Macrothink Institute™

Journal of Studies in Education
ISSN 2162-6952
2022, Vol. 12, No. 2

# The Impact of the Spread of COVID-19 on Jordanian University Students from the Students' Perspectives

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Received: March 7, 2022 Accepted: April 24, 2021 Published: May 5, 2022

doi:10.5296/jse.v12i2.19774 URL: https://doi.org/10.5296/jse.v12i2.19774

**Abstract**

This study aimed at determining the impact of the novel COVID-19 disease on Jordanian university students, from their own perspectives, and exploring if there were statistically significant differences in this impact due to the following variables: university, gender, faculty, age, residence, birth order in family, and education level.

The study adopted the descriptive survey approach. The data was collected through a questionnaire of which the validity and reliability were proven. The convenience sample comprised 3269 students from among 326910 students that formed the survey population.

The results revealed that the degree of the impact of COVID-19 on Jordanian universities' students, from their own perspectives, was high. The degree of the psychological and social impact was medium, whereas the degree of the economic, and educational impact was high. The results revealed that there were statistically significant differences in the impact due to various factors: 1) type of university, where students in private universities were more impacted; 2) gender, where females were more impacted; 3) faculty, where humanities students were more impacted; 4) residence, where camp residents were more impacted; and 5) education level, where bachelor's degree holders were more impacted.

In the light of the results of the study, the researchers present some recommendations to alleviate the negative impact of COVID-19 on Jordanian universities' students.

**Keywords**: impact, spread, pandemic, COVID-19, Jordanian university students.

*This research was funded by the Abdul Hameed Shoman Foundation, Amman, Jordan*

## 1. Introduction

The outbreak of the novel COVID-19 disease was first identified in Wuhan, China, in December 2019. A worldwide epidemic was declared by the World Health Organization on March 11th, 2020. Around 4.63 million cases of the pandemic were documented in 188 countries and territories, with an estimated 311,000 fatalities; 1.69 million people have recovered. The epidemic has resulted in a worldwide recession that is worse than any since the Great Depression.

Schools, universities, and colleges have closed in 186 countries, affecting approximately 98.5% of the world's student population (Wikimedia Foundation, 2022). The economic results of COVID-19 have been grave and dangerous. The above study showed estimates for 30 affected countries under different scenarios. A moderate scenario would see GDP growth fall between 3 and 6 percent, depending on the country's GDP growth rate. As a consequence, the average 2020 GDP decline for the 30 countries examined, was -2.8%. GDP was expected to collapse by more than 10% in some countries, while it was expected to fall by more than 15% in others. According to the findings, the global economy lost 2.5%-3% of its annual output every month (Fernandes, 2020).

Another study found that because of the global recession, the physical distance and quarantine precautions necessary to protect lives and limit the virus's spread had led to a decline into poverty (*The impact of covid-19 on children - united nations*, n.d.). An estimated 195 million full-time workers were affected by the COVID-19 crisis in the second half of 2020, according to the International Labor Organization (ILO). The final rise in unemployment around the world in 2020 was thought to be very dependent on what happened in the future and what the government did. Despite the ILO's initial estimate of 25 million, the ultimate figure was likely to be far higher. According to a new report, 1.25 billion individuals were employed in industries that were at high risk of "drastic and disastrous" rises in layoffs and cutbacks in pay and working hours. Many of them were in low-wage, low-skilled positions, making a sudden decrease in income particularly difficult.

As many as two billion people work in the informal sector around the world (mostly in developing countries), and they were especially vulnerable to the effects of poverty (*Covid-19 causes devastating losses in working hours and employment*, 2022). The COVID-19 pandemic had two major impacts on the world economy. As a first step in stopping the spread of the virus, social isolation became the norm, which led to the closure of financial markets, corporate offices, enterprises, and events. The soaring level of uncertainty about how bad the situation could get was a second reason for consumers and investors fleeing to safety in spending and investment (Ozili and Arun, 2020). Kristalina Georgieva and Gita Gopinath, two of the top IMF economists, predicted that the world would go into recession (Ozili, 2020).

Because of COVID-19 outbreak, preliminary estimates of the United Nations Economic and Social Commission for Western Asia suggested that the Arab region could lose $42 billion of GDP and at least 1.7 million jobs in 2020. Moreover, unemployment rate could increase by 1.2 percentage points (Replication-Receiver, 2022). Jordan enforced a

nationwide curfew in mid-March/ 2020 to eliminate COVID-19. The Jordanian economy came to a grinding halt as a result of this policy, which shut down all commercial activity. The closure sent the economy into a tailspin. As a result, Jordanian companies started looking for methods to cut expenses until the economy could function normally again. As a result, 67 percent of Jordanian companies, surveyed by the Centre for Strategic Studies at the University of Jordan said, they were considering laying off some of their employees if the closure lasted longer. Both the closure and foreign travelers' decreased confidence and increased apprehension about going overseas significantly affected tourism and job development, which were the primary sources of economic activity and employment creation (Search ISP, n.d). As a result of fewer jobs and lower oil prices, the country's remittances from Jordanian migrant workers decreased outside. Jordan's GDP was predicted to shrink by 3.5% in 2021 by Eric Le Borgne, an economist at the World Bank (*Coronavirus: Egypt, Lebanon, Jordan suffer economic pain amid falling remittances, n.d.).*

In addition, COVID-19 has had an educational influence on a worldwide scale. There is no parallel in history for the global shutdown of schools, which has been enforced by 188 nations and will impact nearly 1.5 billion children and adolescents. For the first time in the outbreak's history, the decision to close schools was made before any cases of the virus were discovered. Exams in 58 nations and territories were postponed or rescheduled in a total of 11 countries, while several schools throughout the world were put on lockdown (*United Nations fulfilling the promise - thailand.un.org*, n.d.). Because of today's technology, it's hard for younger people to understand how much they learn and how much human capital they lose.

