

Stress-induced Cognitive Assessment among University Students during the Pandemic of Corona (COVID 19)

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Abstract

This study aimed at identifying the level of stress-induced cognitive assessment among university students during the pandemic of Corona (COVID-19). The sample of the study consisted of 91 male and female students at Odessa Governmental University who were selected using the available method where the stress-induced cognitive scale was sent to the students by emails. Based on the result of the current study, it seems that the mean of the overall score for the stress-induced cognitive assessment was moderate, and the highest mean was in favor of the field of extreme thought compared to other fields. The findings also revealed differences due to marital status in favor of single students. There were no differences due to gender, although there were differences in the academic level in favor of second-year students relative to other-years students.

Keywords: Stress, induced Cognitive, Students, Pandemic of Corona.

I. Introduction

The Corona pandemic is the cause of general fear, stress, and mental pressure among people. The mental health indicated, during Corona pandemic 2019-2020, that COVID -19, generally, has bad impacts on the mental and psychological health of people around the world (World Health Organization,2020), Coronavirus (COVID -19) causes widespread fear (Wang, et al., 2020).

Quarantine is an often unpleasant experience for those who undergo it, they have to be away from their beloved people, lose freedom. In addition, they sometimes feel bored (Barbisch, et al., 2015). Schools and universities were closed, which means loneliness and isolation, and to maintain social exclusion to stop the spread of infection. Sudden and unexpected isolation and social exclusion can significantly affect the mental health of people for various reasons (Suryadevara, et al., 2020).

Psychological and emotional effect was evident from the start of the Corona (COVID-19) pandemic. The advent and spread of this virus is causing a great deal of fear among people, which resulted in an increase in the degree of fear (Roy et al., 2020), the pandemic of COVID-19 also influenced the education system. As a result of the closure, college and school semesters were delayed, and in addition, most faculties and universities faced the new challenges of virtual learning (Talidong & Toquero, 2020).

Not only has the outbreak caused death because of virus infection, it has also caused unprecedented psychological distress for the Chinese people and the rest of the world (Duan, & Zhu 2020). The continued spread of the virus, strict isolation measures, and delays in starting schools, colleges, and universities across the country are likely to affect university students' mental health. Many reports on the psychological effect of the epidemic on people have been published (Yang et al.;2020., Li et al., 2020). Nevertheless, so far no comprehensive research has been done on the mental health of university students facing the epidemic.

There is no doubt that university students live under these complex and numerous sources of psychological stress which affect their academic success and achievement in one way or another, and that the Corona pandemic has become one of those stresses. University students are known to be among the young people who are most exposed to psychological stress because they face many challenges since they join the university.

On the one hand, they need to adopt with the university life, including the complexities and challenges, and on the other hand, they need to perform the tasks imposed by universities (Al-Ahmad, & Raja, 2009). In their study Riffa, & Al-Hijaya (2008) suggested that the lack of students participation in determining the date of the tests is considered one of the most academic stresses, as there were statistically significant differences in the sources of psychological stress due to the academic level as well as the interaction between gender and academic level and no

significant differences were attributed to the gender variable, Al-Hayani (2012) found that there were statistically significant differences in motivation for achievement attributable to the academic level. The findings of Badawi's study (2002) revealed the significant negative impact of the motivation for achievement on the total score of stresses as the high motivation for achievement among students leads to a decrease in stresses, while Abu Saree (1993) found statistically significant differences in psychological stresses between males and females. Finally, Ashwini, & Barre (2014) reported statistically significant differences in the level of stress among university students as there were significant differences in academic performance between males and females.

II. Problem of the study

The study problem stems from the fact that the most common psychological problems in modern societies are psychological stresses, namely among university students due to the variety of sources of psychological stress. This study is very important since it is an attempt to reveal the level of perceived psychological stress among university students in light of the Corona pandemic and its negative effects on their psychological and physical health, and on their academic compatibility. The study results can be used to help them cope with stressful life events by changing their cognitive assessment for these events and handling them well. The study variables were assumed to create differences between for the level of perceived psychological stresses.

III. Terminology

Perceived psychological stresses:

Abed Al-Majeed and Mahmoud (2005) identified it as the "The degree of the individual response to environmental events or changes in his everyday life, under some under some psychological and physiological effects which may be traumatic. And procedurally it is defined as the degree that the individual obtains on the measurement of perceived psychological stresses.

