

**Gender Differences in Mental Health during Covid-19 among College Students in Lebanon**

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## ABSTRACT

The COVID-19 pandemic has negatively impacted the mental health of Lebanese students. Different strategies were imposed worldwide to reduce the rapid spread of the virus but these measures created extreme changes in their lifestyle and affected their education. The purpose of this study was to examine the effects of the COVID-19 pandemic on Lebanese students' mental health. Another purpose was to investigate gender differences in the variables examined. The instrument used to collect data was a survey that had for aim to investigate the following: participants' demographics, level of depression, fear of COVID-19, correlation between fear of COVID-19 and mental health, and finally gender differences in mental health and fear of COVID-19. The survey combined items from 2 scales: PHQ-9 and FCV-19S. The sample consisted of 146 males and females who resided and studied in Lebanon during the pandemic. The results were consistent with previous research and showed that the participants had symptoms of depression, ranging from mild to severe. In addition, the results of this study showed that half of the sample had a low level of fear of COVID-19. However, with regards to gender differences in mental health and fear of COVID-19 the results of this study were incompatible with previous research and revealed that there is not a statistically significant difference between men and women scores on depression and fear of COVID-19. Finally, a statistically not significant correlation between level of fear of COVID-19 and depression was found, which does not support the findings in previous research as well. Future studies are needed on larger and more representative samples for generalization of the results and for more solid conclusions.

## **Gender Differences in Mental Health during Covid-19 among College Students in Lebanon**

### **Introduction**

On March 11, 2020, the World Health Organization declared the COVID-19 virus as a global pandemic, affecting 221 countries, with the first being China. Since this virus has been threatening the well-being of human beings, after being transmitted to more than 224 million people worldwide and counting more than 4 million deaths as of September 2021 (WHO, 2021). Its impact on the world is massive, with alarming tolls, severe social repercussions, and far-reaching consequences for the global economy. Different strategies were imposed worldwide to reduce the rapid spread of the virus including social distancing and isolation. These measures created extreme changes in lifestyle as routines have been heavily disrupted. In fact, schools and companies were forced to close which led employees and students to learn from distance or work from home (Jiao et al., 2020). Regarding mental health, these measures culminated in an aggravation of depressive and decrease in the perceived quality of life, associated with feelings of loneliness and perceived social isolation (Nogueira et al., 2021). Moreover, depression and anxiety associated with frustration, boredom, fear, uncertainty, and confusion were expected, and individuals with pre-existing mental illnesses were the one mostly affected (Marques De Miranda, Da Silva Athanasio, Sena Oliveira & Simoes-e-Silva, 2020).

### **Review of the Literature**

#### **Covid-19 Impact on College Students**

University students represent one group of young individuals (aged 18–25) who have been particularly impacted by COVID-19, as most academic institutions had to vacate their

dormitories and transition to online learning (Statistics Canada, 2020). In Lebanon, more than 32 universities were forced to close, leaving students with uncertainty and concerns about their academic future (Ministry of Education and Higher Education, 2015). Indeed, this situation can potentially negatively impact the developmental progress of college students by reducing academic achievements, increasing substance use and poor health behaviors.

Research on the pandemic showed that younger age group and college students had increasing psychological distress compared to the rest of the population (Bou-Hamad, Hoteit, & Harajli, 2021), triggered by the abrupt evacuations of campuses, social isolation, and disruptions in plans of study. These measures put the college students at high risk for negative psychological responses and health behaviors (Cao, Fang, Hou,; Zhai, Du, 2020). Further, research showed an increase in dropout rates and a decline in performance due to the loss of routine and sudden displacement (Halliburton, Hill, Dawson, Hightower & Rueden, 2021). In one study, students reported fearing the loss of their academic privileges (scholarships, financial aid), putting on hold engagements such as internships and losing source of income, which created an overwhelming uncertainty regarding the capability to uphold high GPA scores.