15125 bachelor's degree students from a big Dutch research university took part in a study done by Meeter, Bele, Den Hartgh, Bakker, De Vries, and Plak (2020), during a semester in which the campus was closed and all instruction was conducted online instead of on-site. In addition, they polled 166 students enrolled in the psychology bachelor's degree at the same institution. A study found that students didn't like online education as much as campus-based education. (Nicola et al., 2020).

COVID-19 has also had a negative social effect worldwide. Lockdown and social distancing measures to prevent its spread of the COVID-19 have heightened fears of increasing domestic violence, which includes physical and emotional abuse. For example, a UK-based charity that deals with domestic abuse reported an increase of 25% in calls made to its helpline (Gilchrist, 2020).

In addition, COVID-19 has significantly resulted in a large number of psychological consequences. Li, Wang, Xue, Zhao, and Zhu (2020) explored the impact of COVID-19 on the mental health of people. They sampled and analyzed Weibo posts from 17,865 active Weibo users. Quarantine and social distancing have become commonplace globally as governments make concerted efforts to fight the pandemic. Furthermore, a recent study in The Lancet, a medical journal, notes that quarantine's psychological toll may be high, resulting in anything from insomnia, melancholy, and PTSD to a variety of other mental health issues (PTSD). Mental health problems can get worse when people are in quarantine because of things like anxiety about getting sick, boredom, and not having enough supplies,

as well as financial hardship and social shame (Rebecca, 2020).

Tan et al. (2020) examined the psychological effects of the COVID-19 outbreak on health care workers in Singapore. The results revealed that there was prevalence of depression, stress, anxiety, and PTSD among all health care workers. According to the American Psychological Association (APA), there are a range of emotions people are expected to have as a result of the COVID-19 pandemic such as fear, anxiety, depression, boredom, anger, frustration, and irritability (Gewin, 2021).

According to surveys in the United States and Europe, indicators of burnout have risen sharply in some higher-education institutions over the past year. In a survey of 1,122 faculty members in the United States, about 70 percent of respondents reported that they were worried about the pandemic in 2020, which was more than twice the number of those who said the same in 2019 (32 percent). Moreover, two-thirds of respondents said, they were tired, compared to fewer than one-third who said the same in 2019. Only 12% of those polled said they were enraged in 2019, compared to 35% in 2020 (Gewin, 2021). Emotional depletion and work-related stress or irritation have increased significantly since the beginning of the epidemic, according to a study of 570 full and part-time faculty members at two- and four-year colleges and universities in America. Most people who were asked said that the move to online education was stressful, and more than 40% said that they had thought about quitting their jobs because of the pandemic-related changes (Ao, 2020). Sasangohar, Son, Smith, Wang, and Hegde (2020) investigated the influence of the COVID-19 pandemic on the mental health of college students. According to the findings of a research interview, 138 out of 195 students at a prestigious public university in the United States admitted that the COVID-19 outbreak had increased their fear and anxiety. Many variables contributed to students' increased levels of stress, depression, and anxiety.

There were a lot of people who said they had problems focusing (173/195, 89%), sleep problems (168/195, 86%), less social interaction because of physical distance (167/195, 86%), and more academic concerns (159/195, 82%).

According to Parry (2021), a team of researchers surveyed 3,500 graduate students in different fields at 12 US public universities. Their responses revealed significant evidence of hardship, including worries about food and housing, delays in research, and disruptions to career plans.

Bostan, Erdem, Öztürk, Kılıç, and Yılmaz (2020) conducted a study that aimed at assessing Turkish society's response to the COVID-19 pandemic in terms of sensitivity to the pandemic, protection against the pandemic, and social trust was assessed. According to the findings of the study, individuals were acutely aware of the threat of the pandemic and took every precaution to be safe. In addition, social trust was found to be higher than the national average. It was concluded that COVID-19 has had a significant impact on the Turkish people.

## 2. Statement of the Problem

The COVID-19 pandemic has wreaked havoc on the world causing a health crisis that has had negative social, economic, educational, and psychological effects and a crisis. The

pandemic has taken lives, spread human suffering, upended people's lives, and led to an increase in the prevalence of poverty, inequality, inclusion, discrimination, and unemployment (11).

In this study, we analyze the effects of the pandemic on Jordan. Anders Pedersen, the current president of the United Nations and the humanitarian coordinator in Jordan, has described this as one of the greatest challenges facing humanity (12). The different aspects of the effect of the pandemic in Jordanian society is not very evident and requires more investigation. Thus, this study aims to answer the following two research questions:

- What are the social, economic, educational, psychological effects of the COVID-19 pandemic on Jordanian university students from their own perspectives?

- Are there statistically significant differences ($\alpha$= 0.05) in the students' responses regarding the social, economic, educational, psychological effects of the COVID-19 pandemic on Jordanian university students due to the following variables: University, gender, faculty, age, residence, birth order in family and education level.

## 3. Significance of the Study

Some researchers have called for conducting rapid, rigorous, and urgent studies into the impact of COVID-19 because, as Prof Ed Bullmore said, although pandemic is clearly having a major social and psychological impact, increasing unemployment, separating families and causing major psychological risk factors for anxiety, depression, and self-harm, the research conducted about it so far has been small-scale and fragmented (13).