IV. Method and procedures

Research procedures were identified by determining the population and sample of the study, used instruments, verification procedures of used to check the instruments validity and reliability, and statistical methods applied in the statistical data processing.

Population of the study and its sample:

The study population involved all the students in the Faculty of Psychology and Social Work in Odessa National University. The study sample consisted of (91) male and female students, where the measurement was

distributed via email. Table (1) shows the distribution of the participants within the study sample.

Table 1. Distribution of the participants in the sample of the study due to study variables

Variable	level	n (91)	n%
Marital Status	single	78	85.7
	married	13	14.3
gender	Male	22	24.2
	female	69	75.8
Academic level	first year	13	14.3
	Second Year	16	17.6
	third year	48	52.7
	Fourth year	14	15.4

Instrumentation:

The study utilized a stress-induced cognitive scale (Koh, et al., 2006). The scale consisted of (21) items divided into three fields: Extreme thought, Aggressive-hostile -thought-hostile thought, and Self-depreciative thought. The questionnaire items were evaluated on a 1-5 (from 1=Not at all to 5= Absolutely).

Instrument Validity:

The validity of the instrument was checked using factorial exploratory analysis. The loading factor loading for all items exceeded 0.76 (from 0.66 to 0.86), which implied that these elements were capable of measuring each stress-induced cognitive element in the sampled population.

Instrument Reliability:

Reliability was tested using Cronbach's Alpha that was (0.92), demonstrating excellent reliability, and consistency to achieve the objectives of the study.

Data Analysis:

After verifying the validity and reliability of the study instrument and ensuring its validity for statistical analysis, the means, and standard deviations were extracted for each paragraph of the scale, where in addition to Cronbach Alpha, t-test, One Way ANOVA, the statistical packages (SPSS) were used.

V. Results

Having reviewed the results of the study, the total score, and the level of stress-induced cognitive assessment among university students was during Corona pandemic (COVID 19).

Table 2. Means and standard deviations of stress-induced cognitive assessment among university students during the Corona pandemic (COVID 19).

Field	n	Mean	SD
Extreme thought	91	2.13	.79
Aggressive-hostile thought	91	1.60	.82
Self-depreciative thought	91	1.77	.86
Total	91	1.89	.73

Table (2) indicates that the mean of the total score for the stress-induced cognitive assessment was moderate as (SD = .73; M = 1.89), and that the maximum mean was in favor of the extreme thought field as the values of the means and the standard deviations were (SD = .79; M = 2.13) compared to other fields.

Table (3). T-test for the differences in stress-induced cognitive assessment among university students due to the marital status variable during the Corona pandemic COVID 19.

Field	Marital Status	n	M.	SD	T value	P value
Extreme thought	single	78	2.13	.81	-.08	.93
	married	13	2.15	.71		
Aggressive-hostile thought	single	78	1.63	.88	2.10	.03
	married	13	1.38	.24		
Self-depreciative thought	single	78	1.76	.91	-.44	.66
	married	13	1.83	.45		
Total	single	78	1.89	.77	.08	.93
	married	13	1.88	.46		

Table (3) shows that there were no statistically significant differences in the level of stress-induced cognitive assessment among university students during Corona pandemic (COVID 19) in favor of single marital status (M = 1.89; SD = .77) compared to married (M = 1.88; SD = .46). The values for T- test and “p” were (T = .08; P = .93). Whereas there were statically significant differences in the field of Aggressive-hostile thought in favor of single marital status (M = 1.63; SD = .88) compared to married (M = 1.38, SD = .24).

Table 4. T-test scores for the differences in stress-induced cognitive assessment among university students due to the gender variable during the Corona pandemic (COVID 19).

Field	Gender	n	M	SD	T	P
					value	value
Extreme thought	Male	22	2.06	.60	-.62	.53
	female	69	2.16	.85		
Aggressive-hostile thought	Male	22	1.70	.72	.73	.46
	female	69	1.56	.85		
Self-depreciative thought	Male	22	1.74	.70	-.21	.83
	female	69	1.78	.91		
Total	Male	22	1.87	.57	-.21	.83
	female	69	1.90	.78		

Table (4) indicates that there were no statistically significant differences in the level of stress-induced cognitive assessment among university students due to gender, during Corona pandemic (COVID 19), in favor of males (M = 1.87; SD = .57) compared to females (M = 1.90; SD = .78). the values for T- test and “p” were (T = -.21, P, .83).

