

The impact of the COVID-19 pandemic in higher education: a gender perspective

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Abstract

Purpose – The study will inform relevant workplace gendered policies at the university and other academic institutions.

Design/methodology/approach – A cross-sectional study was conducted on all the Arabian Gulf University full-time employees during the COVID-19 pandemic, in June 2021. A questionnaire was sent to the employees requesting data that included sociodemographic data, living conditions, psychological status, social aspects, work productivity and satisfaction. The generalized anxiety disorder questionnaire (GAD-7) was used to screen for anxiety.

Findings – Gender disparity was noted in the increase of responsibilities at home and towards young children, and in stress and anxiety. Women's reductions in peer (90.7%) and social (88%) interactions were higher than among males (81.8%, 73%, respectively). There was a narrow gender gap in work productivity and workload. More males reported that the university was concerned about its employees during COVID-19 and were satisfied with the measures taken. There was a gender disparity with respect to superiors periodically checking if the workload was manageable and discussing the mental health and well-being of the employees.

Research limitations/implications – Future research directions may focus on how gender impacts the perception and response to crises in higher education in Arab countries.



Originality/value – This is one of the few studies in the region that examined the gendered psychosocial impact of COVID-19 and productivity in the workplace using a higher education institution as an example.

Keywords COVID-19, Gender, Higher education, Stress, Anxiety, Satisfaction

Paper type Research paper

Introduction

Gender and sex are different terms, yet sometimes are used interchangeably. Males and females have biological differences due to their sex, but the psychological, social and cultural differences define their gender. There are theoretical perspectives behind gender differences including socialization theory. The gender socialization theory regards gender differences as a result of the discrepancy in the treatment boys and girls receive (Miller, 2016) that structure the rules of behavior of females and males (Yildirim & Eslen-Ziya, 2020). However, gender stereotypes have recently started changing (Eagly, Nater, Miller, Kaufmann, & Sczesny, 2020; Eagly & Sczesny, 2019) until the COVID-19 pandemic that might have regressed what has been achieved (Madgavkar, White, Krishnan, Mahajan, & Azcue, 2020; UNWOMEN, 2022). A 20-country study revealed that the pandemic had negatively impacted the attitudes towards gender roles in family and work. Over half (51%) of men and 46% of women agreed that women should work less and devote more time to caring for their families. Forty percent of males and 31% of females agreed that men should earn money while women should look after the house and the family (UNWOMEN, 2022).

Although there has been some progress in some aspects of gender equality, the gender progress score at workplace (0.52) is lower than that of society (0.67) (Madgavkar *et al.*, 2020). There are several gender gaps in the labor force including the percentage in the workforce (76% of males and 49% of females), proportion of daytime spent on unpaid work (7%, males; 18%, females) and a 23% pay gap. Furthermore, 2.5 times more women than men perform domestic work and unpaid care work (UNDP, 2018). The pandemic resulted in further gender disparities in social, economic and health aspects (COVID-19 Mental Disorders Collaborators, 2021; Flor *et al.*, 2022; Rosa & Clavero, 2022). It forced employees to work from home which was a challenge particularly for those who had young children increasing their caregiving responsibilities. COVID-19 resulted in loss of employment particularly among women, and more school dropouts among girls than boys (COVID-19 Mental Disorders Collaborators, 2021; Flor *et al.*, 2022). Mothers were the primary caregivers in their families during the COVID-19 pandemic underscoring their other roles. Over three quarter of mothers who had children below 10 years reported childcare a challenge during the pandemic compared to 54% of fathers. They were 1.5 times more likely to spend extra time on childcare and housework (Vyas & Butakhieo, 2021) and twice more likely to worry about work performance (Vyas & Butakhieo, 2021). COVID-19 put an additional burden on women in leadership positions. Over half (54%) felt exhausted, 39% burnt out and 36% pressured to work more. The corresponding percentages for male leaders were, 41%, 29% and 27%, respectively (Vyas & Butakhieo, 2021). In addition, higher percentages of mothers considered reducing their work hours, switching to a less demanding job, taking a leave of absence, moving from a fulltime job to a part-time job or leaving the workforce altogether (Vyas & Butakhieo, 2021). Mothers with young children in a United States (US) survey reduced their working hours by 4–5 times that of fathers and the gender gap in work hours increased by 20–50% (Collins, Landivar, Ruppanner, & Scarborough, 2021). Women at the workplace experienced higher levels of stress and anxiety during the pandemic because of the change in the work–family interface (Catalyst, 2020; Hennekam & Shymko, 2020). Childcare and homeschooling responsibilities impacted the mental health of parents particularly mothers. More women were burnout, worried about layoffs and had financial insecurity. In a US study, half of the employees reported that over the past few months, they consistently felt stressed at work and about 30% felt exhausted or burned out. More women (62%) employees feared that COVID-19 has affected their promotion prospects than men (57%).

Moreover, 4 in 10 people since COVID-19 were more stressed about their work-life, particularly women (46%) and those in leadership (62%) (Catalyst, 2020). Some companies have requested managers to monitor the workload and wellbeing of their employees during this stressful period and some have taken steps to ensure that their employees work-life balance needs were met and even reducing their workload (Vyas & Butakhieo, 2021).

