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Differences in Self-Regulation of Stress Among Students Starting and Finishing Studies. The Comparison of Students of Polish and Spanish Universities

ABSTRACT

The research focused on identifying differences in the sense of self-efficacy and self-regulation of stress among 470 students from Polish and Spanish universities and on determining the differences between students starting and finishing their studies. The following tests were used in the study: General Self-Efficacy Scale, COPE Inventory and Self-Regulatory Formative Questionnaire. Statistical analysis confirmed the correctness of the 6 hypotheses. The obtained results showed that the level of self-efficacy and self-regulation and the choice of coping strategies are related to gender, nationality, age, and multiple attitudes to a stressful situation. Moreover, other confirmed hypotheses show the conclusions that self-efficacy is higher in the group of men than in the group of women. On the other hand, women have higher self-regulatory skills and are more likely than men to choose favourable stress regulation methods. In contrast, the hypotheses about cross-cultural differences show that Spanish students have better self-regulatory skills and choose adaptive coping strategies, while Polish students use non-adaptive strategies.

Keywords:

self-regulation, higher education, self-efficacy, cultural differences, stress regulation, Spaniards and Poles, studies in Poland and Spain

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INTRODUCTION

Studying at higher education gives young people a life experience characterised by a high level of stress (Bray & Born, 2004). Students participate in significant changes concerning the social environment, learning, increasing the effort of self-improvement, and extending the forms of life activity. Being aware of the consequences of the choices made may be one of the reasons for the growing tension among students. Faced with academic stress, students must increasingly master the demands and challenges demanded by many physical and psychological resources to face this problem. Students participate in significant changes, *inter alia*, in the social environment, learning, increasing the effort of self-improvement and extending the forms of life activity. For many people, it is a period of crystallisation of the system of values and norms, making and consolidating life decisions related to profession and career, choosing a partner, and often building one's own existence in the family and material aspect (Simons & Aysan, 2002). The awareness of the consequences and effectiveness of the choices made may also be another reason for the growing tension among students. Such a situation can cause them to experience exhaustion, little interest in studying, nervousness and even loss of control. For this reason, they require the recognition and help of the teaching staff. The combination of the mentioned effects influences the academic performance of students can promote drug use, sleep disturbance, avoidance of responsibility and other transformations that negatively affect the performance of their work as future professionals and achievement of personal aspirations. Nevertheless, stress among people is related to the subjective assessment of stressors burdening a particular individual (Nowakowska & Borkowska, 2009). Moreover, the appropriate selection of strategies for coping with academic stress is particularly important as the experience of academic stress may, in some situations, be a predictor of chronic stress in a group of students (Pozos-Radillo et al., 2014). The nature of the assessment and the factors influencing the definition of stimuli – potential stressors by students as threatening are the basis for the research problem emerging in this work (after Carver & Scheier, 1994). Therefore, the key question this article answers is whether Polish students differ from Spanish students in the level of perceived stress, self-efficacy, and coping with stressful situations. For this purpose, the study focuses on the following dependent variables: self-regulation, self-efficacy, and stress coping strategies, which can be explained by nationality (culture), gender and year of study, understood as experience in coping with challenges posed by the study.

Albert Bandura is considered a pioneer of self-regulation research. In his opinion, it is an active process inextricably linked with the sense of self-efficacy that

influences our thoughts and emotions (Bandura, 1991). Another equally important theory of self-regulation that was the basis for the questionnaire used in this work is The Self-regulated learning – Barry Zimmerman’s model of self-regulation in learning, which presents the learning process of a student who takes responsibility for learning something or simply for his/her educational path. Moreover, it is worth emphasising that self-regulated learning takes place in three steps: planning, implementation and monitoring, and reflection (Zimmerman, 2002). Considering Zimmerman’s model, it is worth emphasising that the key stage is the proper reflection of the student. How he concludes his learning process will influence his subsequent learning attempts. Researchers noted that proper motivation can be very important and that what can motivate students should be manipulated in such a way as to encourage them to learn as much as possible and promote education as a priority in students’ lives (Hufton et al., 2003). Moreover, the results of the study by Jesús de la Fuente, Jorge Amate and Paul Sander (2018) suggest that both motivation and all motivation strategies as well as cognitive strategies can be used not only as a support in learning but also be used to prevent academic stress (relevant for the study described below) and its negative effects (de la Fuente et al., 2018).

