Research Article

A Structural Equation Modeling Approach to Understanding the Causes of Psychological Distress during the Covid-19 Pandemic in Qatar

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Abstract:

Purpose

- The purpose of this study is to determine how blended learning, teleworking challenges, knowledge, strategic responses in crisis situations, perceived seriousness, peoples' adherence to Covid-19 preventative measures, social stigma, age and gender relate to the outcome variable "Psychological Distress during the Covid-19 pandemic" in Qatar.

Design/methodology/approach

- The data analyzed in this study was originated from a nationally online (web) survey of residents in Qatar during the Corona crisis in 2020. The number of questionnaires with complete data on valid items for multivariate analysis is 1683. By using factor analysis as a data reduction technique and to establish the construct validity of the questionnaire, Kaisers-Meyer-Olkin (KMO) and the Bartless test of sphericity showed that eight extracted dimensions are valid and can be used in the structural equation model (path analysis).

Findings

- In regressing the outcome variable "Psychological distress due to Covid-19 "on the seven extracted dimensions as well as on "Age" and "Gender", it is found that the multiple coefficient of determination is highly significant. "Psychological distress due to Covid-19" is determined by all explanatory significant variables. Moreover, the study findings suggest that the explanatory variables indentified in the causal model generate both positive and negative direct effects. What's more, the outcome variable "Psychological Distress due to Covid-19" is a complex observable phenomenon calling for multiple interventions. Apart from individual significant direct positive or negative effects, all indirect effects with the exception of knowledge increase the total (as the sum of direct and indirect) effects. Findings of this study provide strategic insights and useful thinking that have significant implications for understanding "Psychological distress due to Covid-19."

Original value

- To the best of the researchers' knowledge, this is the first path analytical investigation of "Psychological distress due to Covid-19" in Qatar. This novel context should provide a useful base for further studies as well as for policy making.

Keywords: blended learning, remote work, strategic responses, psychological distress, Covid-19, social stigma

1. Introduction

In Qatar, as in many countries, Covid-19 pandemic has caused universities and schools to plan and design their schedule and learning plan to serve students well mutually on and off-campus. At the same time, several students are becoming more productive working from home while others are becoming less so. Tesar argues that "online teaching and learning was not really thought through; the ideas of digital literacy and digital pedagogies were mostly unexplored, and rarely prompted any in-depth thought from the course directors or lecturing staff, who received minimal support" (Tesar, 2020; p. 556). The physical presence of both teacher and student online is likely to trigger psychological distress. For more than a year, the Covid-19 has imposed on government and families cultural change and strategic responses calling for physical distancing as well as adopting more stringent protective measures. Working parents are forced to telework full-time from home and accept the additional full-time teaching of their kids. As to be expected, people teleworking are often faced with challenges. Glenn, Chaumont and Villalobos believe that "[C]ountries show different responses to the way they assessed and reacted to the Covid-19 as a crisis, the decisions taken to prevent infections and mitigate consequences, and the way they communicate information to the population"(Glenn *et al.,* 2020; p.81). Governments implemented new school and work policies, social distancing and other measures including people's awareness in facing the coronavirus crisis (Kashyap and Raghuvanshi, 2020; p.357; Thelwall and Thelwall, 2020; p.945). Feng and Savani believe that society should provide more support to women during the Covid-19 pandemic because "when couples are working from home the whole day and when schools are closed, women are expected to devote more time to housework and childcare" (Feng and Savani, 2020, p. 719). That is being said, Kappor, Yadav, Baipai, and Sriviastava argue that "[A]lthough teleworking is studied previously, there is a scarcity of research examining the impact of teleworking on psychological well-being" (Kapoor et al., 2021).

Theoretical Grounding

The manifestation of psychological distress, defined as the non-specific expression of symptoms related to the experience of depression, anxiety, and stress (Viertiö*et al.,* 2021), is a widespread and currently unfurling impact of the global pandemic, and it is mediated by a multitude of compounding factors.

