ANXIETY, DEPRESSION, COPING AND NEEDING HELP AMONG ISRAELI HIGHER EDUCATION STUDENTS DURING OMICRON/COVID-19 WAVE

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Abstract

Students in higher education have faced abrupt changes following the breakout of the COVID-19 pandemic. The fifth wave of the pandemic, also known as "the Omicron wave," created new challenges for students in Israel. The goals of this study are to examine: 1) the level of depression, anxiety, and coping during the progression of the pandemic. 2) whether perceived academic achievements and needing help are good indicators of depression, anxiety, and coping during the pandemic.
The sample included 9,038 students from five research universities in Israel, of which 63.4% were women, 36.0% were men, and 0.6% were other. The median age was 26. The study design was a cross-sectional survey. GAD7 and PHQ-9 measured anxiety and depression, respectively. A one-item self-report question measured the level of coping (on a scale from 1 "not at all" to 10 "to a great extent"). Data collection was carried out through an anonymous online survey from January 30 to April 23, 2022.
A quarter and almost 40% of the participants reported anxiety and depressive symptoms, respectively, within the clinical range. The level of perceived coping was moderate. The rates of anxiety and depression in this wave of the pandemic were higher than in previous one. Lower academic achievements were associated with anxiety and depressive symptoms and lower coping levels. Needing help variables were good predictors of anxiety, depression, and less coping.
In conclusion: the findings indicate that academic achievements were found to be a significant predictor of anxiety, depression, and perceived coping even at this progressive phase of the pandemic. A simple measure of self-reported needing help serves as a good and quick screening indicator for vulnerable groups. The provision of services for higher education students should be an integral part of maintaining and supporting effective academic activity.

Keywords: Omicron/COVID-19 pandemic, higher education, depression, academic achievements, needing help.

1. Introduction

The new variant of the coronavirus, B.1.1.529, known as Omicron, was discovered in Israel on November 26. By mid-December 2021, a fifth wave of COVID-19, also known as the Omicron wave, has been declared (https://www.gov.il/BlobFolder/reports/daily-report-2021226/he/daily-report_daily-report -2021226.pdf). By this time, more than half of the population in Israel was vaccinated by at least two doses, only a few governmental social distancing restrictions (such as indoor masks wearing) were left, and the universities had already returned to teaching in the campuses. Nonetheless, by mid-January 2021, many universities and colleges returned to online teaching following a solid governmental recommendation and deep pressure from the students' union. This study was conducted among research university students in Israel during the Omicron wave and towards its end (by late April 2022).

Previous studies conducted among students in higher education revealed that students are a vulnerable group to depression, anxiety, and other mental health difficulties (Tasso, Hisli Sahin, & San Roman, 2021; Wathelet et al., 2020). They also struggled with the unplanned and rapid transition to online learning (Procentese, Capone, Caso, Donizzetti, & Gatti, 2020). Less is known about more positive aspects of students' mental health, such as their perceived coping with the pandemic, especially in more advanced phases. Moreover, contextual indicators for negative and positive aspects of mental health, such as perceived academic achievements and personal assessment of their needing help, have not been addressed to our best knowledge. Perceived academic achievements have often been acknowledged as an outcome of anxiety and depression in general and during COVID-19 (Giusti et al., 2021). Much less is

known about students' academic achievements and challenges as predictors of their mental health. As for needing help- in times of global crisis such as the COVID-19 pandemic, rapid screening tools are essential to identify and treat vulnerable groups. Preliminary studies conducted by the authors suggest that a higher rate of needing help predicts a higher level of psychological distress and a lower level of perceived coping with the crisis (Schiff, Pat-Horenczyk, & Benbenishty, 2022). In that case, such questions may serve as a preliminary screening tool for mental health difficulties in situations of mass crisis.

2. Objectives

Assess the level of depression, anxiety, and coping during the progression of the pandemic. Habituation theory would predict that depression and anxiety decrease and perceived coping increase along the progression of COVID-19 because individuals adjust to stressors created by the pandemic. In contrast, sensitivity theory would predict that depression and anxiety increase and the level of coping decrease because former stressful events create more vulnerability to further stressful ones (Zagefka, 2022).

Examine whether perceived academic achievements and needing help are good indicators of depression, anxiety, and coping during the pandemic.

3. Methods

3.1. Participants
The study sample size was 9,038 students from five (of 8) research universities in Israel, of which 63.4% were women, 36.0% were men, and 0.6% were other. Arab Israeli students comprised 4.8% of the sample, whereas the majority were Israeli-Jewish students. The median age of the respondents was 26 (Mean=29.03, SD=8.51). Approximately 60% (59.6%) of the students were in undergraduate programs, and the rest were in graduate programs.

3.2. Design
We used a cross-sectional survey research design.

3.3. Data collection
Following ethical approval from the respective universities, we constructed an online questionnaire using the Qualtrics program and delivered it as a link to all students. The dean's office of each university distributed the questionnaire linked in Hebrew to all students in their academic institute via their institutional e-mail addresses. Three reminders were also sent. We first presented informed consent, and only students who marked "agree" were referred to the questionnaire, which was anonymous. Data collection occurred during the Omicron wave of the pandemic in Israel, from January 30, 2022, to March 23, 2023. During that time, Israel enforced facial mask-wearing in public indoor places and highly recommended social distancing. However, no other governmental restrictions were held.

