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Research Article

A Comparative Analysis of Student Satisfaction and Motivation, Academic Performance and Subjective Well-Being Before and During Covid-19 Pandemic

Fatma Mabrouk[1]*

Hiyam Abdulrahim[2]

Sanjeevni Gangwani[3]

Eman Alsmari[2]

[1]*Department of Economics, College of Business and Administration,
Princess Nourah bint Abdulrahman University, P.O. Box 84428,
Riyadh 11671, Saudi Arabia;
Center for Economic and Social Studies and Research,
1003 Tunis, Tunisia;
Bordeaux School of Economics,
33600 Pessac, France*
[2]*Department of Economics, College of Business and Administration,
Princess Nourah bint Abdulrahman University, P.O. Box 84428,
Riyadh 11671, Saudi Arabia*
[3]*Department of Graduate Studies and Scientific Research,
Princess Nourah bint Abdulrahman University, P.O. Box 84428,
Riyadh 11671, Saudi Arabia*
Corresponding Author

Abstract

The Covid-19 pandemic affected Saudi students' subjective well-being in higher education. The paper aims to explore the relationship between the subjective well-being of female students, academic performance, and motivation before and during the Covid-19 pandemic. The current study employs a survey for a sample of 200 female students from different academic majors and levels at a public Saudi university in Riyadh. We apply a comparative analysis using the SPSS 25 version. The results showed that there is a statistically significant difference between the satisfaction of students before and during Covid-19 pandemic. The Covid-19 has a considerable impact on students' academic performance and motivation.

Keywords: Student satisfaction, subjective well-being, academic performance, academic motivation, Covid-19 pandemic

1. Introduction

Education plays an imperative role in people's earning prospects and subjective well-being. World Health Organization (WHO) defines, well-being as: "A state of complete physical, mental, and social wellbeing and not merely the absence of disease. More precisely, Subjective Well-Being (SWB) is the personal perception, experience and satisfaction of positive and negative emotional responses in one's life. SWB is an important element that can adversely affect the academic performance of students. Because when students are happy, they can retain knowledge and information. They become more open to critical thought, reasoning and problem-solving. Hence, a satisfied student can collaborate and build good relationships and deal with both social and academic tasks at university efficiently. University students' academic performance represents the extent to which a student has accomplished specific goals and objectives in the instructional environment of the university. However, the Covid-19 pandemic affected the SWB of students worldwide. The study tries to explain the impact of Covid-19 pandemic on student satisfaction, Subjective well-being, academic performance and academic motivation.

This research will contribute to the literature on SWB, academic performance, and gender in Saudi higher education by using primary and original data. The study will provide an effective assessment and comprehension of the principal factors affecting SWB and academic performance in the context of digital transformation in Saudi higher education, which helps educational decision-makers rely on it. The paper is organized as follows: Section 2 reviews the literature on SWB, academic performance, and academic motivation. Section 3 introduces the data and the methodology, and Section 4 explores the results and presents the discussion. Section 5 concludes.

2. Literature Review

2.1 Concept of SWB

Diener, Lucas, and Oishi, 2002 (page 63), defined subjective well-being as "A person's cognitive and affective evaluations of his or her life as a whole."

1. **Impact of Covid-19 on Student Satisfaction and Student Well Being in Higher Education**

   Mahanta and Aggarwal (2013) found that social support from friends and family affects the student satisfaction of postgraduate university students. Using a sample of 100 postgraduate students from the university, they showed how the feeling that students are loved, cared for, and supported by friends, family members, and others can make an important difference in their overall well-being, especially related to depression and anxiety, marked by a significant difference in the perceived social assistance from friends. **Williams et al. (2017)** examined the predictors of positive well-being, negative mental health and cognitive function. Findings displayed that positive well-being can be predicted by a positive personality, high social support and low stressors, and low negative coping scores. **Aucejo et al. (2020)**, using a poll of 1500 students at one of the largest public universities in the United States, looked at how Covid-19 affected students' expectations and experiences. The authors found negative effects of the pandemic on students' outcomes and expectations and revealed high heterogeneity of the Covid-19 effect due to health and socioeconomic factors. **Arslan et al. (2020)** surveyed 392 Turkish undergraduate students' satisfaction during the Covid-19 pandemic. The authors investigated that student satisfaction is significantly connected to psychological distress, positive mental health, and subjective well-being. **Yang et al.,2020; Giavrimis and Nikolaou, 2020** examined 260 university students' well-being during the pandemic period. The results of the study revealed that positive thinking, resilience and social support lower the negative effect of Covid-19 on subjective well-being. According to the study's findings, having a high level of social capital helps foster the right kinds of