Gender inequality in higher education and research has been reported prior to the COVID-19 pandemic in several aspects including pay, the percentage of senior academics and proportion of authors of research papers (Bothwell *et al.*, 2022). However, the pandemic has emphasized these gaps and exacerbated their effects (Rosa & Clavero, 2022). Women in higher education faced more challenges during the pandemic to establish a work-life balance than their male peers (Frize *et al.*, 2022; Vyas & Butakhieo, 2021). Motherhood is one of the factors that affected gender inequality among academics particularly among those in science, technology, engineering and math (STEM) (Cech & Blair-Loy, 2019; Frize *et al.*, 2021). Women with young children dedicated their time on home schooling of their children and household chores while working at home and struggled to balance them with their academic responsibilities and might not have put mothers on par with their childless female and male peers (Staniscuaski *et al.*, 2020; Yildirim & Eslen-Ziya, 2020). Studies have shown that the pandemic has affected the academic productivity of female academics (Gorska, Kulicka, Staniszevska, & Dobija, 2021; Parlak, 2020; Yildirim & Eslen-Ziya, 2020). They lagged their male peers in submitting papers, research publications and in meeting deadlines particularly mothers because of the double burden they faced (Langin, 2021; Rosa & Clavero, 2022; Staniscuaski *et al.*, 2021). Academic females struggled to establish work life balance (Davis *et al.*, 2022) and had higher levels of stress and anxiety than their male peers (Davis *et al.*, 2022). There were no institutional policies to support them in these unprecedented crises that increased their caring responsibilities (Nash & Churchill, 2020).

The gender disparities are more prominent in the Arab world including the workforce. Arab women are expected to be the primary caregivers to their families and are overrepresented in the unpaid workforce (OECD, 2020). With respect to gender policies at the workplace, those of the Arab world are the most restrictive (Asi, 2022). The Middle East and North Africa region has the highest gender gap in domestic work and unpaid care in the world. Women spend six times more than men in such work and allocate 89% of the day on unpaid work compared to 29% among men (OECD, 2020). Unemployment among females in the Arab region has increased to about 22% in 2020 compared to 18% in 2000 (Asi, 2022). The socioeconomic impact of the epidemic on Arab women had been significant intensifying the gender inequalities (OECD, 2020). A survey from Palestine reported that 47.7% of women and 34.1% of men worked completely from home. There was a 68% increase in household duties and 51.5% in childcare among women compared to 44% and 30%, respectively in men during COVID-19 (AWARD, 2020).

Women in the Mediterranean and Arab universities faced several challenges that impacted their academic productivity during the pandemic. Their struggle to balance academic work and caregiving responsibilities in a patriarchal culture where husbands do not equally share household responsibility increased their burden and decreased their work output (Zabaniotou, 2021). The hours of work of Arab academics were differently impacted by COVID-19 in men and women with the latter being more affected. They decreased from 29 to 25 hours per week among female academics with children of 5 years or less compared to a decrease from 33 to 30 hours per week for men with or without children, and increased from 35 to 40 hours among women without children (Krafft, 2020). In the Arab world, 47.5% of the economically Palestinian women felt emotionally stressed, 49% anxious and 35% angry in a study during the pandemic. Lower percentages were observed among males (35.0%, 36% and 23%, respectively) (AWARD, 2020). A study from the United Arab Emirates universities reported that 52.3% of the staff and 57.4% of the faculty members had mild psychiatric problems. A quarter of the staff and one third of the faculty experienced high levels of worry. Females were more distressed and worried and were concerned about their loved ones (Al Miskry, Hamid, & Darweesh, 2021).

The Kingdom of Bahrain has made major progress in closing the gender gap in higher education and employment. The percentage of Bahraini female graduates has reached 63% in 2021 compared to 56.8% in 2010. Furthermore, the rate of participation of Bahraini women in the workforce has risen from 32.0% in 2010 to 42.8% in 2021 ([Supreme Council for Women, 2022](#)). The Supreme Council for Women (SCW) was established in the country in 2001 to empower Bahraini women and ensure equal opportunities. In 2014, the Civil Service Bureau obliged all governmental ministries, directorates and institutions to establish equal opportunity units. The SCW renewed the call of establishing these units in 2016 to support its efforts and implement the principle of equal opportunity ([Supreme Council for Women, 2016](#)).

The Arabian Gulf University (AGU) is a regional university established in Bahrain in 1979 to support the human development needs of the Gulf Cooperation Council (GCC) countries and address the socio-economic challenges facing the region. It has a diverse population of students from the region and international staff. AGU established Equal Opportunities between Genders Committee in 2017. The Committee took the initiative of conducting this study in 2021 since there was a research gap in gendered research in higher education in the Arab region. In particular, the committee strived to examine the gendered impact of COVID-19, provide support for gendered policies, and apply a gender lens to policies and research in higher education.