Influence of gender on psychological distress during Covid-19 pandemic

Gender and age variations have associated vulnerabilities to psychological distress during a pandemic (Conversano*et al.,* 2020). Studies established a heightened risk associated with gender, as evidenced by the general vulnerability to psychological distress in women compared to men (Viertiö*et al*., 2021). The gender disparity in Conversano, Di Giuseppe, Miccoli, Ciacchini, Gemignani, &Orrù's Italian study (2020) is corroborated by observations from Nigeria (Olaseni *et al*., 2020) and China (Zhang *et al*., 2020). Research from the United States has also established that this vulnerability is further heightened in gender minority/diverse populations (Salerno *et al*., 2021; Hunt *et al.,* 2021). During Corona lockdowns, people are asked to stay at home all the time, with few allowed to work on site. Subsequently, this lockdown is associated with high levels of psychological distress among women, particularly working mothers. This may be partly attributed to the traditional conventions about gender roles, due to which women are responsible for domestic labor and childcare, resulting in marital issues and associated work-life conflicts (Momani, 2016; Rodriguez & Scurry, 2019). Based on the gender role theory (Feng&Savani, 2020), the reinforcement of the conservative family structure of male breadwinners is associated with a higher prevalence of depression and anxiety among women due to a lack of adequate distribution of housework and childcare during the lockdown.

Influence of age on psychological distress during Covid-19 pandemic

Psychological distress can be influenced by age. Conversano and colleagues' research established that increased age was associated with protective factors against psychological distress, with younger respondents being at a higher risk for mental health problems incurred by pandemic restrictions (Conversano*et al.,* 2020), a finding also supported by in Horesh, Kapel Lev-Ari, and Hasson-Ohayon, (2020) data and research from Belgium (Glowacz&Schmits, 2020). Ameriks, Briggs, Caplin, Lee, Shapiro, and Tonetti (2020)hypothesize that Corona lockdown arrangements have allowed some older workers to work longer and stated that "even those who are long retired have strong willingness to work, especially in jobs with flexible schedules" (Amerikse*t al*., 2020, p.174). Bal and Jansen (2016) stated, "[A]s demographic changes impact the workplace, governments, organizations, and workers are looking for ways to sustain optimal working lives at higher ages. Workplace flexibility has been introduced as a potential way workers can have more satisfying working lives until their retirement ages" (Bal and Jansen, 2016, p. 43).

Influence of strategic responses in Covid-19 crisis on psychological distress during Covid-19 pandemic

Strategic response adopted by the government positively affects social distancing but significantly increases psychological distress (Glenn *et al.,* 2020; Khan *et al*., 2021; Oslande*t al*., 2020). Lockdown measures exacerbate vulnerability to psychological distress (Di Blasi*et al*., 2021), and social isolation has been outlined as a predictor of suicidal ideation and attemptsuicide (Thakur & Jain, 2020). Research in Singapore established that the use of the government's WhatsApp channel was a protective factor against depression, but it was also connected with a heightened vulnerability to anxiety, a finding resulting from an individual's trust in government messages (Liu & Tong, 2020). Angela Merkel's communication strategy—harnessing both new and traditional media—was associatedwith reduced levels of anxiety and depression (Teufel*et al.,* 2020).

This data establishes that reliable information and maintenance of awareness could decrease vulnerability to psychological distress, as well as improve adherence to preventative measures (Suplico-Jeong*et al.,* 2021)—a finding that is supported by research establishing that exposure to misinformation increases both misinformation belief and psychological distress, as well as decrease adherence to preventative behaviors (Lee *et al.,* 2020). The effectiveness of a government's strategic response depends on the citizens' awareness. As expected, families follow different approaches to deal with the strategic responses to address the Corona crisis. The findings of Kraus *et al.* (2020) show "that the crisis is bringing about a significant yet unintended cultural change" (p.1769). These elevated shifts seems to be more intense/prominent since most communities lack access to established beneficial social reinforcement from relatives and friends.