interpersonal relationships, interactions, and students' satisfaction. **Bono et al. (2020)** explored the relationship between stress and SWB during the pandemic and its impact on academic achievement for a sample of urban university students. Results showed that socioeconomic status and parental education were related to the subjective well-being of students. They found that lower parental education negatively impacts SWB. The study also mentions that the new university structure during the Covid-19 pandemic, online accessible interventions aimed at helping students address stress, depression, and well-being. Giavrimis and **Nikolaou (2020)** considered the quantitative design and sample of 260 university students to examine university students' satisfaction during the pandemic period. The results of the study revealed that during the outbreak of the Covid-19 pandemic, high social capital can create the proper conditions for positive social relations and student interactions. Students typically engage more actively in volunteer work, feel more like a part of the academic community, and create feelings of trust. By properly socializing and being included in society, students with a high level of social capital improve the academic environment for all students. This leads to higher student satisfaction. **Genç and Arslan (2021)** analyzed the association between stress due to Covid-19 and SWB among a group of more than 300 young Turkish students. The research contributes to the connection between Covid-19 stress and SWB by arbitrating optimism and hope consequences. Results displayed that Covid-19 stress is indirectly related to subjective well-being through hope and optimism. Having a high level of stress due to Covid-19 is associated with lower optimism and hope, and then low-level subjective well-being. In the same line of thought, **Murphy (2021)** explored the emotional well-being of college students during the Covid-19 pandemic during two specific different periods: January - March 2020 and January - February 2021 through 89 undergraduate Georgia Southern University students. The study found a significant percentage of students have experienced harmful effects on their emotive SWB. Similarly, another study examined the interactions between SWB with psychological capital and coping strategies in university students before and during Covid-19 through a survey distributed among 806 university students from the United States. The result confirmed a decline in SWB due to Covid-19, responses stated advanced stages of negative feelings and solitude after the beginning of Covid-19, and a decrease in positive feelings. **Prasath et al.,2021** stated that during Covid-19 optimism, hope, resiliency and adaptive coping strategies are conducive to well-being.

2. **Impact of Covid 19 on academic performance and academic motivation in Higher Education**

Moussa and Ali (2021) investigated the relationship between SWB levels and students' educational accomplishment among higher education students during the Covid-19 pandemic in the United Arab Emirates. Results revealed that higher education students in the UAE recorded great levels of SWB during the Covid-19 pandemic due to their high quality of life and equal treatment and engagement in the education environment**. Osipov el at. (2021),** mentioned the importance of physical activity during Covid-19 pandemic. The authors explored the impact of the universities' closure on physical activity and academic performance due to the pandemic. Using 35 high education students, results displayed that university closure and cancellation of face to face physical education classes decreased overall physical activities, and academic performance for all participants. From the literature review of previous researches, it can be concluded that Covid-19 pandemic affected the subjective well-being and academic performance of students. Hence, the purpose of present study is to identify the factors that affects the subjective well-being and academic performance of students during Covid-19 pandemic and to suggest remedies which can be adopted by students and educators to promote subjective well-being of students of higher education in Saudi Arabia.

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3. Objectives and Methodology

3.1 Objectives and hypotheses

Objectives 1: To examine students' SWB before and during Covid-19 pandemic.

Objectives 2: To identify whether Covid-19 pandemic affects students' academic performance and their motivations.

The predictable outcomes of the study are presented in the following hypotheses:

H_1^1 : The satisfaction of the student's overall life generally and with university in particular before Covid-19 and during Covid-19 differs significantly statistically.

H_1^2: Academic performance of students before Covid-19 and during Covid-19 differs significantly statistically.

H_1^3: Students' academic motivation before Covid-19 and during Covid-19 differs significantly statistically.

