Investigating the Impacts of Information Overload on Psychological Well-being of Healthcare Professionals: Role of COVID-19 Stressor

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Abstract

While past research has focused on the benefits of social media during pandemics, this study emphasizes the possible negative effects of social media use among healthcare professionals. It has been stated that healthcare professionals are exposed to COVID-19 and its impacts on the mental health of these workers. Even though recognizing the importance of healthcare professionals during the pandemic, the impacts of COVID-19 on the mental health of healthcare professionals have been rarely considered for investigation by researchers. By applying differential susceptibility to the media effects model (DSMM), the current article investigated the effect of COVID-19 information overload (CIO) on psychological and mental well-being and underline mechanisms. Time-wave technique was applied to collect the data. This study tested moderated mediation model by collecting data from 314 healthcare professionals. The findings stated that COVID-19 information overload impacted COVID-19 fatalism and COVID-19 exhaustion directly. Likewise, COVID-19 fatalism mediated the association between CIO and COVID-19 exhaustion. Moreover, the COVID-19 stressor moderated this mediating relationship. This study proposes several practical recommendations for healthcare professionals, social media platform providers, health authorities, organizations, and institutions on how to use social media effectively and sustainably during the global COVID-19 epidemic.

Keywords

pandemics, social media, delivery of health care, COVID-19 information overload, fatalism, COVID-19 exhaustion, COVID-19 stressor, mental health, healthcare professionals

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What do we already know about this topic?
Social media use has both negative and positive impacts on its user during the pandemic

How does your research contribute to the field?
This paper investigated the effect of COVID-19 information overload on psychological and mental well-being and underline mechanisms in healthcare professionals which is still an under-explored area.

What are your research's implications toward theory, practice, or policy?
First, the role of the CIO on social media demonstrated in this study suggests that in the face of a wide range of health information and increased information sharing during COVID-19, health policymakers should guide healthcare professionals to focus on some preferred and credible social media outlets and make more meaningful relationships with online colleagues for a fruitful conversation. Second, it is advantageous for SM users, in this case, healthcare professionals, to comprehend the effects of SM (mis) use on their mental health.

Introduction

Several countries implemented lockdown measures to combat the transmission of coronavirus (COVID-19). Throughout this period, social media (SM) thus become a primary source of pandemic information.[1-3] It was discovered that using SM during the global epidemic isolation had the potential to affect people's psychological well-being, mainly among healthcare professionals.[4-6] Although there are substantial advantages to using social media,[7-9] particularly during an epidemic lockdown,[10,11] scholarships also demonstrated the dark side of SM and figure out that the negative influences of using social media during these isolation times are understudied.[1,12,13] Current research examines the impact of COVID-19 information overload (CIO) on healthcare professional SM users' mental health and fatalism during the COVID-19-caused

isolation in the context of this distinctive background. Moreover, this study applied differential susceptibility to the media effects model (DSMM[14]) to investigate our research model. Valkenburg and Peter[14] established the DSMM to help us better understand media effects. Short and long-term variations in a person's emotion, attitudes, consciousness, physiology, behaviors, and perceptions as a result of media use are known as media effects. The DSMM is a model that focuses on contextual media effects or effects on a single media user, and it builds on past theories.[15] Thus this framework is most relevant according to our proposed research model.

COI on Social Media and Healthcare Professional's Health and Well-being

The coronavirus outbreak was confirmed a pandemic by the WHO, and the virus's spread has become a global public health emergency.[16-18] The emergence of COVID-19 dubbed a "black swan event," has wreaked havoc on people's lives in every way. Healthcare professionals, in particular, are confronted with unique challenges.[19] COVID-19 is widely regarded as a watershed event that will shape how members of the healthcare industry navigate the world and shape the future they will create.[20] More notably, recent findings suggest that COVID-19 has had an important influence on the psychological well-being and mental health of healthcare professionals.[21-23] Those healthcare professionals who are engaged with social media during COVID-19 are more exposed to psychological problems.[4] During the pandemic, there was a noticeable increase in social media engagement among healthcare professionals. Many of these professionals have become increasingly dependent on online media to keep up with changing best practices and to effectively disseminate new information about the novel coronavirus.[20] Groups on Facebook, for example, have millions of participants globally, all distributing relative information and updates, as professionals seek specialized SM groups as a way of sharing professional advice to enquires in real-time. Consequently, bulk distribution of information via SM may induce social media base COVID-19 information overload.[1]