Influence of adherence to Covid-19 preventative measures on psychological distress

Adherence to social distancing measures are shown to be impacted by an individual's attitude to the policy itself rather than the perceived severity or susceptibility of the pandemic (Bakti*et al*., 2020; Suplico-Jeong*et al*., 2021). Thelwal and Thelwall (2020) believe that "public attitudes towards Covid-19 and social distancing are critical in reducing its spread" (Thelwal and Thelwall , 2020, p. 945). Despite the previously established

vulnerability to psychological distress due to lockdown measures, for women in India, working at home alleviated the impact of stress on their psychological well-being—a finding that illustrates an additional positive impact on mental well-being due to adherence to preventative measures (Kapoor *et al*., 2021). Stay-at-home orders in the US significantly shows the efficacy of the imposition of measures compared to the communication of severity (Sumaedi*et al.,* 2020; Yang *et al.,* 2020; Wen *et al.,* 2020). Regarding the impact of awareness on adherence, distress due to information from media was correlated with increased compliance, although it similarly increased information avoidance (Siebenhaar*et al.,* 2020). To summarize, there is a delicate balance for strategic response to navigate—while information increases adherence, it also increases distress and avoidance.

Research examining compliance with mask wearing, hand sanitizing, and compliance with government guidelines has been shown to amplify feelings of fear and increased anxiety (Parlapani*et al.,* 2020) and obsessive-compulsive symptoms in vulnerable populations (Knowles &Olatunji, 2021). A lack of unified and consistent messaging in the American media has been shown to both decrease compliance with mitigation measures (Bekalu*et al.,* 2021) and increase negative psychological health outcomes (Holman *et al.,* 2020). Taken together, government strategy has an unavoidable psychological impact that must be the target of intervention so that adherence and compliance do not have long-term psychological consequences.

Influence of social stigma on psychological distress during Covid-19 pandemic

Abdelhafiz and Alorabi (2020) identified social stigma as "the hidden threat of Covid-19" (p. 945). In the context of health, Overholt*et al.* (2018) defined stigma as "the negative association between a person or a group of people who share certain characteristics and a specific disease." Several studies have addressed the role of social stigma, stereotyping, discrimination, and labelling of persons with Covid-19 disease, which may also affect individuals associated with Corona patients, such as caregivers, family members, community members, or the same racial/ethnic group (Turner *et al.,* 2020; Ramaci*et al*., 2020; Villa *et al.,* 2020). Such behaviors may cause the stigmatized group to experience high psychological distress due to isolation, harassment, and bullying. Thakur and Jain (2020) presented a case study from Bangladesh where an individual committed suicide due to social alienation from his neighbors due to his health status. Healthcare workers have been shown to face the greatest social stigma from both the general population (Ramazi*et al*., 2020) and their own colleagues (Grover *et al*., 2020) due to a higher exposure to Covid-19. Research from India established a high rate of stigmatization for Covid-19 survivors (Dar *et al.,* 2020), and research from the United States highlighted that over half of the survey participants experienced stigma following their recovery (Prioleau, 2021); the most common experience of stigma was avoidance, which correlated with higher rates of anxiety and depression.

Influence of perceived blended learning on psychological distress during Covid-19 pandemic

Several studies have shown that remote learning is good for conceptual learning, whereas face-to-face learning is good for exercises. Smith (2013) found that "there is a diversity of preference amongst the student body for online vs. face-to-face learning" (Simit, 2013, p.83).Sibirskaya, Popkova,Oveshnikova and Tarasova(2019) believe that "promotion of the formation and development of remote education is recommended instead of limitation, since it allows modernizing the educational system for the benefit of both supply and demand"(Sibirskaya*et al.*, 2019, p. 533). Hass and Joseph (2018) called for "a hybrid or blended learning course, a combination of both online and traditional courses. This opens the options for the student, as hybrid courses can be built with many different options" (Hass and Joseph, 2018, p. 230). Bogoviz, Lobova, Ragulina and Alekseev (2019) recommend "to unify traditional and remote education within the diversification of the forms" (Bogoviz *et al*., 2019, p. 525).