Focusing on self-regulation of stress, it is also worth mentioning its definition. It can be said that self-regulation is a skill that students acquire with experience to use appropriate learning strategies to achieve their goals (Panadero & Alonso-Tapia, 2014). One of the most recognised theories of self-regulation is the theory of Charles S. Carver, Michael F. Scheier, and Jagdish K. Weintraub (1989), according to which coping with stress can be understood as a style and a strategy together. This thought prompted them to identify 15 strategies that can be considered a trait – an individual’s tendency and a way of behaviour in a specific situation. To test this, Carver et al. created a multidimensional coping inventory – “The Coping Orientations to Problems Experienced”, also used in the study described below. This questionnaire was created based on the classic model of stress and coping with stress (Lazarus & Folkman 1984), which focused on coping with stress without considering the academic context. However, the latest research (de la Fuente et al., 2020) proves that the omission of this aspect in the research takes away a huge range of opportunities to care for psychological comfort in education. People with low levels of self-regulation notice more stress factors related to learning, which is associated (also following the classical theory of stress) with a greater level of perceived stress. Therefore, the teaching process itself should be viewed as a risk factor for the emergence of stress, and not only the type of coping strategy itself (de la Fuente et al., 2020).

Much research in the literature tries to compare different study groups and the probability or tendency to use specific self-regulation strategies. One of them

is extensive research (Abdou et al., 2017) conducted as part of the Health and Retirement Study, approved by the Institutional Review Board at the University of Michigan, attended by approximately 20,000 people of African-American and Hispanic origin. The results showed that the strategies used by the participants (smoking, alcohol, drug use, overeating, prayer, exercise, social support, talking to a counsellor) are commonly used as self-regulating strategies for coping with stress, with prayer, social support and, exercise and overeating. The probability of using certain behaviours as a self-regulatory strategy varied significantly by gender, but only depended little on race-ethnicity, education, or wealth. There was also a significant relationship between higher stress exposure and a greater likelihood of using harmful self-regulatory strategies such as smoking, alcohol, and overeating. In other words, the more frequent and the more intense the presence of stressors, the greater the risk of coping with negative methods (Abdou et al., 2017).

Polish research by Urszula Dębska and Halina Guła-Kubiszewska (2005) examining young adults' learning strategies and coping styles led to three main conclusions: concentration and active effort are necessary for the emergence of self-regulatory activities that include elements of motor learning. People who use avoidance or emotion-focused strategies to deal with stress have difficulty self-regulation. On the other hand, with a high overall assessment of self-effectiveness, the self-regulating possibilities are more effective (Dębska & Guła-Kubiszewska, 2005).

THE COMPARISON OF STUDENTS STARTING AND FINISHING STUDIES

Daniel Levinson's theory highlights that older people are characterised by better self-knowledge, self-control, and they are more aware of their strengths and weaknesses, thanks to which they can also use the previous experience (Levinson, 1986). A group of Brazilian psychiatrists (Bassols et al., 2014) conducted studies on medical students from the first (110 people) and the last (122 people) years of studies. The results highlight the impact of academic experience on the ability to self-regulate. Last year students reported significantly fewer depressive symptoms. Therefore, it can be concluded that the experience gained in the education process and the increased amount of skills reduced the level of perceived anxiety among medical students.

Similar results are presented by Polish research conducted in the neurosis clinic in Warsaw by Katarzyna Tomczak concerning the comparison of coping

strategies between first and last-year students. The results showed a statistically significantly higher level of hope for success and self-efficacy and greater conviction about their abilities in people from the last year of studies than in people starting this level of education. They were less likely to use the “avoidance and socialising style” during stressful situations such as the exam session. Moreover, the two groups were also compared in terms of gender. Despite their age and university experience, women do not differ from each other, while men graduating in both measurements had higher results than men in the first year of studies (Tomczak, 2009).

COMPARING SPANIARDS TO POLES

In 2017, at the request of Automatic Data Processing, a stress study was conducted, in which 9,920 professionally active adults took part. The study participants were representatives of eight European countries: France, Spain, the Netherlands, Germany, Poland, Switzerland, Italy, and Great Britain. The survey results indicate a very high level of stress among Polish workers – as many as 22% of them claim that they experience stress every day in the workplace. This percentage puts us in the infamous first place among the eight countries surveyed. The Spanish workers obtained completely different results. The frequency of experiencing stress at work is much less frequent there, as only 10% of respondents in Spain pay attention to the daily feeling of stress (McGuire, Alev, ADP Workforce View in Europe 2017).

