

The mental well-being of university students in the Netherlands

The fourth measurement by the
Caring Universities consortium

SUMMARY

Between November 2022 and January 2023, Caring Universities (CU) sent an online questionnaire about psychological problems to 208.796 students from seven universities (Vrije Universiteit Amsterdam, Leiden University, Utrecht University, Maastricht University, University of Amsterdam, Inholland University of Applied Sciences, and the Erasmus University Rotterdam). 9.048 (4.3%) responses have now been received and we can provide an indication of the problems students experience in the areas of mood, anxiety and stress. Our results indicate that – although slightly less than last year – a large group of students still seems to be struggling with mental problems. Also, psychological complaints are different between demographic groups. For example, female students, students identifying as other genders, bachelor students and international students have more psychological complaints (regarding depression, anxiety, stress and insomnia) compared to male, master level and Dutch students respectively. Moreover, we see an 8% - 28.6% decline in the negative consequences of the COVID-19 pandemic. A limitation of this survey is the low percentage of students who responded. It is also a measurement based on self-report. The conclusions should therefore be interpreted with caution. Nevertheless, the results of this survey can be an important tool to identify mental health trends and can help guide the development of (digital) interventions aimed at protecting the mental health of the students.

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Introduction

College years have often been identified as a turbulent period in a vulnerable developmental stage, encompassing a constellation of stressors¹⁻³. Consequently, psychological problems such as depression, anxiety and stress occur in one in three students worldwide⁴. A recent update of a psychiatric epidemiological cohort study of the Dutch general population showed that 40% of young adults (18-24 years) had a mental disorder in the past year⁵. In addition, students may suffer from various psychosocial problems such as procrastination (avoiding tasks that need to be done), perfectionism, fear of failure, low self-esteem and excessive shyness that can maintain or worsen their psychological problems⁶⁻⁹. While mental health problems in university students are associated with poorer academic achievements and more college dropouts¹⁰⁻¹², it is also associated with higher societal and economic costs¹³. Universities are excellent environments to detect students at risk of mental disorders and to apply treatments to prevent symptoms of common mental disorders or treat them early. Therefore, colleges and universities continue to work on initiatives to support students in need.

Unfortunately, and due to several barriers, only a few students actively seek help for their psychological problems, and many require help to reach available treatments¹⁴⁻¹⁶. The most frequently reported barriers are underestimating the problem, fear of stigmatization, perceived lack of time, low financial resources, preference for self-management and low awareness of available resources¹⁷⁻¹⁹. In the Caring Universities project, The Vrije Universiteit Amsterdam, Leiden University, Utrecht University, Maastricht University, the Erasmus University Rotterdam, InHolland university of applied sciences, the University of Amsterdam, Avans university of applied sciences and Rotterdam University of applied sciences, work together to understand, prevent and effectively reduce psychological and psychosocial problems in students. Through a yearly survey (questionnaire), we screen for psychological and psychosocial problems even among those students not actively seeking help. In addition, we develop low-intensity, guided online interventions that can be accessed quickly, anonymously, on a flexible schedule, and could overcome several existing barriers to treatment. As younger, higher educated, employed, and urban residents prefer technology-assisted approaches to screening or treatments⁵, university students are the



group that could benefit most from online screening and low-intensity e-health interventions. We do all this in a scientifically substantiated way in collaboration with the WHO World Mental Health International College Student (WMH-ICS) Initiative²⁰.

The survey

The survey is designed to research the psychological and psychosocial problems of students in a structured and scientifically sound manner at an international level. The procedure is as follows: all students from the participating universities receive a link via their student email to an online questionnaire that measures the most important psychological and psychosocial problems (including depression, anxiety, alcohol problems). The survey is not intended to diagnose mental disorders such as major depressive disorder, but rather to screen for/assess? symptoms that can accompany these disorders such as a low mood and loss of interest, as well as other relevant characteristics (such as personality, daily functioning, academic functioning, etc.). In addition, the survey covers questions regarding social media usage, perceptions of self and perceived well-being that highlight possible psychosocial problems in the students. The results of the survey offer all participating universities information about and insight into the mental health status of their students. Filling in the questionnaire takes approximately 35 minutes.