Similar studies showed the negative impact of quarantine and isolation on university students, including problems in sleep patterns, decreased performance in the classroom, as well as a decrease in the student's attention span, in addition to memory problems, learning difficulties and poor decision-making skills (Harrison, Horne, 2021). Even before Covid-19 became a global phenomenon, approximately 35% of college students reported having mental health disorders (Auerbach et al., 2018), including, drug, alcohol, and tobacco use (American College Health Association, 2019). Indeed, young individuals are more worried about their social and psychological well-being and are more adversely affected than older people

(Etheridge & Spantig, 2020). Consequently, they suffered more adverse effects of the quarantine compared to the public (Wathelet et al., 2020). In Addition, risky behavior among college students was observed during the pandemic as many refuses to wear masks and abide by social distancing guidelines as well as, doubts about the efficiency of the vaccines and refusal to be vaccinated were reported among college students (Birmingham et al., 2021). Current studies have found that younger individuals more likely to hold beliefs that the COVID-19 threat is exaggerated, are less likely to agree with the seriousness of the pandemic, are less likely to take preventative actions, and show greater vaccine hesitancy (Romer, Jamieson, 2020).

### **Gender Differences in Perceptions of Covid-19**

Gender also plays a major role in the difference with regards to the perception of Covid-19 impact on well-being. For example, women report more sadness, anxiety, and depression than men (Gao, Ping, & Liu, 2020). Similar results were found associated with the COVID-19 pandemic, during which women reported greater symptoms of psychological distress with regards to the perception of Covid-19 impact on well-being (Kowal et al., 2020). Indeed, women and men do not experience similarly the negative outcome of long confinement, displaying higher levels of fear, frustration, boredom, financial loss and coronavirus-related sleep disorders (Salameh et al., 2020).

Another study also investigated gender differences in topics concerning emotional responses. These results showed that women worried more about their loved ones and had severe health concerns while men were more preoccupied with the effects on the economy and society (Van Der Vegt & Kleinberg, 2020). In addition, research has showed that women experienced more depression while men experienced more anxiety (Vloo et al., 2021). These results are not surprising given that previous findings have revealed that anxiety disorders and

depressive disorders are more frequent in women (Altemus, Sarvaiya, & Neill Epperson, 2014). A study conducted in the UK revealed that the decline in mental wellbeing was twice as large for women as it was for men (Etheridge & Spantig, 2020).

The gender gap can be justified by gender differences in social factors and feelings of loneliness (Liu et al., 2019). Indeed, women had more close friends than men before the pandemic, therefore leading to greater loneliness during the pandemic (Wickens et al., 2021). Thus, loneliness specifically worsens the emotional state in women. Indeed, another study showed that while there were no differences in males living alone or living with other people, females living alone showed significantly higher scores on measures of loneliness than those who lived with other people (García-Fernández, Romero-Ferreiro, Padilla, López-Roldán, Monzó-García, & Rodríguez-Jimenez, 2020). Moreover, the increased workload at home, including domestic chores and caring responsibilities plays a major role in this difference (Giurge, Whillans & Yemiscigil, 2021). Some researchers predict that even when the lockdown is over, the consequences would still be detected months or even years after the pandemic ends (Brooks et al., 2020). Indeed, other studies revealed that being a female was the most potent predictor of PTSD symptoms after pandemics: women had more re-experiencing negative alterations in cognition or mood, and hyperarousal than men (Liu et al., 2020).

However, getting vaccinated results in improved mental health among both gender (Perez-Arce et al., 2021). Therefore, with the increased number of vaccinated people worldwide, it is expected that symptoms of anxiety and depression related to Covid-19 will decrease.

### **Research on Covid-19 in Lebanon**

As for Lebanon, the Covid-19 pandemic could not have come at a worst time. The country is currently facing an unprecedented political and economic crisis and the impact of

COVID-19 is beyond morbidity and mortality. Indeed, the pandemic also affected the health, socioeconomic and educational sectors as well as the psychological well-being of the entire population. Economically, and since the October revolution, more than 700 institutions have closed, and more than 25,000 individuals were unemployed (Aawast, 2020). The bad financial situation, complemented with the pandemic, constitute a high-risk factor for psychological disorders, producing worry and fear among the Lebanese who are not being able to provide for their families (Mihashi et al., 2009). Moreover, the pandemic had significant negative outcomes on the psychological wellbeing of the Lebanese, who have been described as resilient. Yet, high levels of social loneliness were reported since people were deprived from their routines and social activities (Bizri, Khachfe, Fares, & Musharrafieh, 2020).

Another psychological difficulty was the stigma of having the disease leading to the rejection of infected and suspected Covid-19 patients (Abdelhafiz & Alorabi, 2020). The educational system was also one of the most affected sectors during the pandemic. Since the beginning of the lockdown, all schools and universities suspended their in-person operations, forcing students and teachers to interact via online platforms such as Skype, Zoom, and Webex for lectures and exams. However, online learning revealed to have many limitations especially in a country such as Lebanon's, with low internet connectivity, electricity outage, absence of social interaction and lack of training on e-learning training for the instructors (El Abiad, 2021).