Earlier researches have highlighted the negative aspects of SM use and called for further scholarly research in this area.[8,24,25] Limited research has been done on the effects of increasing SM use and growing epidemic information on SM during the epidemic lockdown.[2,26] In the last few decades, SM has experienced extraordinary development in terms of usage and diffusion, reshaping people's information consumption behavior.[27-29] Throughout emergencies, SM has also become

the primary source of information.[1,30] According to recent findings, the massive amount of COVID-19 information produced on SM has overloaded users and this information overload had a serious influence on their psychological well-being.[13,31] As a result, COVID-19 is both a global epidemic and an "infodemic."[12,32] Healthcare professionals tend to experience a greater than normal level of information overload.[4,19] Information overload is described as a condition in which there is so much pertinent and potentially effective information available that it becomes a burden rather than a benefit.[33] When a user's information processing capacity is exceeded by the amount of information available, this is referred to as "information overload."[34] Over the last few months, the growing levels of relevant health information, particularly through online sources, have exacerbated the problem of health information overload. Thus CIO can be defined as the volume of the information about COVID-19 which is prevalent on SM and is beyond the capacity of the user to process it. This kind of overload has serious impacts on users' psychological health. However, the influence of the CIO on social media and its influence on healthcare professionals are still unknown. Thus, the first purpose of this study is to discover the effects of the CIO on social media on the mental health (COVID-19 exhaustion in this case) of healthcare professionals.

CIO on Social Media, Fatalism, COVID-19 Exhaustion

Fatalism refers to the perception that one's actions have little or no effect on various consequences.[35] Fatalistic people do not engage in future-oriented planning, put little effort into achieving desired objectives, and are usually designed to fate.[36] In other words, they are ready to surrender to external factors. Even though the temptation to exhibit fatalism is an individual characteristic, some situations will foster fatalistic thinking regardless of personal characteristics.[37] Fatalism may be especially prevalent during the COVID-19 pandemic. Social media is the key influencer of fatalism, individuals usually seek health-related information on social media.[38] COVID-19 information is extensively available via social media, allowing users to use this information.[39] Users are overwhelmed by information overload, which leads to stress and negative emotional states.[34,40,41] As a result of the widespread use of SM, information overload has been viewed as a consequence of the information era.[1] COVID-19 in our research setting as a significant occurrence has led to the headlines through the media. In the meantime, during the lockdown, SM was used to distribute a lot of information

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about COVID-19 as an important origin of epidemic news and updates.[2,42] During these times healthcare professionals extensively use social media for updating their current knowledge about the virus,[4,43,44] which may have resulted in an overabundance of information and prompted adverse psychological states[13,25,45,46] and exposure to this information on media can lead to fatalism.[47]

According to previous research, fatalism is linked to negative health outcomes.[48] Fatalism evokes a sense of inevitability about predetermined outcomes, which lowers coping desire. Fatalism diminishes the range of resources that can be used to deal with difficult situations and rises the feeling of being overwhelmed by emotional burdens because it shrinks the range of resources that can be used.[49] Fatalism also has a strong link to psychological avoidance. People who are fatalistic comply with their predetermined fate and avoid activities that contradict what they think is unavoidable.[47] Jimenez et al[50] discovered that fatalistic beliefs led to the prevention of advised prevention strategies in the COVID-19 pandemic, amplifying COVID-19-related fear and stress. This is especially for healthcare professionals who are overburdened with information about the fatality of COVID-19 which can lead them to be emotionally drained.

Emotional exhaustion is a condition in which you feel emotionally exhausted and depleted as a consequence of the increased stress from your personal or professional lives or a mixture of both.[51-53] COVID-19 exhaustion, on the other hand, refers to feelings of mental exhaustion that happen as a consequence of the pandemic.[54] Although the impact of fatalism on exhaustion has rarely been studied, previous research suggests a connection between fatalism and decreased well-being in individuals.[37,50] Fatalism, according to Roberts et al,[55] leads to increased pessimism, low self, and more passive coping in people. Likewise, fatalistic individuals planned more suicides, were more impulsive, and had more accepting mindsets toward suicide.[56] Recently, a study by Ngien and Jiang,[38] found the impact of fatalism on the stress level of youth. They found that fatalism mediated the association between social media and stress which was moderated by emotional exhaustion. Another study examined the relationship between fatalism due to COVID-19 and its impacts on mental health.[37] As a result, our investigation of healthcare professionals' experiences in the context of CIO on social media—fatalism and exhaustion—is consistent with previous research and represents an important extension of previous work, which was the second objective of the current study.