Between March 2018 and September 2019, the survey was filled out by 2.507 students from the Vrije Universiteit Amsterdam and the University of Amsterdam. In June 2020 we carried out the first measurement in the current Caring Universities consortium, in which more than eight thousand students took part. On November 6, 2020, we published the results of this measurement on our website⁸. In January 2021 and November 2021, we repeated this measurement among more than twenty-two thousand students in total. The results of these studies indicate that mental complaints are common among Dutch students, which have become worse during the lockdowns of January 2021 and November 2021. The current report is about the results of the *fourth* CU measurement, summarizing data that have been collected/gathered from November 2022, from students of the Vrije Universiteit Amsterdam, Leiden University, Utrecht University, Maastricht University, the Erasmus

University Rotterdam, InHolland university of applied sciences, and the University of Amsterdam.

Results

In November 2022, the survey was sent to 208.796 students who had not yet completed a previous CU survey, see Table 1 for details. These students were approached by the Vrije Universiteit Amsterdam (n = 34.142), Leiden University (n = 29.796), Utrecht University (n = 23.849), Maastricht University (n = 19.767), Erasmus University Rotterdam (n = 27.936), University of Amsterdam (n = 46.350) and InHolland university of Applied Sciences (n = 26.956). Of these students, 9048 (4.3%) gave consent to participate in the survey and completed the questionnaire from start to finish: VU Amsterdam (n = 1297; 3.8%), Leiden University (n = 1554, 5.2%), Utrecht University (n = 1745, 7.3%), Maastricht University (n = 1104, 5.6%), Erasmus University Rotterdam (n = 701, 2.5%), University of Amsterdam (n= 2023, 4.4%) and Inholland University of Applied sciences (n=624, 2.3%)

On average, the students were 22 years old, mainly female (69%) and of Dutch origin (61.5%), see also Table 2. A total of 5484 students (63.1%) report being diagnosed with COVID-19 (based on symptoms or a laboratory test), which is significantly higher than the percentage of students with a COVID-19 diagnosis in November 2021 (24.8%). For more details, see Table 2.

Few students report experiencing poor physical health (2.2%), while more students experience poor mental health (12.9%). Feelings of loneliness are often reported (30.4%) and for some students these feelings are very severe (4.7%). Most students did not receive help in the past year (71.3%). Of those students, more than half *do* feel that they need it. They experience the following barriers when seeking help: wanting to solve their problems on their own (60.5%), not knowing where to look for help (45.8%) or finding help too expensive (45.4%). According to students, the strongest sources of stress are their academic progress (55.2%) and their current overall life in general (35.4%). For more details, see Table 2.

The students who completed the survey indicated that they experience some negative consequences regarding their study progress, mental health and behavior due to the COVID-

19 pandemic. About 37% indicated that the coronavirus period negatively affects their moods which is significantly and meaningfully lower than the 66% reported in our previous survey rapport. Study delays were reported by 22.5%. However, we also see that most students remain active (74%) with household chores, gardening, walking, sports, yoga, etc. This percentage is higher than the percentage of active students in November 2021 (66%). See Table 3 for more data on the impact of the COVID-19 pandemic on students.

When we look at the overall results of common psychological complaints, we see that the students, on average, report mild depressive symptoms (mean: 8.29; SD = 5.8), mild anxiety symptoms (mean: 6.57; SD = 5.1), have moderate stress complaints (mean: 18.79; SD = 6.7, mild sleep concerns (mean: 8.88; SD = 5.9), exhibit average procrastinating behaviors (mean: 26.46; SD = 4.0) and experience average mental wellbeing (mean: 37.29; SD = 13.6). When the results regarding stress, sleep problems, procrastination, mood and anxiety complaints are divided into categories, we see 77% of all students report moderate to severe stress complaints, 18% report moderate to severe sleep problems and 11% suffer from problematic procrastination (see table 5). Additionally, 35.9% of all students report moderate to severe mood complaints and 21.8% moderate to severe anxiety complaints (see Tables 6 and 7). These rates are comparable to the November 2021 survey with only a 0.7% decrease in mood complaints and a 0.3% decrease in anxiety complaints. However, these rates are lower when compared to the January 2021 survey, which was measured during the pandemic. See figure 1.