Despite the catastrophic consequences and grave impact of COVID-19, little research has been conducted on the topic in Jordan. Researchers have not paid sufficient attention to studying the effects of the pandemic. Studying the aftermath of the pandemic may compel policymakers and officials in Jordan to take actionable measures to face it, adopt coping strategies to deal with it, identify mechanisms to reduce its dangers, and conduct risk assessment and risk management studies to evaluate the measures, procedures, decisions, and policies adopted.

## 4. Method

The descriptive survey approach was employed in this study, as it is suitable for the nature of this study.

## 5. Study population and sample

The study population consisted of 326,910 male and female students registered in Jordanian universities, both public and private, during the second semester of the academic year 2019-2020. According to the statistics of the Jordanian Ministry of Higher Education and Scientific Research, 259,861 were in public universities, and 67,049 in private universities. Table (1) shows the distribution of the study population. Due to the circumstances that prevailed while conducting the research and the difficulty of distributing the questionnaire directly to the study sample, the questionnaire was distributed via email, as only

approximately 1% of Jordanian university students responded to the questionnaire, amounting to only 3269 students. The final study sample was selected according to the convenience sampling approach, considering the distribution of students in the study population according to the type of university (government or private). Table (2) presents the distribution of the study sample according to the study variables.

Table 1. Distribution of the study population and its sample from Jordanian university students

| Type of University | Sample | Population |
|---|---|---|
| **Governmental** | 2599 | 259861 |
| **Private** | 670 | 67049 |
| **Total** | 3269 | 326910 |

Table 2 presents the distribution of the study sample according to study variables.

Table 2.

| Variables | Category | Number | Percentage |
|---|---|---|---|
| **University type** | Private | 670 | 20.5% |
| | Governmental | 2599 | 79.5% |
| **Gender** | Male | 1045 | 31.97% |
| | Female | 2224 | 68.03% |
| **Faculty** | Humanities | 1586 | 48.52% |
| | Scientific | 1683 | 51.48% |
| **Age** | 17-20 years old | 1354 | 41.42% |
| | 21-30 years old | 1699 | 51.97% |
| | 31-40 years old | 115 | 3.52% |
| | Over 40 years old | 101 | 3.09% |
| **Residence** | City | 2389 | 73.08% |
| | Village | 704 | 21.54% |
| | Camp | 119 | 3.64% |
| | Desert | 57 | 1.74% |
| Birth order in family | the first | 856 | 26.19% |
| | Second | 796 | 24.35% |
| | Third | 600 | 18.35% |
| | Fourth and over | 1017 | 31.11% |
| **Educational level** | Undergraduate | 3020 | 92.38% |
| | Graduate | 249 | 7.62% |
| **Total** | | 3269 | 100% |

## 6. The Questionnaire

A questionnaire was designed to achieve the study goals and it included two parts: the first

part includes the demographic data in terms of university, gender, school type, age, rank of residence, rank among family members, and educational level. The second part includes 60 items that measure the impact of the spread of the COVID-19 on Jordanian university students; these items were divided into four domains—namely the social, economic, educational, and psychological domain. The response was calculated using a five-point Likert scale (5=very high, 4=high, 3=average, 2=low, and 1=very low).

## 7. Validity and reliability of the Questionnaire

The validity of the questionnaire was measured by 10 experts from Jordanian universities in different specialties. Opinions and suggestions of the experts were taken, and the necessary amendments were made. The reliability of the questionnaire was also verified using Cronbach's alpha, and the findings are presented in Table (4).

Table 4. Reliability coefficients for the study questionnaire and its domain

| Domains | Items | Cronbach Alpha Coefficient |
|---|---|---|
| **Psychological** | 23 | 0.944 |
| **Social** | 26 | 0.954 |
| **Economic** | 7 | 0.894 |
| **Educational** | 4 | 0.895 |

Table 4 presents the reliability of the questionnaire (0.921), which indicates that it is acceptable to conduct the study. The value of the reliability coefficient for the domains ranged between 0.894 and 0.954.

## 8. Findings and Discussion

This section presents the study findings in accordance with the research questions.

**Findings and discussion of Question 1:** What are the social, economic, educational, and psychological impacts of the COVID-19 pandemic on Jordanian university students from their own perspectives?

To answer this question, Mean and standard deviation (S.D.) of the responses of the study sample were calculated, as shown in table (5).

Table 5. Mean, standard deviation, and rank

| Number | Rank | Domains | Mean | S.D. | Impact |
|---|---|---|---|---|---|
| 1 | 3 | Psychological | 3.90 | 0.72 | High |
| 2 | 2 | Social | 3.94 | 0.71 | High |
| 3 | 5 | Economic | 3.89 | 0.81 | High |
| 4 | 4 | Educational | 3.89 | 0.94 | High |
| Overall | | | 3.91 | 0.79 | |

The findings in Table 5 indicate that the impact of the spread of the COVID-19 on Jordanian university students was high, with a Mean of 3.91 and a standard deviation of 0.79. The Mean

score for the domains ranged between 3.89 and 3.94, with the standard deviation ranging between 0.71 and 0.94. The findings related to the impact of the spread of the COVID-19 on Jordanian university students' life explained below:

- Findings and discussion regarding the psychological impact of the spread of the COVID-19on Jordanian university students:

Table 6. The psychological impact of the spread of the COVID-19 on Jordanian university students

| Item | Psychological impact | Mean | S.D. | Impact level | Rank |
|---|---|---|---|---|---|
| 1 | I felt afraid for myself due to the spread of the COVID-19. | 3.81 | 1.08 | High | 16 |
| 2 | I felt fear for my family members due to the spread of the COVID-19. | 4.33 | 0.86 | High | 1 |
| 3 | I changed my daily health habits due to the fear of contracting COVID-19. | 4.04 | 0.98 | High | 6 |
| 4 | I monitored the health habits of my family members due to the fear of contracting COVID-19. | 4.05 | 0.97 | High | 5 |
| 5 | I became more committed to my prayers and religious services due to the COVID-19. | 4.00 | 1.03 | High | 9 |
| 6 | I became more serious about praying to God due to the COVID-19. | 4.11 | 0.97 | High | 4 |
| 7 | My contact with other friends and acquaintances using social media increased due to the spread of the COVID-19. | 3.80 | 1.11 | High | 17 |
| 8 | My online search regarding the ways and Means to prevent COVID-19 increased. | 3.87 | 1.05 | High | 12 |
| 9 | I became more consuming healthy food to boost my immunity and to cope with the COVID-19. | 3.75 | 1.10 | High | 19 |
| 10 | I became more anxious and tense, due to the spread of news of the COVID-19. | 3.79 | 1.07 | High | 18 |
| 11 | I realized the real danger posed by the COVID-19. | 4.18 | 0.89 | High | 2 |

| Item | Psychological impact | Mean | S.D. | Impact level | Rank |
|---|---|---|---|---|---|
| 12 | I began feeling less safe and secure due to the threat of the COVID-19. | 3.63 | 1.09 | High | 21 |
| 13 | The consumption of sanitary materials and sanitizers by me and my family has drastically increased due to fear of contracting COVID-19. | 4.00 | 0.95 | High | 8 |
| 14 | I gave up my close relationships with my family members for fear of the COVID-19. | 3.37 | 1.25 | Average | 23 |
| 15 | I gave up receiving guests and acquaintances for fear of the COVID-19. | 3.99 | 1.04 | High | 10 |
| 16 | My mental state has been negatively affected since hearing about the rapid spread of the COVID-19. | 3.85 | 1.07 | High | 14 |
| 17 | I became more suspicious of everything I touched due to the COVID-19. | 3.89 | 1.06 | High | 11 |
| 18 | I have been avoiding direct contact with family members since the spread of COVID-19. | 3.62 | 1.18 | Average | 22 |
| 19 | I am afraid of banknotes due to the COVID-19. | 3.83 | 1.08 | High | 15 |
| 20 | My awareness of the impact of environmental pollution on our lives has increased after the COVID-19 pandemic. | 4.12 | 0.89 | High | 3 |
| 21 | I have become more sensitive to people sneezing and coughing in front of me. | 4.02 | 1.00 | High | 7 |
| 22 | My sleeping hours have increased since the COVID-19pandemic. | 3.86 | 1.11 | High | 13 |
| 23 | Sometimes I feel fearful when I feel tight in my chest or sneeze. | 3.67 | 1.16 | Average | 20 |
| | Total Mean | 3.90 | 0.72 | High | |

The findings in Table 6 reveal that the spread of the COVID-19 has impacted the psychology of Jordanian university students. This impact ranged from average to high. There were four

items at the average level—items (12, 14, 18, 23) and their Mean ranged between 3.37 and 3.67. The remaining items represented a high level of impact and their Means ranged between (3.75) and (4.33), item (2) "I felt fear for my family members due to the spread of the COVID-19," and was ranked first, with a Mean of (4.33) and a standard deviation of (0.86) and had a high level of impact. In contrast, item (14) "I gave up my intimate relationships with my family members for fear of the COVID-19" was ranked last with a Mean of (3.37), a standard deviation of (1.25), and an average level of impact.

The findings indicate that Jordanian university students suffer from psychological problems resulting from the COVID-19, including fear, anxiety, and tension. The findings also indicate that students did not underestimate by the psychological adverse effects of the COVID-19and were not defeated by it, but rather they had the ability to positively adapt to its psychological impact through various methods such as self-monitoring, modifying healthy habits, using sanitizers, eating healthy food that strengthens immunity, and taking preventive measures, practicing social distancing, resorting to leaning on spirituality and religion for protection, sleeping a lot, and avoiding people who cough or sneeze.

- Findings and discussion regarding the social impact of the spread of the COVID-19on Jordanian university students.

Table 7. Mean, standard deviation, and the rank of the participant responses on the impact of the spread of COVID-19 on social life of Jordanian university students

| Item | Social impact | Mean | S.D. | Impact level | Rank |
|---|---|---|---|---|---|
| 24 | I became more aware of the need to distance myself from others for fear of infection. | 4.13 | 0.90 | High | 6 |
| 25 | I forced myself to isolate myself from others, fearing the COVID-19. | 3.86 | 1.05 | High | 17 |
| 26 | I became careful in my relationship with others for fear of the COVID-19. | 3.96 | 0.98 | High | 12 |
| 27 | I gave up some of my relationship with others for fear of the COVID-19. | 3.64 | 1.18 | Average | 25 |
| 28 | I became more longing for my friends and acquaintances during the quarantine period due to the COVID-19. | 4.24 | 0.93 | High | 3 |
| 29 | My suspicion of the movements of others increased due to the spread of the COVID-19. | 3.69 | 1.11 | High | 23 |
| 30 | I reconsidered the level of my relationships with others due to the COVID-19. | 3.73 | 1.09 | High | 21 |
| 31 | I was bored by the quarantine imposed by the spread of the COVID-19. | 4.20 | 0.99 | High | 5 |
| 32 | Interaction and social communication with my family members decreased due to the COVID-19. | 3.49 | 1.24 | Average | 26 |
| 33 | Sleeping hours increased during home quarantine due to the COVID-19. | 4.20 | 0.95 | High | 4 |