The objectives of the study were to determine the psychosocial impact of the COVID-19 pandemic by gender on the university's employees, identify the determinants of work productivity among male and female employees during the COVID-19 pandemic, compare employees' satisfaction towards the response of the university's administration to the COVID-19 pandemic by gender and occupation, and assess the changes in relationships and communications of employees with their superiors by gender and occupation. The study findings will inform relevant workplace policies at the university and other academic institutions. It will have implications on the work environment during the pandemic and in the preparedness for future similar situations.

Methodology

A cross sectional study was conducted on all full-time employees at the university during June 2021 ($n = 340$). All employees who had an email address at the university ($n = 310$) were sent a link to Google Forms that had both Arabic and English questionnaires via an AGU group email. Staff members who did not have emails received a hard copy of the questionnaire ($n = 30$). A questionnaire was used to achieve the objectives of this study. Questionnaires are commonly used for data collection because they can ensure anonymity, enable reaching the targeted population within a limited time, impersonal and can reflect participants' real opinions ([Scheyvens, 2014](#)). The questionnaire included sociodemographic data (age, gender, educational level, nationality, marital status, number of children, number of children below 10 years and type of occupation (academic nonacademic)). It also asked for living conditions, stress, anxiety, relationships, work productivity and satisfaction. The generalized anxiety disorder questionnaire (GAD-7), a standardized questionnaire that has seven questions was used in both English and Arabic to screen for anxiety ([Kroenke, Spitzer, Williams, Monahan, & Lowe, 2007](#); [Sawaya, Atoui, Hamadeh, Zeinoun, & Nahas, 2016](#)). The GAD-7 score was calculated by assigning scores of 0, 1, 2 and 3, to the response categories of "not at all", "several days", "more than half the days" and "nearly every day" respectively, and adding together the scores for the seven questions. Scores of 5, 10 and 15 were taken as the cut-off points for mild, moderate and severe anxiety, respectively. GAD was used in this study as it is an easy self-administered questionnaire widely used to screen for generalized anxiety disorder. GAD-7 has a sensitivity of 89% and a specificity of 82% using the threshold

score of 10 (Kroenke *et al.*, 2007). Data was entered and analyzed using the Statistical Package for Social Sciences (SPSS) – version 27. The Chi-square test was used to measure the association between qualitative variables. A p value less than 0.05 was considered statistically significant. A paragraph was added prior to the questionnaire indicating the purpose of the study and informing participants of the anonymity of the questionnaire and that the data will be handled with high confidentiality. Participants were also informed that their participation was voluntary and that they could withdraw at any stage of the survey. Ethical approval was obtained from the Research and Ethics Committee, College of Medicine and Medical Sciences, AGU.

Results

One hundred sixty-four employees participated in the survey, 54.3% of whom were males, 58.9% Bahraini, 38.4% below the age of 40 years and 17.1%, 60 years and older (Table 1). A higher percentage of females (53.3%) were younger than 40 years than males (25.8%). The majority (88.4%) were ever married, of whom 90.5% had children, 54.9% had a postgraduate degree, 42.2% an academic occupation, 70.1% had relatives in Bahrain and 73.8% lived with their families (Table 1). Seventy four percent of the employees had seen their immediate family members (spouse, children, parents and siblings) within the past month of the survey, 16% over a year, and the rest more than a month but less than a year.

A slightly higher percentage of female (69.3%) than male (60.2%) employees reported an increase in their home responsibilities during the COVID-19 pandemic. 37.5% of the males and 33.1% of females reported no change in their responsibilities and the rest a decrease (Figure 1). Further analysis by marital status and gender showed that a higher percentage of married (86.8%) than single (9.4%) and divorced/widowed (3.8%) men reported an increase in their home responsibilities ($p = 0.041$). The corresponding percentages for females were 78.8%, 13.5% and 7.7%, respectively. A statistically significant association ($p = 0.031$) was observed among the married by gender with respect to their responsibilities towards their young children and grandchildren (≤ 10 years) during COVID-19. 86.4% of women reported an increase compared to 63.0% among men (Figure 1). The single, widowed and divorced were excluded as none of the single had children and the latter were only 4.