In response to the spread of Covid-19 and as a way to slow the spread of the virus, most educational institutions around the world have implemented online remote learning as a means to continue classes (Sahu, 2020). However, the blended learning strategies can result in both students and instructors facing a number of challenges including psychological distress: such as increased levels of anxiety, fear, and worry, among other effects (Alam, 2020, Bao, 2020; Cao *et al.* 2020; Li *et al*. 2020; Rohman*et al.* 2020; Marji*et al.* 2020; Sintema, 2020; Wang *et al.* 2020). In a study conducted by Rohman, Marji, Sugandi and Nurhadi (2020), students exhibited negative perceptions of online learning, which might be a significant cause of psychological distress (Rohama*et al.*, 2020). Moreover, Sintema (2020) reported that the pass percentages among students might fall this year due to Covid-19 lockdowns and a sudden change in the mode of learning. Students' mental health during the lockdowns imposed to impede the spread of the virus depended heavily on the level of change in their everyday routine and the support they received during that challenging time (Ma and Miller, 2020; Zimet*et al.,* 1988). A study carried out in February 2020 in China revealed that sources of college students' anxiety during the pandemic were related to their place of residence, source of parental income, whether they were living with parents, and whether a relative or an acquaintance was infected with Covid-19 (Cao *et al*., 2020).

Influence of teleworking challenges on psychological distress during Covid-19 pandemic

Remote work was used by many countries as a way to halt the virus from spreading; several studies were carried out on occupational stress due to Covid-19 work adjustments and their effect on work–life balance and psychological stress. Remote work during this uncertain time demonstrated negative effects on work–life balance and caused psychological stress, since the blurred boundaries between work and family life lead employees to overwork (Grant *et al*., 2019). Studies show that employees who have a family suffer negative effects due to ambiguity and conflicts in their roles and responsibilities (Usman *et al*., 2011). The blurred line between work and family, distractions, social isolation, and costs related to remote working can result in psychological stress. In other words, the presence of young children or family members may distract employees while working at home (Baruch 2000 and Kazekami 2020). Being distant from the work environment might have negative effects on employees in terms of communication and teamwork. Employees working remotely face disadvantages due to physical distance, which results in feelings of alienation, isolation, and worry (Collins, 2005).The role of social support that employees have exhibits an indirect positive impact on their performance and well-being (Wang *et al*., 2020). Interestingly, in a study conducted in Japan, employees who are more aware of the risk of Covid-19 in relation to the work place measures exhibited higher levels of fear and worry about the virus (Sasaki *et al.*, 2020).

Influence of knowledge of Covid-19 on psychological distress during Covid-19 pandemic

A year after the novel Coronavirus breakout was declared a global pandemic, surviving such a situation seems to be directly linked to people's knowledge with regard to this virus. In fact, public knowledge is instrumental in dealing with this crisis, as knowledgeable people appear to be more adherent to protective measures, more responsive to government policies and, more importantly, they seem to have less emotional and psychological distress. A study conducted in Jordan indicated that having less knowledge of Covid-19 could lead to a higher level of anxiety (Sallam*et al.,* 2020). Another study in Iran confirmed the assumption that having adequate knowledge about the virus considerably decreases psychological distress (Maarefvand*et al*., 2020). It is important to note that this is not always the case. In his latest article, Saravanan, Mahmoud, Elshami, and Taha (2020) explained that being more knowledgeable about the virus could lead to more distress. This unusual outcome could be related to the fact that respondents self-assessed themselves for anxiety and psychological distress, and if this assessment was done clinically by experts, their diagnosis might be different and the results could be entirely distinct (Saravanan*et al.,* 2020). Furthermore, the study shows that the source of information matters, as stress levels among medical students are lower than among other majors. The authors believe that medical students take their information from reliable sources, unlike other students who might rely on social media to gain information about the Coronavirus.