Based on a study conducted by Mekdissi, Makdissi, & Moucachar (2021), students reported that online learning has some advantages like flexibility, accessibility and cost efficiency but also many disadvantages like time management, efficiency, and technicality issues. Thus, the pandemic has caused many psychological difficulties among Lebanese students including worries about their academic achievement, their lack of understanding of the scholar

material, and stress in dealing with technological difficulties (Fawaz, Nakhal, & Itani, 2021). Also, students have expressed that the COVID-19 situation is exacerbating their stress as they are dealing already with academic, personal, and financial worries. Finally, at present, with university and school resuming their in-person operations, students, in the same study have reported a decrease in stress, as they have regained better control over their learning although they still don't feel completely safe to socialize with others in fear of infection (Fawaz, Nakhal, & Itani, 2021).

### **Conclusion**

Since the start of the pandemic, all universities have been forced to close and have adopted the use of online learning as their primary mode of instruction. However, this abrupt change in routine has negatively affected the well-being of university students all around the world. In Lebanon, students have been impacted by both the COVID-19 pandemic as well as the political and economic turmoil happening in the country. Moreover, based on international studies, gender differences were found in the impact of COVID-19 with more negative psychological consequences reported by women than men. Thus, the purpose of this study is to examine the effects of the COVID-19 pandemic on Lebanese students' mental health. Another purpose is to investigate gender differences in the variables examined. The hypothesis is that COVID-19 has negative impact on the mental health of Lebanese university students and that there are significant gender differences with females having more severe health symptoms. The null hypothesis is that there is no impact on the mental health of university students in Lebanon and no gender differences between men and women. The variables related to mental health examined in this study include depression and fear of COVID-19.

## **Method**

### **Purpose**

The purpose of this study was to examine the effects of the COVID-19 pandemic on Lebanese students' mental health. Another purpose was to investigate gender differences in the variables examined.

### **Sample**

The sample of this study consisted of 150 Lebanese university students, male and females and from different majors and universities, ranging between the ages of 18 and 25 years old. To participate in the study, all students should have been enrolled at universities across Lebanon during data collection.

### **Instrument**

The instrument used for this study is a questionnaire that includes two different surveys. The Patient Health Questionnaire (PHQ-9) is developed by Kroenke, Spitzer & Williams (2001), assessed depression using the Patient Health Questionnaire (see Appendix A). It consists of nine items that examines the presence and severity of each of the diagnostic criteria for depression during the past two weeks, according to the DSM-IV. An example of one item is "Over the last two weeks, how often have you had little interest or pleasure in doing things?". The second instrument is the Fear of COVID-19 scale (FCV-19S) (see Appendix B), which measures the extent of fear of COVID-19 in adult people (Ahorsu et al., 2020). An example of one item is "it makes me uncomfortable to think about coronavirus-19". In the survey, demographic variables are also assessed including age, gender, and university.

## **Procedure**

The data was collected through an online questionnaire created on Google Forms. It was distributed to all participants through social media platforms and WhatsApp using the snowball sampling technique (Sharma, 2017). Participants were recruited from universities where English is the medium of instruction. Participants were not asked to write their names nor share their emails in order to preserve their anonymity. One challenge encountered was the missing data in some questions that were not answered. However, participants were required to specify their gender, since this variable (gender differences) is investigated in this study. Also, participants were informed of their right to skip any question they do not feel comfortable answering to or withdraw from the study at anytime they wish without any penalty. All data were confidential and were discarded at the completion of the study. The participants were not given an economic incentive. Finally, they were given a consent form to agree on before accessing the survey (see Appendix C).

## **Data analysis**

Data was analyzed using the Statistical Package for Social Sciences (SPSS). The first 9 items of the questionnaire, that assess depression on a 3-point Likert scale, are scored from 0 (not at all) to 3 (nearly every day). Higher scores indicate higher levels of depression (Kroenke, Spitzer & Williams, 2001). Each participant received a total score that assessed his/her level of depression, ranging between 0 and 27. Scores from 1 through 4 indicate minimal depression; scores from 5 through 9 indicate mild depression, scores from 10 through 14 indicate moderate depression; scores from 15 through 19 indicate moderately severe depression and scores from 20 through 27 indicate severe depression.

