

The Saudi Arabian Population Experiences and Expectations in the Working Climate During COVID19 Pandemic Era

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ABSTRACT

Background: The Covid-19 pandemic has changed the working environment in a substantial way. The people expectations are important in term of planning.

Objectives: The objective of this study is to explore the expectations and experiences of the Saudi population during and after the COVID 19 pandemic.

Methods: A cross-sectional survey was used in this study, in which 381 residents filled out a structured online questionnaire. The collected data were coded and analyzed using SPSS version 22. The study obtained ethical approval, and all participants provided informed consent.

Results: Half the population stated that they were dependent on digital media, and they spent more hours working from home [53.5%, 50%]. Two-thirds of the population stated that they missed social interaction. Eighty percent of respondents foreseen that virtual meetings, working from home, and computerization acceleration will become the norm even after the epidemic. Nearly fifty percent agreed that wearing a mask would become a usual practice. Inferential statistics showed that gender, occupation, and nationality all had statistically significant relationships with four domains of work experiences [P-value of less than 0.05], except for the relationship of nationality with the time spent at work. The expectation that the use of face masks would become normal and a fashion was not significantly associated with nationality, gender, or occupation with a P-value of [0.09, 0.28, and 0.93, respectively]. The expectation of the Home office to become a common practice was not associated with gender.

Conclusion: Work expectations changes are associated with gender, occupation, and nationality.

Keywords: COVID19 pandemic, Work experience, Work expectations, Saudi Population

INTRODUCTION

COVID 19 disease was reported in the city of Wuhan, China, by the end of 2019. The disease spread all over the world, resulting in the ongoing pandemic¹⁻³.

The first confirmed case in Saudi Arabia was declared on March 2, 2020. The government immediately announced many precautionary measures to control the pandemic, such as working from home and wearing masks. The lockdown restrictions were eased later on when the number of cases started to decline. The vaccine of COVID 19 was introduced end of Jan 2021; the government instituted a gradual return to work following administration of the vaccine⁴⁻⁷.

The literature showed that many researchers studied the change in the work situation after the pandemic started such as Blustein DL and Guarino. Other researchers such as Ackerman's and J Richardson studied the importance of social interaction, which and its effect in decreasing mental stress^{8,9}. The extent of the job requirements was studied by Lekfuangfu WN and his, their results revealed that jobs could be adaptable to work from home with some differences according to individual needs and home factors¹⁰. On the other hand, Saudi Arabia started digitalization of work since the start of the COVID 19 pandemic and it was largely practiced¹¹. Other changes in work situations include working for long hours as mentioned by Lina Vyas and Nantapong Butakhieo¹². Some researchers mentioned the importance of social

interaction, but they expect conferences and meetings to continue to be virtual^{13,14}.

Key messages: This research is worth studying because people's expectations of the work situations after the end of the pandemic are important to identify to properly plan for the complete return after the pandemic.

The objectives of the research: This research aims to find out what the real experience was and what are the future expectations of the work situation of residents of Saudi Arabia after the COVID 19 pandemic.

METHODS

The researcher used a descriptive cross-sectional study in Saudi Arabia among working females and males from June to December 2020.

Sampling Procedure: The sample size was calculated by using an infinite population proportion formula $n = Z^2 pq/d^2$, where Z=standard normal deviate at 1.96, p=proportion of the characteristics under study which was considered to be 50%, q=proportion of the target population not having particular characteristics) 1-p (, and d=degree of accuracy at 0.05. The calculated sample size was 385. The collected sample was 381, with a response rate of 99%. The sampling technique used was convenience non-probability type.

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Data Collection Tools: The data were collected using a structured online questionnaire distributed on Telegram as it allows one to communicate without identifying personal phone numbers. This anonymizes forwarded messages to the groups and increases confidentiality. A link to the questionnaire in the Google form was initially sent to each group. When the participants clicked on the link, they were taken to the electronic Google form, which was saved automatically in the researcher’s Google drive once they filled the questionnaire. The first section of the questionnaire consisted of sociodemographic characteristics) gender, nationality, and occupation (. The second part consisted of four questions about work experience depending on digital interaction for meetings, spending more time working than before, missing the social interaction of the usual work, and feeling stressed by the digitalization. These questions were placed on 5-point Likert scale. The third part comprised of eight questions about Saudi people's expectations from future work after the end of the pandemic, including questions about most meetings could be replaced with virtual meetings, mandatory on-the-job medical screening could become the norm, use of face masks could become a norm and a fashion, working hours will be less than the standard 8-9 hours in office, working from home could become a common practice, middle management positions could be cut forever, computerization or robotics could be accelerated, and ultimately the offices will be less crowded. These questions were placed on 3-point Likert scale.