| Item | Social impact | Mean | S.D. | Impact level | Rank |
|---|---|---|---|---|---|
| 34 | New vocabularies were added due to the spread of COVID-19. | 3.87 | 1.05 | High | 16 |
| 35 | I became more careful about how to eat and drink due to the COVID-19. | 3.86 | 1.05 | High | 17 |
| 36 | My family talked about with terms related to death, the afterlife, arithmetic, torment, good health and disease. | 3.68 | 1.12 | High | 24 |
| 37 | The way we express joy and sadness has changed due to the COVID-19. | 3.84 | 1.07 | High | 19 |
| 38 | The level of tension and anxiety among my family members increased due to the news of the spread of the COVID-19. | 3.80 | 1.06 | High | 20 |
| 39 | Due to the COVID-19virus, my social media skills have improved. | 3.89 | 1.04 | High | 15 |
| 40 | My technology skills have improved due to the COVID-19. | 3.93 | 1.03 | High | 13 |
| 41 | The bonds of communication and cooperation between my family members increased due to the spread of news of the COVID-19. | 3.97 | 0.97 | High | 11 |
| 42 | The social cohesion and cohesion among my family members increased during quarantine due to the spread of the COVID-19virus epidemic. | 4.00 | 0.95 | High | 9 |
| 43 | I reduced my movement outside the house due to the spread of COVID-19. | 4.32 | 0.90 | High | 2 |
| 44 | My family members objected to everyone trying to leave the house. | 4.08 | 0.94 | High | 8 |
| 45 | My father had to use his powers to control the movement of family members. | 3.72 | 1.14 | High | 22 |
| 46 | My sense of compassion and tolerance for others has risen since the spread of COVID-19. | 3.99 | 0.98 | High | 10 |
| 47 | I became more appreciative of those who work in social and health services. | 4.34 | 0.86 | High | 1 |
| 48 | I was keen to share news with family members and friends on social media during the pandemic. | 4.11 | 0.96 | High | 7 |
| 49 | I lost my confidence in social media due to the lack of accuracy in the news transmitted through such sources. | 3.89 | 1.00 | High | 14 |
| | Overall Mean | 3.94 | | High | |

The findings in Table 7 show that the spread of the COVID-19 has impacted the social life of Jordanian university students. This impact ranged between average and high levels. Two items were at an average level—that is items 27 and 32, with Means 3.64 and 3.49

respectively; the remaining items revealed a high level of impact, with Means ranging between 3.68 and 4.34. Item (47) "I became more appreciative of those working in social and health services," ranked the highest, with a Mean of (4.34), a standard deviation of (0.86), and a high level of impact. While item (32) "The reduction in interaction and social communication with my family members due to the COVID-19 ranked the lowest, with a Mean of (3.49), a standard deviation (1.24), and indicated average impact.

The findings revealed the presence of both negative and positive impacts of COVID-19 on Jordanian university students. Among the negative impact is boredom, suspicion of others, being wary of others, fear of their potential health danger, being remote and isolated from others, weakening interaction and relationships with others, poor confidence in information presented on social media, increase in staying up late; and the positive social impact of the pandemic includes the an improvement in communication and technological skills, strengthening friendships and family ties, increasing the level of family control, guarding against certain foods, encouraging bonds of cooperation, solidarity, increased tolerance and social volunteering, using new religious and other language vocabulary, and increased use of social media.

- Findings and discussion pertaining to the economic impact of the spread of the COVID-19on Jordanian university students

Table 8. The Mean, standard deviation, rank, and level of economic impact of the spread of the COVID-19 on Jordanian university students

| Item | The domain of economic impacts | Mean | Standard Deviation | Impact level | Rank |
|---|---|---|---|---|---|
| 50 | I became more productive during the quarantine period and the spread of the COVID-19. | 3.75 | 1.11 | High | 7 |
| 51 | My love for giving has increased since the outbreak of the COVID-19. | 3.95 | 0.99 | High | 3 |
| 52 | Some of my consumption habits have changed due to the COVID-19. | 3.95 | 0.97 | High | 2 |
| 53 | My desire to shop and buy goods declined due to the spread of the COVID-19. | 3.92 | 1.05 | High | 5 |
| 54 | I have become more effective in investing my spare time due to the COVID-19. | 3.78 | 1.10 | High | 6 |
| 55 | My ability to control my monthly spending increased due to the Covid-19. | 3.92 | 1.02 | High | 4 |
| 56 | I noticed an increase in economic | 3.96 | 1.01 | High | 1 |

| Item | The domain of economic impacts | Mean | Standard Deviation | Impact level | Rank |
|---|---|---|---|---|---|
| | interdependence among the members of the Jordanian society due to the spread of COVID-19. | | | | |
| | Overall | 3.89 | 0.81 | High | |

The findings in Table 8 show that the economic impact of the spread of the COVID-19 on Jordanian university students' economy was high, as the Mean of the items ranged between (3.75) and (3.96). Item (56) "An increase in economic interdependence among the members of the Jordanian society" with a Mean of (3.96) and standard deviation (1.01), and item (50) "I became more productive during the quarantine period and the spread of the COVID-19with a Mean of (3.75) and standard deviation of (1.11), indicated a high level of impact. Thus, the findings revealed that the spread of COVID-19has affected Jordanian university students, as they were forced to control spending, reduce consumption, increase study production, time investment, economic interdependence, and engage in donation.