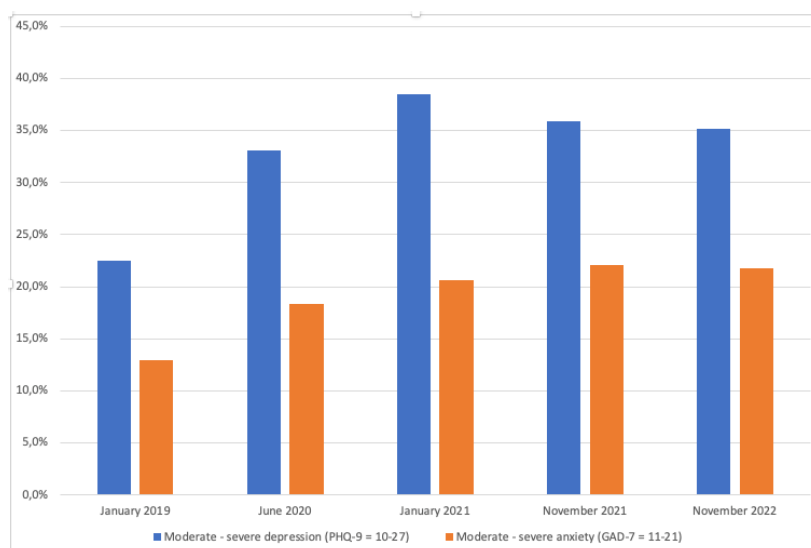


Figure 1: Moderate-severe depression and anxiety scores across the surveys

When we compare different demographic groups, we see that not all students are equal in their psychological complaints. Female students experience significantly higher depression, anxiety, stress and sleep complaints than male students ($p < 0.001$; $d = 0.22/ d = 0.32/ d = 0.42/ d = 0.08$, respectively), while students identifying as other genders experience more depression, anxiety, stress and sleep complaints compared to both female and male students ($p < 0.001$, $d = 0.61/d = 0.40/d = 0.54/d = 0.48$ and $d = 0.82/d = 0.74/d = 0.48/d = 0.38$ respectively). International and bachelor students have more psychological complaints (depression, anxiety, stress and sleep complaints) compared with Dutch ($p < 0.001$; $d = 0.34/d = 0.25/d = 0.17/d = 0.25$) and master students respectively ($p < 0.001$; $d = 0.20/d = 0.10/d = 0.13/d = 0.17$). See Figures 2-5.

