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## The influence of academic specialization on pain perception, attachment and perceived stress at students

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### Abstract

The objective of the study is focused on investigating differences regarding perceived stress, attachment and pain perception between undergraduate students at psychology in comparison with the undergraduate students at electronics. The results highlights that the undergraduate students from psychology have statistically significant pain perception higher than the undergraduate students at electronics. Also, positive statistically significant correlations had been confirmed for both research groups ( $p < .05$ ). Future studies should implicate undergraduate students from different other specializations as physics, geography and other specializations.

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**Keywords:** Perceived stress; academic environment; pain perception; attachment.

### 1. Introduction

Singh et al. (2013) were interested to study perceived stress level using PPS scale (Cohen, Kamarck & Mermelstein (1983); Cohen & Williamson, 1988; Cohen, 2005) at nursery students. The authors find out that the undergraduate students encounter high level of perceived stress during the second grade. Applying the PPS scale on medical students in Barbados University, Alleyne, Alleyne, & Greenidge (2010) find out that higher level of perceived stress is associated with lower levels of satisfaction with life.

Pain is an inevitable and relatively frequent source of distress from birth to old age (Hadjistavropoulos and Kenneth, 2004). Each academic specialization students print a certain way of interacting with individuals in society but also to respond to life situations. Chraif & Fulga (2013) find out that male undergraduate students have stronger pain control in comparison with female undergraduate students ( $91.23 > 80.04$ ;  $p = 0.003 < 0.01$ ). Daks, (2013) investigate the role of meditation in reducing psychological symptoms of pain at adults and college students. In a previous study Chraif & Aniței, (2012) investigated



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the attachment, motivation, positive and negative emotions and support groups related with career orientation in psychology. Miulescu, Chraif, Aniței, Iliescu & Bârcă (2012) conducted a study highlighting the influence of faculty specialization on deductive reasoning. Chraif & Aniței (2011) used the academic attachment scale to investigate the undergraduate student's involvement towards National and International Conferences. Taking in consideration the relationship between attachment and mental and physical health, Chraif & Anitei (2012) were interested to highlight that teens' attachment can be predictor for mental and physical health. Vasile (2011) investigated the identity structures dynamics in adults and

## **2. Problem Statement**

The problem statement is focused on the following objectives:

- The first objective is focused to find possible differences between students at psychology versus students at electronics regarding: pain perception, perceived stress and attachment.
- The second objective investigates possible relationships between stress, attachment and pain perception.

## **3. Research Questions**

Research questions are rising from the following hypotheses:

- There are statistically significant differences between the undergraduate students at psychology versus undergraduate students at electronics regarding the variable perceived stress.
- There are statistically significant differences between the undergraduate students at psychology versus undergraduate students at electronics regarding the variable pain perception.
- There are statistically significant differences between the undergraduate students at psychology versus undergraduate students at electronics regarding the variable attachment.
- There are positive statistically significant correlations between pain perception and attachment.
- There are positive statistically significant correlations between perceive stress and pain perception.

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

Purpose of the study is focused on testing the research hypotheses.

## **5. Research Methods**

### *5.1. Participants*

Participants were a number of 70 students, 30 students at psychology, Faculty of Psychology and Educational Sciences, Bucharest University and 40 students at electronics, University Polytechnics, Bucharest.

### *5.2. Instruments*

- The pain perception questionnaire (Vienna Tests System, 2012). The questionnaire measuring the pain perception of the following dimensions: cognitive dimension, social support, avoidance, and activity.

- Academic attachment scale (Chraif & Aniței, 2011; Chraif & Aniței, 2012). The scale measures the attachment of the undergraduate students regarding the academic environment.

- Perceived Stress Scale (Cohen, Kamarck & Mermelstein, 1983) measures perceived stress is composed from 10 items. The Alpha Cronbach coefficient is  $\alpha=0.791$  for the English version.

For the Romanian version the overall Cronbach's alpha was 0.855, and the test-retest reliability coefficient was 0.72 (Dumitrescu, Badiță, Dogaru, Toma, Perțec & Duță (2014). According to Mihăilă (2015) Alpha Cronbach was 0.75 in a validation study of the 4-items PPS on Romanian population in organizational context.

## 6. Findings

Applying SPSS 15 we tested the research hypotheses. In table 1 can be seen the descriptive statistics for the three dependent variables: pain perception, academic attachment and perceived stress.