Validity and Reliability: Reliability was 0.84 as checked by Cronbach alpha, which measured the consistency of the questions based on pre-test data that was carried out on 20 participant responses using SPSS; however, these data were not included in this study.

Validity: The questionnaire had 80% content validity as measured by three public health experts.

Statistical Analysis: Data were coded, imported, and analyzed using SPSS version 22. The researcher checked the completeness of the data, and any incomplete answer was removed. Descriptive statistics were used to describe the study population by frequencies and percentages. For the inferential statistics, the relationship was measured by t-test (for comparing two means), Chi-square (for comparing categorical data). The analysis included testing the hypothesis of gender, occupation, and nationality against work experience and expectations.

Ethical Consideration: Ethical approval was obtained from the Institutional Review Board of Princess Nourah Bint Abdulrahman University, Log no 20-0211. Informed consent was obtained from the participants attached to the online questionnaire. The objective of the study and the potential benefits, such as social benefits, were mentioned in the informed consent. The anonymity of the participants and the confidentiality of their information were ensured. Moreover, confirmation of their voluntary participation and their right to withdraw from the study at any time were explicitly mentioned.

RESULTS

In 2020, 385 Saudi Araba residents were surveyed. According to the results, females account for almost two-thirds (66.1%), and males were nearly thirty percent (28.3%). Almost half were from the health sector (48.8%) regarding the occupation. Other characters showed that seventy percent were married, and a slightly lower percentage had children (71.7% and 69.3%). The highest attainable education was postgraduate, which accounts for seventy percent (70.9%), followed by bachelor's degree, which accounts for one-fourth of the study population (26.0%).

Table 1 presents the work experience as stated by the study population. Almost half of the participants mentioned that they depended on digital interaction all the time (53.5%), and a third of them depended on it most of the time, and a very few stated that they relied on it sometimes only (6.3%). Regarding the time they spent working, more than fifty percent stated that they work all the time or most of the time (28.3% and 25.2%, respectively). Almost two-thirds of the study population stated that they miss the social interaction all the time or most of the time (27.6% and 38.6%, respectively), whereas nearly ten percent stated that they rarely or never miss it (5.5% and 3.9%). Regarding the stress of digitalization, fifty percent were stressed either all the time or most of the time (27.6% and 23.6%), a fourth of them felt the stress sometimes (25.2%), while twenty percent stated that they felt stress rarely or even never (11.8% and 11.5%).

Table 2 shows the expected change in work after the pandemic will be finished. Eighty percent agreed that virtual meetings would replace regular meetings. Slightly more than three-fourths of them agreed that mandatory on-the-job medical screening would become a normal practice (77.2%). Almost fifty percent agreed that wearing a fashionable mask would be a usual practice, whereas the rest were either neutral or disagreed (29.9% and 20%, respectively). Almost sixty percent agreed that the working hours would be less than 8-9 hours, and forty percent were either neutral or disagreed (22.85 and 18.1%). Regarding working from home, almost eighty percent agreed that home office might become a normal practice (82.7%), and fifty percent agreed that middle management position might disappear (48.8%), whereas the rest were either neutral or disagreed (33.1% and 18.1%). Also, eighty percent agreed to computerization acceleration or increased use of robotics (81.8%). Lastly, the expectation that offices would be less crowded was more than ninety percent (93.7%).

Table 3 shows the relationship of demographic character with work experience during the COVID 19 pandemic. It was found that gender, occupation, and nationality all had a statistically significant relationship with a P-value of less than 0.05 for work experiences, namely digital interaction for my meetings, social interaction, and the stress of digitalization. The only insignificant relationship was nationality with the time spent at work with a P-value of 0.74.

Table 4 shows the relationship between sociodemographic character and work expectations after the COVID 19 pandemic. It was found

Table 1: Work experience and feelings during the COVID 19 pandemic as stated by study participants [n=381]

Items	Never		Rare		Sometimes		Most of the time		All the time	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
Depending on digital interaction for meetings	21	5.5%	6	1.6%	24	6.3%	126	33.1%	204	53.5%
Spending more time working than before	48	12.6%	42	11.0%	87	22.8%	96	25.2%	108	28.3%
Miss the social interaction of the usual work	15	3.9%	21	5.5%	93	24.4%	147	38.6%	105	27.6%
Feel stressed by the digitalization of my work	45	11.5%	45	11.8%	96	25.2%	90	23.6%	105	27.6%

Table 2: Work expectation after the pandemic ends as stated by study participants [n=381].