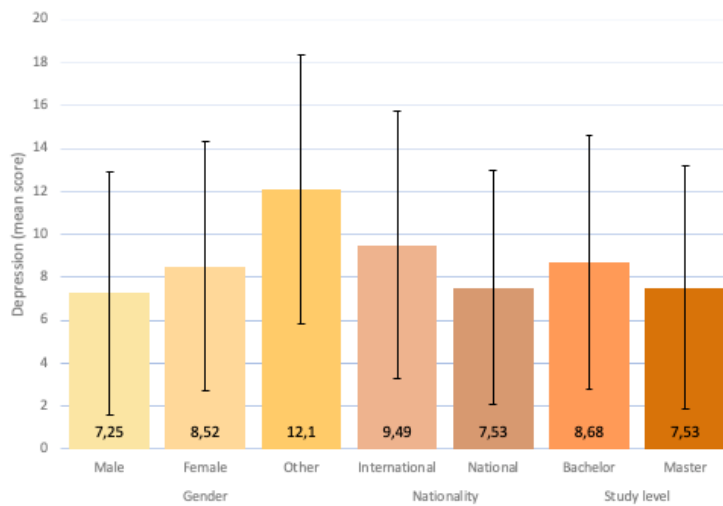


Figure 2: Mean depression scores (PHQ-9) across demographic groups

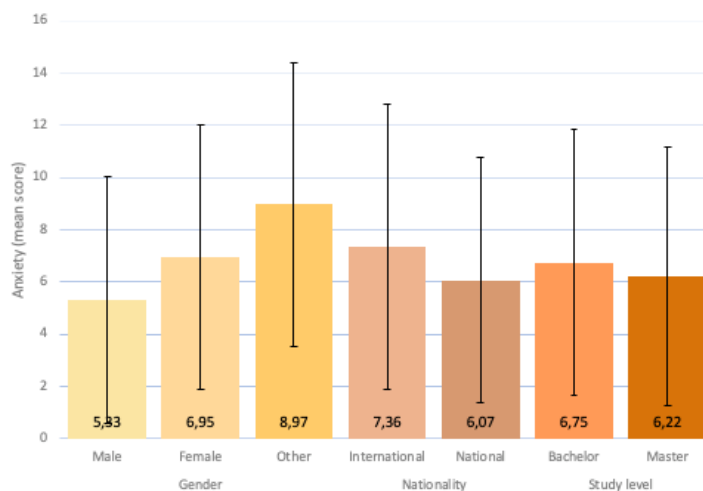


Figure 3: Mean anxiety scores (GAD-7) across demographic groups

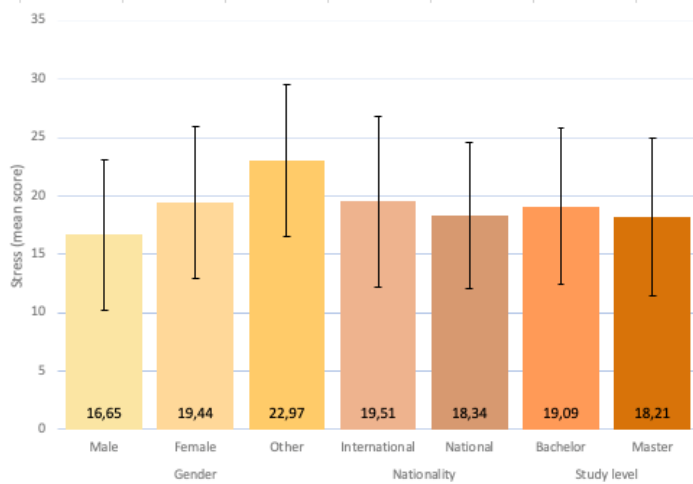


Figure 4: Mean stress scores (PSS-10) across demographic groups

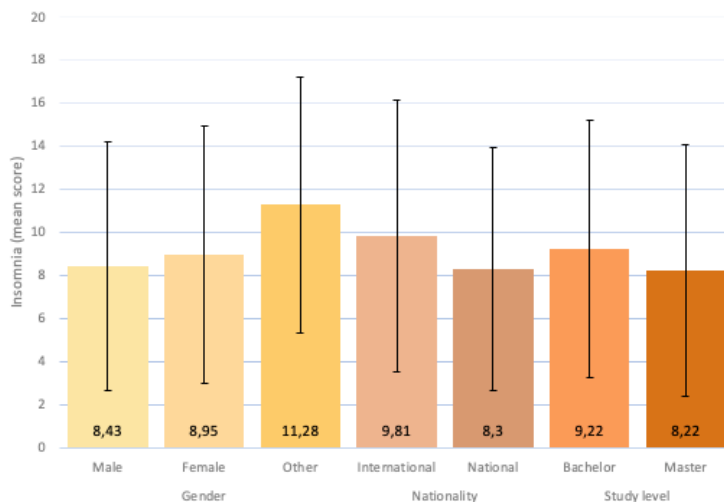


Figure 5: Mean insomnia scores (ISI) across demographic groups

There were no significant differences between males and females and between international and Dutch students in procrastination tendencies. However, students identifying as other genders had a significantly higher score on the IPS compared to females and males ($p < 0.001$; $d = 0.33$ and $d = 0.35$ respectively). In addition, bachelor level students showed higher procrastination tendencies compared master students ($p < 0.001$; $d = 0.19$).