- Findings and discussion pertaining to the educational impact of the spread of the COVID-19 on Jordanian university students:

Table 9. The Mean, standard deviation, rank, impact level of the spread of the COVID-19 on the education of Jordanian university students:

| Item | The domain of educational impact | Mean | S.D | Impact Level | Rank |
|---|---|---|---|---|---|
| 57 | I had a strong tendency to shift towards e-learning due to the COVID-19virus. | 3.78 | 1.18 | High | 4 |
| 58 | My skills in using e-learning methods have improved due to the COVID-19virus. | 3.90 | 1.05 | High | 2 |
| 59 | It has become more follow-up to e-learning platforms due to the COVID-19 virus. | 4.02 | 1.02 | High | 1 |
| 60 | My family members have become more receptive to practicing e-learning due to the COVID-19 virus. | 3.87 | 1.09 | High | 3 |
| | Overall | 3.89 | | High | |

The findings in Table 9 reveal that the impact of the spread of the COVID-19on Jordanian university students' education was high, as the Mean of the items ranged between 3.78 and 4.02, where item (59) " It has become more follow-up to e-learning platforms due to the COVID-19 and item (57)" I have a strong tendency to shift towards electronic learning due to the COVID-19scored a Mean of 3.78, and standard deviation of 1.18, and a high level. This result indicates that the shift to online education was the main adaptation mechanism for students, as an alternative to traditional regular education, which could not be continued due to quarantine and social distancing that resulted from the COVID-19.

**Findings and discussion of Question two:** Are there statistically significant differences **(α= 0.05) in the** in the responses of the participants regarding the social, economic, educational,

and psychological effects of the COVID-19 pandemic on Jordanian university students due to the following variables: university, gender, faculty, age, residence, birth order in family, and education level?

To answer this question, the Mean, standard deviation, and multiple variance analysis (Manova) were measured, as presented in Table (11).

Table 11. Means and standard deviations of students' responses regarding the social impacts resulting from the spread of the COVID-19 according to the study variables

| Variables | Descriptive statistics | Psychological domain | Social domain | Economic domain | Educational domain | Resulting Impact (total) |
|---|---|---|---|---|---|---|
| | | 3.97 | 4 | 3.96 | 4.1 | 4.02 |
| Private | Mean | 0.74 | 0.75 | 0.82 | 0.89 | 0.69 |
| | Standard deviation | 3.88 | 3.92 | 3.87 | 3.84 | 3.91 |
| Governmental | Mean | 0.71 | 0.69 | 0.81 | 0.94 | 0.66 |
| | Standard deviation | 3.89 | 3.92 | 3.85 | 3.85 | 3.91 |
| Male | Mean | 0.72 | 0.71 | 0.81 | 0.95 | 0.67 |
| | Standard deviation | 3.9 | 3.95 | 3.91 | 3.91 | 3.95 |
| Female | Mean | 0.72 | 0.7 | 0.81 | 0.93 | 0.67 |
| | Standard deviation | 3.96 | 3.99 | 3.94 | 3.98 | 3.99 |
| Human | Mean | 0.71 | 0.69 | 0.8 | 0.9 | 0.66 |
| | Standard deviation | 3.84 | 3.89 | 3.85 | 3.82 | 3.88 |
| Scientific | Mean | 0.72 | 0.72 | 0.82 | 0.96 | 0.68 |
| | Standard deviation | 3.9 | 3.96 | 3.89 | 3.89 | 3.95 |
| 17-20 years old | Mean | 0.7 | 0.68 | 0.8 | 0.92 | 0.65 |
| | Standard deviation | 3.89 | 3.92 | 3.88 | 3.86 | 3.92 |
| 21-30 years old | Mean | 0.74 | 0.73 | 0.83 | 0.97 | 0.69 |
| | Standard deviation | 3.94 | 4 | 4.01 | 4.21 | 4.02 |
| 31-40 years old | Mean | 0.61 | 0.6 | 0.73 | 0.78 | 0.56 |
| | Standard deviation | 3.88 | 3.92 | 3.93 | 4.12 | 3.94 |
| Over 40 years old | Mean | 0.71 | 0.66 | 0.71 | 0.7 | 0.62 |
| | Standard deviation | 3.85 | 3.9 | 3.85 | 3.86 | 3.9 |

| | | | | | | |
|---|---|---|---|---|---|---|
| City | Mean | 0.72 | 0.71 | 0.82 | 0.95 | 0.67 |
| | | 3.98 | 4.01 | 3.98 | 3.97 | 4.01 |
| Village | Mean | 0.69 | 0.67 | 0.76 | 0.89 | 0.64 |
| | Standard deviation | 4.24 | 4.27 | 4.21 | 4.08 | 4.25 |
| Camp | Mean | 0.67 | 0.63 | 0.78 | 0.93 | 0.62 |
| | Standard deviation | 4.08 | 4.06 | 3.98 | 3.96 | 4.05 |
| Desert | Mean | 0.8 | 0.79 | 0.82 | 0.89 | 0.78 |
| | Standard deviation | 3.9 | 3.95 | 3.87 | 3.87 | 3.94 |
| The first | Mean | 0.75 | 0.73 | 0.84 | 0.96 | 0.69 |
| | Standard deviation | 3.88 | 3.92 | 3.9 | 3.91 | 3.92 |
| The second | Mean | 0.71 | 0.72 | 0.81 | 0.94 | 0.68 |
| | Standard deviation | 3.89 | 3.92 | 3.87 | 3.88 | 3.92 |
| The third | Mean | 0.71 | 0.67 | 0.79 | 0.93 | 0.65 |
| | Standard deviation | 3.91 | 3.96 | 3.92 | 3.91 | 3.95 |
| The fourth or more | Mean | 0.7 | 0.69 | 0.79 | 0.93 | 0.66 |
| | Standard deviation | 3.9 | 3.95 | 3.89 | 3.88 | 3.94 |
| Undergraduate | Mean | 0.72 | 0.71 | 0.81 | 0.94 | 0.67 |
| | Standard deviation | 3.8 | 3.82 | 3.88 | 4.01 | 3.86 |
| Graduate | Mean | 0.71 | 0.65 | 0.8 | 0.86 | 0.62 |
| | Standard deviation | | | | | |