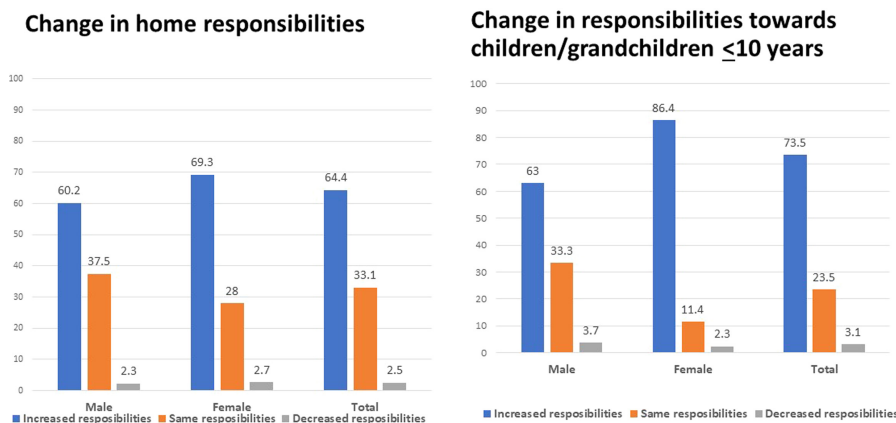
Over eighty four percent reported having experienced more stress (67.7% found it more stressful, 16.5% much more stressful) during COVID-19 academic year (2020-2021) compared to the year prior to COVID-19. There was disparity by gender ($p < 0.001$) with females having a higher proportion (86.7%) experiencing much more/more stress than males (82.0%), none of the females reported having the same stress compared to 14.6% of the males while the rest considered it less/much less stressful. More academic staff reported experiencing much more/more stress (95.6%) than administrative staff (78.5%). None of the academics experienced no change in stress compared to 11.8% among administrative staff, while the others experienced lower stress ($p = 0.004$). The main reason for stress (42.6%) among employees was concern towards their family members. It was followed by uncertainty (21.6%), own health (12.3%), work (10.5%), inability to travel (10.5%) and financial constraints (2.5%). Although family was the main concern for both males and females, there was some discrepancy by the proportions (46.7%, 39.1%), respectively. More males reported own health, work, financial reasons than females and they were similar in inability to travel and uncertainty. Further analysis by occupation and age showed no statistically significant differences except by age where inability to travel was reported by almost a quarter (23.4%) of those who were 50 years and older compared to 5.2% among the younger age group ($p = 0.021$). Both social and peer interactions at the university sharply decreased as reported by 79.9% and 85.9% of all study participants, respectively. However, there were gender differences in the impact of the pandemic on peer and social relations. Social interaction has decreased among 88% of women and 73% of men.

			COVID-19 pandemic in higher education
Variable	No.	%	
<i>Age in years (n = 164)</i>			429
20-29	13	7.9	
30-39	50	30.5	
40-49	54	32.9	
50-59	19	11.6	
60+	28	17.1	
<i>Gender (n = 164)</i>			
Male	89	54.3	
Female	75	45.7	
<i>Nationality (n = 163)</i>			
Bahraini	96	58.9	
Other Arab	40	24.5	
Non-Arab	27	16.6	
<i>Educational level (n = 164)</i>			
Lower than bachelors	34	20.7	
Bachelors & medical	40	24.4	
Postgraduate	90	54.9	
<i>Marital status (n = 164)</i>			
Single	19	11.6	
Married	133	81.1	
Widowed/Divorced	12	7.3	
<i>Total number of children (n = 143)</i>			
None	15	10.5	
1	23	16.1	
2	38	26.6	
3	37	25.9	
4+	30	21.0	
<i>Number of children below 10 years (n = 86)</i>			
1	32	41.0	
2	31	39.7	
3-4	15	19.3	
<i>Occupation (n = 161)</i>			
Academic	68	42.2	
Administrative	93	57.8	
<i>Living condition (n = 164)</i>			
Alone	32	19.5	
With own family	121	73.8	
With relatives/friends	11	6.7	
<i>Relatives in Bahrain (N = 164)</i>			
Yes	115	70.1	
No	49	29.9	

Table 1.
Sociodemographic
characteristics of study
participants

The corresponding percentages for peer interactions were 90.7% and 81.8%, respectively. There was a statistically significant difference ($p < 0.001$) between males and females with respect to being bothered over the last two weeks with a higher percentage of females bothered more than half of the days of the week (Table 2). Of those who experienced any of these problems, 15.7% of women found it very difficult/extremely difficult to work, take care of things at home and get along with other people compared to 5.0% of men ($p = 0.036$). Almost half (46.7%) of the

Figure 1.
Change in
responsibilities at
home and towards
young children (≤ 10
years) during
COVID 19



male participants indicated that it was not difficult at all compared to 28.6% of the females; the rest, 42.6%, 57.4%, respectively found it somewhat difficult.

Over half (55.5%) of the employees had a minimal anxiety level and 11.0% severe (Table 3). Anxiety varied by gender and age. Twenty percent of the females had severe anxiety compared to 3.4% of the males ($p < 0.001$). Additionally, the anxiety level varied by age where 14.5% of those below 50 years had severe anxiety compared to 2.1% of the older age group ($p < 0.003$). Further analysis by having children and having children below 10 years of age showed no differences with respect to the severity of the anxiety.

Work productivity during the COVID-19 pandemic was the same among 46.2% of the employees, increased among 36.6% and decreased among 17.3% compared to the pre-COVID-19 pandemic academic year. There was no difference in work productivity by gender, occupation and age. As for the educational level, there was a statistically significant variation ($p = 0.010$) where “less work productivity” among those having a postgraduate degree was half (10.8%) other educational levels (Table 4). There were statistically significant differences with respect to the home-based workload to physically attending the university during the COVID-19 pandemic period by occupation and age. Forty two percent of the academics reported working more/much more in contrast to 25.3% of those in administrative jobs. Further, only 8.7% of the older employees (≥ 50 years) said that they worked less/much less during that year compared to 26.7% of the younger age group (Table 4).