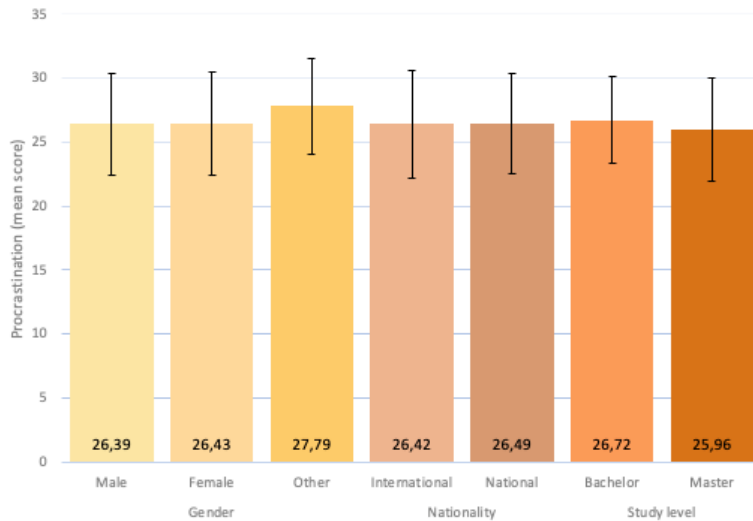


Figure 6: Mean procrastination scores (IPS) across demographic groups

When we look at positive mental health, we see that the mean scores across the demographic groups are congruent with the psychological complaints. For instance, male students experience more positive mental health when compared to female students and those identifying as other genders ($p < 0.001$; $d = 0.08$, $d = 0.59$, respectively). Additionally, Dutch students and Master level students experience more positive mental health when compared to international ($p < 0.001$; $d = 0.36$) and bachelor students ($p < 0.001$; $d = 0.11$) respectively.

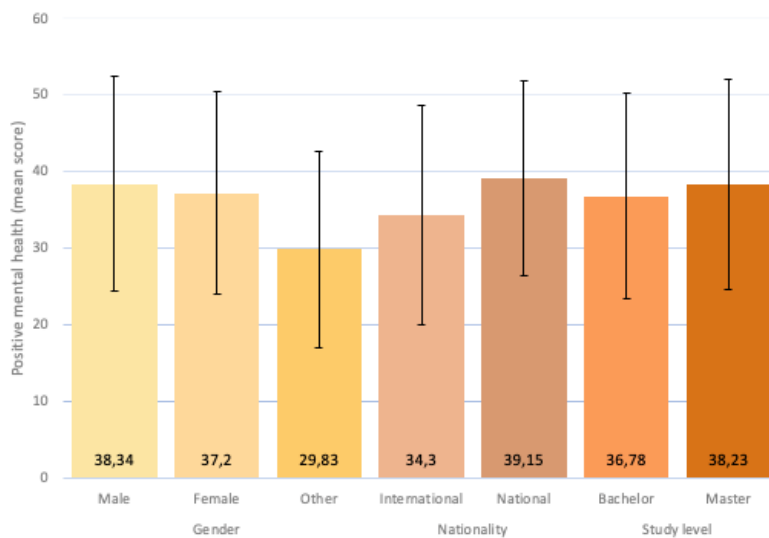


Figure 7: Mean positive mental health scores (MHC-SF) across demographic groups.