Table 11 presents the apparent differences between the Mean of the responses of Jordanian university students according to the university type, gender, school type, age, place of residence, rank among family members, and educational level. Multiple analysis of variance (MANOVA) was used to reveal the source of the statistical significance of the differences between the Means, as shown in Table (12).

Table 12. Multiple analysis of variance (MANOVA) of the study variables.

| The source of the contrast | Domains of impact due to the spread of the COVID-19 | Sum of squares | Degrees of freedom | Average of squares | "f" values | Significance level |
|---|---|---|---|---|---|---|
| the University | Psychological domain | 5.931 | 1 | 5.931 | 11.747 | 0.001 * |

| | | | | | | |
|---|---|---|---|---|---|---|
| Hotelling | Social domain | 4.111 | 1 | 4.111 | 8.426 | 0.004 * |
| = 11.573 * | Economic domain | 4.048 | 1 | 4.048 | 6.239 | 0.013 * |
| α= 0.000 | Educational domain | 34.957 | 1 | 34.957 | 40.816 | 0.000 * |
| | Resulting impact (total) | 6.401 | 1 | 6.401 | 14.633 | 0.000 * |
| Gender | Psychological domain | 0.029 | 1 | 0.029 | 0.057 | 0.812 |
| Hotelling | The social domain | 0.063 | 1 | 0.063 | 0.129 | 0.72 |
| = 4.321 * | Economic domain | 1.331 | 1 | 1.331 | 2.051 | 0.152 |
| α= 0.001 | Educational domain | 1.934 | 1 | 1.934 | 2.258 | 0.133 |
| | Resulting impact (total) | 0.22 | 1 | 0.22 | 0.503 | 0.478 |
| Faculty | Psychological domain | 13.774 | 1 | 13.774 | 27.281 | 0.000 * |
| Hotelling | The social domain | 8.726 | 1 | 8.726 | 17.887 | 0.000 * |
| = 7.697 * | Economic domain | 4.543 | 1 | 4.543 | 7.002 | 0.008 * |
| α= 0.000 | Educational domain | 16,537 | 1 | 16,537 | 19.308 | 0.000 * |
| | Resulting impact (total) | 9.803 | 1 | 9.803 | 22.411 | 0.000 * |
| Age | Psychological domain | 0.439 | 3 | 0.146 | 0.29 | 0.833 |
| Wilks' Lambda | The social domain | 1.25 | 3 | 0.417 | 0.854 | 0.464 |
| 1.11 | Economic domain | 1.038 | 3 | 0.346 | 0.533 | 0.66 |
| α= 0.340 | Educational domain | 6.526 | 3 | 2.175 | 2.54 | 0.055 |
| | Resulting impact (total) | 1.102 | 3 | 0.367 | 0.84 | 0.472 |
| rank of living | Psychological domain | 24.188 | 3 | 8.063 | 15.969 | 0.000 * |
| Wilks' Lambda | The social domain | 18.022 | 3 | 6.007 | 12.313 | 0.000 * |

| | | | | | | |
|---|---|---|---|---|---|---|
| = 4.549 * | Economic domain | 20.136 | 3 | 6.712 | 10.346 | 0.000 * |
| α= 0.000 | Educational domain | 9.912 | 3 | 3.304 | 3.858 | 0.009 * |
| | Resulting impact (total) | 18.167 | 3 | 6.056 | 13.844 | 0.000 * |
| Arrangement among family members | Psychological domain | 0.95 | 3 | 0.317 | 0.627 | 0.598 |
| Wilks' Lambda | The social domain | 1.276 | 3 | 0.425 | 0.872 | 0.455 |
| 0.854 | Economic domain | 1.013 | 3 | 0.338 | 0.52 | 0.668 |
| α= 0.617 | Educational domain | 0.103 | 3 | 0.034 | 0.04 | 0.989 |
| | Resulting impact (total) | 0.638 | 3 | 0.213 | 0.486 | 0.692 |
| Educational level | Psychological domain | 2.81 | 1 | 2.81 | 5.566 | 0.018 * |
| Hotelling | The social domain | 4.018 | 1 | 4.018 | 8.237 | 0.004 * |
| = 4.910 * | Economic domain | 0.215 | 1 | 0.215 | 0.332 | 0.565 |
| α= 0.000 | Educational domain | 0.81 | 1 | 0.81 | 0.946 | 0.331 |
| | Resulting impact (total) | 2.057 | 1 | 2.057 | 4.702 | 0.030 * |

* Statistical significance (α = 0.05).

Table (12) shows that Hotelling value of the university type variable reached (11.573), which is a statistically significant (α = 0.05). The differences were related to the four domains as well as in the questionnaire, where the "f" values for the differences between the responses of public and private university students were between (6.239) and (40.816), which are statistically significant (α = 0.05) in favour of private university students. This is due to the fact that private university students have more anxiety and tension due to economic considerations in the first place, as they pay high tuition fees from their own personal income and depend only on themselves and their jobs and their jobs.

