

DEPRESSION, ANXIETY, STRESS AND PHYSICAL ACTIVITY IN HEALTH-RELATED UNIVERSITY STUDENTS DURING COVID-19

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INTRODUCTION

The coronavirus disease 2019 (COVID-19) pandemic led to the increased negative affective condition among university students. High levels of depression, anxiety, and stress are commonly reported among health-related university students. Likewise, current partial lockdown in Croatia could result in negative consequences on students' mental health. It is well-established that physical activity has positive effects on mental health and well-being, but due to gym closure as a restriction measure, levels of students' physical activity may decrease.

AIM

This cross-sectional study aimed to define the levels of depressive, anxiety, and stress symptoms along with physical activity among health-related university students during the second partial COVID-19 lockdown.

METHODS

The survey included 212 students from the Faculty of Dental Medicine and Health of the University of Osijek in Croatia. To estimate the levels of depression, anxiety, and stress, the DASS-21 (The Depression Anxiety Stress Scale-21) and GSLTPAQ (The Godin-Shephard Leisure-Time Physical Activity Questionnaire) questionnaires were used.

RESULTS

The majority of students (57.1%) reported increased stress levels during the second COVID-19 lockdown, and 58% reported decreased physical activity (Table 1). A high prevalence of depressive (52.8%), anxiety (51.9%), and stress (54.7%) symptoms (Figure 1) were found among health-related university students, with 33% of students were insufficiently active (Figure 2). Depression was strongly correlated with anxiety and stress; moreover, anxiety also correlated with stress (Table 2). Female students scored higher on depression, anxiety, and stress, but on lower physical activity than their male counterparts.