4. Research Design

To explore and achieve the research objectives, an electronic questionnaire was distributed among a sample of 200 female students from different academic majors and levels and administered during the academic year 2020–2021. No missing values in response were registered. The Five Likert Scale is used to test and evaluate formulated assumptions. Students responded to each element by indicating one of the following opinions: strongly disagree, disagree, neutral (neither agree nor disagree), agree, and strongly agree. All the questions are presented in four sections.

Section 1: Measure of satisfaction with life in general before and during Covid-19.

Section 2: Measure of satisfaction with university life in particular before and during Covid-19.

Section 3: Academic performance before and during Covid-19.

Section 4: Academic motivation before and during Covid-19.

A descriptive and inferential statistical examination, using SPSS Statistical Program Version 25, is implemented to analyze the collected data. We use successive statistical tests: (1) Frequencies and percentages, (2) Readability Test, (3) Means, (4) Paired Sample T-Test, and Correlation.

4.1 Ethical approval and consent to participate

The Institutional Review Board (IRB) at Princess Nourah University (PNU) approved the ethical permission. In evaluating the proposal, the PNU-IRB took into account the national regulations governing the protection of human subjects. The IRB found that the suggested research would not pose any risk to the participants, the study was therefore exempt from IRB review (IRB Log Number: 20-0356).

The study protocol was performed in accordance with the principles stated in the Declaration of Helsinki. The survey was distributed by email to the students and the researchers put out a request for students to join the study. The students decided freely and voluntarily to participate and decide whether or not to be in the sample[1]. The anonymization of the data was done to protect the respondents' privacy and confidentiality.

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[1] *"Your participation in the survey is completely voluntary, and all of your responses will be kept confidential".*

5. Results and Discussions

Table 1: Test of Reliability

Sections	Cronbach Alpha Coefficient	Number of items
Section-1: Measure of satisfaction with life in general before Covid-19 & during Covid-19.	0.821	10
Section-2: Measure of satisfaction with university life in particular before Covid-19 & during Covid-19.	0.862	10
Section-3: Academic performance before Covid-19 & during Covid-19	0.864	20
Section-4: Academic motivation before and during Covid-19.	0.860	10
All sections	0.937	50

Table no.1 displays the Cronbach's Alpha Coefficient, which is implemented for each section and for the whole survey to test the reliability of the questions. Results show that the Cronbach's Alpha coefficient of the subscales for the present study is good and equal to, respectively, 0.821 for the life satisfaction measure, 0.862 for the university satisfaction measure, 0.864 for academic performance, and 0.860 for academic motivation. As a whole, the whole questionnaire has excellent reliability (equivalent to 0.937) and showed great consistency in calculating outcomes.

Students' academic and demographic distribution are presented in table no.2. Almost all the respondents are coming from scientific (65%) and humanities (24%) colleges, followed by health (8%) and technical (2.5%) disciplines. Around 90% of students affirm in their responses that their parent's educational level is secondary (25% for the father and 33% for the mother) and superior (68% for the father and 56% for the mother), which conforms with the literature saying that highly educated parents are more likely to influence their children's education process (Gratz et al., 2006). Furthermore, family structure, like if parents are living together and the number of children, may influence the student's motivation and academic performance (Farooq et al., 2011). 83% of respondents stated that their parents are married; 98% of students live in their family housing; and 60% of them have less than five members. As a matter of fact, growing up in different family structures has educational effects (Sun and Li, 2011).

Table 2: Students Sample Academic and Demographic Distribution

Variable	classification	Number	Total	Frequency %	Total
Type of the College	Scientific	130	200	65%	100%
	Healthy	16		8%	
	Technical	5		2.5%	
	Humanity	49		24.5%	
Academic level	Level 1&2	45	200	22.5%	100%
	Level 3&4	30		15%	
	Level 5&6	54		27%	
	Level 7&8	71		35.5%	
Number of family members	[1-5]	121	200	60%	100%
	[5-10]	69		35%	
	>10	10		5%	
Ranking in the brothers	1st	43	200	22%	100%
	2[ed]	37		18%	
	3[ed]	51		25%	
	4th	23		12%	
	≥ 5th	46		23%	
The educational level of the father	Illiterate and Primary	13	200	7%	100%
	Secondary	51		25%	
	Superior	136		68%	