Table 5. Results of One Way Anova analysis of variance for the differences due to the academic level variable.

Field	Academic level	n	M.	SD	F	P
					Extreme thought	first year
	Second Year	16	2.59	.87		
	third year	48	2.06	.79		
Aggressive-hostile thought	Fourth year	14	1.76	.53	1.37	.25
	first year	13	1.57	.48		
	Second Year	16	1.96	1.12		
Self-depreciative thought	third year	48	1.53	.79	2.49	.06
	Fourth year	14	1.42	.76		
	first year	13	1.78	.50		
Total	Second Year	16	2.25	1.24	3.15	.02
	third year	48	1.69	.82		
	Fourth year	14	1.47	.50		
	first year	13	1.94	.55		

Second Year	16	2.34	.93
third year	48	1.82	.72
Fourth year	14	1.59	.45

Table (5) reveals statistically significant differences in the level of stress-induced cognitive assessment among university students due to the academic level during Corona pandemic (COVID 19) in favor of second-year students ($M = 2.34$; $SD = .93$) compared to the students of other years. The variance value of One Way Anova analysis of was ($F = 3.15$; $P = .02$).

VI. Discussion

The findings of the study showed that the level of stress-induced cognitive assessment was moderate, although it exceeded the highest mean for extreme thought field. We assumed that the result of the Corona pandemic was due the uncertainty of the effects of the virus. For months, we were worried about the continuity and nature of its impact on the future of students. The findings also revealed differences in psychological stress-induced cognitive assessment for the marital status variable in the field of Aggressive-hostile thought in favor of single students relative to married ones. These differences exist in the means between married and single students in terms of using resistance strategies, where the married students tend to cope with stress-induced cognitive assessment by looking for a social supporter, usually the mate. At the other hand, we see that single students are well aware of stress, but their use of strategies of emotion and avoidance is indicative of their poor dealing with stress. There were no differences in stress-induced cognitive assessment due to the gender variable. This finding was consistent with Riffa, & Al-Hijaya (2008), but it was inconsistent with Abu Saree (1993) and Ashwini, & Barre (2014), which indicated that there were statistically significant differences attributed to the gender variable. This is an indication to the convergence of the ability and skill of both sexes in dealing with stress-induced cognitive assessment, accepting reality, and the ability to deal with problems and solve them. Perhaps this matter is due to the educational and guidance programs that the Odessa State University Administration in Ukraine has carried out through the formation of a number of committees to follow up students from time to time, with the aim of reducing their burden and improving their skills in dealing with all circumstances and situations that have impact on their understanding for psychological stress that they face. The findings revealed differences in stress-induced cognitive assessment due to the academic level in the field of extreme thought in favor of second-year students

compared to other years. This finding was consistent with Riffa, & Al-Hijaya (2008) and Al-Hayani (2012), which showed differences in the academic level in psychological stress. This is due to the fact that second-year students feel they are going through a critical period, as they are expected to increase their GPA, which is very difficult to achieve later, in addition to other factors, such as starting to worry about the current situation of the Corona pandemic, which is extra psychological stress on students relative to first-year students who have not fully enrolled in university life.

VII. Conclusions

The findings of this study indicated that the Corona pandemic is a key cause of the common fear, stress, and psychological distress among people, namely students, as well as increasing fear and uncertainty as a result of the quarantine, where the students face difficult situation when they need to organize their learning despite the problems caused by Corona. The findings also revealed that the mean of the overall score for the measurement of stress-induced cognitive assessment was moderate, but showed that the highest mean was in favor of the field of extreme thought relative to other fields. The study found statistically significant differences in stress-induced cognitive assessment among university students due to the marital status in favor of single students, and academic level during the Corona pandemic (COVID 19) in favor of second-year students compared to other years. It is important to develop guidance programs to enhance students' performance in facing their stress-induced cognitive assessment.

Conflict of interest: The authors declare no conflict of interest.