A higher percentage of males (88.4%) and academics (89.7%) than females (65.3%) and administrative employees (68.9%) thought that the university was concerned/very concerned towards its employees during COVID-19 ($p = 0.002$, $p = 0.008$, respectively). Further, 90.7% of males compared to 78.7% females ($p = 0.086$) were satisfied with the precautionary measures during the pandemic (Figure 2). All academics except one (98.5%) reported that the university is concerned/very concerned towards its employees compared to 76.7% in administrative jobs ($p < 0.001$). Seventy three percent of the employees reported that their relationship with their superiors did not change, and 72.5% that their communication stayed the same during COVID-19. There were no significant differences by gender or occupation (Figure 3). More males (77.9%) than females (54.7%) reported that their superior understood their needs ($p = 0.007$). Similarly, more males (59.3%) reported that their superior always checked in periodically to make sure that their workload was manageable than females (32.0%), $p < 0.001$. There was variation by gender and occupation with respect to superior periodically discussing mental health and well-being of employees. Most females (46.7%)

							COVID-19 pandemic in higher education
Variable	No.	Male %	No.	Female %	No.	Total %	
Feeling nervous, anxious, or on edge							431
Not at all	80	89.9	49	65.3	129	78.7	
Several days	4	4.5	9	12.0	13	7.9	
More than half the days	5	5.6	17	22.7	22	13.4	
<i>Bothered by not being able to stop or control worrying</i>							
Not at all	52	58.4	19	25.3	68	41.5	
Several days	28	31.5	33	44.0	62	37.8	
More than half the days	4	4.5	9	12.0	14	8.5	
Nearly every day	5	5.6	14	18.7	20	12.2	
<i>Bothered by worrying too much about different things</i>							
Not at all	53	59.6	15	20.0	71	43.3	
Several days	30	33.7	32	42.7	61	37.2	
More than half the days	3	3.4	11	14.7	13	7.9	
Nearly every day	3	3.4	17	22.7	19	11.6	
<i>Bothered by trouble relaxing</i>							
Not at all	47	52.8	18	24.0	65	39.6	
Several days	29	32.6	31	41.3	60	36.6	
More than half the days	6	6.7	11	14.7	17	10.4	
Nearly every day	7	7.9	15	20.0	22	13.4	
<i>Being so restless that it is hard to sit still</i>							
Not at all	66	74.2	33	44.0	99	60.4	
Several days	19	21.3	22	29.3	41	25.0	
More than half the days	2	2.2	7	9.3	9	5.5	
Nearly every day	2	2.2	13	17.3	15	9.1	
<i>Been bothered by becoming easily annoyed or irritable</i>							
Not at all	52	58.4	17	22.7	69	42.1	
Several days	31	34.8	39	52.0	70	42.7	
More than half the days	1	1.1	7	9.3	8	4.9	
Nearly every day	5	5.6	12	16.0	17	10.4	
<i>Bothered by feeling afraid, as if something awful might happen</i>							
Not at all	59	66.3	20	26.7	79	48.2	
Several days	22	24.7	33	44.0	55	33.5	
More than half the days	4	4.5	9	12.0	13	7.9	
Nearly every day	4	4.5	13	17.3	17	10.4	
Note(s): * p -value < 0.001							Table 2. Frequency of being bothered over the last two weeks by gender*

reported “never” compared to “sometimes” by males (47.1%), $p = 0.006$. Further, more administrative employees (34.4%) reported “always” compared to academics (17.6%), $p = 0.057$.

Discussion

There is a gap in gendered research in higher education in Bahrain and the Arab countries. Our study is one of the few studies in the region that examined the impact of COVID-19 in higher education by gender in both academic and nonacademic employees. It was comprehensive in including psychosocial aspects, work productivity, communication with superior, and satisfaction with the university’s COVID-19 control measures. The study was exceptional in being conducted by the university’s equal opportunities between genders

Variable	Minimal		Mild		Moderate		Severe	
	No.	%	No.	%	No.	%	No.	%
<i>Gender</i>								
Male	64	71.9	17	19.1	5	5.6	3	3.4
Female	27	36.0	23	30.7	10	13.3	15	20.0
<i>p</i> -value				<0.001				
<i>Age (years)</i>								
<50	57	48.7	28	23.9	15	12.8	17	14.5
≥50	34	72.3	12	25.5	0	0	1	2.1
<i>p</i> -value				0.003				
<i>Educational level</i>								
Lower than bachelors	25	73.5	8	23.5	0	0	1	2.9
Bachelors and medical	22	55.0	6	15.0	6	15.0	6	15.0
Postgraduate	44	48.9	26	28.9	9	10.0	11	12.2
<i>p</i> -value				0.056				
<i>Nationality</i>								
Bahraini	51	53.1	22	22.9	9	9.4	14	14.6
Other Arab	25	62.5	9	22.5	3	7.5	3	7.5
NonArab	14	51.9	9	33.3	3	11.1	1	3.7
<i>p</i> -value				0.591				
<i>Marital status</i>								
Single	10	52.6	5	26.3	1	5.3	3	15.8
Married	75	56.4	31	23.3	13	9.8	14	10.5
Widowed/Divorced	6	50.0	4	33.3	1	8.3	1	8.3
<i>p</i> -value				0.961				
<i>Occupation</i>								
Academic	40	58.8	20	29.4	4	5.9	4	5.9
Administrative	48	51.6	20	21.5	11	11.8	14	15.1
<i>p</i> -value				0.121				
<i>Relatives in Bahrain</i>								
Yes	63	54.8	27	23.5	10	8.7	15	13.0
No	28	57.1	13	26.5	5	10.2	3	6.1
<i>p</i> -value				0.626				
<i>Living condition</i>								
Alone	19	59.3	8	25.0	4	12.5	1	3.1
With own family/relatives/friends	72	54.5	32	24.2	11	8.3	17	12.9
<i>p</i> -value				0.418				
<i>Last time saw family</i>								
<1 month ago	66	54.5	32	26.4	7	5.8	16	13.2
1+ months ago	25	58.1	8	18.6	8	18.6	2	4.7
<i>p</i> -value				0.034				
<i>TOTAL</i>	91	55.5	40	24.4	15	9.1	18	11.0