The research by Agnieszka and Cezary Kozera (2012) attempted to define the impact of objective living conditions on the subjective assessment of the quality of life among the population of European countries. The TOPSIS method was used in these multi-stage studies. Four typological classes of countries were created based on the obtained variables. The inhabitants of Austria, Denmark, the Netherlands, and Belgium were considered the highest class, and thus the group of people most satisfied with the quality of life. The second class includes people with an “average – higher” standard of living. This group includes: “Sweden, Germany, Great Britain, France, Czech Republic, Finland, Ireland, Slovenia, Luxembourg and Spain”. The next – third group, whose standard of living was considered average – lower, consists of the following countries: Cyprus, Greece, Italy, Lithuania, Hungary, Estonia, Portugal, Poland, Latvia, and Slovakia. Two countries were included in the “low” class IV: Bulgaria and Romania (Kozera, 2012). This research may be important for understanding the results of the comparison between Spanish

and Polish university students. The living conditions of an individual are inter-related with the formulation and further development of their own resources and competencies, or on the contrary, the cessation of further development (Pietras & Mrozicka, 2016).

Considering not only the level of stress itself, but also the strategies of coping with him in 2013 were carried out (Chirivella, Checa, & Budzynska, 2013), in which they compared the strategies of coping, temporary optimism and psychological prosperity in the group of footballers from Poland and Spain to identify cultural differences. In this study, the Spaniards received significantly higher results in Emotion-Related Coping Strategies than Poles. On the other hand, the Poles were characterised by higher optimism and more frequent use of strategies to deal with action.

Previous studies also show that other methodological or pedagogical strategies are used at universities in Poland (Gdańsk) and Spain (Oviedo). Spain is characterised by higher openness; learning is based on cooperation and cooperative, more inclusive learning. The emphasis on design work is similar at universities in Spain and Poland (Prado & Pedregal, 2018).

METHOD

PROCEDURE

Participants of this study were students starting and graduating from universities in Spain and Poland. Students were tested in classrooms at the universities before or during classes. The screen displayed a link and a QR code to the online questionnaire, which respondents completed on their computers. The study was conducted before the upcoming exam session to increase the likelihood of perceived stress to measure during the stressful situation in which the participants were. Regardless of nationality, country of study or year of education, each respondent received the same online questionnaire in the original language (English) to reduce the possibility of error due to differences in adaptation in different languages. Because it was decided to select the original versions of the tests in the study, participants had to declare fluency in English before starting to complete the questionnaires.

Subject. 470 people participated in the study: 323 women (68.7%) and 147 men (33.3%). Of the subjects initially differentiated by the country in which they study and by the year of study, where they are currently located. 243 respondents (51.7%) are first-year students, and 227 participants (48.3%) – last year. However, 242 respondents (51.5%) currently studied in Poland and 228 (48.5%) in Spain.

Each of the surveyed students declared fluency in using the English language. Out of all participants, 4 research groups were selected:

- 1st research group – 1st-year students of Polish universities
- 2nd research group – last-year students of Polish universities
- 3rd research group – 1st-year students of Spanish universities
- 4th research group – last-year students of Spanish universities

Considering the described theory and the previous research results, several hypotheses were formulated regarding comparing the collected groups in terms of differences in self-regulation of stress, self-efficacy and the selection of a coping strategy. The following hypotheses were assumed:

- H1: Self-efficacy, the ability to self-regulate stress, will be higher in final year students than in first-year students.
- H2: Self-efficacy, the ability to self-regulate stress, will be higher among students of Spanish universities than among students of Polish universities.
- H3: Self-efficacy will be higher in the group of men than in women.
- H4: Women's ability to self-regulate stress will be higher than men's.
- H5: Women will choose strategies for coping with stress that is more beneficial than men.

Scales. In order to check the hypotheses, three questionnaires were used:

General Self-Efficacy Scale (GSES, Schwarzer, Jerusalem, 1995) was used to evaluate participants' self-efficacy and coping methods in difficult situations. It contains 10 items ($\alpha = .78$), for instance, "I can always manage to solve difficult problems if I try hard enough", "Thanks to my resourcefulness, I know how to handle unforeseen situations", or "I can usually handle whatever comes my way". On every sentence respondent answers a 4-degree Likert scale (1 – "Not at all", 4 – "Exactly true").