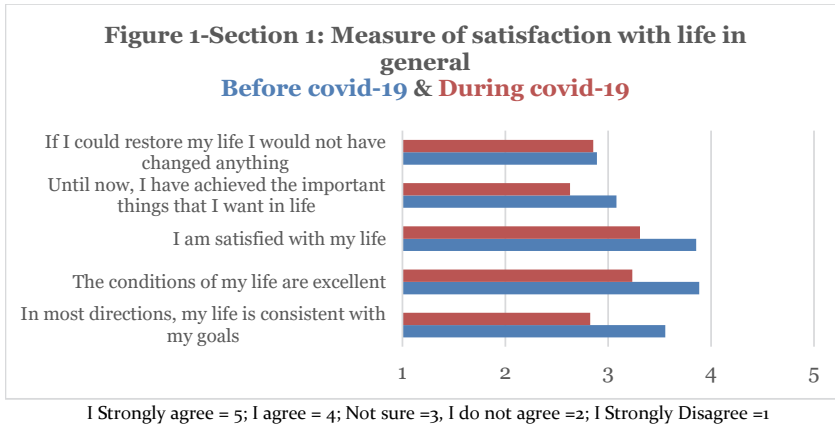| Variable	classification	Number	Total	Frequency %	Total
The educational level of the mother	Illiterate and Primary	23	200	11%	100%
	Secondary	65		33%	
	Superior	112		56%	
Parents' marital status	Married	167	200	83%	100%
	Divorced	13		7%	
	One of the parents is dead	19		9.5%	
	Both parents are dead	1		0.5%	
Accommodation type	Family housing	197	200	98%	100%
	University housing	3		2%	

Table 3: Paired Samples Test and Correlations

Section 1: Measure of satisfaction with life in general before Covid-19 & during Covid-19

		Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)	Correlation (Sig)
Pair 1	Before Covid-19/In most directions, my life is consistent with my goals - During Covid-19/In most directions, my life is consistent with my goals.	0.7300	1.2184	0.0861	8.473	199	0.000	0.308 (0.000)
Pair 2	Before Covid-19/The conditions of my life are excellent - During Covid-19/The conditions of my life are excellent.	0.6500	1.2551	0.0887	7.324	199	0.000	0.250 (0.000)
Pair 3	Before Covid-19/I am satisfied with my life - During Covid-19/I am satisfied with my life.	0.5450	1.1682	0.0826	6.597	199	0.000	0.433 (0.000)
Pair 4	Before Covid-19/Until now, I have achieved the important things that I want in life - During Covid-19/Until now, I have achieved the important things that I want in life.	0.4500	1.1766	0.0832	5.409	199	0.000	0.440 (0.000)
Pair 5	Before Covid-19/If I could restore my life I would not have changed anything - During Covid-19/If I could restore my life I would not have changed anything.	0.0350	1.1664	0.0824	0.424	199	0.672	0.606 (0.000)

Figure 1 shows the mean and standard deviation of students' satisfaction with their lives in general before Covid-19 and during Covid-19. The overall mean of the construct, which measures the student's satisfaction with their life before Covid-19, is 3.453, a scale of (Agree). It is higher than the students' satisfaction with their lives during Covid-19 (2.971), which is on a scale (Neutral). The mean of each statement measures the satisfaction of students with their lives in general before Covid-19 is higher than that during Covid-19, except for the last statement, which states that if students could restore their lives, they would not have changed anything, and it remains the same, before and during Covid-19. These results reveal that female students believe that they were more satisfied with their lives in general before Covid-19 than during the pandemic and indicate a clear reduction in students' SWB during Covid-19 which conforms to recent research (Genç and Arslan, 2021; Murphy, 2021; Prasath et al., 2021; Aucejo et al., 2020). The paired sample test is used to compare the means of the students' satisfaction with life in general before Covid-19 and during Covid-19. The results of the analysis, Table no.3. show that there is a significant statistical difference between the student's satisfaction with life in general before Covid-19 and during it. However, the p-value is less than 0.05. The correlation analysis reveals a low correlation between the students' satisfaction with their lives in general before Covid-19 and during it. The correlation coefficients range between (0.2-0.6). This result denotes a weak relationship between what students believe about their satisfaction with their lives before Covid-19 and during Covid-19, all the correlation results are statistically significant.