The second instrument, which includes 7 items, is scored on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). A total score is calculated for each participant. Participants' scores range between 7 and 35. The higher the score, the greater the fear of COVID-19 among the participants, with a cutoff point score of 16.5. Also, gender differences were measured using ANOVA to determine whether a statistically significant gender gap exists between the scores of males and females on measures of depression and fear of Covid-19.

### **Ethical considerations**

This study followed the guidelines of ethical research. No names were mentioned in the study, and all participants remained anonymous. In addition, before gathering the data collection, an IRB approval was secured on the 20<sup>th</sup> of October 2021 to ensure that all the appropriate steps were taken to protect the rights and welfare of humans participating in the study (See appendix D).

## **Results**

In this section, the results of the study are presented, starting with the participants' demographics, followed by levels of depression, fear of COVID-19 and gender differences in mental health and fear of COVID-19.

### **Participants' Demographics**

The sample who agreed to participate in this study consisted of 49 male subjects (33.6%) and 97 female subjects (66.4%). More than half are currently enrolled at the Lebanese American university (56.8%), whereas the rest are studying at the Lebanese University (11.0%), AUB (9.6%) and other universities. Their ages ranged between 18 and 27 years, with 63% of the participants being between 18 and 21 years old ( $M = 1.45$ ,  $SD = 0.64$ ) (see Table 1).

### **Level of Depression**

In this study, the PHQ-9 was used to measure depression and each participants received a total score to assess his/her level of depression, ranging between 0 and 27. The sample's scores ranged from 0 to 26 ( $M = 10.829$ ,  $SD = 5.953$ ). The majority of the sample (36%) had mild depression with scores between 5 and 9, followed by participants who had moderate (24%) symptoms of depression, with score ranging between 10 and 14. Also, 14% of the participants scored between 15 and 19 indicating moderately severe depression and 11% scored between 20 and 27 indicating severe depression. The levels of depression are shown in Table 2. In general, only 12% of the sample reported having no symptoms of depression whereas 88% of the sample reported having symptoms of depression, ranging from mild to severe.

### **Fear of COVID-19**

The second instrument used in this survey is the FCV-19, which measures the extent of fear of COVID-19 in adults. In this study, the scores ranged from 7 to 32 ( $M = 15.801$ ,  $SD = 5.996$ ). More than half of the sample (59%) showed low fear of COVID-19, while 41% of the participants reported greater fear. As per the cutoff scores of the FCV-19, scores higher than 16.5 denote a greater fear of COVID-19 among the participants (see Table 3).

### **Correlation between Fear of COVID-19 and Mental Health**

The result showed that the two variables, fear of COVID-19 and mental health, had a low and positive correlation that was not statistically significant  $r(146) = 0.076$ ,  $p = .181$  (see Table 4). Therefore, the null hypothesis "COVID-19 has no impact on the mental health of university students in Lebanon" could not be rejected.

### **Gender Differences in Mental Health and Fear of COVID-19**

As seen in Table 2, the results for mental health showed that the average female PHQ-9 score ( $M = 10.59$ ,  $SD = 6.08$ ) was almost the same as the male PHQ-9 score ( $M = 10.97$ ,  $SD = 5.34$ ). Also, gender differences in mental health were assessed using ANOVA. Results suggested that there is not a statistically significant difference between men and women scores on depression,  $r(146) = .500$ , with  $p > .05$  (see table 5). Therefore, the null hypothesis “no gender differences regarding levels of depression” could not be rejected.

Moreover, the scores for the second instrument FCV-19S, which measures the extent of fear of COVID-19 are shown in Table 3. The scores for females ( $M = 16.23$ ,  $SD = 6.02$ ), were slightly higher than the males' scores ( $M = 14.77$ ,  $SD = 5.83$ ). However, by using ANOVA, the result showed that this difference was also not statistically significant,  $r(146) = .219$ ,  $p > .05$  (see Table 6). Consequently, the null hypothesis “no gender differences regarding fear of COVID-19” could not be rejected.

### **Discussion**

The results of this study showed that participants had mild to severe levels of depression. This finding is in accordance with research conducted previously. Indeed, as cited in Fawaz, Nakhal, & Itani (2021), the pandemic has caused many psychological difficulties among Lebanese students by increasing their stress, and consequently their level of depression. Indeed, university students had an increasing psychological distress with more than half of the sample suffering from moderate to severe depression.

