The mental well-being of students at Leiden University

The fourth measurement by the Caring Universities consortium

SUMMARY

In November 2022, Caring Universities (CU) sent an online questionnaire about psychological problems to almost 30 thousand students from Leiden University (LU). 1554 (5.2%) 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 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 (e.g. depression) compared to male, master level and Dutch students respectively. Moreover, we see a 4% - 28% 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 stressors[1-3]. Consequently, psychological problems such as depression, anxiety and stress occur in one in three students worldwide[4]. 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 year[5]. 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 problems[6-9]. While mental health problems in university students are associated with poorer academic achievements and more college dropouts[10-12], it is also associated with higher societal and economic costs[13]. 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 treatments[14-16]. 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 resources[17-19]. 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 treatments[5], 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) Initiative[20].

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 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 website[8]. 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, data which was collected in November 2022, from students at Leiden University. In another report, the results of the survey in November 2022 of all universities are presented.

Results

In November 2022, the survey was sent to 29.796 students who had not yet completed a previous CU survey. Of these students, 1554 (5.2%) gave consent to participate in the survey and completed the questionnaire from start to finish.

On average, the students were 22 years old, mainly female (67.2%) and of Dutch origin (66.9%), see also Table 1. A total of 1004 students (64.7%) 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 (19.9%). For more details, see Table 1.

Few students report experiencing poor physical health (1.7%), while more students experience poor mental health (13.0%). Feelings of loneliness are often reported (29.7%) and for some students these feelings are very severe (5.0%). Most students did not receive help in the past year (70.8%). Of those students, half *do* feel that they need it. They experience the following barriers: wanting to solve their problems on their own (60.2%), not knowing where to look for help (42.4%) or finding help too expensive (41.4%). According to students, the strongest sources of stress are their academic progress (51.5%) and their current overall life in general (31.7%). For more details, see Table 1.

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 38% 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 21%. However, we also see that most students remain active (74%). This percentage is higher than the percentage of active students in November 2021 (66%). See Table 2 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: 8.20; SD = 5.8), mild anxiety symptoms (mean: 6.48; SD = 5.0), have moderate stress complaints (mean: 18.88;

SD = 6.7), mild sleep concerns (mean: 8.75; SD = 5.9), exhibit average procrastinating behaviors (mean: 26.56; SD = 4.0) and experience average mental wellbeing (mean: 37.56; SD = 13.5). When the results regarding stress, sleep problems, procrastination, mood and anxiety complaints are divided into categories, we see 78.1% of all students report moderate to severe stress complaints, 16.5% report moderate to severe sleep problems and 12.0% suffer from problematic procrastination (see Table 4). Additionally, 34.4% of all students report moderate to severe mood complaints and 21.0% moderate to severe anxiety complaints (see Tables 5 and 6). These rates are lower compared to the November 2021 survey with a 3.2% decrease in mood complaints and a 1.2% decrease in anxiety complaints.

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 and stress complaints than male students ($p< 0.02$; d= -0.15/ d=-0.21/ d=-0.32, respectively), while students identifying as other genders experience more depression, anxiety, stress and sleep complaints compared to both female and male students ($p<0.02$, d=-0.85/d=-0.53/d=-0.63/d=-0.46 and d=-0.96/d=-0.74/d=-0.95/d=-0.42 respectively). International students have more psychological complaints (depression, anxiety, stress and sleep complaints) compared to Dutch students ($p<0.02$, d=0.35/d=0.26/d=0.14/d=0.21). Bachelor students have more depressive symptoms and sleep complaints than master students ($p<0.01$, d=0.16, d=0.17).

Males tended to procrastinate more than females ($p<0.05$; d=0.13) and students identifying as other genders had a significantly higher score on the IPS compared to females and males ($p<0.01$; d=-0.49 and d=-0.39, respectively). Bachelor students had higher IPS scores than master students ($p<0.001$, d=0.22).

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, female and male students experience more positive mental health when compared to those identifying as other genders ($p<0.001$; d=0.63, d=0.64, respectively). Subsequently, Dutch students experience more positive mental health when compared to international students ($p<0.001$; d=-0.32).

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 slightly decreased compared to our previous surveys. The results also suggest that some groups of students have more psychological complaints than others. We see these higher rates 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 compared to Dutch and master students.

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 5.2% 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 (a random selection of initial non-responders received a financial incentive to complete the survey) that we used in a previous survey[11] 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. Demographic and psychosocial variables of the participants of the survey (N = 1554*)

Demographic variables	**Number (%)**
Gender: female	1044 (67.2%)
Gender: male	439 (28.2%)
Gender: other	71 (4.6%)
Age	μ=21.55, SD=3.40
Dutch	1038 (66.9%)
International	514 (33.1%)
Bachelor	1017 (65.5%)
Master	536 (34.5%)
COVID-19 diagnosis	1004 (64.7%)
Psychosocial variables	
Poor physical health	26 (1.7%)
Poor mental health	202 (13.0%)
Experiencing loneliness often to very often	461 (29.7%)
Very severe feelings of loneliness	73 (5.0%)
Students who received some form of psychological treatment in their lives	753 (48.5%)
Students who received some form of treatment last year	454 (29.2%)
Students without support who feel like they need it	549 (50.0%)
(Very) Important reasons for these students to not seek support (N=544)**	
Uncertainty regarding effectiveness	138 (25.2%)
Wanting to solve it themselves	330 (60.2%)
Feelings of shame	119 (21.8%)
Talking to friends and acquaintances	202 (36.9%)
Too expensive	226 (41.4%)
Uncertain of where to go	232 (42.4%)
Logistical difficulties	152 (27.9%)
Fear of consequences for their career	80 (14.7%)
Fear of being treated differently by others	89 (16.3%)
Current stress (severe to very severe) (N=1189*)**	
Financial situation	289 (24.2%)
Health	143 (12.0%)
Academic progress	615 (51.5%)
Love life	232 (19.5%)
Family ties	148 (12.4%)
Social contact at work or university	142 (11.9%)
Health of loved ones	213 (17.8%)
Other problems experienced by loved ones	199 (16.7%)
Overall life	379 (31.7%)