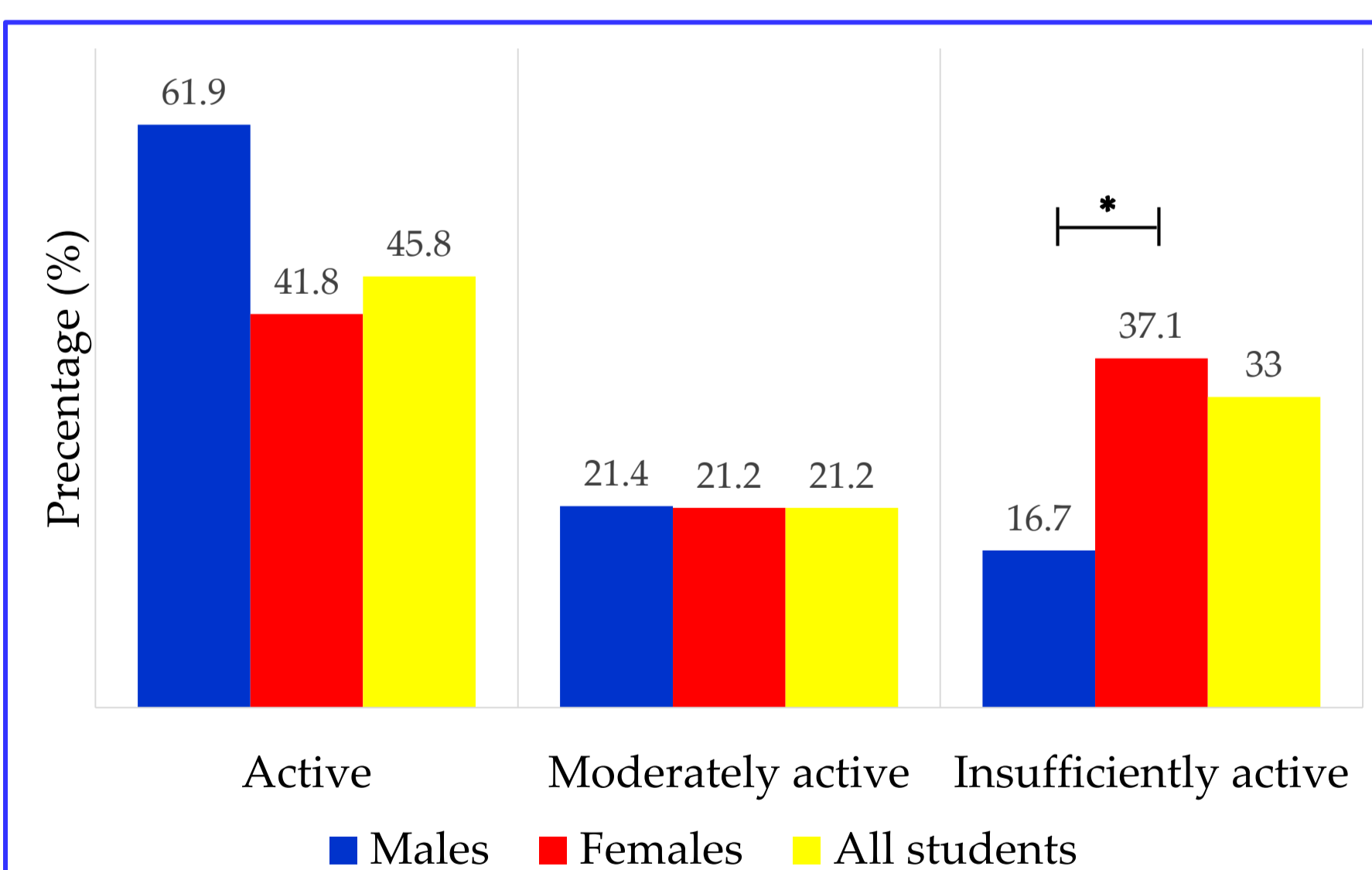


Figure 2. Physical activity (GSLTPAQ) during second COVID-19 lockdown according to gender. *Mann-Whitney test $p=0.001$

Table 1. Sociodemographic data and self-assessment of mental stress and physical activity

Variable	Male	Female	All students	p-value
Age, years	25 (21–38)	25 (21–38)	25 (21–38)	0.886*
Sex	42 (19.8%)	170 (82.2%)	212 (100%)	-
Study				
Nursing	23 (54.8%)	148 (87.1%)	171 (80.7%)	
Dental medicine	16 (38.1%)	14 (8.2%)	30 (14.2%)	<0.001†
Physical Therapy	3 (7.1%)	8 (4.7%)	4 (5.2%)	
GPA	4 (3.7-4.1)	4 (3.7-4.13)	4 (3.7-4.1)	0.94*
BMI	26.58 (24.71-29.14)	23.04 (20.57-23.04)	23.64 (21-26.88)	< 0.001*
Mental stress				
Reduced	3 (7.1%)	4 (2.4%)	7 (3.3%)	
Constant	22 (52.4%)	62 (36.5)	84 (39.6%)	0.029†
Increased	17 (40.5%)	104 (61.2)	121 (57.1%)	
Physical activity				
Reduced	24 (57.1%)	99 (58.2%)	123 (58%)	
Constant	14 (33.3%)	45 (26.5%)	59 (27.8%)	0.50†
Increased	4 (9.5%)	26 (15.3%)	30 (14.2%)	