The Current Study

The theoretical base for the current study is the Differential Susceptibility to Media Effects Model.[14] This is a well-known integrative model that looks at the links between media consumption and health outcomes. The DSMM claims that media consumption has an impact on users' mental, psychological, emotional, and behavioral responses. The course and power of media exposure effects are moderated by

certain personal or social factors. Several factors, including previous and present stress, as well as previous general health, could act as moderators.[57] As such, the link between media exposure and concern about the Ebola virus was strengthened in people who had experienced more stressful reactions to a previous bombing.[58] Respondents with prior psychological health problems were more sensitive to the coverage of media as major disasters and stated additional stress in another study.[59] Still, in the current pandemic, conditional effects, for example, the moderating role of COVID-19 stressor in the association between CIO on social media and fatalism, have not been investigated.

By applying DSMM, a recent study tested the moderating effects of COVID-19 stressor on the association between media use and psychological well-being outcomes. The study found significant moderating effects of COVID-19 stressor on the link between social media use and depression.[60] Therefore, in this study, we added COVID-19 stressor as a potential moderator in the association between CIO on social media and fatalism. Based on the DSMM framework and prior findings we expect that the COVID-19 stressor will act as a significant moderator in our context as well. Moreover, past studies have also investigated mediating effects of different variables in the link between SM exposure and psychological health well-being in the DSMM. Silver et al (2013) found that acute stress is not a significant mediator between media exposure and physical health in longitudinal studies, while Holman et al (2019) discovered that panic of future terrorism was a significant mediator in the association between media usage and functional injury in longitudinal studies. Even though understudied, there is some indication that fatalism may mediate[37,38] the influences of CIO on social media on COVID-19 exhaustion.

Therefore, another important goal of this study is to see if and how exposure to CIO is linked to psychological health outcomes in a group of healthcare professionals. The current study looked at the links between CIO on social media, the COVID-19 stressor, COVID-19 fatalism, and psychological health, that is, COVID-19 exhaustion. This study developed the following hypotheses based on the rationality of the DSMM and evidence-based findings on social media use:

> **Hypothesis 1:** *COVID-19 information overload on social media will be positively related to COVID-19 fatalism, (b) COVID-19 exhaustion*
> **Hypothesis 2:** *COVID-19 fatalism will mediate the link between COVID-19 information overload on social media and COVID-19 exhaustion.*
> **Hypothesis 3:** *The COVID-19 stressor will moderate the link between COVID-19 information overload and COVID-19 fatalism and this relationship will be stronger for individuals reporting a high level of COVID-19 stressor as compared to low.*
> **Hypothesis 4:** *The COVID-19 stressor will moderate the links in Hypothesis 2 in a way this mediating relationship will be more stronger for the individuals reporting a high level of COVID-19 stressor as compared to low.*

Research Methodology

Data for this study were collected online in 3 waves. The purposive sampling technique was used to request participants to partake in the scholarship. We recruited healthcare professionals (ie, medical doctors, nurses, and other healthcare employees) from any hospital/clinical facility in Pakistan for this online survey. The ethical approval (Ref no. JH-202214) from the concerned insinuation's ethical committee was taken. Healthcare professionals who participated in our analysis did not have to be in contact with COVID-19 patients. The survey was circulated to healthcare professionals via mailing lists, WhatsApp, and all SM platforms (ie, Facebook, Instagram, and LinkedIn). Respondents were requested to distribute the survey to their contacts to reach a larger number of Pakistani healthcare professionals. The English survey contains 2 parts, including demographic and study variables. Respondents were insured about the anonymity of their responses and informed consent was also obtained before collecting final responses. Moreover, respondents were informed about voluntary participation in the study and they can quit the survey at any stage of the data collection.

In August 2020 initial surveys were sent to 600 professionals. Due to the number of factors involved, less than 200 respondents were necessary for the sample size.[61] As data were collected from single sources, therefore, social desirability and common method bias (CMB) can be the potential threat to the data.[62-64] Thus, to avoid these threats and improve confidence in the results of this study, the data were collected in 3 waves.[62] In the first wave, data about demographics, CIO on social media, and COVID-19 stressor were collected. Out of 600 surveys, this study received 486 useable responses in the first wave. After 2 months of the first wave, the researcher again conducted with those 486 respondents and sent surveys about COVID-19 fatalism. In the second wave, this study received 402 final responses. Finally, at time 3, after 2 month time period of wave 2, these professionals were again contacted for the data collection about COVID-19 exhaustion. In this wave, this study received 314 (final response rate = 52.3%) useable responses. Demographic variables and the use of social media-related questions were asked in the first wave. Participants were asked to answer the statements related to their social media use (except during the professional commitments) and their social media using experience.