Influence of perceived seriousness of Covid-19 on psychological distress during Covid-19 pandemic

People's serious perceptions of the virus, including the extended quarantine periods, fears of illness, and stigma, are among the factors associated with an increase in psychological distress. In her article, "Psychological distress and its risk factors during the Covid-19 pandemic in Saudi Arabia: A cross-sectional study," Elhessewi, Almoayad, Mahboub, Alhashem, and Fiala (2021) explained that there is a significant positive relationship between one's perception of the severity of the disease and psychological distress. Findings from the study revealed that people who perceived the virus with seriousness believed they might be more susceptible to the virus, and this caused their anxiety and distress levels to be high (Elhessewi*et al.*, 2021).

2. Purpose of the study

The purpose of this study is to determine the antecedents to "Psychological Distress during the Covid-19 pandemic" in Qatar.

Statement of the research problem

What is the relative importance as well as direct and indirect effects of age, knowledge, strategic responses in crisis situations, perceived seriousness, peoples' adherence to Covid-19 preventative measures, social stigma, blended learning, and remote working challenges on the explained variation in the outcome variable psychological distress in Qatar?

Statement of the statistical hypotheses

$H_0: \beta_j = 0$

$H_1: \beta_j <> 0$

3. Methodology

The data analyzed in this study was originated from a nationally online (web) survey of 4579 residents in Qatar during the Corona crisis in 2020 (from November 2020 to January 2021). Even though the current study did not suffer from missing sampled units (unit non-response), it did really suffer from missing answers to survey questions (item non-response). The researchers in the current study don't have an explanation off the top of their head for the missing answers on some items (questions) other than the effect of Corona lockdown. Nevertheless, they decided to be transparent so further researchers especially in the Arab Gulf region can replicate this study and choose to drop all survey returns with missing responses. Thus, the researchers made a decision to analyze the complete data on the valid items only. The returned sample comprised 55.65% women and 44.35% men. The respondents' education ranged from primary education to Ph.D.; 0.55% preparatory, 1.92% primary, 16.32% secondary education, 7.12% vocational education, 4.43% associate degree, 50.62% university degree, 12.14% master's degree, 3.49% have Ph.D. and approximately 3.41% of the sample mentioned other various degrees. Moreover, 49.41% of the respondents are full-time employees, 3.86% part-time employees, 2.56% employers, 4.82% self-employed, 1.78% work for non for profit, 20.06% unemployed seeking a job, 12.24 % unemployed and not seeking a job, 3.34% unable to work, and 1.91% of the sample are retired. Furthermore, 71.6% are married, 1.23% separated, 2.54% divorced, 0.96% widowed, and 23.66% are never married. The average age is 35 years for the two-thirds of the sample that reported their age. The multivariate factor and path analyses was performed on 1683 valid questionnaires having complete answers on items. Eighty items were measured using four and five-point Likert type and 27 items with no missing data were factor analyzed. To determine the suitability of the multivariate factor analysis, two statistical tests were utilized: the KMO (Kaisers-Meyer-Olkin) and the Bartless test of sphericity. First, the computed KMO (Kaisers-Meyer-Olkin) measure of sampling adequacy score of 0.789 score was well above the recommended level of 0.50 (Table 1). Second, the computed Bartless statistical test of sphericity was significant (Chi Square = 14649.076; P = 0.00), indicating that there are satisfactory inter-correlations between the measured statements. The oblique rotation extracted eight factors using Eigen value greater than 1 "the one criterion" and explained 57.197% of the total variation. The eight dimensions factor solution was easy to label:

The first factor "Perceived seriousness of Covid-19" (normal accidents) accounts for 15.222% of the total variance and is defined by six items with factor loadings ranging from 0.65 to 0.89. The six items are:

Q11- You contracted Coronavirus

Q12- You had an accident at home

Q13- You were diagnosed with cancer

Q15-You had a heart attack

Q16- You were involved in a traffic accident

Q17- You contracted food poisoning

The second factor "Psychological19-distress due to Covid " accounts for 10.856 % of the total variance and is defined by four items with factor loadings ranging from 0.71 to 0.83. The four items are:

Q29- I am nervous when I think about current circumstances

Q31- I am worried about my health

Q32- I am worried about the health of my family members

Q33- I feel stressed about leaving my house

The third factor "Perceived blended learning" accounts for 6.84 % of the total variance and is defined by two items with factor loadings above 0.90. The two items are:

Q23- In your view, should children in Qatar attend school in person at the current time

Q24- In your view, should university students in Qatar attend classes in person at the current time

The fourth factor "Social stigma" accounts for 6.144% of the total variance and is defined by three items with factor loadings ranging from 0.59 to 0.85. The three items are:

Q18- Most people would be happy talking to someone who has recovered from Coronavirus.