Discussion

Psychological problems such as depression, anxiety, stress, procrastination and sleeping problems are common among students who completed the survey. The high percentage of students with mood and anxiety complaints has remained stable compared to our previous surveys. The results also suggest that some groups of students have more psychological complaints than others. We see these differences most consistently among female students and among those students who do not identify as being male or female. In addition, international and bachelor students seem to be at higher risk for mental health concerns

Psychological complaints experienced by students can have consequences in many areas, including negative effects on study progress and future opportunities on the job market, relational functioning, and health in both the short and long term. Therefore, as a university consortium, we want to promote and protect the well-being of our students as much as we can. The results of this survey can be an important tool to identify mental health trends and can help guide the development of (digital) interventions aimed at protecting the mental health of the students.

Regarding these results, it must be mentioned that 4.3% of the students that were approached filled in the questionnaire completely, and the results are therefore not representative of all students. We will address this limitation in future surveys administered within the consortium. A low response rate can inflate the prevalence of psychological complaints by response bias. Indeed, results of an end-game strategy (an random selection of initial non-responders received financial incentive to complete the survey) that we used in a previous survey¹¹ show that complaints of low mood and stress are probably less common in the total population of students than shown in the participants of the survey. However, these differences are small. This means that we can have more confidence in the representativeness of the results than the response rate initially suggests. Another limitation is that the answers are based on self-report, which may be subject to multiple sources of bias (e.g., social desirability, limited introspective abilities, response bias etc.). Continued and

possibly more intensive monitoring of students is recommended, as is additional support to increase student well-being.

Attachments

Table 1. Number of students that received an invitation to the survey and completed it

	Invited	Completed (%)
Vrije Universiteit Amsterdam	34.142	1297 (3.8%)
Universiteit Leiden	29.796	1554 (5.2%)
Universiteit Utrecht	23.849	1745 (7.3%)
Universiteit Maastricht	19.767	1104 (5.6%)
Erasmus Universiteit Rotterdam	27.936	701 (2.5%)
InHolland University of applied Sciences	26.956	624 (2.3%)
University of Amsterdam	46.350	2023 (4.4%)
Total	208.796	9048 (4.3%)

Table 2. Demographic and psychosocial variables of the participants of the survey (N = 9048*)

Demographic variables	Number (%)
Gender: female	6250 (69.1%)
Gender: male	2502 (27.7%)
Gender: other	295 (3.3%)
Age	$\mu=21.97$, $SD=3.63$
Dutch	5565 (61.5%)
International	3481 (38.5%)
Bachelor	5957 (65.9%)
Master	3088 (34.1%)
COVID-19 diagnosis	5706 (63.1%)
Psychosocial variables	
Poor physical health	187 (2.1%)
Poor mental health	1139 (12.6%)
Experiencing loneliness often to very often	2710 (30.0%)
(Very) Severe feelings of loneliness	405 (4.8%)
Students who received some form of psychological treatment in their lives	4187 (46.3%)
Students who received some form of treatment last year	2598 (28.7%)
Students without support who feel like they need it	3249 (35.9%)
(Very) Important reasons for these students to not seek support (N=3243**)	
Uncertainty regarding effectiveness	876 (27.0%)
Wanting to solve it themselves	1963 (60.5%)
Feelings of shame	802 (24.7%)
Talking to friends and acquaintances	1223 (37.7%)
Too expensive	1471 (45.4%)
Uncertain of where to go	1484 (45.8%)
Logistical difficulties	930 (28.7%)
Fear of consequences for their career	530 (16.3%)
Fear of being treated differently by others	577 (17.8%)
Current stress (severe to very severe) (N=6322***)	
Financial situation	1734 (27.4%)
Health	933 (14.8%)
Academic progress	3490 (55.2%)
Love life	1492 (23.6%)
Family ties	929 (14.7%)
Social contact at work or university	875 (13.8%)
Health of loved ones	1295 (20.5%)
Other problems experienced by loved ones	1221 (19.3%)
Overall life	2240 (35.4%)

*Some variables have missing values. Therefore, not everything adds up to 9048. **This only concerned students without support who feel like they need it. ***This question was presented to a random sample of 75% of the total survey sample.