Table 1. Descriptive statistics for dependent variables: pain perception, academic attachment and perceived stress.

	grup_1_2	N	Mean	Std. Deviation	Std. Error Mean
Pain perception	psychology	30	40.36	11.11	2.02881
	polytechnic	40	34.87	9.43	1.49194
Academic attachment	psychology	30	44.93	11.03	2.01428
	polytechnic	40	44.40	9.80	1.55076
stress	psychology	30	77.43	20.65	3.77063
	polytechnic	40	71.40	16.44	2.60074

In table 2 can be seen the Levene Test for dependent variables: pain perception, academic attachment and perceived stress.

Table 2. Levene's Test for for dependent variables: pain perception, academic attachment and perceived stress.

		Levene's Test for Equality of Variances	
		F	Sig.
Pain perception	Equal variances assumed	.514	.476
	Equal variances not assumed		
Academic attachment	Equal variances assumed	.658	.420
	Equal variances not assumed		
stress	Equal variances assumed	.422	.518
	Equal variances not assumed		

In table 3 can be seen the T-test value and the p-value statistically significance for the three variables.

Table 3. Independent Samples Test for for dependent variables: pain perception, academic attachment and perceived stress.

		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
Pain perception	Equal variances assumed	2.233	68	.029	5.49167
	Equal variances not assumed	2.181	56.549	.033	5.49167
Academic attachment	Equal variances assumed	.213	68	.832	.53333
	Equal variances not assumed	.210	58.329	.835	.53333
stress	Equal variances assumed	1.361	68	.178	6.03333
	Equal variances not assumed	1.317	54.058	.193	6.03333

As it can be seen in table 3 that the second hypothesis “There are statistically significant differences between the undergraduate students at psychology versus undergraduate students at electronics regarding the variable pain perception” has been confirmed ( $p < .05$ ).

Regarding the correlations hypotheses in table 4 can be seen the correlation matrix between the variables: pain perception, academic attachment and perceived stress. There are statistically significant correlations between the variables pain perception and academic attachment ( $r = .447$ ;  $p = .013 < .05$ ); pain perception and stress ( $r = .688$ ;  $p = .000 < .01$ ).

Table 4. Correlation matrix for the students at psychology.

		Pain perception	Academic attachment	Stress
Pain perception	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	30		
Academic attachment	Pearson Correlation	.447*	1	
	Sig. (2-tailed)	.013		
	N	30	30	
Stress	Pearson Correlation	.688**	.262	1
	Sig. (2-tailed)	.000	.161	
	N	30	30	30

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

a. grup\_1\_2 = psychology

In table 5 can be seen the correlation matrix between the variables: pain perception, attachment and perceived stress. Hence, there are statistically significant hypothesis between the variables pain perception and academic attachment ( $r = .479$ ;  $p = .002 < .01$ ); pain perception and stress ( $r = .354$ ;  $p = .025 < .01$ ).

Table 5. Correlation matrix for the students at electronics.

		Pain perception	Academic attachment	Stress
Pain perception	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	40		
Academic attachment	Pearson Correlation	.479**	1	
	Sig. (2-tailed)	.002		
	N	40	40	
Stress	Pearson Correlation	.354*	.138	1
	Sig. (2-tailed)	.025	.397	
	N	40	40	40

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

a. grup\_1\_2 = polytechnic

Hence we find out that the pain perception is higher at the students at psychology than the students at electronics ( $p < 0.05$ ). The hypothesis “There are positive statistically significant correlations between pain perception and attachment. There are positive statistically significant correlations between perceive stress and pain perception. Thus, it can be seen that both for male and female participants the dependent variable pain perception correlate statistically significant with the dependent variables perceived academic stress and attachment ( $p < 0.05$ ).

## 7. Conclusions

The present study investigates differences in pain perception, perceived stress, and attachment to students of comparative psychology students from electronics. After applying Kolmogorov-Smirnov test which checks data distribution has been chosen using the t test for differences between means because the curves are normally distributed ( $p > .05$ ). Thus, according to Table 3, the first research hypothesis is confirmed ( $p < .05$ ). Given assumptions aimed correlation between the three variables studied can be said to have been confirmed for correlations between pain perception and stress ( $p < .05$ ) and pain perception and attachment ( $p < .05$ ).