Q19- Most people would be happy if this person became the teacher of their children.

Q20- Most people would be happy if he/she were to work together with them at their workplace.

The fifth factor "Adherence to Covid-19 preventative measures**"** accounts for 5.094% of the total variance and is defined by three items with factor loadings ranging from 0.53 to 0.73. The three items are:

Q6- I wore a mask whenever I left the house.

Q8- I regularly cleaned my hands with ana lcohol-based hand rub.

Q9- I worked or studied from home to maintain social distancing.

The sixth factor "Knowledge of Covid-19" accounts for 4.484% of the total variance and is defined by three items with factor loadings greater than 0.58. The three items are:

Q1- Coronavirus can only be contracted once in a lifetime.

Q2- Coronavirus always presents symptoms.

Q4- Coronavirus is an inflammation of the lungs.

The seventh factor "Teleworking challenges" accounts for 4.392% of the total variance and is defined by three items with factor loadings ranging from 0.57 to 0.67. The three items are:

Q34- My family relationships have changed for the worse

Q35- The monthly income for my household has decreased

Q36- I have struggled to perform productive work remotely because of childcare responsibilities

The eighth factor "Strategic responses in crisis situations" accounts for 4.165% of the total variance and is defined by three items with factor loadings ranging from 0.58 to 0.74. The three items are:

Q25- The reaction of authorities in Qatar to the Coronavirus outbreak

Q26- The reaction of ordinary people in Qatar to the Coronavirus

Q27- The government has depended on peoples' awareness in facing the Coronavirus crisis

Insert Table – 1 – about here

Insert Table – 2 – about here

4. Findings of the Study

Table - 3 - through - 5 - show the results of multiple regression analysis. In regressing the extracted outcome variable "Psychologicalon "19-distress due to Covid the seven extracted dimensions as well as on "Age" and "Gender", it is found that multiple coefficient of determination $R^{\wedge 2}$ = 0.181 is highly significant with F- statistics = 41.119 significant at 0.000. Table - 5 - shows that all independent variables that are brought explicitly in the regression model significantly explained the variations in "Psychological19-distress due to Covid." Table - 6 - shows that path analysis was performed after deleting the dichotomous variable "gender". Direct and indirect effects were then explored by sequential multiple regression analyses: Standard errors and significant T- statistics. The standardized coefficients β were used as an estimate for the direct effect of each variable. Our results show that on one hand, factors directly increasing the likelihood of "Psychological Distress due to Covid-19" at the individual levels were "Teleworking challenges", "Adherence to Covid-19 preventative measures", "Perceived blended learning", "Strategic responses in crisis situations", "Social stigma", "Perceived seriousness of Covid-19 " ."and "Age This implies thatthat increase in any of these seven explanatory variablescauses increase in "Psychological Distress due to Covid-19". On the other hand, factors directly decreasing the likelihood of "Psychological Distress due to Covid-19" at the individual levels is "Knowledge of Covid-19". What's more, if we enter all other independent variables in the causal model as mediators between any of the explanatory variables and the outcome variable "Psychological19-distress due to Covid" then, we get a bigger and significant total effect (as the sum of direct and indirect effects). As evident in Table - 6 - the indirect effects of the mediating variables is less than the direct effect but all indirect effects increase the total (as the sum of direct and indirect) effects. Also, more elaboration of variables gave a better insight to the relationships between variables. The highly significant effect of "Strategic responses in crisis situations" on "Psychological distress due to Covid-19" can be moderated by "Aherence to Covid-19 preventative measures", "Perceived blended learning" and "Teleworking challenges". Further elaboration of variables analysis shows that the relationship between "Strategic responses in crisis situations" and "Psychological distress due to Covid-19" becomes stronger with lower adherence than

higher adherence to Covid-19 preventative measures. Also, this highly significant relationship is stronger with the lower remote working challenges than the higher remote working challenges.

