NS</sup>	---
	Access mark	1.61	.138 <sup>NS</sup>	---	1.56	.303 <sup>NS</sup>	---
	First degree option	0.52	.473 <sup>NS</sup>	---	2.09	.154 <sup>NS</sup>	---
	Repeater	6.86	.010 <sup>*</sup>	.076	0.09	.769 <sup>NS</sup>	---
	L. of studies of the father	0.33	.919 <sup>NS</sup>	---	1.68	.156 <sup>NS</sup>	---
	L. of studies of the mother	0.86	.515 <sup>NS</sup>	---	0.29	.937 <sup>NS</sup>	---
Irrascibility	Way of access	0.20	.962 <sup>NS</sup>	---	1.39	.250 <sup>NS</sup>	---
	Access mark	0.88	.652 <sup>NS</sup>	---	1.10	.501 <sup>NS</sup>	---
	First degree option	0.11	.737 <sup>NS</sup>	---	0.00	.967 <sup>NS</sup>	---
	Repeater	0.74	.393 <sup>NS</sup>	---	0.04	.845 <sup>NS</sup>	---
	L. of studies of the father	0.49	.816 <sup>NS</sup>	---	1.08	.385 <sup>NS</sup>	---
	L. of studies of the mother	0.16	.975 <sup>NS</sup>	---	0.67	.673 <sup>NS</sup>	---
Negative thoughts	Way of access	0.57	.721 <sup>NS</sup>	---	1.10	.385 <sup>NS</sup>	---
	Access mark	1.71	.116 <sup>NS</sup>	---	0.72	.765 <sup>NS</sup>	---
	First degree option	0.55	.462 <sup>NS</sup>	---	0.10	.749 <sup>NS</sup>	---
	Repeater	0.38	.539 <sup>NS</sup>	---	0.28	.597 <sup>NS</sup>	---
	L. of studies of the father	1.33	.254 <sup>NS</sup>	---	0.40	.847 <sup>NS</sup>	---
	L. of studies of the mother	1.83	.117 <sup>NS</sup>	---	0.28	.946 <sup>NS</sup>	---
Physical agitation	Way of access	0.32	.900 <sup>NS</sup>	---	1.81	.095 <sup>NS</sup>	---
	Access mark	1.91	.283 <sup>NS</sup>	---	0.80	.705 <sup>NS</sup>	---
	First degree option	0.01	.917 <sup>NS</sup>	---	1.20	.278 <sup>NS</sup>	---
	Repeater	2.21	.141 <sup>NS</sup>	---	0.00	.968 <sup>NS</sup>	---
	L. of studies of the father	0.32	.924 <sup>NS</sup>	---	1.20	.324 <sup>NS</sup>	---
	L. of studies of the mother	0.50	.779 <sup>NS</sup>	---	0.98	.448 <sup>NS</sup>	---

Note: N.S. = Not significant (P>.05) \* = Significant to 5% (P<.05)

## 7. Conclusion

The effect of socio-educational factors on the development of stress symptoms is summarized around the fact that the students whose first option was this degree and who are repeaters, suffer an increase of physical exhaustion and difficulties with sleep respectively. But the fact of not choosing it as the first option or not being a repeater does not exert a positive influence on these symptoms.

Longitudinal studies are necessary to observe the stress evolution of the students. The study of socio-educational factors is very important to take a global perspective into the higher education and to know students much better.

In a cross-sectional study conducted by Soto (2011) it was observed that there are socio-educational factors that modulate stress symptoms such as the *Access mark*, the *First degree option*, *Course repetition* or the *Educational level of the father and the mother*, on which the present investigation could not demonstrate any effect, beyond the slight effect mentioned above.

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