Therefore, we can reject the null hypothesis and accept the alternative hypothesis, which states that there are significant statistical differences between the students' satisfaction with life in general before Covid-19 and during Covid-19. The result is in line with the expectations and the theory. Covid-19 leads to job loss and uncertainty. In general, people are more stressed and exposed to risks related to their health and social relationships (Möhring et al., 2021).

Figure 1-Section 1: Measure of satisfaction with life in general
Before covid-19 & During covid-19

I Strongly agree = 5; I agree = 4; Not sure =3, I do not agree =2; I Strongly Disagree =1

The main finding of this study is the differential score between SWB and life in general and SWB and university life in particular. Figure 2 shows the mean of students' satisfaction with university life before Covid-19 and during Covid-19. According to the analysis, the overall mean of the construct measuring students' satisfaction with the university life before Covid-19 (3.292) is higher than the overall mean of their satisfaction during Covid-19 (2.713). Depending on the trend bars of means in Figure 2, the maximum difference of means before and during Covid-19 and is for the statement (I am satisfied with my university life). The standard deviation, for all statements that measure the student's satisfaction with the university life before and during Covid-19, ranges between 0.8 and1.3. These results indicate that students believe they are more satisfied with their university life before Covid-19 than during Covid-19. Compared to figure no. 1, results indicate that the loss in SWB with the university life in particular is more felt among students than in general life. A possible explanation is the importance of studies for the sample age range (18-25 years old) in our study and how it can play a fundamental role in their lives.

Figure 2- Section 2: Measure of satisfaction with university life in particular
Before covid-19 & During covid-19

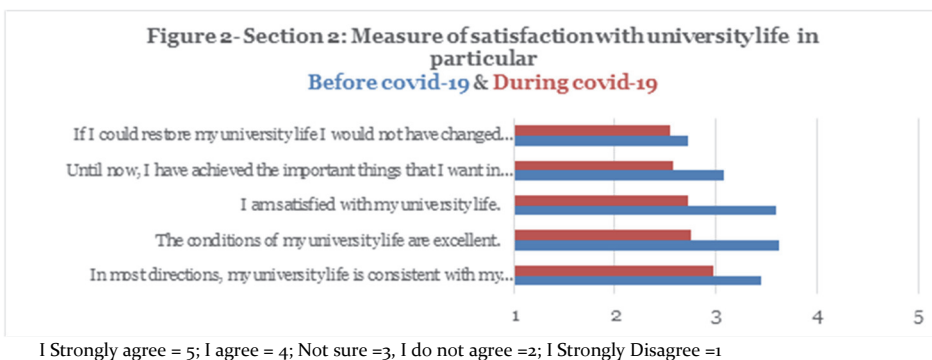I Strongly agree = 5; I agree = 4; Not sure =3, I do not agree =2; I Strongly Disagree =1

Table no.4 shows the results of paired sample test and correlation coefficient analysis for students' satisfaction with university life before Covid-19 and during Covid-19. The analysis indicates that there

is significant statistical difference between the satisfaction of students with university life before Covid-19, and during Covid-19, the p-value is less than 0.05. Also, the correlation coefficients which range between (0.1- 0.4) reveal the weak relationship between the satisfaction of students with university life before Covid-19 and during Covid-19. Based on these results, we can reject the null hypothesis and accept the alternative hypothesis, which states that there is significant statistical difference between the satisfaction of students with university life before Covid-19 and during Covid-19. University closures due to COVID-19 have a significant impact on the SWB, increasing university workload, changing teaching methods, and raising concerns about the academic year's success (Genç and Arslan, 2021).