Table 3.
Anxiety levels by
sociodemographic
characteristics

committee underscoring the importance that the administration of the university gives towards research, gender equality and equal opportunities.

Males and females were almost equal among the study participants, 71.3% were below 50 years of age, and a higher percentage (57.8%) of employees in administrative positions. Most male and female employees (64.4%) reported an increase in their home responsibilities during the pandemic with a higher proportion among females. Gender disparity however was noted

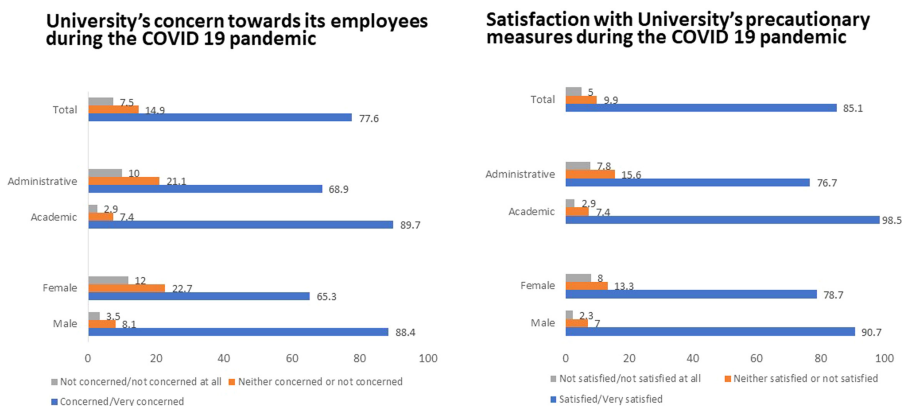
	Work Productivity		Same		Less/much less	
	More/much more No.	%	No.	%	No.	%
<i>Gender</i>						
Male	25	31.3	38	47.5	17	21.3
Female	28	43.1	29	44.6	8	12.3
<i>p-value</i>			0.212			
<i>Occupation</i>						
Academic	26	41.9	28	45.2	8	12.9
Administrative	26	32.5	38	47.5	16	20.0
<i>p-value</i>			0.381			
<i>Age</i>						
<50	38	38.8	41	41.8	19	19.4
50+	15	31.9	26	55.3	6	12.8
<i>p-value</i>			0.291			
<i>Educational level</i>						
Lower than bachelors	4	12.9	18	58.1	9	29.0
Bachelors/medical	14	45.2	10	32.3	7	22.6
Postgraduate	35	42.2	39	47.0	9	10.8
<i>p-value</i>			0.010			
<i>TOTAL</i>	53	36.6	67	46.2	25	17.2
<i>Workload</i>						
<i>Gender</i>						
Male	22	29.7	36	48.6	16	21.6
Female	25	35.2	32	45.1	14	19.7
<i>p-value</i>			0.779			
<i>Occupation</i>						
Academic	25	41.7	29	48.3	6	10.0
Administrative	11	25.3	38	45.8	15	28.9
<i>p-value</i>			0.012			
<i>Age</i>						
<50	30	30.3	43	43.4	26	26.3
50+	17	37.0	25	54.3	4	8.7
<i>p-value</i>			0.052			
<i>Educational level</i>						
Lower than bachelors	8	27.6	16	55.2	5	17.2
Bachelors/medical	7	21.9	15	46.9	10	31.3
Postgraduate	32	38.1	37	44.0	15	17.9
<i>p-value</i>			0.295			
<i>TOTAL</i>	47	32.4	68	46.9	30	20.7

Table 4.
Work productivity of
study participants
during the COVID 19
pandemic compared to
that of the pre
COVID 19 pandemic
academic year by
gender, occupation, age
and educational level

in the increase of responsibilities towards young children where 86.4% of females reported an increase compared to 63% of males. This finding is not surprising as child caregiving responsibilities in the Arab countries are primarily associated with women (Krafft, 2020; OECD, 2020). The increase in childcare is slightly higher in our study than that among Palestinian women in the workforce during the pandemic (AWARD, 2020).

Although stress affected all employees, there was a gender gap in the frequency of being bothered in the past two weeks prior to the survey. Female employees (86.7%) experienced more stress than males (82.0%) during the COVID-19 academic year compared to the previous year which is consistent with previous studies (AWARD, 2020; Hennekam & Shymko, 2020).