Items	Disagree		Neutral		Agree	
	NO.	%	NO.	%	NO.	%
1 Regular meetings could be replaced with virtual meetings	33	8.7%	42	11.0%	306	80.3%
2 Mandatory on-the-job medical screening could become the norm	18	4.7%	69	18.1%	294	77.2%
3 Face masks could become a norm and a fashion	84	22%	114	29.9%	183	48.0%
4 Working hours will be less than the standard 8-9 hours	69	18.1%	87	22.8%	225	59.1%
5 Home office could become a common practice	18	4.7%	48	12.6%	315	82.7%
6 Middle management positions could be cut forever	69	18.1%	126	33.1%	186	48.8%
7 Computerization or robotics could be accelerated	24	6.3%	48	12.6%	309	81.1%
8 The offices will be less crowded	12	3.1%	12	3.1%	357	93.7%

Table 3: The relationship of sociodemographic character with work experience during COVID 19 pandemic [n=381]

Work experience	Variable	Specification	Never	Rare	Some times	Most of the time	All times	P value
depend on digital interaction for my meetings	Nationality	Saudi	3 [0.7%]	0 [0.0%]	6 [1.6%]	18 [4.7%]	81 [21.2]	0.00
		Non Saudi	18 [4.7%]	6 [1.6%]	19 [4.9%]	108 [28.3%]	123 [32.3%]	
	Gender	Male	3 [0.7%]	0 [0.0%]	15 [3.9%]	75 [19.6%]	36 [9.4%]	0.00
		Female	18 [4.7%]	6 [1.6%]	9 [2.4%]	51 [13.4%]	168 [44.1%]	
Occupation	Health	3 [0.7%]	6 [1.6%]	12 [3.1%]	66 [17.3%]	99 [25.9%]	0.00	
	Non Health	18 [4.7%]	0 [0.0%]	12 [3.1%]	60 [15.7%]	105 [27.6%]		
I miss the social interaction of the usual work environment	Nationality	Saudi	3 [0.7%]	3 [0.7%]	21 [5.5%]	60 [15.7%]	21 [5.5%]	0.00
		Non Saudi	12 [3.1%]	18 [4.7%]	72 [18.9%]	87 [22.8%]	84 [22.0%]	
	Gender	Male	6 [1.6%]	6 [1.6%]	51 [13.4%]	45 [11.8%]	18 [4.7%]	0.00
		Female	9 [2.4%]	15 [3.9%]	42 [11.0%]	102 [26.8%]	87 [22.9%]	
Occupation	Health	12 [3.1%]	12 [3.1%]	54 [14.2%]	72 [18.9%]	36 [9.4%]	0.00	
	Non Health	3 [0.7%]	9 [2.4%]	39 [10.2%]	75 [19.7%]	69 [18.1%]		
spent more time working than before	Nationality	Saudi	12 [3.1%]	9 [2.4%]	27 [7.1%]	30 [7.9%]	30 [7.9%]	0.74
		Non Saudi	36 [9.4%]	33 [8.9%]	60 [15.7%]	66 [17.3%]	78 [20.0%]	
	Gender	Male	12 [3.1%]	21 [5.5%]	54 [14.2%]	24 [6.3%]	18 [4.7%]	0.00
		Female	36 [9.4%]	21 [5.5%]	33 [8.9%]	72 [18.9%]	90 [23.6]	
Occupation	Health	27 [7.1%]	21 [5.5%]	63 [15.5%]	48 [12.6%]	27 [7.1%]	0.00	
	Non Health	21 [5.5%]	21 [5.5%]	24 [6.3%]	48 [12.6%]	81 [21.3%]		
I was stressed by the digitalization of my work	Nationality	Saudi	6 [1.6%]	12 [3.1%]	27 [7.1%]	45 [11.8%]	18 [4.7%]	0.00
		Non Saudi	39 [10.2%]	33 [8.9%]	69 [18.1%]	45 [11.8%]	87 [4.7%]	
	Gender	Male	12 [3.1%]	12 [3.1%]	57 [14.9%]	33 [8.9%]	15 [3.9%]	0.00
		Female	33 [8.9%]	33 [8.9%]	39 [10.2%]	57 [15.9%]	90 [23.6%]	
Occupation	Health	21 [5.5%]	24 [6.3%]	72 [18.9%]	30 [7.9%]	39 [10.2%]	0.00	
	Non Health	24 [6.3%]	21 [5.5%]	24 [6.3%]	60 [15.7%]	66 [17.3%]		