Insert Table – 3 – about here

Insert Table – 4 – about here

Insert Table – 5 – about here

Insert Table – 6 – about here

5. Conclusion and Recommendation

The study findings suggest that the explanatory variables indentified in the causal model shown in Figure - 1 - generates both direct and indirect positive and negative effects on the outcome variable "Psychological Distress due to Covid-19." This outcome variable is a complex observable phenomenon calling for multiple interventions. Apart from individual significant direct positive or negative effects, all indirect effects increase the total (as the sum of direct and indirect) effects. Findings of the study show that increase in any explanatory variables except "Knowledge" leads to more "Psychological distress" (unpleasant feelings) implying that the more the government of Qatar calls upon all citizens to take care and apply good preventive measures to protect against infection the more the people will have unpleasant feelings. For instance, the more a person feels his family relationships have changed for the worse, or talked to someone who has recovered from Coronavirus, or worked or studied from home to maintain social distancing, the more he / she feels stressed about leaving his / her house. Likewise, the more the person knows that Coronavirus is an inflammation of the lungs the less pleasant he will be. Thus, putting more responsibility on government to increase people's knowledge of Corona and people's awareness of why they should wash their hands or use hand sanitizers, keep social distancing, wear masks etc… El-Kassem (2020) argues that "[A] more proactive approach from decision makers in Qatar's newspaper printing industry is needed" (El-Kassem, 2020; p.74). This calls for future research in the other Arab Gulf countries to achieve more understanding of the causes of "Psychological Distress due to Covid-19" in the Gulf region.

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Figure 1: Path Analysis

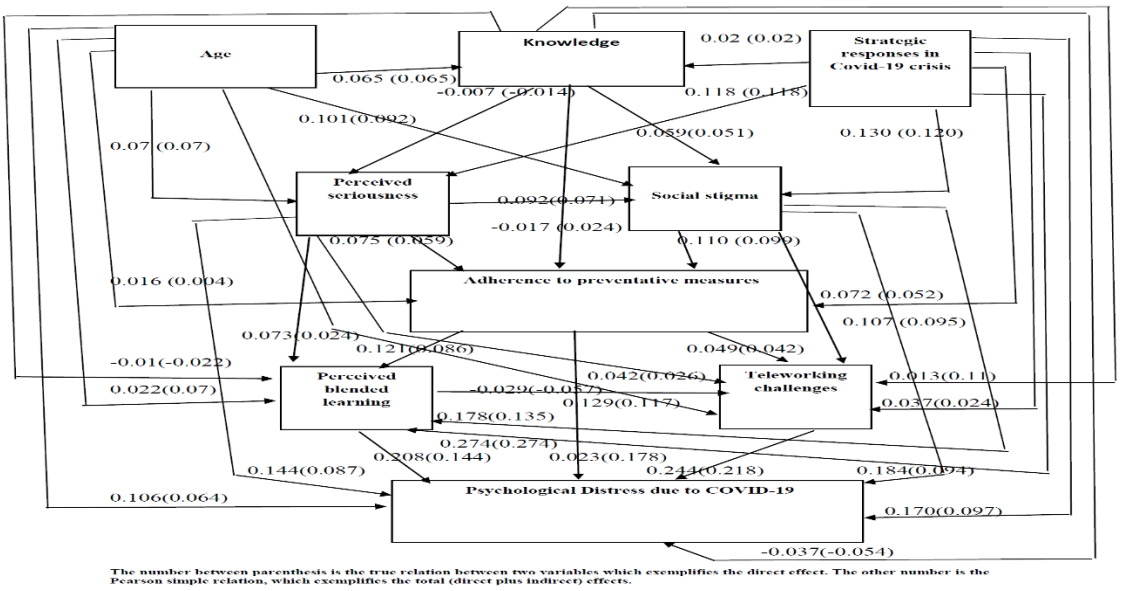

Table - 1 –

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.789
Bartlett's Test of Sphericity	Approx. Chi-Square	14649.076
	df	351
	Sig.	.000