3.4. Measurements
The Generalized Anxiety Disorder-7 measured anxiety (GAD-7; (Spitzer, Kroenke, Williams, & Löwe, 2006) (dependent variable; Cronbach's α = .93). The *Patient Health Questionnaire-9* measured depression (PHQ-9; (Kroenke & Spitzer, 2002; dependent variable; Cronbach's α = .91). A cut off score of 10 was defined as a clinically significant level for both depression and (Rudenstine et al., 2021). *Perceived coping-* similar to the 1-item measure used in Eddy et al. research (Eddy, Herman, & Reinke, 2019), we asked one question that reflects a general assessment of coping with the COVID-19 pandemic (dependent variable): "Please rate yourself on a scale ranging from 1 to 10 regarding how you feel you are coping with the coronavirus pandemic." Rates ranged from 1, "not coping at all in the crisis," to 10, "coping extremely well." *Students' need for help-* similar to our previous studies (Schiff, et al., 2022), we asked one general question: "Following the coronavirus outbreak, some students feel they need help in overcoming these experiences. "Do you feel that you need help?" Response options included 0 (not at all), 1 (maybe a little), and 2 (yes, I need help). We added three more specific questions in areas of needing help: educational, emotional, and financial issues with similar response categories (Cronbach α =.74). *Perceived academic achievements-* we asked one question: During COVID-19, "My academic achievements were good." Responses were recorded on a five-point scale ranging from 1 = *not at all* to 5 = *very much*. *Health Status*(control variables) was measured by: a 1-item self-rated

health (SRH; (DeSalvo et al., 2006) measure with a five-point scale (1 = *poor* to 5 = *excellent*). We included an additional question on the number of times students were infected by the COVID-19 virus, with response categories ranging from 1 "not infected" to 4 "three times or more."

4. Results

Almost a quarter (24.9%) of the students scored at the clinical level for anxiety (score ≥ 10), and almost 40% (38.6%) scored at the clinical level for depression. Compared to previous studies conducted by the authors among students in higher education during different phases of the pandemic, the rates of anxiety and depression in this study (the Omicron wave) were higher than in the previous waves of the pandemic. Specifically, 19.7% and 34.6% of the students experienced anxiety and depression at the clinical level during the second wave of the pandemic in Israel that occurred between June and October 2020. The rates of anxiety and depression two months after the dwindling of the third wave of the pandemic (that occurred between December 2020 and March 2021) were 20.6% and 32.5%, respectively.

Table 1 shows that the level of perceived coping (on a scale from 1 "not at all" to 10 "to a great extent") was moderate (Mean=6.90, SD=2.22) and was similar or lower to the level of perceived coping found by the authors during the second wave of the pandemic (Mean=6.79, SD=2.07) and following the dwindling of the third wave of the pandemic (Mean=7.16, SD=2.04). As for needing help from the university authorities, over 50% (13.9% reported "yes, I need help" and 39.7% reported "perhaps some help") reported needing help in general due to the Omicron virus outbreak. The level of needing help among students who sought help (e.g., were ready to transfer their personal details to the university Dean of students to be approached for assistance) was significantly higher than among those who did not seek help (Mean=4.49, SD=2.05 among help seekers vs. Mean=2.29, SD=2.07 among those who did not seek help. $t(5641)=31.678$, $p<.001$).

Table 1 shows that higher academic achievements were associated with less anxiety and depression and better perceived coping with the virus. Perceived needing help (index of all helping domains indicated above) was strongly positively associated with a higher level of anxiety and depressive symptoms, and negatively associated with the perceived level of coping ($r= -.43$, $p<.001$). These associations are preserved after adjusting for background (gender and age) and health (self-rate and the number of times of COVID-19 infection) characteristics, as shown in Table 2. Specifically, when *anxiety* level served as the predicted variable, the complete model explained 34% of the variance ($F(6,5347=458.73$, $p<.001$). Background (gender and age) and health variables, entered in the first step (not presented in the Table due to lack of space), explained 16% of the variance ($F(4,5349=262.16$, $p<.001$), and perceived academic achievements and needing help, entered in the second step, explained an additional 18% of the variance (F change $(2,5347=712.41$, $p<.001$). Significant direct associations between perceived academic achievement and anxiety symptoms ($β = -.12$, $p<.001$) and between needing help and anxiety symptoms ($β = .39$, $p<.001$) were found. After controlling for background and health characteristics, higher perceived academic achievements were associated with a lower level of anxiety, and a greater needing for help was associated with a higher level of anxiety. Similarly, when the level of *depressive* symptoms served as the predicted variable, the complete model explained 41% of the variance ($F(6,5354=612.12$, $p<.001$). Background and health variables, entered in the first step, explained 20% of the variance ($F(4,5356=323.82$, $p<.001$), and perceived academic achievements and needing help entered in the second step explained an additional 21% of the variance (F change $(2,5354=957.42$, $p<.001$). Significant direct associations between perceived academic achievement and depressive symptoms ($β = -.18$, $p<.001$) and between needing help and depressive symptoms ($β = .40$, $p<.001$) were found. After controlling for background and health characteristics, higher perceived academic achievements were associated with a lower level of depression, and a greater need for help was associated with a higher level of depression. Finally, the complete model for perceived *coping* with the COVID-19 pandemic explained 27% of the variance (F $(6,5354=322.70$, $p<.001$). Background and health variables, entered in the first step, explained 13% of the variance (F $(4,5356=201.60$, $p<.001$), and perceived academic achievements and needing help explained an additional 14% of the variance (F change $(2,5354=491.11$, $p<.001$). Significant direct associations between perceived academic achievement and perceived coping ($β =.18$, $p<.001$) and between needing help and perceived coping were found ($β = -.29$, $p<.001$). After controlling for background and health characteristics, higher perceived academic achievements were associated with greater perceived coping, and greater need for help was associated with worse perceived coping.