In addition, the results of this study showed that half of the sample had lower level of fear of COVID-19. It might be explained by the increased number of vaccinated people worldwide and more lenient regulations used in the country. Further research will need to clarify this issue in order to identify the factors that differentiate students with low and high fear of COVID-19.

Accordingly, the results of this study revealed a low but statistically not significant correlation between the level of fear of COVID-19 and depression in a sample of university students who resided in Lebanon during the COVID-19 pandemic, which does not support the findings in the literature. One possible explanation is that students might be more impacted by the country's economic and social situation than the pandemic (Bizri et al., 2020). Another explanation might be that most of the sample had mild depression so their level of fear of COVID-19 was low.

Lastly, the results of this study regarding gender differences in mental health and fear of COVID-19 were incompatible with the research found in the literature. Indeed, depression scores for men and women were not significantly different which does not support the literature that women suffer from this depression more than men. Also, although women scored slightly higher levels of fear of COVID-19 in this study, the difference in results was not significant to validate the literature that women reported greater symptoms of psychological distress with regards to the perception of Covid-19 (as cited in Kowal et al., 2020). One explanation might be that college students, in general, tend to be more carefree than older population thus have lower level of fear of COVID-19.

### **Limitations**

The following are the limitations of this study. The majority of the sample was taken from private universities in Lebanon, such as the Lebanese American University and the American University of Beirut. Although these universities included the largest population of students in Lebanon, however the majority of the students are either supported by financial aid or come from middle to high class. Still, given that that these university are in the center of Beirut

and teach more than 16,000 students, the sample is a good representative of Lebanese college students as a whole.

Another limitation is the uneven number of females and males, with women representing more than 60% of the sample. With this uneven number of males and females, the results might have been biased.

Moreover, individual differences in relation to fear of COVID-19 scale were not considered in the study. According to Di Crosta et al. (2020), individual differences may impact the scores, such as socio-economic status, psychological status, living arrangement and others.

In addition, no relationship and no gender differences were found between fear of COVID-19 and Mental health. The primary expectation was that gender differences would have been significant. However, the results did not show this variance, hence further research is needed to clarify this issue.

Finally, this study focuses on the relationship between fear of COVID-19 and the mental health of a sample residing in Lebanon, but the results might be affected by other confounding variables that were not directly examined, such as the economic crisis and exposure to the August 4 explosion. Consequently, future research should investigate these variables in order to have a detailed depiction of Lebanese students' mental health.

### **Recommendations**

In future research, a larger sample, that includes a balanced number of female and male should be investigated for more accurate results.

Also, questions about living arrangements, economic status and psychological factors should be added to the questionnaire in order to identify individual differences in order to reveal connections between individual differences and mental health.

Similarly, instruments that measure the general mental health of participants, such as mental disorders, should be used in future research.

Finally, since 25% of the Lebanese population and 70% of LAU students are vaccinated today and life is almost back to normal, it is crucial to assess the adaptation of college students to the 'new norm' by measuring their current mental health status (Covidvax,2021).

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**Tables**

Table 1.  
*Participants' Demographics*

		Frequency	Percentage
Gender	Female	97	66.4
	Male	49	33.6
Age	Between 18 and 21 years old	92	63.0
	Between 22 and 25 years old	42	28.8
	Other	12	8.2
University	LAU	83	56.8
	AUB	14	9.6
	NDU	11	7.5
	LU	16	11.0
	BAU	1	.7
	AUST	2	1.4
	LIU	2	1.4
	USJ	7	4.8
	USEK	3	2.1
	MUBS	1	.7
	ESA	1	.7
	Sagesse	3	2.1
	ULS	1	.7
	University of Balamand	1	.7
Total		146	100.0

Table 2.

*Levels of Depression among participants*

		Gender			
		Male	Female	Total	
Depression	Minimal	Frequency	4	14	18
		Percentage	22	78	100
	Mild	Frequency	18	36	54
		Percentage	33	67	100
	Moderate	Frequency	14	22	36
		Percentage	39	61	100
	Moderately severe	Frequency	6	14	21
		Percentage	21	71	100
	Severe	Frequency	7	11	16
		Percentage	39	61	100
Total		Frequency	49	97	146
		Percentage	32	67	100

Table 3.