COPE Inventory (Carver, Scheier, & Weintraub, 1989) measured strategies of coping with stress. This multidimensional tool consists of 60 items to which the respondent answers with a 5-degree one Likert scale (1 – "Not at all true", 5 – "Exactly true"). It is one of the most popular scales for measuring coping strategies. Alpha reliabilities for the dispositional form of the COPE ranged from .45 to .92. Thanks to this study, in shape self-description, emerging 15 strategies which include: *Active – coping, Planning, Suppression of Competing Activities, Restraint*

– coping, Instrumental Social Support, Positive reinterpretation, Acceptance, Denial, Turning to Religion, Emotional Social Support, Focus on & venting emotions, Behavioural disengagement, Mental disengagement, Substance use, Humour. Example items include “I try to get advice from someone about what to do”, “I use alcohol or drugs to make myself feel better”, or “I seek God’s help”.

Self-Regulation Formative Questionnaire (Gaumer Erickson et al., 2021) measures 4 components of self-regulation based on Zimmerman’s theory (1986): Planning (setting goals), Monitoring development (checking progress), Controlling changes (implementation-specific remedial strategies when the target is not met as planned) and Reflection (thinking about what has brought results and what needs to be improved next time). It consists of 22 items ($\alpha = .889$). Answers are given on a 5-point Likert scale, from 1 – “Not very like me” to 5 – “Very like me”. Example items are “If an important test is coming up, I create a study plan”, “Before I do something fun, I consider all the things that I need to get done”, “As soon as I see things aren’t going right, I want to do something about it”.

RESULTS

The values of the asymmetry and kurtosis statistics of the distribution do not indicate different distributions of the analysed variables depending on the normal distribution (skewness and kurtosis $-1.5 < x < 1.5$). For this reason, further analyses to verify the hypotheses presented in this paper will be carried out using parametric statistics. Therefore, all dependent variables (GSES, SRFQ, COPE) were compared using the parametric t-test for independent samples with the grouping variables (year of study, country of study, and gender). The significance of differences between the groups in terms of the GSES scale was tested first. The analysis did not show statistically significant differences between first-year and last-year students or between students studying at universities in Poland and Spain. However, when comparing the results between the sexes, the analysis turned out to be significantly different at the level of $p = 0.02$; $p < 0.05$ (Table 1.) The three-way analysis of variance in the intergroup design ($2 \times 2 \times 2$) showed a statistically significant, weak effect of the gender relationship of students, ANOVA $F(1, 462) = 11.74$; $p < 0.01$; $\eta^2 = 0.03$, weak effect of gender interaction with nationality of students, $F(1, 462) = 5.96$; $p < 0.05$; $\eta^2 = 0.01$ and a weak effect of the interaction of nationality with the year of study, $F(1, 462) = 6.90$; $p < 0.01$; $\eta^2 = 0.01$ on students’ self-efficacy. Pairwise comparisons with the Bonferroni correction showed that self-efficacy was higher among men ($M = 2.99$; $SD = 0.49$) than among women

($M=2.88$; $SD=0.46$). Pairwise comparisons also showed that men studying in Spain are characterized by a significantly higher sense of self-efficacy ($M=3.14$; $SD=0.43$) than men studying in Poland ($M=2.92$; $SD=0.50$). Moreover, pairwise comparisons also showed that last-year students in Spain are characterized by a significantly higher self-efficacy ($M=2.97$; $SD=0.40$) than last-year students in Poland ($M=2.86$; $SD=0.54$). However, the opposite tendency occurs in the case of first-year students.

The next stage of the analysis was to compare and check any significant self-regulation differences (SRFQ total score, 1. Planning, 2. Monitoring, 3. Control of changes, 4. Reflection). Statistical analysis showed diversified results, which are presented in table 1. It turned out that there were significant differences ($p<0.05$) in the following variables: Planning, Change Control and Reflection, between students at universities in Poland and students studying at universities in Spain. In all cases, students from Spanish universities achieved higher scores ($M1=68.8$; $M3=73.9$; $M4=78.9$). It turned out that there were significant differences ($p<0.05$) for all variables in all inter-gender. A comparison of the means showed that in these cases it was women who achieved higher scores ($M1=68.2$; $M2=73.05$; $M3=71.9$; $M4=78.4$). However, the year of study turned out to not be statistically significant in any of the cases. To sum up: women and students in Spanish universities have greater self-regulatory skills. What is more, for each variable of this scale: Planning, Monitoring, Change control and Reflection, an in-depth analysis was conducted to check whether gender (male/female), nationality (Polish / Spanish) and the year of study (I / V) are related to self-regulation, carried out there was a three-way ANOVA in the intergroup design ($2 \times 2 \times 2$).