*Some variables have missing values. Therefore, not everything adds up to 1554. **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 2. Consequences of the COVID-19 pandemic (n = 1287)

Experienced consequence		Percentage November 2022*	Percentage November 2021*
1.	The Coronavirus period lowers my mood.	38	66
2.	Due to the threat of the Coronavirus, I am afraid to be around other people.	11	29
3.	I am facing study delays because of the coronavirus.	21	25
4.	Despite the Coronavirus, I remain active (household chores, gardening, walking, sports, yoga).	74	66

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

Table 3. Average (μ) and standard deviation (SD) of the PHQ-9, GAD-7, PSS, IPS, ISI and MHC-SF in November 2022 compared to all universities and last year

	UL Nov 2022 (n=1554)	UL Nov 2021 (n=2338)	All universities Nov 2022 (n=9048)		All universities Nov 2021 (n= 11146)	
	μ	μ	μ	SD	μ	SD
PHQ-9	8.20	8.73	8.29	5.8	8.38	5.79
GAD-7	6.48	6.89	6.57	5.1	6.71	5.04
PSS	18.88	19.68	18.79	6.7	19.19	6.62
IPS	26.56	26.86	26.46	4.0	26.26	4.24
ISI	8.75	8.87	8.88	5.9	8.65	5.83
MHC-SF*	37.56		37.29	13.6		

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. * The MHC-SF was not administered in November 2021.

Table 4. Frequencies and percentages of the PSS, IPS and ISI categories of all students

Category		Frequency	Percentage
PSS			
	Low stress (0-13)	340	21.9%
	Moderate stress (14-26)	1013	65.2%
	Severe stress (27-40)	201	12.9%
IPS			
	No procrastination (IPS<32)	1362	88.0%
	Problematic procrastination (IPS>31)	185	12.0%
ISI			
	No insomnia (0-7)	737	47.4%
	Subthreshold insomnia (8-14)	560	36.0%
	Moderate insomnia (15-21)	201	12.9%
	Severe insomnia (22-28)	56	3.6%

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

Table 5. Frequencies and percentages of the PHQ-9 categories (n = 1554)

Category	Frequency	Percentage	Percentage November 2021 (n = 2388)	Difference
Some depressive symptoms (5-27)	1064	68.5%	73.1%	-4.6%
Moderate severe depressive symptoms (10-27)	535	34.4%	37.6%	-3.2%
None (0-4)	490	31.5%	26.9%	4.6%
Mild (5-9)	529	34.0%	35.5%	-1.5%
Moderate (10-14)	308	19.8%	20.8%	-1.0%
Moderate severe (15-19)	141	9.1%	10.8%	-1.7%
Severe (20-27)	86	5.5%	6.0%	-0.5%

PHQ-9 = Patient Health Questionnaire-9

Table 6. Frequencies and percentages of the GAD-7 categories (n = 1554)

Category	Frequency	Percentage	Percentage November 2021 (n = 2388)	Difference
Some anxiety complaints (6-21)	753	48.5%	52.8%	-4.3%
Moderate severe anxiety complaints (11-21)	326	21.0%	22.2%	-1.2%
None (0-5)	801	51.5%	47.3%	4.2%
Mild (6-10)	427	27.5%	30.6%	-3.1%
Moderate (11-15)	226	14.5%	14.4%	0.1%
Severe (16-21)	100	6.4%	7.8%	-1.4%

GAD-7 = Generalized Anxiety Disorder-7

Table 7. Mean (M) and standard deviation (SD) of the PHQ-9, GAD-7, PSS-10, IPS, ISI and MHC-SF per faculty

Measure	All faculties (n=1554)		Archeology (n=42)		Humanities (n=377)		Medicine (n=116)		Governance and Global Affairs (n=184)		Law (n=142)		Social and behavioural sciences (n=394)		Science (n=259)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
PHQ-9	8.20	5.82	9.00	5.71	9.67	6.39	6.41	4.89	7.88	5.65	8.31	5.97	7.99	5.58	7.36	5.44
GAD-7	6.48	4.98	7.93	4.77	7.48	5.30	4.80	3.80	6.30	5.16	6.76	5.13	6.36	4.97	5.60	4.50
PSS-10	18.88	6.65	20.88	6.92	20.28	7.08	17.37	6.08	18.17	6.63	18.97	6.47	18.83	6.44	17.75	6.21
IPS	26.56	3.97	27.17	3.68	27.26	4.24	25.75	3.81	26.55	4.05	26.41	4.05	26.50	3.81	26.06	3.72
ISI	8.75	5.93	10.24	6.19	9.53	5.96	6.91	5.57	8.60	6.15	9.22	6.13	8.31	5.72	8.80	5.94
MHC-SF	37.56	13.49	32.64	12.08	34.53	14.17	41.34	12.40	38.61	13.52	38.74	12.71	38.76	13.00	37.98	13.63

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..

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