Figure 2.
Satisfaction of
employees with the
administration during
COVID 19



The percentages however were higher than those reported for Palestinian men (35%) and women (48%) (AWARD, 2020). Academic staff experienced more stress than administrative staff during the pandemic. This could be most likely be explained by the additional stress that was inflicted on academics by virtual teaching that they were not accustomed to. Additionally, they were mostly from abroad which caused more stress while the academic staff was mainly local with family support. More women in academia were reported to experience mild risk psychiatric illness than men in a study from the Emirates during COVID-19 (Al Miskry *et al.*, 2021). Family members were the main concern about COVID-19 in both males and females with women having a higher proportion. More males considered own health, work and financial reasons as main concern. These concerns are inline to what have been reported by other studies in the region (Krafft, 2020). However, inability to travel was higher among the older employees (≥ 50 years) most likely because they are mostly academicians who had their families abroad and were unable to travel to see them. It is worth noting that the university offers health insurance to its employees and started the academic year the study was performed offering health insurance to their families at a reduced cost, which would help in reducing their stress. Additionally, there is a counseling service at the university which could be more effectively utilized by increasing the employees' awareness. Further, there was a differential impact in our study with respect to anxiety where severe anxiety among women was more than 5 times that of men. In addition, the younger employees had higher anxiety levels than their younger counterparts. This is consistent with findings reported from the region, and globally and where females and the younger population were more impacted (Al Miskry *et al.*, 2021; AWARD, 2020; COVID-19 Mental Disorders Collaborators, 2021). Almost half of women felt anxious compared to 36% of men in the study from Palestine (AWARD, 2020). The health burden of anxiety and major depressive disorders have increased globally during the COVID-19 pandemic due to the daily COVID-19 infection and reduced human mobility.

Work productivity of employees during the pandemic mostly did not change compared to pre COVID-19 academic year with no differences by demographics except by educational level where those with bachelor's degree and above were more work productive than those with lower education. This is partly explained by the fact that this group mostly required physical attendance due to the nature of their jobs. This contrasts with what has been reported by other studies that have shown that female academics were most affected in academic productivity (Staniscuaski *et al.*, 2020, 2021). Female academics were more impacted by the pandemic lockdown particularly those with children as the caregiving demands and challenges were disproportionately distributed by gender (Yildirim & Eslen-Ziya, 2020). The fact that work