The three-way analysis of variance in the intergroup design ($2 \times 2 \times 2$) showed a statistically significant, weak effect of the gender relationship of students $F(1, 462)=12.78$; $p<0.01$; $\eta^2=0.03$ and weak effect of students' nationality $F(1, 462)=9.07$; $p<0.01$; $\eta^2=0.02$ for self-regulation – *planning* competences. Pairwise comparisons with the Bonferroni correction showed that self-regulation-planning was higher among women ($M=68.25$; $SD=15.83$) than among men ($M=60.93$; $SD=15.82$) as well as students in Spain are characterized by a significantly higher level of self-regulation in terms of planning ($M=68.79$; $SD=14.64$) than students in Poland ($M=63.29$; $SD=17.10$).

Similar results for gender differences were obtained in terms of *Monitoring* $F(1, 462)=6.61$; $p<0.05$; $\eta^2=0.01$. Pairwise comparisons with the Bonferroni correction showed that self-regulation-monitoring was higher in women ($M=73.05$; $SD=13.77$) than in men ($M=69.18$; $SD=14.22$).

In the case of *Change control* results showed a statistically significant, weak effect of the association of students' nationalities $F(1, 462) = 16.93$; $p < 0.01$; $\eta^2 = 0.04$ and weak effect of gender interaction with year of study $F(1, 462) = 6.93$; $p < 0.01$; $\eta^2 = 0.02$. Pairwise comparisons with the Bonferroni correction showed that the control of changes was higher among Spaniards ($M = 73.91$; $SD = 14.91$) than Poles ($M = 67.66$; $SD = 14.84$). Moreover, men studying in the first year of studies had less control over the course of action and changes in relation to plans ($M = 65.03$; $SD = 14.71$) than men studying in the last year of studies ($M = 70.23$; $SD = 14.53$).

The *Reflection* scale had a statistically significant, weak effect for gender $F(1, 462) = 4.20$; $p < 0.05$; $\eta^2 = 0.01$, nationality $F(1, 462) = 7.07$; $p < 0.01$; $\eta^2 = 0.02$ and a weak effect of interaction of the students' gender with the year of study $F(1, 462) = 4.26$; $p < 0.05$; $\eta^2 = 0.01$ on the self-regulation-reflection dimension. Pairwise comparisons showed that better self-regulation of reflection occurs among women ($M = 78.37$; $SD = 12.71$) compared to men ($M = 74.12$; $SD = 13.16$). Which means women are more reflective than men. However, Spaniards are characterized by better self-regulation in the area of reflection ($M = 78.91$; $SD = 11.98$) than Poles ($M = 75.27$; $SD = 13.67$). Moreover, pairwise comparisons also showed that women in the first year of studies are characterized by better self-regulation in terms of reflection ($M = 78.87$; $SD = 12.25$) than men in the first year of studies ($M = 73.08$; $SD = 11, 41$).

The next part of the statistical analysis compared the results for each of the 15 variables included in the COPE scale (Table 2). Only the results that turned out to be statistically significant in the analysis process will be described here.

The year of studies turned out to be significantly differentiating only in the case of the Behavioural disengagement strategy ($p = 0.025$). In the case of this variable, there were also several trends in the strategies Acceptance ($p = 0.064$), Focus on & venting emotions ($p = .065$), Denial ($p = .067$), Mental disengagement ($p = .062$). Each strategy was used significantly more often by first-year students. Therefore, it can be said that first-year students tend to use less constructive strategies than last-year students, regardless of nationality and gender.