that the expectation that mandatory on-the-job medical screening could become a norm was not statistically associated with gender (P-value 0.31). The expectation that face masks could become a norm and a fashion was not significantly associated with nationality, gender, or occupation with a P-value of (0.09, 0.28 and 0.93, respectively). The expectation that home office could become a common practice was not associated with gender. The expectation that middle management positions could be cut forever was not significantly associated with nationality or occupation (P-value 0.09, 0.10 and 0.19). The expectation that offices will be less crowded was not statistically associated with nationality (P-value 0.23). All other relationships were statistically associated with gender, occupation, and nationality at a P-value of less than 0.05.

DISCUSSION

The study showed that a considerable percentage of Saudi Arabian residents depend on digital interaction, which is in line with a study that documented the use of digital technology in Saudi Arabia during the COVID19 pandemic in the form of establishing and launching approximately 19 applications and platforms¹¹. Looking into the Saudi Vision 2030 framework, which was released in 2017, we can see that the road has been paved for digital transformation. The COVID-19 pandemic provided an excellent opportunity for the testing of this evolution. Another domain is more working hours as stated by them, similar to a study in Hong Kong which revealed that working from home consumes more hours as it demands some other resources and documents, as well as proper working space, which sometimes might not be available at home¹².

Table 4A: The relationship of sociodemographic character with work expectation [n=381]

Work Expectations	Variable	Specification	Agree	Neutral	disagree	P value
Most meetings could be replaced with virtual meetings	Nationality	Saudi	96 [25.2%]	6 [1.6%]	6 [1.6%]	0.03
		Non-Saudi	210 [55.1%]	36 [9.4%]	27 [7.1%]	
	Gender	Male	117 [30.7%]	0 [0.0%]	12 [3.1%]	0.00
		Female	189 [49.6%]	24 [6.2%]	21 [5.5%]	
	Occupation	Health	156 [40.9%]	15 [3.9%]	15 [3.9%]	0.16
		Non-Health	157 [41.2%]	27 [7.1%]	18 [4.7%]	
Mandatory on-the-job medical screening could become the norm	Nationality	Saudi	96 [25.2%]	12 [3.1%]	0 [0.0%]	0.00
		Non-Saudi	198 [51.9%]	57 [14.9%]	18 [4.7%]	
	Gender	Male	96 [25.2%]	24 [6.2%]	9 [2.4%]	0.31
		Female	198 [49.6%]	45 [11.8%]	9 [2.4%]	
	Occupation	Health	144 [37.8%]	27 [7.1%]	15 [3.9%]	0.04
		Non Health	150 [39.4%]	42 [11.0%]	3 [0.7%]	
Face masks could become a norm and a fashion	Nationality	Saudi	60 [15.7%]	24 [6.2%]	24 [6.2%]	0.09
		Non Saudi	123 [32.2%]	90 [23.6%]	60 [15.7%]	
	Gender	Male	69 [18.1%]	33 [8.9%]	27 [7.1%]	0.28
		Female	118 [31.9%]	81 [22.2%]	57 [14.9%]	
	Occupation	Health	90 [23.6%]	54 [14.2%]	42 [11.0%]	0.93
		Non Health	93 [24.4%]	60 [15.7%]	42 [11.0%]	
Working hours will be less than the standard 8-9 hours	Nationality	Saudi	78 [20.5%]	6 [1.6%]	24 [6.2%]	0.00
		Non Saudi	147 [38.6%]	81 [22.2%]	45 [11.8%]	
	Gender	Male	90 [23.6%]	21 [5.5%]	18 [4.7%]	0.00
		Female	135 [35.4%]	66[17.3%]	51[13.4%]	
	Occupation	Health	120 [31.5%]	24[6.2%]	42[11.0%]	0.00
		Non Health	105[27.6%]	63 [16.5%]	27 [7.1%]	

Table 4B: The relationship of sociodemographic character with work expectation [n=381]