*Mann-Whitney test; †Chi-square test

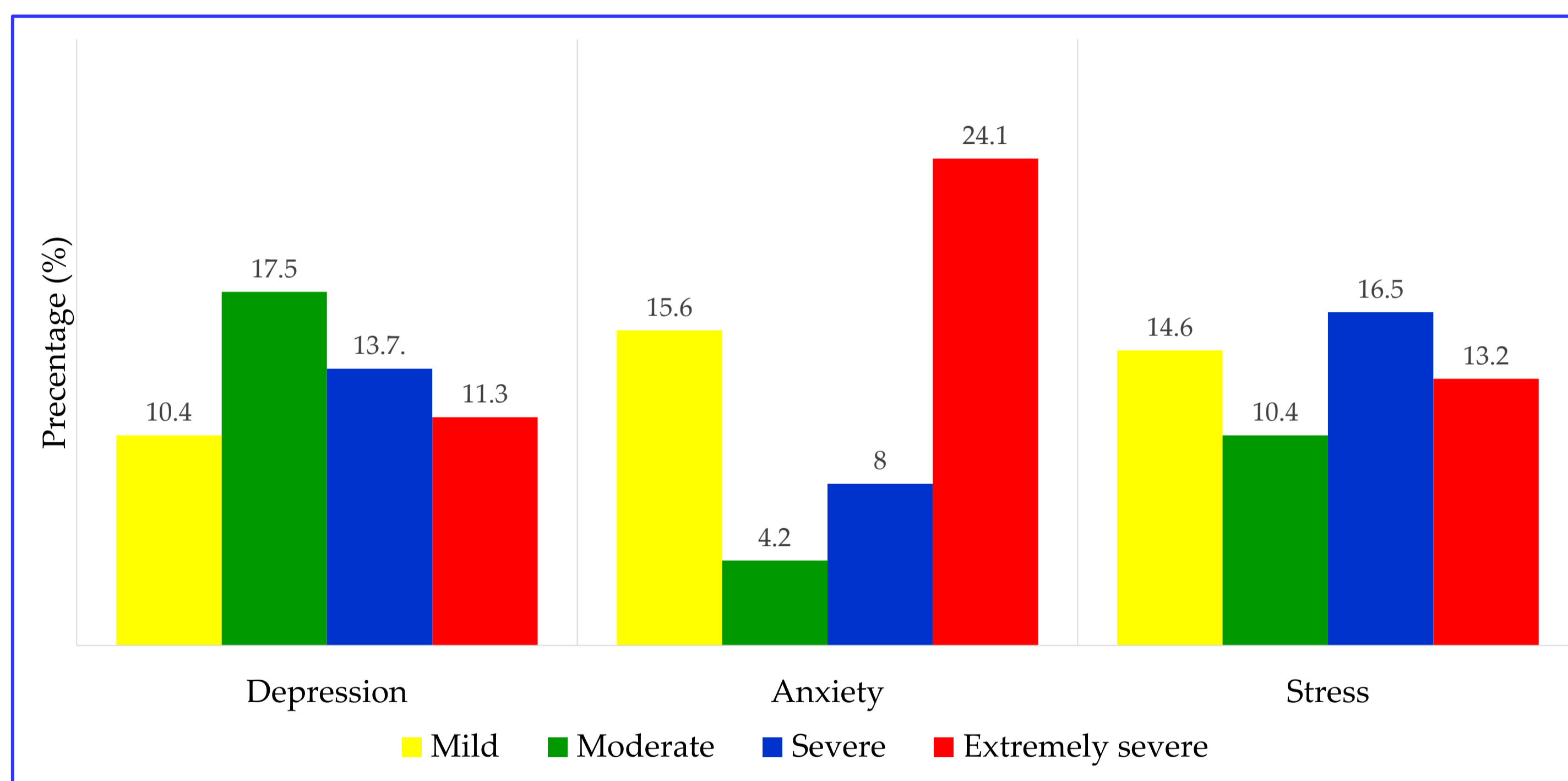


Figure 1. Prevalence of depression, anxiety, and stress symptoms (DASS-21) related to COVID-19

Table 2. Correlations of age, GPA, BMI, scores of the Depression Anxiety Stress Scale-21 (DASS-21), and the Godin-Shephard Leisure-Time Physical Activity Questionnaire (GSLTPAQ) scales (n=212)

	GPA	BMI	Depression	Anxiety	Stress	Physical Activity
Age	-0.001	0.182**	-0.093	-0.068	-0.022	-0.146*
GPA		0.150	-0.013	-0.010	-0.032	-0.028
BMI			-0.016	-0.020	-0.300	-0.038
Depression				0.794**	0.841**	0.052
Anxiety					0.860**	-0.087
Stress						-0.036

* $p < 0.05$ Spearman's rho, ** $p < 0.01$ Spearman's rho

CONCLUSION

The results of this study suggested a high prevalence of negative affective conditions (depression, anxiety, and stress) and decreased physical activity among health-related university students during the second partial lockdown. The resulting symptoms were mostly of mild intensity; however, we consider this a significant mental health issue during the COVID-19 pandemic. It is crucial to monitor and promote students' mental health, especially in more affected females, to reduce the negative impact of this pandemic.

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