Intergroup differences between students studying at universities in Spain and Poland appeared in the strategies: Suppression of competing activities, Turning to religion, Positive reinterpretation, Behavioural disengagement, Substance use, and Humour. Students studying in Spain in stressful situations more often use strategies such as Suppression of competing activities ($p = 0.001$) and Positive reinterpretation ($p = .003$). On the other hand, students studying in Poland to regulate stress strategies use the following strategies: Turning religion ($p = .000$),

Table 1. GSES & SRFQ – Student’s T-Analysis for Independent Samples for the Year of Study, Gender, and Nationality variables

	Year of Study						Nationality						Gender					
	First (246)		Last (224)		p		Polish (242)		Spanish (228)		p		Woman (323)		Man (147)		p	
	M	SD	M	SD	t	p	M	SD	M	SD	t	p	M	SD	M	SD	t	p
GSES	2,90	0,45	2,91	0,47	-,114	0,90	2,91	0,48	2,91	0,45	0,07	0,94	2,87	0,45	2,98	0,48	-2,39	0,02
Plan	65,60	15,86	66,33	16,53	4,65	0,63	63,28	17,09	68,78	14,63	-3,73	0,00	68,24	15,83	60,92	25,82	4,65	0,00
Monitor	71,27	13,92	72,47	14,11	2,79	0,36	71,80	14,23	71,88	13,80	-,063	0,95	73,05	13,77	69,18	14,21	2,79	0,00
Control	70,70	15,05	70,66	15,35	2,46	0,98	67,65	14,83	73,90	14,90	-4,55	0,00	71,85	15,24	68,14	14,78	2,46	0,01
Reflection	77,47	12,28	76,55	13,73	3,31	0,41	75,27	13,66	78,91	11,97	-3,08	0,00	78,37	12,71	74,12	13,16	3,31	0,00

Behavioural disengagement ($p = .000$), Substance use ($p = .000$), Humour (.026). However, on the Instrumental Social Support scale ($p = 0.064$), there was a trend difference in favour of Spanish students.

During the analysis, significant statistical differences in the selection of coping strategies between women and men were also observed. These differences appeared for the following variables: Instrumental Social Support ($p = .001$), Emotional Social Support ($p = .000$), Turning to Religion ($p = 0.57$), Positive reinterpretation ($p = .008$), Focus on & venting emotions ($p = .000$), Distraction ($p = .000$), Humour ($p = .002$). Comparing the means shows that women more often choose the presented strategies. On the other hand, men in a stressful situation more often use Turning Religion and Humour strategies.

The next step in the description of the analysis is the presentation of strategies for coping with stress, which in the statistical analysis showed statistically significant differences in at least two cases (due to gender, year of study and country of study). They include: *Turn to religion*, *Positive reinterpretation*, *Behavioural disengagement*, and *Humour*. In order to check whether gender (male/female), nationality (Polish / Spanish) and year of study (I / V) are related to these variables, a three-way analysis of variance in the intergroup design ($2 \times 2 \times 2$) was performed.

The three-way analysis of variance in the intergroup design ($2 \times 2 \times 2$) showed a statistically significant, weak effect of the association of students' nationalities $F(1, 462) = 20.47$; $p < 0.01$; $\eta^2 = 0.04$ and a weak effect of the interaction of nationality with the gender of students $F(1, 462) = 6.22$; $p < 0.05$; $\eta^2 = 0.01$ to *turn to religion*.

Pairwise comparisons with the Bonferroni correction showed that Poles more often turned to religion ($M = 2.23$; $SD = 1.34$) than Spaniards ($M = 1.56$; $SD = 0.95$) and that Polish women more often turned towards religion ($M = 2.31$; $SD = 1.38$) than Spanish women ($M = 1.48$; $SD = 0.85$).

In the case of *Positive reinterpretation*, the three-way analysis of variance in the intergroup scheme ($2 \times 2 \times 2$) showed the statistically significant, weak effect of the union of students' nationalities $F(1, 462) = 4.94$; $p < 0.05$; $\eta^2 = 0.01$ and a weak effect of the interaction of nationality with the year of study $F(1, 462) = 6.79$; $p < 0.01$; $\eta^2 = 0.01$. Pairwise comparisons with the Bonferroni correction showed that Spaniards more often show positive reinterpretation ($M = 3.99$; $SD = 0.68$) than Poles ($M = 3.80$; $SD = 0.76$). The pairwise comparisons also showed that Poles in the last-year of studies less frequently show positive re-evaluation and development ($M = 3.63$; $SD = 0.86$) than Spaniards in the last year of study ($M = 4.03$; $SD = 0.63$).