5. Discussion

The level of anxiety and depression found in this study was lower than that among university students in Shanghai during the Omicron wave (Yin et al., 2022). The level of anxiety (depression was not measured in that study) in the present study was higher than among individuals in north America and western Europe using the same measurement tool (Shan et l., 2022). The present study findings do not support the habituation theory, as the level of anxiety and depression increased with the progression of the pandemic, and the moderated level of coping has not changed. Thus, our findings suggest that the habituation hypothesis may be a fallacy, as previously found (Zagefka, 2022), and that, like other disasters (Stein et al., 2018), ongoing exposure to global disasters may induce greater vulnerability rather than adjustment.

Perceived poor academic achievements were found to be a significant predictor of anxiety, depression, and lower level of perceived coping. These associations remained true when controlling for gender, age, and health status. Previous studies conducted during COVID-19 revealed that anxiety and depressive symptoms are significant predictor of poor academic achievements (Giusti, et al., 2021). The results of the current study imply that the reverse direction holds true as well: During a time of global stress such as COVID-19, poor academic performance may contribute to a higher level of anxiety and depression, while high academic achievements are good predictors of better perceived coping with the pandemic. These results emphasize the vulnerability of students during the pandemic, who had to rapidly adjust to a completely different learning and social environment (Gonzalez-Ramirez et al., 2021).

Similar to the authors' previous work in a different context (Schiff & Pat-Horenczyk, 2014), perceived needing help was a good indicator of students' psychological distress and less perceived coping with the pandemic even after controlling for background and health factors. Needing help was also associated with seeking help supporting the validity of the former measure.

Study limitations include a cross-sectional design that rules out the prediction of causality. Thus, while needing help and academic achievement may predict mental health distress and less coping, the reverse may also hold true; those who experience greater distress also experience lower academic achievements and feel they need help. Longitudinal research design may respond to the latter alternative interpretation of the study results.

In conclusion, the results point to the vulnerability of students in higher education during the pandemic. Nonetheless, a moderate level of coping was also revealed. The perseverance or even deterioration of psychological distress and perceived coping among a portion of students indicate that their distress will not disappear by itself and that help should be provided to them. A quick screening that includes one question of perceived coping and four simple questions of whether they need help may serve as a preliminary screening tool that can trace the most vulnerable group among higher education students and provide professional support to this group during a massive crisis, and perhaps thereafter.

Table 1. Descriptive Statistics and Pearson Correlations of Main Study Variables.

		Mean	SD	1	2	3	4	5	6	7
1	Anxiety	6.19	5.71	--						
2	Depression	8.88	6.89	.822***	--					
3	Coping	6.90	2.22	-.510***	-.529***	--				
4	Needing help	2.73	2.24	.514***	.554***	-.430***	--			
5	Academic achievement	3.29	1.11	-.316***	-.379***	.328***	-.374***	--		
6	Self-rate health	4.34	0.74	-.347***	-.390***	.326***	-.293***	.196***	--	
7	Infected by COVID-19 (0 to 3 times or more)	1.32	0.64	.008	.030*	-.004	.038**	-.030*	-.079***	--

Note: *$p<.05$ ** $p<.01$ ***$p<.001$; Needing help sum of 4 items (range from 0 to 8). Inter-item reliability 0.74

Table 2. Hierarchical Regression Results Analysis for Anxiety, Depression, and Coping.

	Anxiety			Depression			Coping		
Variable	B	$SE\ B$	β	B	$SE\ B$	β	B	$SE\ B$	β
Step 2 [a]									
Constant	13.066	.579	--	19.518	.671	--	3.697	.240	--
Academic achievements	-.632	.061	-.124***	-1.101	.071	-.177***	.352	.025	.176***
Needing help	.973	.032	.386***	1.224	.037	.397***	-.287	.013	-.290***
R^2	.340***			.407***			.266***		
ΔR^2	.176***			.212***			.135***		

Note: *$p<.05$ ** $p<.01$ ***$p<.001$ a Only step 2 is presented due to space limitations

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