REFERENCES

- [1] Abed Al-Majeed, M. & Al-Farahati, M. (2005). "The Mediating Role of Distorted Knowledge in the Relationship between Psychological Stress and Depression among a Sample of University Students", *Journal of the Faculty of Education in Mansoura*, No. (57), 303 - 333.
- [2] Abu Saree, R. (1993). "Psychological Stress and its Relationship to Harmony among University Students", *Journal of the College of Education*. 4 (9), 9-31.
- [3] Al-Ahmad, A. & Raja, M. (2009). "Methods of Dealing with Psychological Stress among University Young Students", *Journal of Educational and Psychological Sciences*, 10 (1), 13-37.
- [4] Al-Hayani, S. (2012). "Future Concern and its Relationship to the Motivation for Achievement and Psychological Stress of a Group of female students from Umm Al-Qura University". Unpublished Master Thesis, College of Arts and Administrative Sciences, Umm Al-Qura University, Saudi Arabia.
- [5] Ashwini, R., & Barre, V. P. (2014). "Stress and Adjustment among College Students in Relation to their Academic Performance". *Indian Journal of Health and Wellbeing*, 5(3),

- 288-292.
http://www.iahaw.com/index.php/home/journal_detail/19#list
- [6] Badawi, Z. (2002). "The Psychological Model of Relationships between Extroversion - Neuroticism, the Socio-economic Level", Motivation for Achievement, and Academic Stress on University Students, *Journal of the College of Education*. 3 (26), 11-64.
- [7] Barbisch, D., Koenig, K. L., & Shih, F. Y. (2015). "Is there a case for quarantine? Perspectives from SARS to Ebola". *Disaster Medicine and Public Health* Preparedness, 9(5), 547-553. <https://doi.org/10.1017/dmp.2015.38>.
- [8] Duan, L., & Zhu, G. (2020). "Psychological interventions for people affected by the COVID-19 epidemic". *The Lancet Psychiatry*, 7(4), 300-302. [https://doi.org/10.1016/S2215-0366\(20\)30073-0](https://doi.org/10.1016/S2215-0366(20)30073-0).
- [9] Koh, K., Park, J., & Cho, S. (2006). "Development of the stress-induced Cognitive scale". *Yonsei medical journal*, 47(3), 384-392. <https://doi.org/10.3349/ymj.2006.47.3.384>.
- [10] Li, S. W., Wang, Y., Yang, Y. Y., Lei, X. M., & Yang, Y. F. (2020). "Analysis of Influencing Factors of Anxiety and Emotional Disorders in Children and Adolescents during home Quarantine during the epidemic of novel coronavirus pneumonia". *Chinese Journal of Child Health*, 28(3), 1-9. Google Scholar].
- [11] Riffa, A. & Al-Hijaya, S. (2008). "Sources of Psychological Stress among Tafila Technical University Students", *Journal of Educational Sciences*. 16 (2), 116-143.
- [12] Roy, D., Tripathy, S., Kar, S., Sharma, N., Verma, S., & Kaushal, V. (2020). Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 Pandemic. *Asian Journal of Psychiatry*, 51, 102083-102087. <https://doi.org/10.1016/j.ajp.2020.102083>.
- [13] Suryadevara, V., Adusumalli, C., Adusumilli, P., Chalasani, S., & Radhakrishnan, R. (2020). "Mental Health Status among the South Indian Pharmacy Students during Covid-19 Pandemic Quarantine" Period: A Cross-Sectional Study. *medRxiv*. <https://doi.org/10.1101/2020.05.08.20093708>.
- [14] Talidong, K., & Toquero, C. (2020). "Philippine teachers' practices to deal with anxiety amid COVID-19". *Journal of Loss and Trauma*. Advance online publication. <https://doi.org/10.1080/15325024.2020.1759225>.
- [15] Wang, C., Horby, P., Hayden, F., & Gao, G. (2020). "A novel coronavirus outbreak of global health concern". *The Lancet*, 395(10223), 470-473. [https://doi.org/10.1016/S0140-6736\(20\)30185-9](https://doi.org/10.1016/S0140-6736(20)30185-9).
- [16] World Health Organization. (2020). "Mental health and psychosocial considerations during the COVID-19 outbreak", 18 March 2020 (No. WHO/2019-nCoV/Mental Health /2020.1)". World Health Organization. <https://2u.pw/IA4gr>.
- [17] Yang, Y., Li, W., Zhang, Q., Zhang, L., Cheung, T., & Xiang, Y. T. (2020). "Mental health services for older adults in China during the COVID-19 outbreak". *The Lancet Psychiatry*, 7(4), e19.
- [18] Shaina Dutta, Sourya Acharya, Samarth Shukla, Neema Achary "COVID-19 Pandemic- Revisiting the Myths" *SSRG International Journal of Medical Science (SSRG-IJMS) – Volume 7 Issue 5 – May 2020*.