Table 2. COPE – Student’s T-Analysis for Independent Samples, for the Year of Study Variable

COPE	Year of Study						Nationality						Gender					
	First (246)			Last (226)			Polish (242)		Spanish (228)		Woman (323)		Man (147)					
	M	SD	p	t	SD	t	M	SD	M	SD	M	SD	M	SD	t	SD	t	p
Active-coping	3,55	0,67	3,59	0,76	-0,47	0,63	3,53	0,74	3,61	0,69	-1,07	0,28	3,60	0,71	3,50	0,72	1,42	0,15
Planning	3,66	0,77	3,71	0,80	-0,68	0,49	3,68	0,83	3,69	0,74	-0,18	0,85	3,72	0,78	3,60	0,80	1,53	0,12
Instrumental social support	3,75	0,93	3,67	0,93	0,95	0,34	3,63	1,01	3,79	0,84	-1,86	0,06*	3,80	0,91	3,50	0,954	3,23	0,00
Emotional social support	3,61	1,12	3,44	1,19	1,62	0,10	3,46	1,21	3,60	1,09	-1,25	0,21	3,75	1,08	3,05	1,18	6,04	0,00
Suppression of competing Act.	3,25	0,70	3,25	0,76	0,52	0,95	3,14	,078	3,37	0,65	3,45	0,00	3,27	0,72	3,22	0,75	0,71	0,44
Turning to religion	1,87	1,17	1,94	1,25	-0,64	0,53	2,23	1,56	1,56	0,95	6,26	0,00	1,83	1,18	2,07	1,27	-1,90	0,05
Positive reinterpretation	3,94	0,66	3,82	0,78	1,76	0,07	3,79	0,67	3,99	0,67	-2,99	0,00	3,95	0,69	3,75	0,70	2,65	0,00
Restraint coping	3,18	0,67	3,11	0,77	1,06	0,28	3,19	0,66	3,10	0,66	1,21	0,22	3,15	0,70	3,14	0,77	0,13	0,89
Acceptance	3,63	0,76	3,50	0,79	1,85	0,06*	3,61	0,81	3,52	0,74	1,24	0,21	3,53	0,78	3,65	0,96	-1,54	0,12
Focus on emotions	3,39	0,99	3,22	1,04	1,85	0,06*	3,36	1,03	3,25	1,01	1,10	0,26	3,49	0,96	2,90	1,04	5,85	0,00
Denial	2,15	0,94	1,99	0,89	1,84	0,06*	2,09	0,99	2,05	0,82	0,42	0,67	2,10	0,88	2,00	0,98	1,09	0,27
Mental disengagement	3,42	0,74	3,29	0,79	1,87	0,06*	3,36	0,82	3,35	0,71	0,04	0,96	3,45	0,76	3,14	0,74	4,18	0,00
Behavioral disengagement	2,41	0,84	2,23	0,91	2,24	0,02	2,52	0,88	2,12	0,82	5,05	0,00	2,29	0,86	2,40	0,91	-1,32	0,18
Substance use	1,81	1,13	1,68	1,10	1,19	0,23	1,94	1,22	1,54	0,96	3,94	0,00	1,70	1,08	1,85	1,20	-1,32	0,18
Humour	3,36	1,05	3,21	1,16	1,44	0,14	3,40	1,10	3,17	1,10	2,26	0,02	3,19	1,09	3,52	1,11	-3,06	0,00

* Results showing an emerging trend

The three-way analysis of variance in the intergroup design (2x2x2) showed a statistically significant, weak effect of the student nationality association also for *Behavioural disengagement* $F(1, 462) = 18.68$; $p < 0.01$; $\eta^2 = 0.04$. Comparisons in pairs with the Bonferroni correction showed that Poles more often ceased to act ($M = 2.52$; $SD = 0.89$) than Spaniards ($M = 2.12$; $SD = 0.82$).

Finally, the *Humour* variable was checked – the three-way analysis of variance in the intergroup design (2x2x2) showed a statistically significant, weak effect of the gender relationship of students $F(1, 462) = 11.10$; $p < 0.01$; $\eta^2 = 0.02$ and a weak effect of the interaction of nationality with the year of study $F(1, 462) = 4.54$; $p < 0.05$; $\eta^2 = 0.01$ to use the sense of humour. Pairwise comparisons with the Bonferroni correction showed that women use their sense of humour less frequently ($M = 3.19$; $SD = 1.09$) than men ($M = 3.53$; $SD = 1.11$). The pairwise comparisons also showed that Poles in the first year of studies use their sense of humour more often ($M = 3.54$; $SD = 1.01$) than Spaniards in the first year of studies ($M = 3.18$; $SD = 1.07$).