The findings showed that there were no statistically significant differences (α = 0.05) in the psychological, social, economic, and educational aspects and in the questionnaire as a whole. This is due to the fact that COVID-19 has had a similar impact on male and female students in the social, economic, educational, and psychological domains. They experience the same

levels of anxiety, fear, and sense of danger.

The findings in table (12) indicate that the Hotelling value of the school type variable reached 7.697, which is a statistically significant (α = 0.05). The differences were related to the four domains as well as in the questionnaire as a whole, where the "f" values for the differences between the responses of students in the scientific and humanitarian disciplines were between 6.787 and 27.281, which are statistically significant (α = 0.05) in favour of students of humanities students were more involved in humanitarian issues than science students; this is due to the fact that humanitarian school students involved more than the scientific schools with humanities and related issues. This is part of their fields of studies such as literature, educational sciences, languages, sharia, political science and others, therefore, they are more sensitive and emotionally alert of the impact of the crises on societies.

The findings related to the differences according to the age variable indicated that Wilks' Lambda for the age variable reached 1.110, which is not statistically significant (α ≤ 0.05); this is because the difference the ages of the university students was limited, and they all lived in similar study environments.

The findings related to the differences in the impact of the pandemic according to the age variable indicated that the value of Wilks' Lambda for the place of residence variable reached 4.549, which is a statistically significant value (α = 0.05). These differences were on the four domains, and in the questionnaire as a whole, where the "values for the differences between the responses of the place of residence variable groups on the domains and the questionnaire as a whole ranged between 3.858 and 15.969, which are statistically significant values at the level of (α = 0.05). Scheffe's test was used to reveal the source of the differences due to place of residence, as shown in Table (13):

Table 13. Results of Scheffe test for the post-comparison between the Means in the responses of the study sample regarding the impact of COVID-19 on university students due to place of residence

| Domains | Rank of residence variable | Mean | City | Village | camp | Badia area |
|---|---|---|---|---|---|---|
| | | | 3.85 | 3.98 | 4.24 | 4.08 |
| Psychological domain | City | 3.85 | - | 0.13 | 0.39 * | 0.23 |
| | Village | 3.98 | - | - | 0.26 * | 0.1 |
| | camp | 4.24 | - | - | - | 0.16 |
| The social domain | Rank of residence | Mean | City | Village | camp | Badia area |

| | | | | | | |
|---|---|---|---|---|---|---|
| | variable | | 3.9 | 4.01 | 4.27 | 4.06 |
| | City | 3.9 | - | 0.11 | 0.37 * | 0.16 |
| | Village | 4.01 | - | - | 0.26 * | 0.05 |
| | camp | 4.27 | - | - | - | 0.21 |
| Economic domain | Rank of residence variable | Mean | City | Village | camp | Badia area |
| | | | 3.85 | 3.97 | 4.21 | 3.98 |
| | City | 3.85 | - | 0.12 | 0.36 * | 0.13 |
| | Village | 3.97 | - | - | 0.24 * | 0.01 |
| | camp | 4.21 | - | - | - | 0.23 |
| Educational domain | Rank of residence variable | Mean | City | Village | camp | Badia area |
| | | | 3.86 | 3.97 | 4.08 | 3.96 |
| | City | 3.86 | - | 0.11 | 0.22 * | 0.1 |
| | Village | 3.97 | - | - | 0.11 | 0.01 |
| | camp | 4.08 | - | - | - | 0.12 |
| Questionnaire (total) | Rank of residence variable | Mean | City | Village | camp | Badia area |
| | | | 3.9 | 4.01 | 4.25 | 4.05 |
| | City | 3.9 | - | 0.11 | 0.36 * | 0.16 |
| | Village | 4.01 | - | - | 0.25 * | 0.04 |
| | camp | 4.25 | - | - | - | 0.2 |

Table (13) shows the source of the statistically significant differences of the impact of COVID-19 on Jordanian university students in general and specifically in the social, economic, and psychological domains. On the other hand, the differences among the responses of students of camp residents and students from cities and Villages, are in favour of the responses of students from camps. In addition, the source of the statistically significant differences in the impact of Covid-19 on the students was between the responses of students

from the camps and the responses of students from cities in favour of the responses of students from camps.

The findings related to the differences due to rank among family members indicated that the value of Wilks' Lambda reached (0.854), which is a statistically non-significant, in general and in the four domains; this is due to the fact that students' living in the same families have experienced the same impact of COVID-19, given that all family members suffered and were affected regardless of the order in their of families.

Table (13) presents the Hotelling value of the educational level variable reached 4.910, which is a statistically significant value (α = 0.05). These differences were pertaining to the social and psychological domains as well as on the questionnaire, as "f" value for the differences between the responses of undergraduate and postgraduate students on these two domains and the questionnaire as a whole were (5.566), (8.237), (4.702), respectively. They are statistically significant (α = 0.05) in favour of students with a bachelor's degree. Further, the findings revealed that there were no statistically significant differences (α= 0.05) in the economic, and educational domains; this is due to the fact that undergraduate students have not been exposed to a life of difficulties compared with postgraduate students who are mostly married and have families and responsibilities.

## 9. Recommendations

In light of the findings, the researchers have suggested the following recommendations:

- Launching a psychological support program for Jordanian university students to relieve the anxiety, tension, and fear that have dominated them due to the COVID-19.
- Organizing training courses and workshops to enable students to interact and socialize in exceptional circumstances.
- Improve the social, economic, educational, psychological conditions of camp students.
- Adopting national programs to build and enhance confidence in state institutions by improving the services provided to students and members of society.

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