Table 4: Paired Samples Test and Correlations

Section 2: Measure of satisfaction with university life in particular before Covid-19 & during Covid-19

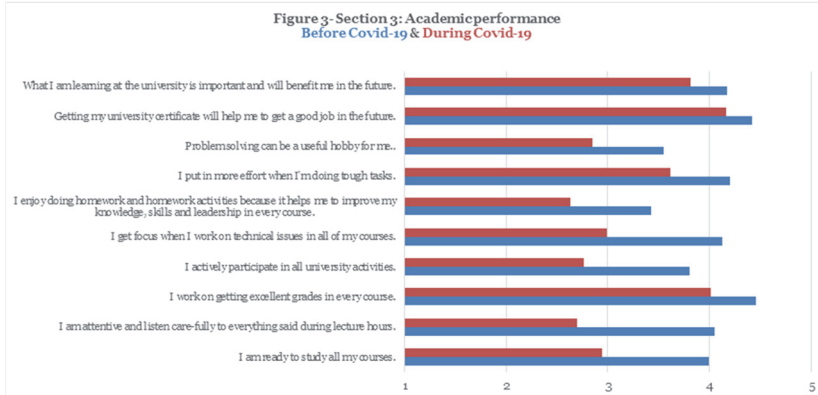|		Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)	Correlation (Sig)
Pair 1	Before Covid-19/In most directions, my university life is consistent with my goals - During Covid-19/In most directions, my university life is consistent with my goals	0.4750	1.3145	0.0929	5.110	199	0.000	0.367 (0.000)
Pair 2	Before Covid-19/The conditions of my university life are excellent - During Covid-19/The conditions of my university life are excellent	0.8650	1.5026	0.1062	8.141	199	0.000	0.165 (0.019)
Pair 3	Before Covid-19/I am satisfied with my university life - During Covid-19/I am satisfied with my university life	0.8700	1.4573	0.1030	8.443	199	0.000	0.277 (0.000)
Pair 4	Before Covid-19/Until now, I have achieved the important things that I want in university life - During Covid-19/Until now, I have achieved the important things that I want in university life	0.5050	1.1946	0.0844	5.978	199	0.000	0.433 (0.000)
Pair 5	Before Covid-19/If I could restore my college life, I would not have changed anything - During Covid-19/If I could restore my college life, I would not have changed anything	0.1800	1.3882	0.0981	1.834	199	0.068	0.480 (0.000)

Depending on the descriptive analysis in Figure 3, the overall mean of students' academic performance before Covid-19 is (4.019) on the scale of "Strongly Agree", which is higher than the mean of the students' academic performance during Covid-19 (3.185) on the scale of "agree." The trend bars of the two means, before and during Covid-19 are consistent, except for the statement, which states that students are attentive and listen carefully to everything said during lecture hours. The mean for this statement is of a scale strongly agreed upon before the pandemic, while it is of a "neutral" during the pandemic. These results imply that students believe their academic performance before the pandemic was better than during it, and this is supported by their quite low attention and listening to lectures during the pandemic, as measured by the second statement.

The academic performance of students before COVID-19 and during COVID-19 differs significantly statistically, according to the Paired Sample Test Analysis in Table No. 5, where the p-value for each construct statement is less than 0.05. The overall coefficient of correlation was 0.3, indicating a weak relationship between academic performance of the students prior to and during Covid-19. Depending on the outcome, we can either accept the alternative hypothesis, according to which there is a substantial difference between students' academic performance prior to and during Covid-19, and we can reject the null hypothesis.

As well as its direct impact on education, the pandemic can exacerbate inequalities in education. The longer interruption of university services and the practice of offering alternative

distance learning services may produce better results among students from households with better connectivity and higher skills. As a result, those who are already disadvantaged face even more delays. Further research is needed to explore the relationship between Covid-19 and academic performance based on the economic situation of the student's family.

Figure 3 - Section 3: Academic performance
Before Covid-19 & During Covid-19

I Strongly agree = 5; I agree = 4; Not sure =3, I do not agree =2; I Strongly Disagree =1