Table – 2 -

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4.110	15.222	15.222	4.110	15.222	15.222	3.840
2	2.931	10.856	26.078	2.931	10.856	26.078	2.704
3	1.847	6.840	32.919	1.847	6.840	32.919	2.044
4	1.659	6.144	39.062	1.659	6.144	39.062	1.998
5	1.375	5.094	44.157	1.375	5.094	44.157	1.705
6	1.211	4.484	48.640	1.211	4.484	48.640	1.230
7	1.186	4.392	53.032	1.186	4.392	53.032	1.597
8	1.125	4.165	57.197	1.125	4.165	57.197	1.579
9	.968	3.585	60.782				
10	.918	3.401	64.184				
11	.893	3.307	67.491				
12	.869	3.217	70.708				
13	.862	3.192	73.901				
14	.747	2.767	76.668				
15	.681	2.522	79.190				
16	.657	2.433	81.622				
17	.637	2.360	83.982				
18	.602	2.229	86.211				
19	.590	2.184	88.395				
20	.569	2.108	90.503				
21	.489	1.811	92.315				
22	.468	1.735	94.049				
23	.427	1.582	95.632				
24	.413	1.528	97.160				
25	.304	1.125	98.284				
26	.300	1.112	99.397				
27	.163	.603	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a

Table – 3 -

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.426[a]	.181	.177	.63122

a. Predictors: (Constant), What is your gender?, X6 Knowledge of Covid-19, X8 Strategic responses in crisis situations, X7 Teleworking challenges, X1 Perceived seriousness of Covid-19, X5 Adherence to Covid-19 preventative measures, X4 Social stigma, X10 Which year were you born?, X3 Perceived blended learning

Table – 4 –

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	147.451	9	16.383	41.119	.000[b]
	Residual	666.580	1673	.398		
	Total	814.031	1682			

a. Dependent Variable: X2 Psychological distress due to covid-19

b. Predictors: (Constant), What is your gender?, X6 Knowledge of Covid-19, X8 Strategic responses in crisis situations, X7 Teleworking challenges, X1 Perceived seriousness of covid-19, X5 Adherence to Covid-19 preventative measures, X4 Social stigma, X10 Which year were you born?, X3 Perceived blended learning

Table – 5 –

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.349	2.896		-1.847	.065
	X1 Perceived seriousness of covid-19	.079	.020	.087	3.887	.000
	X3 Perceived blended learning	.114	.018	.150	6.388	.000
	X4 Social stigma	.109	.026	.097	4.218	.000
	X5 Adherence to Covid-19 preventative measures	.215	.028	.175	7.700	.000
	X6 Knowledge of Covid-19	-.119	.046	-.058	-2.602	.009
	X7 Teleworking challenges	.220	.023	.213	9.475	.000
	X8 Strategic responses in crisis situations	.133	.034	.091	3.930	.000
	X10 Which year were you born?	.003	.001	.048	2.092	.037
	What is your gender?	-.068	.032	-.049	-2.127	.034

a. Dependent Variable: X2 Psychological distress due to covid-19

Table – 6 –

Name of Variable	**Direct Effect**	**Indirect Effect**	**Total Effect**
X(7) Teleworking challenges	0.218	0.026	0.244
X(5) Adherence to Covid-19 preventative measures	0.178	0.052	0.23
X(3) Perceived blended learning	0.144	0.064	0.208
X(8) Strategic responses in crisis situations	0.097	0.073	0.17
X(4) Social stigma	0.094	0.090	0.184

X(1) Perceived seriousness of covid-19	0.087	0.057	0.144
X(6) Knowledge of Covid-19	-0.054	0.017	-0.037
X(10) Age	0.064	0.042	0.106