*The Fear of COVID-19 among participants*

			Gender		Total
			Male	Female	
Fear of COVID-19	Low	Frequency	31	55	86
		Percentage	36	64	100
	High	Frequency	18	43	61
		Percentage	30	70	100
Total	Frequency		49	97	146
	Percentage		32	67	100

Table 4.

*The correlation of Fear of COVID-19 and mental health results*

		PHQALL	FCVALL
Spearman's rho			
PHQALL	Correlation	1.000	.076
	Sig. (1-tailed)	.	.181
	N	146	146
FCVALL	Correlation	.076	1.000
	Sig. (1-tailed)	.181	
	N	146	146

Table 5.

*Gender Differences in mental health using ANOVA*

PHQALL	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	16.317	1	16.317	.457	.500
Within Groups	5145.662	144	35.734		
Total	5161.979	145			

Table 6.

*Gender Differences in Fear of COVID-19 using ANOVA*

FCVALL	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	53.130	1	53.130	1.527	.219
Within Groups	5010.952	144	34.798		
Total	5064.082	145			

**Appendix A**

**PATIENT HEALTH QUESTIONNAIRE (PHQ-9)**

**ID #:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

Over the last 2 weeks, how often have you been bothered by any of the following problems?  
(use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite —being so figety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3

add columns  +  +

(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card). TOTAL:

10. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?	Not difficult at all	_____
	Somewhat difficult	_____
	Very difficult	_____
	Extremely difficult	_____

## Appendix B

### *Fear of COVID-19 Scale*

Please respond to each item by ticking (✓) one of the five (5) responses that reflects how you feel, think or act toward COVID-19.

Fear of COVID-19 Items		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I am most afraid of Corona					
2	It makes me uncomfortable to think about Corona					
3	My hands become clammy when I think about Corona					
4	I am afraid of losing my life because of Corona					
5	When I watch news and stories about Corona on social media, I become nervous or anxious.					
6	I cannot sleep because I'm worrying about getting Corona.					
7	My heart races or palpitates when I think about getting Corona.					

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## Appendix C

### Consent to participate in a Survey

*I would like to invite you to participate in a research project. You are being asked to complete a short survey. We are students at the Lebanese American University. we would appreciate it if you can answer the following questions as part of our Senior Study. This survey aims to investigate the impact of covid-19 on Lebanese college student's wellbeing.*

*The information you provide will be used to enhance and improve our understanding of the impact of covid-19 on college student's wellbeing. Completing the survey will take 5 to 10 minutes of your time.*

*By continuing with the survey, you agree with the following statements:*

1. *We have been given sufficient information about this research project.*
2. *We understand that my answers will not be released to anyone, and our identities will remain anonymous. Our name will not be written on the questionnaire nor be kept in any other records.*
3. *We understand that all responses we provide for this study will remain confidential. **When the results of the study are reported, we will not be identified by name or any other information that could be used to infer my identity.** Only researchers will have access to view any data collected during this research however data cannot be linked to me.*
4. *We understand that we may withdraw from this research any time we wish and that we have the right to skip any question we don't want to answer.*
5. *We understand that my refusal to participate will not result in any penalty or loss of benefits to which we otherwise are entitled to.*
6. *We have been informed that the research abides by all commonly acknowledged ethical codes and that the research project has been reviewed and approved by the Institutional Review Board at the Lebanese American University*
7. *We understand that if I have any additional questions, I can ask the research team listed below.*
8. *We have read and understood all statements on this form.*
9. *We both voluntarily agree to take part in this research project by answering the research questions.*

*If you have any questions, you may contact:*

<i>Names (PI)</i>	<i>Phone number</i>	<i>Email address</i>
<i>Sarah Rizk</i>	<i>70213322</i>	<i><a href="mailto:Sarah.rizk@lau.edu">Sarah.rizk@lau.edu</a></i>
<i>Nour Harb</i>	<i>03000408</i>	<i><a href="mailto:Nour.harb01@lau.edu">Nour.harb01@lau.edu</a></i>

*If you have any questions about your rights as a participant in this study, or you want to talk to someone outside the research, please contact the:*

*IRB Office,  
Lebanese American University  
3<sup>rd</sup> Floor, Dorm A, Byblos Campus  
Tel: 00 961 1 786456 ext. (2546)*