DISCUSSION

To sum up, the level of self-efficacy and self-regulation and the choice of coping with stress are related to gender, nationality, age, and multiple attitudes towards a stressful situation (here: comparison of first and last year students, examined before the exam session).

Nevertheless, the following conclusions can be drawn by focusing only on the hypotheses put forward. First-year and last-year students and those studying at universities in Spain and Poland do not differ statistically significantly. It was confirmed that the sense of self-efficacy is higher in the group of men than women. This result is not surprising as numerous studies repeatedly noted the feeling of higher effectiveness in men. Similar results were found in a comparative study of self-efficacy among male and female scientists (Schoen, 1988). In the case of men, the sense of competence is often related to the self-confidence they perceive. Consequently, the sense of self-efficacy – here, for example, of effective action and competences – may be a form of male ego care and even one of the forms of self-regulation. We have reason to believe that the source of these differences lies in the styles of upbringing girls and boys. Girls are generally brought up to be people who care about others, more empathetic and more obedient, and boys are brought up to be people focused on action and results (Wojciszke & Mikiewicz, 2003). And for actions and achievements, they are more often rewarded, if only

in the form of praise for one result or another. Girls' achievements are less often noticed and rewarded. Girls are more likely to be rewarded for being nice to others, which is less tangible than for the specific effect of an action, for example. Therefore, boys have more opportunities to find out that they are effective than girls. It may also be related to expectations of boys and men that they will be more effective in difficult and dangerous situations. It may be related to the physical advantage of men. Greater physical strength can also provide a sense of greater opportunities in many aspects of life, struggling with reality, and thus contributes to a greater sense of effectiveness. On the other hand, the ability to self-regulate stress was higher among women than men. Women also choose beneficial strategies for coping with stress more often than men. Moreover, students from Spanish universities have higher self-regulatory skills than students from Polish universities. However, students starting and finishing their studies do not differ in terms of self-regulatory skills. The next hypothesis concerned the selection of strategies for coping with stress. Statistical analysis showed that students starting their studies more often choose maladaptive strategies of coping with stress. Nevertheless, it cannot be inferred to directly confirm that last-year students would choose more favourable strategies for coping with stress than first-year students. Nonetheless, it was confirmed that students studying at universities in Spain more often choose adaptive coping strategies, while those studying in Poland more often use non-adaptive strategies. Similar results were shown in the study (Chirivella, Checa, & Budzynska, 2013), which compared coping strategies, dispositional optimism and mental well-being in a group of footballers from Poland and Spain. In this study, Spaniards also obtained significantly higher scores in emotion-related coping strategies than Poles. These small differences in various strategies (while concentrating on emotions and their expression) is another example of how the socio-cultural characteristics differ and how much, in consequence, may affect the thoughts, actions or strategies of persons belonging to one or another nationality.

THE DIRECTION OF FURTHER RESEARCH

The study confirms that the level of self-efficacy and self-regulation and the choice of coping strategies may be influenced by gender, nationality, and multiple attitudes towards a stressful situation (here: examination session). The study assumed only students within all years of higher education. When planning further studies, to understand the specificity of the level of stress and the nature of self-regulation in academic society, it would be worth comparing students and professors.

Research by Haim Gaziel (1993) confirms that the level of stress – stress among school teachers is very high and affects the functioning of educational institutions. Therefore, it would be valuable to check whether a similar effect occurs among academic lecturers. Furthermore, the described study was conducted before the exam session, i.e., during increased stress. It would also be worth checking what the self-efficacy and self-regulation measurements will look like during intensified stress, e.g., before or after the exam.

Moreover, considering that the study was conducted on students who speak fluent English (a language other than their mother tongue), it can be concluded that this group functions at a high cognitive level and has many educational experiences behind it. Therefore, it would be worth checking whether similar results occur among people with a lower level of education.

Nevertheless, the study group should be supplemented with people operating under constant stress, e.g., related to difficult, overloading work or in the absence of constant external stress, e.g., in everyday life. It would be valuable to introduce a method that will also control the situation and answer why there are intercultural differences among the respondents. It could be possible, for example, by controlling the factors influencing higher self-efficacy, better self-regulation, and the selection of adaptive coping strategies.

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