Table 5: Paired Samples Test and Correlations

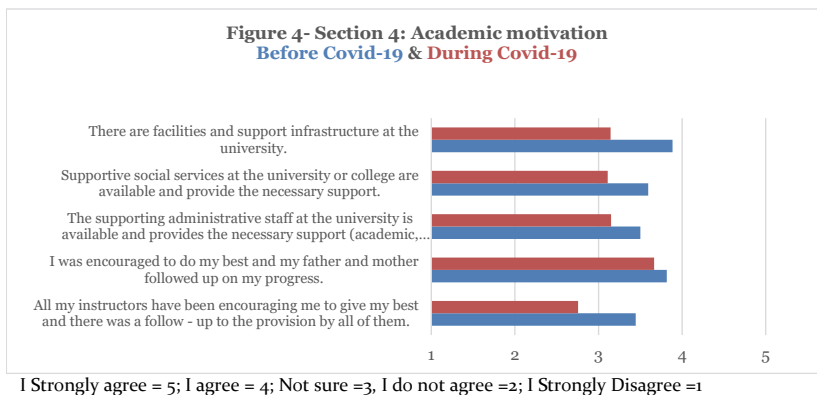Section 3: Academic performance before COVID-19 & during COVID-19

		Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)	Correlation (Sig)
Pair 1	Before Covid-19/I am ready to study all my courses - During Covid-19/I am ready to study all my courses	1.0550	1.6077	0.1136	9.280	199	0.000	0.117 (0.098)
Pair 2	Before Covid-19/I am attentive and listen care-fully to everything said during lecture hours - During Covid-19/I am attentive and listen care-fully to everything said during lecture hours	1.3550	1.6742	0.1183	11.446	199	0.000	-0.167 (0.018)
Pair 3	Before Covid-19/I work on getting excellent grades in every course - During Covid-19/I work on getting excellent grades in every course	0.4400	1.2015	0.0849	5.179	199	0.000	0.312 (0.000)
Pair 4	Before Covid-19/I actively participate in all university activities - During Covid-19/I actively participate in all university activities	1.0400	1.4172	0.1002	10.378	199	0.000	0.347 (0.000)
Pair 5	Before Covid-19/I get focus when I work on technical issues in all of my courses - During Covid-19/I get focus when I work on technical issues in all of my courses	1.1300	1.4710	0.1040	10.864	199	0.000	0.134 (0.058)
Pair 6	Before Covid-19/I enjoy doing homework and homework activities because it helps me to improve my knowledge, skills and leadership in every course - During Covid-19/I enjoy doing homework and homework activities because it helps me to improve my knowledge, skills and leadership in every course	0.7900	1.4444	0.1021	7.735	199	0.000	0.322 (0.000)
Pair 7	Before Covid-19/I put in more effort when I'm doing tough tasks - During Covid-19/I put in more effort when I'm doing tough tasks	0.5900	1.2688	0.0897	6.576	199	0.000	0.386 (0.000)

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		Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)	Correlation (Sig)
Pair 8	Before Covid-19/Problem solving can be a useful hobby for me - During Covid-19/Problem solving can be a useful hobby for me	0.7000	1.1561	0.0817	8.562	199	0.000	0.560 (0.000)
Pair 9	Before Covid-19/Getting my university certificate will help me to get a good job in the future - During Covid-19/Getting my university certificate will help me to get a good job in the future	0.2500	0.8839	0.0625	4.000	199	0.000	0.600 (0.000)
Pair 10	Before Covid-19/What I am learning at the university is important and will benefit me in the future - During Covid-19/What I am learning at the university is important and will benefit me in the future	0.3650	1.1655	0.0824	4.429	199	0.000	0.517 (0.000)

Descriptive analysis Figure 4 shows that the overall mean of the academic motivation of students before the pandemic (3.648) of "agree" is higher than the mean of the academic motivation of students during the pandemic, which is 3.165 of scale level "agree." The difference between the two means is not high for most of the construct statements, except for the first one, which states, "Instructors have been encouraging me to give my best, and there was a follow-up to the provision by all of them" and the last one, which states, "There are facilities and support infrastructure at the university." Also, the standard deviation of all statements is in low ranges (0–1). This result indicates that students believe their academic motivation before Covid-19 was higher than during Covid-19.