## Appendix D



لجنة الأخلاقيات

## NOTICE OF IRB EXEMPTION DETERMINATION

**To:** Ms. Sarah Rizk – Ms. Nour Harb  
Dr. Ketty Sarouphim McGill  
School of Arts & Sciences

**APPROVAL ISSUED:** 20 October 2021  
**EXPIRATION DATE:** 20 October 2023  
**REVIEW TYPE:** EXEMPT CATEGORY B

**Date:** October 20, 2021

**RE:** **IRB #:** LAU.SAS.KS2.20/Oct/2021

**Protocol Title:** Gender Differences in Mental Health during Covid-19 among College Students in Lebanon

Your application for the above referenced research project has been reviewed by the Lebanese American University, Institutional Review Board (LAU IRB). This research project qualifies as exempt under the category noted in the Review Type

This notice is limited to the activities described in the Protocol Exempt Application and all submitted documents listed on page 2 of this letter. **Final reviewed consent documents or recruitment materials and data collection tools released with this notice are part of this determination and must be used in this research project.**

## CONDITIONS FOR ALL LAU NOTICE OF IRB EXEMPTION DETERMINATION

**LAU RESEARCH POLICIES:** All individuals engaged in the research project must adhere to the approved protocol and all applicable LAU IRB Research Policies. **PARTICIPANTS** must **NOT** be involved in any research related activity prior to IRB notice date or after the expiration date.

**EXEMPT CATEGORIES:** Activities that are exempt from IRB review are not exempt from IRB ethical review and the necessity for ethical conduct.

**PROTOCOL EXPIRATION:** The LAU IRB notice expiry date for studies that fall under Exemption is 2 years after this notice, as noted above. If the study will continue beyond this date, a request for an extension must be submitted at least 2 weeks prior to the Expiry date.

**MODIFICATIONS AND AMENDMENTS:** Certain changes may change the review criteria and disqualify the research from exemption status; therefore, any proposed changes to the previously IRB reviewed exempt study must be reviewed and cleared by the IRB before implementation.

**RETENTION:** Study files must be retained for a period of 3 years from the date of project completion.

**IN THE EVENT OF NON-COMPLIANCE WITH ABOVE CONDITIONS, THE PRINCIPAL INVESTIGATOR SHOULD MEET WITH THE REPRESENTATIVES OF THE IRB OFFICE IN ORDER TO RESOLVE SUCH CONDITIONS. IRB CLEARANCE CANNOT BE GRANTED UNTIL NON-COMPLIANT ISSUES HAVE BEEN RESOLVED.**

If you have any questions concerning this information, please contact the IRB office by email at [irb@lau.edu.lb](mailto:irb@lau.edu.lb)

BEIRUT CAMPUS		BYBLOS CAMPUS		NEW YORK OFFICE	
P.O. Box: 13-5053 Chouran	Tel: +961 1 78 64 56	P.O. Box: 36	Tel: +961 9 54 72 62	475 Riverside Drive	Tel: +1 212 870 2592
Beirut 1102 2801	+961 3 60 37 03	Byblos	+961 3 79 13 14	Suite 1846	+1 212 870 2761
Lebanon	Fax: +961 1 86 70 98	Lebanon	Fax: +961 9 54 62 62	New York, NY 10115	Fax: +1 212 870 2762
<a href="http://www.lau.edu.lb">www.lau.edu.lb</a>					



The IRB operates in compliance with the national regulations pertaining to research under the Lebanese Minister of Public Health's Decision No.141 dated 27/1/2016 under LAU IRB Authorization reference 2016/3708, the international guidelines for Good Clinical Practice, the US Office of Human Research Protection (45CFR46) and the Food and Drug Administration (21CFR56). LAU IRB U.S. Identifier as an international institution: FWA00014723 and IRB Registration # IRB00006954 LAUIRB#1

**Dr. Joseph Stephan**  
Chair, Institutional Review Board

**DOCUMENTS SUBMITTED:**

IRB Exempt Protocol Application	Received 3 October 2021, amended 20 October 2021
Proposal	Received 3 October 2021
Informed Consent	Received 3 October 2021
Survey	Received 3 October 2021
Link to online survey	Received 3 October 2021, amended 5 & 20 October 2021
<b>IRB Comments sent:</b> 4 October 2021 20 October 2021	<b>PI response to IRB's comments dated:</b> 5 October 2021 20 October 2021
CITI Training – Ketty Sarouphim	Cert. # 1961841 Dated (21 January 2016)
CITI Training – Nour Harb	Cert.# 42408237 Dated (4 May 2021)
CITI Training – Sara Rizk	Cert.# 45464836 Dated (4 October 2021)