## References

- Albu, G., Vasile, C. (2011). School Evaluation, Field of Success Obsession and Failure Anxiety, *In Evaluation in education in the Balkan countries* (Ed.) Pejatovic, A. (pp. 87-91), ISBN 978-86-82019-66-4. Ed: Balkan Society for Pedagogy and Education ūi University of Belgrade.
- Alleyne, M. Alleyne, M. Greenidge, D. (2010) Life Satisfaction and Perceived Stress Among University Students in Barbados. *Journal of Psychology in Africa*, 20(2), 291–298.
- Chraif, M., & Aniței, M. (2011), Romanian Students’ Attachment and Involvement towards Attending to National and International Conferences. In Z. Bekirogullari (Ed.), *Proceedings of The International*

- Conference on Education and Educational Psychology: Procedia - Social and Behavioral Sciences*, 29, (pp. 1683-1688). Amsterdam: Elsevier.
- Chraif, M., & Anitei, M. (2012). Overload Learning, Attachment and Coping Styles Predictors of Mental and Physical Health of Teenage High School Students. In Z. Bekirogullari (Ed.), *Proceedings of The International Conference on Education and Educational Psychology: Procedia - Social and Behavioral Sciences*, 29, (pp.1842-1846). Amsterdam: Elsevier.
- Chraif, M., & Fulga, D. (2013). Gender differences in pain perception-a pilot study on young Romanian students, In Editor (s) Vasile, C., Anitei, M. & Chraif, M., *In the Proceedings of the International Conference on Psychology and the Realities of the Contemporary World (Psiworld), Procedia Social and Behavioral Sciences*, 78, 648-652
- Chraif, M., & Anitei, M. (2012). Attachment, motivation, positive and negative emotions and support groups as predictors of Romanian students' career orientation in psychology. In G.A. Baskan, F. Ozdamli, & S. Kanbul (Eds.), *Proceedings of „4th World Conference on Educational Sciences” (WCES) Location: Univ Barcelona: Procedia Social and Behavioral Sciences* 46, (pp. 2409-2413). Amsterdam: Elsevier.
- Miulescu, T., Chraif, M., Anitei, M., Iliescu, A., Bârcă, A. (2012). The influence of faculty specialization on deductive reasoning in young Romanian students. In M. Anitei, M. Chraif & C.Vasile (Eds.), *Proceedings of Psiworld 2011: Procedia, Social and Behavioral Sciences*, 33, (pp.1063-1066). Amsterdam: Elsevier.
- Cohen, S. (2005). Perceived Stress Scale: Measuring the self-perception of stress.
- Cohen, S. and Williamson, G. (1988) Perceived Stress in a Probability Sample of the United States. In Spacapan, S. and Oskamp, S. (Eds.) (1988). *The Social Psychology of Health*. Newbury Park, CA: Sage.
- Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 386-396. doi: 10.1016/j.sbspro.2014.12.425
- Daks, J. (2013). Pain Management: Effects on Pain Perception in Older Adults and College Students. Colonial Academic Alliance Undergraduate Research Journal.
- Dumitrescu, A.L. Badiță, D., Dogaru, C.B., Toma, C., Perteac, Gh. & Duță, C. (2014). Romanian Version of the Perceived Stress Scale: An Investigation of its Psychometric Properties, In (Ed.) Miljkovic, *In the Proceedings of 5th World Conference on Psychology, Counseling and Guidance, WCPCG-2014, Dubrovnik, Croatia, Procedia - Social and Behavioral Sciences* 159, (pp.561 – 564).
- Hadjistavropoulos, T., Craig, K.D. & Fuchs-Lacelle, S.(2004) Social Influences and the Communication of Pain. In Hadjistavropoulos, T. & Craig, K., D. (eds.) (2004). *Pain: Psychological Perspectives. philosophical research online*: <http://philpapers.org/rec/HADPPP>
- Mihăilă, T. (2015). Psychometric proprieties of the Perceived Stress Scale-4 items version in Romania. Validation in organizational context. *Romanian Journal of Experimental Applied Psychology*, 6 (1), 59-73.
- Singh, A., Chopra, M., Adiba, S., Mithra, P., Bhardwaj, A., Arya, R., Chikkara, P., Rathinam, R.D. & Panesar, S. (2013) A descriptive study of perceived stress among the North Indian nursing undergraduate students, *Iran Journal of Nursering Midwifery Research*, 18(4), 340–342. PMID: PMC3872872
- Vasile, C. (2011). Identity Structures dynamics in adults and elderly people, in *Procedia SBS, Vol. 30/2011*, pp. 1826-1830, ISSN 1877-0428, <http://dx.doi.org/10.1016/j.sbspro.2011.10.352>