Work Expectations	Variable	Specification	Agree	Neutral	disagree	P value
Home office could become a common practice	Nationality	Saudi	96 [25.2%]	6 [1.6%]	6 [1.6%]	0.03
		Non Saudi	219 [57.5%]	42 [11.0%]	48 [12.6%]	
	Gender	Male	114 [29.9%]	12 [3.1%]	3 [0.7%]	0.09
		Female	201 [52.7%]	36 [9.4%]	15 [3.9%]	
	Occupation	Health	168 [44.1%]	12 [3.1%]	6 [1.6%]	0.01
		Non Health	147 [38.6%]	36 [9.4%]	12 [3.1%]	
Middle management positions could be cut forever	Nationality	Saudi	42 [11.0%]	48 [12.6%]	18 [4.7%]	0.10
		Non Saudi	144 [37.8%]	78 [20.4%]	51 [13.4%]	
	Gender	Male	84 [22.0%]	27 [7.1%]	18 [4.7%]	0.00
		Female	102 [26.8%]	99 [25.9%]	51 [13.4%]	
	Occupation	Health	96 [25.2%]	63 [16.5%]	27 [7.1%]	0.19
		Non Health	90 [23.6%]	63 [16.5%]	42 [11.0%]	
Computerization or robotics could be accelerated	Nationality	Saudi	81 [21.3%]	21 [5.5%]	6 [1.6%]	0.04
		Non Saudi	228 [75.6%]	27 [7.1%]	18 [4.7%]	
	Gender	Male	120 [31.5%]	6 [1.6%]	9 [2.4%]	0.00
		Female	189 [49.6%]	39 [10.2%]	24 [6.3%]	
	Occupation	Health	171 [44.9%]	12 [3.1%]	3 [0.7%]	0.00
		Non Health	138 [46.2%]	36[9.4%]	21 [5.5%]	
The offices will be less crowded	Nationality	Saudi	99 [25.9%]	3 [0.7%]	6 [1.6%]	0.23
		Non Saudi	258 [74.8%]	6 [1.6%]	9 [2.4%]	
	Gender	Male	123 [32.3%]	6 [1.6%]	0 [0.0%]	0.02
		Female	234 [61.4%]	6 [1.6%]	12[3.1%]	
	Occupation	Health	180 [47.2%]	3 [0.7%]	3 [0.7%]	0.05
		Non Health	177[46.5%]	9 [2.4%]	9 [2.4%]	

Social interaction was missed by many of our study participants, similar to the Jordanian population, as shown by a cross-sectional study using an online survey to determine the population's perception about change in social relationships and communication. The results showed that the mean average score of social connectedness was equal to 56.8%, indicating the importance of social relationships¹³.

Regarding expectations about meetings, some of this study population stated that virtual meetings would replace regular meetings. This expectation goes in line with what scientists agreed in the Nature poll that online research conferences are beneficial, but also recommended blending them with in-person meetings in the future. This is contrary to the resolution obtained in the North Star Meetings Group's latest PULSE Survey, which found that 81 percent of meeting planners expect regular meetings to resume in 2022 or later^{14,15}.

Almost fifty percent of the participants agreed that wearing a fashionable mask would be a usual practice, whereas the rest were either neutral or disagreed. Investigating the theory of planned behavior, a research conducted by John P Barile and his colleagues in the United States showed that the intention to wear a face mask is a positive measure, especially wearing it at public places. Another research by Rab S, Javaid M, and Haleem emphasized the importance of wearing masks in public places as a vital health measure and they expect it to be a new usual practice even after the COVID-19 pandemic ends^{16,17}.

When we look at the expectations of work from home, this research showed that almost eighty percent of the participants expect that home office might become a normal practice. This is similar to results obtained in a new survey by Christopher Stanton, Zoe Cullen, and Michael Luca, which suggests that around 16 percent of employees will remain at-home workers for at least two days a week even after COVID-19 ends¹⁸.

The increased use of digital technology, computerization or robotics has been discussed in a comprehensive literature review by Javaid Mohd to identify Robots' possible applications in the management of epidemics and pandemics. This review found that different types of Robotics have already been used in medicine and delivering food, and it is expected to continue to grow even more¹⁹.

CONCLUSION AND LIMITATIONS

The research concluded that gender and occupation differences plays role in depending on digital interaction, spending more hours working from home, and missing social interaction, were the evident norms during the epidemic. The expectation of the change in work after the end of the COVID-19 pandemic comprises an increase in virtual meetings, working from home, and computerization. Furthermore, wearing fashionable masks would be a usual practice, which has no relationship with nationality, gender, or occupation.

The limitation is due to the nonprobability type of data which was performed by online techniques. This makes randomization difficult, which results in the non-generalizability of the target population. Also, the online collection of data affects the confidentiality of the participants, and this was solved partially by posting the questionnaire on the most appropriate platform available, namely Telegram.

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