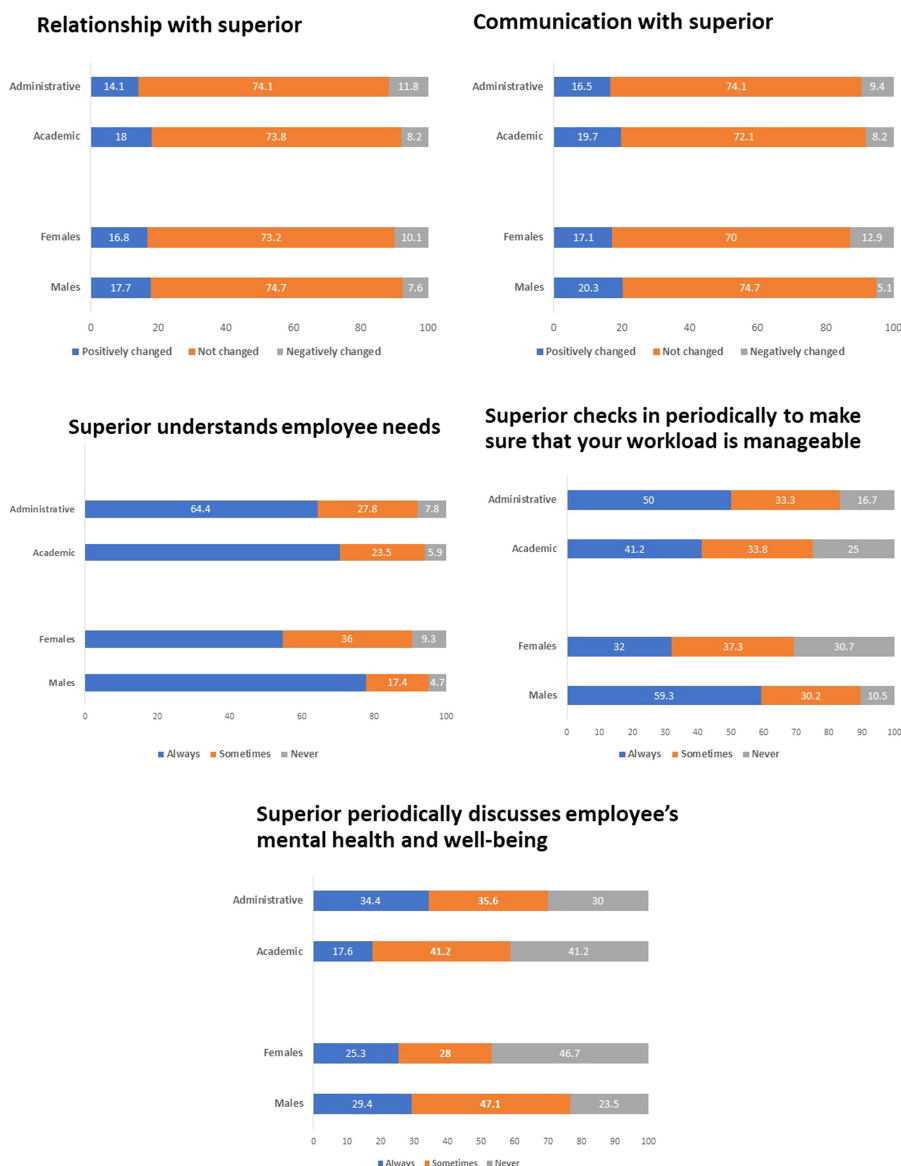


Figure 3.
Relationship with
superior by gender and
occupation

productivity has not changed could be due to the measures taken by AGU. During the 2020-2021 academic year, the university passed several circulars in line with the Government of Bahrain directions towards the control of COVID- 19. In August 2020, the university formed a COVID-19 Committee concerned with the safety of the employees. From August to December 2020, only heads of departments, administrative coordinators and secretaries were requested to physically attend the university. All employees were asked to attend the university physically from December 2020 to February 2021. However, academic staff was requested to teach virtually and

go to the university when needed until 21 March 2021 where all staff physically attended the university until the end of that academic year.

Social and peer interactions at the university have sharply decreased in men and women during COVID-19 but were higher in women. The decline in both sexes can be explained by abiding with the directives that discouraged gatherings, the fear of contracting the infection and passing it to loved ones and working from home during some parts of the year. Further, the higher decline among women was most likely due to the increase in their caregiving responsibilities. Women were three times more than men in finding it very difficult/extremely difficult on work, take care of things at home and get along with other people. This is in accordance with what has been reported among Palestinian women (AWARD, 2020). Relationship and communication with superior did not change during the pandemic. Females however, had lower satisfaction than their male counterparts with respect to relationships with superiors. More males than females thought their superiors understood their needs and checked if their workload was manageable. There was also a gender gap with respect to superiors discussing mental health and wellbeing of the employees. Our findings are different from those of a recent study that reported that female faculty members had significantly higher satisfaction from their leaders during the online setting imposed by the COVID-19 pandemic than their male peers (Al-Omari, Al-Harthi, Alarabi, & Hashem, 2022). Furthermore, life satisfaction surveys always show that women are more satisfied than men though there is an argument that it results from different response scales (Mongomery, 2022). The variation in our findings to what has been published could be attributed to the fact that our study was conducted during the COVID-19 pandemic and there was no lockdown in the country. All employees had to physically go to work most of the period of the study and some of whom, mainly females left their children at home. The gender discrepancy in discussing mental health and wellbeing with employees could be due to cultural reasons, as females might have been more hesitant to discuss personal issues with their male superiors.

Most of the employees reported that the university was concerned/very concerned and were satisfied/very satisfied with the measures taken by the university during the COVID-19 pandemic. The fact that the university formed a COVID-19 committee, and the measures taken by it, probably explains the high satisfaction among the study participants. However, there was a gender disparity as more males thought that the university was concerned/very concerned and took the necessary measures. The differences could be due to the fact that more males were in academia, mostly in the medical school who knew more about the transmission and prevention of the COVID-19 infection, and that the university was doing its best with respect to preventive measures. A study compared the traditional work settings to the working conditions during COVID-19 in Kuwait during lockdown found that most of the employees were happy regarding the way their institution handled the crisis (Diab-Bahman & Al-Enzi, 2020).

Although this study provided in-depth understanding of the issues explored, it had limitations. The study focused on a single higher education institution where the demographics of the employees might be specific to the institution. Even though all higher education institutions in Bahrain followed the Government's directives in relation to the opening and closure, they varied with respect to other internal institutional measures. Another limitation of this study is that caregiving focused only on children 10 years or younger, whereas other types of caregiving were not explored such as elderly parents and relatives in a culture that nurtures and encourages taking care of elderly relatives.

Conclusions

Understandably, the COVID-19 pandemic has affected the academic and nonacademic staff at the university like other institutions. There was gender disparity in the increase in home responsibilities and in taking care of young children, stress and anxiety. Social and peer

interactions at the university sharply decreased and more males believed that their superiors understood their needs and checked if their workload was manageable during the pandemic. Work productivity was not affected during the pandemic and a high level of satisfaction was noted towards the concern of the university and measures taken during the pandemic. This study recommends increasing information sharing with employees during crisis to better inform them, raise their awareness of the available counseling services and allocate social time to enable superiors better understand employees' needs. The COVID-19 Committee is an ad hoc committee that was formed at a critical time to respond to a crisis. Having disaster and emergency plans in place for such times is necessary. Focus on mental health is also needed, concurrently with care about the safety of the employees and their physical health. Future research directions may focus on how gender impacts the perception and response to crises in higher education in Arab countries. Additionally, the effectiveness of setting gender-sensitive policy instead of gender-neutral, in preparedness and responses to crises, may be explored in the higher education settings in the Arab region.

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