Table 3. Consequences of the COVID-19 pandemic (n = 9048)

Experienced consequence	Percentage November 2021*	Percentage November 2022*
1. The Coronavirus period lowers my mood.	66	37
2. Due to the threat of the Coronavirus, I am afraid to be around other people.	29	11
3. I am facing study delays because of the coronavirus.	25	23
4. Despite the Coronavirus, I remain active (household chores, gardening, walking, sports, yoga).	66	74

* Percentages of students who agree or strongly agree with statements regarding consequences of the COVID-19 pandemic for those it applies to.

Table 4. Average (μ) and standard deviation (SD) of the PHQ-9, GAD-7, PSS, IPS, ISI and MHC-SF per university in November 2022 (n = 9048)

	Total		UL (n=1554)	UU (n=1745)	UM (n=1104)	EUR (n=701)	IH (n=624)	UvA (n=2023)	VU (n=1297)
	μ	SD	μ	μ	μ	μ	μ	μ	μ
PHQ-9	8.29	5.8	8.20	7.59	9.15	7.70	8.51	8.82	7.98
GAD-7	6.57	5.1	6.48	6.15	6.93	6.31	6.44	7.01	6.46
PSS	18.79	6.7	18.88	18.23	19.29	17.89	18.83	19.35	18.60
IPS	26.46	4.0	26.56	26.34	26.53	26.11	26.92	26.63	26.14
ISI	8.88	5.9	8.75	8.33	9.4	8.71	9.22	9.16	8.80
MHC-SF	37.29	13.6	37.56	38.16	35.96	39.10	36.98	36.05	37.93

PHQ-9 = Patient Health Questionnaire-9; GAD-7 = Generalized Anxiety Disorder-7; PSS = Perceived Stress Scale; IPS = Irrational Procrastination Scale; ISI = Insomnia Severity Index; MHC-SF = Mental Health Continuum-Short Form

Table 5. Frequencies and percentages of the PSS, IPS and ISI categories of all students

Category	Frequency	Percentage
PSS		
Low stress (0-13)	2061	22.8%
Moderate stress (14-26)	5796	64.1%
Severe stress (27-40)	1191	13.2%
IPS		
No procrastination (IPS<32)	7993	88.69%
Problematic procrastination (IPS>31)	1019	11.31%
ISI		
No insomnia (0-7)	4191	46.32%
Subthreshold insomnia (8-14)	3207	35.44%
Moderate insomnia (15-21)	1376	15.21%
Severe insomnia (22-28)	274	3.03%

PSS = Perceived Stress Scale; IPS = Irrational Procrastination Scale; ISI = Insomnia Severity Index

Table 6. Frequencies and percentages of the PHQ-9 categories of all students (n = 9048)

Category	Frequency	Percentage	Percentage previous survey (n = 11.146)	Difference
Some depressive symptoms (5-27)	6221	68.8%	70.2%	-1.4%
Moderate-to-severe depressive symptoms (10-27)	3189	35.2%	35.9%	-0.7%
None (0-4)	2827	31.2%	29.8%	1.4%
Mild (5-9)	3032	33.5%	34.3%	-0.8%
Moderate (10-14)	1779	19.7%	20.4%	-0.7%
Moderate severe (15-19)	914	10.1%	10.0%	0.1%
Severe (20-27)	496	5.5%	5.5%	0%

PHQ-9 = Patient Health Questionnaire-9

Table 7. Frequencies and percentages of the GAD-7 categories of all students (n = 9048)

Category	Frequency	Percentage	Percentage previous survey (n = 11.146)	Difference
Some anxiety complaints (6-21)	4445	49.1%	51.1%	-2%
Moderate-to- severe anxiety complaints (11-21)	1974	21.8%	22.1%	-0.3%
None (0-5)	4063	50.9%	48.9%	2%
Mild (6-10)	2471	27.3%	29.0%	-1.7%
Moderate (11-15)	1355	15%	14.8%	0.2%
Severe (16-21)	619	6.8%	7.3%	-0.5%

GAD-7 = Generalized Anxiety Disorder-7

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