The results' analysis from the paired sample test Table no. 6 shows there is a significant statistical difference between the academic motivation of students before and during Covid-19, hence, the p-value of all construct statements is less than 0.05. The correlation coefficients of students' academic motivation before and during Covid-19, vary among the construct statements, with a strong correlation (0.75) for the second statement, which states, "I was encouraged to do my best and my father and mother followed up on my progress'', and a weak correlation (0. 26) for the statements, (All my instructors have been encouraging me to give my best, and there was a follow - up to the provision by all of them). The average correlation coefficient for all construct statements is quite low (0.45). Therefore, we can reject the null hypothesis and accept the alternative hypothesis and which states (There is a difference between the students' academic motivation before Covid-19 & during Covid-19). Virtual technologies are not much useful in terms of maintaining well-being than other forms of communication, in particular with regard to mental health and motivation issues. It is much easier for individuals to 'hide', or do not respond when they are not facing to face (Cicha et al, 2021; Al Youbi Abdulrahman et al., 2020).

Figure 4- Section 4: Academic motivation Before Covid-19 & During Covid-19

I Strongly agree = 5; I agree = 4; Not sure =3, I do not agree =2; I Strongly Disagree =1

Table 6: Paired Samples Test and Correlations/ Section 4: Academic motivation before Covid-19 & during Covid-19

		Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)	Correlation (Sig)
Pair 1	Before Covid-19/All my instructors have been encouraging me to give my best and there was a follow - up to the provision by all of them. - During Covid-19/All my instructors have been encouraging me to give my best and there was a follow - up to the provision by all of them.	0.6900	1.5249	0.1078	6.399	199	0.000	0.262 (0.000)
Pair 2	Before Covid-19/I was encouraged to do my best and my father and mother followed up on my progress - During Covid-19/I was encouraged to do my best and my father and mother followed up on my progress.	0.1500	0.8432	0.0596	2.516	199	0.013	0.756 (0.000)
Pair 3	Before Covid-19/The supporting administrative staff at the university is available and provides the necessary support (academic, psychological and personal counseling) - During Covid-19/The supporting administrative staff at the university is available and provides the necessary support (academic, psychological and personal counseling).	0.3500	1.1507	0.0813	4.301	199	0.000	0.427 (0.000)
Pair 4	Before Covid-19/Supportive social services at the university or college are available and provide the necessary support - During Covid-19/Supportive social services at the university or college are available and provide the necessary support.	0.4850	1.1775	0.0832	5.825	199	0.000	0.357 (0.000)
Pair 5	Before Covid-19/There are facilities and support infrastructure at the university - During Covid-19/There are facilities and support infrastructure at the university.	0.7400	1.2247	0.0866	8.545	199	0.000	0.334 (0.000)

6. Conclusion and Future Implications

To our knowledge, this is the first study to have attempted to identify female students' well-being at university and to have tested their relationship with academic performance and motivation in Saudi Arabia.

In this research, we aimed to better understand the complex links between academic motivation and performance and students 'well-being. The results reveal that the subjective well-being of students of higher education in KSA was higher before Covid-19 than during the pandemic and indicate a clear reduction in student's SWB during Covid-19 which conform the recent researches (Genç and Arslan, 2021; Murphy,2021; Prasath et al.,2021; Aucejo et al., 2020). Saudi universities are successful in quickly adapting to the pandemic, changing circumstances that cause the long absence, and the impact on success and mental health. They provide huge support for students to learn through digital education, counseling and independent learning. (Al Youbi Abdulrahman et al., 2020). Despite all the efforts made by the Saudi ministry of education, the students affirm a decrease in their academic achievement. The result supports the idea that digital learning and traditional learning are complement, and no method can substitute each other. Further research can be conducted on the impact of the pandemic on the inequalities in education. Due to the longer interruption of university services and the practice of offering alternative distance learning services among students, as a result, those who are already disadvantaged face even more delays. Further research is needed to explore the relationship between Covid-19 and academic performance based on

the economic situation of the student's family.

7. Compliance of Ethical Standard Statement

All authors declare that
1. This material is the authors' own original work, which has not been previously published elsewhere.
2. The paper is not currently being considered for publication elsewhere.
3. The paper reflects the authors' own research and analysis in a truthful and complete manner.
4. The paper properly credits the meaningful contributions of co-authors and co-researchers.
5. All sources used are properly disclosed (correct citation).
6. All authors have been personally and actively involved in substantial work leading to the paper, and will take public responsibility for its content.

8. Informed Consent

The questionnaire was approved by the Institutional Review Board (IRB Number 20-0356).

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