Rendering to demographic details (see Table 1), most of the participants' average age range was in between 21 and 30 years (36.9%), and 65% of them were female. Of the sample, 50.6% specified they used social media almost all of the time during COVID-19 and 35% stated that they used social media frequently. In the sample, most of the participants were medical doctors 46.2% followed by nursing staff 33.8%. The majority of participants (54.5%) had more than 6 years of social media experience, whereas only 9.9% had less than 1 year of social media using experience.

Table 1. Details About Demographic Variables and Social Media Use.

Variables	N	Percentage
Gender		
Male	110	65.0
Female	204	35.0
Age		
Up to 20	17	05.4
Between 21 and 30	116	36.9
Between 31 and 40	96	30.6
Between 41 and 50	65	20.7
Above 50	20	06.4
Job role		
Medical doctors	145	46.2
Nurses	106	33.7
Other staff	63	20.1
Experience of social media		
Upto-1 year	31	09.9
1-3 years	51	16.2
3-5 years	61	19.4
5-7 years	171	54.5
Social media during COVID		
Rarely	08	02.6
Occasionally	19	06.1
Sometimes	18	05.7
Frequently	110	35.0
Almost all of the time	159	50.6

Measurement

The items utilized in this study were adapted from previous research and adjusted to fit the study context. The responses were rated on a 5-point Likert scale, with 1 indicating strong disagreement and 5 indicating strong agreement with statements. Three items for measuring COVID-19 information overload were obtained from the past studies,[13,65] a sample item was (α = .80) "cannot handle all the COVID-19-related information on social media effectively." To measure fatalism 5 items were taken from a past study.[66] One of the sample items was (α = .83) "during COVID-19 I believe that my health is determined by something greater than myself." To measure COVID-19 exhaustion items were drawn from past studies.[54,67] From the 4-item scale, a sample item was (α = .81) "as a result of COVID-19, I feel emotionally drained." Finally, COVID-19 stressors were assessed using a 10-item checklist tool taken from the measure of SARS-related stressors.[68] Respondents were asked if they had watched or encountered the lockdown, had confirmed or alleged infection, lost family members, worked with infective patients, did volunteer work in pandemic prevention and management, and lacked basic needs like food, face masks, sanitizers, and medical treatment. Each item received a "yes" (coded as 1) or "no" (coded as 0) response. All of the items' scores were added together to create COVID-19 stressor indexes during the epidemic. The scale ranges from 0 to 10, with a higher score reflecting a higher risk of a pandemic.

Table 2. Factors Loadings, Alpha, Composite Reliability and AVE.

Constructs	Items	Loadings	CR	Cronbach's alpha	AVE
COVID-19 Fatalism (FAT)	FAT1	0.674	0.83	.83	0.50
	FAT2	0.675			
	FAT3	0.730			
	FAT4	0.644			
	FAT5	0.789			
COVID-19 Exhaustion (EXH)	EXH1	0.747	0.80	.81	0.51
	EXH2	0.666			
	EXH3	0.708			
	EXH4	0.724			
COVID-19 Information Overload on Social Media (CIO)	CIO1	0.726	0.79	.80	0.55
	CIO2	0.731			
	CIO3	0.773			

Note. All factor loadings are significant at the $P < .001$ level.
CR = composite reliability; AVE = average variance extracted.

Statistical Analysis

We used SPSS-24 for explanatory factor analysis (EFA) and Mplus-24 for confirmatory factor analysis (CFA) and structural equation modeling (SEM) in the current research to assess both, the measurement model and structural model.

Measurement Model

EFA was used to validate the underpinning factor structure. The EFA results with maximum likelihood extraction and Promax rotation yielded a 3-factor solution. The item loadings for each measurement are shown in Table 2. The EFA results show that the factor loadings are above the threshold, ranging between 0.644 and 0.789.[69] CFA with 3 latent factors was used to assess the composite reliability (CR), convergent, and discriminant validity of every construct, including the measurement model's goodness-of-fit. The goodness-of-fit metrics were acceptable: the CFI (0.962) and TLI (0.951) values were both higher than 0.90; the RMSEA (0.055) value was less than 0.10, suggesting that the measurement model fits the data well.[69,70] Alphas for every variable vary from .80 to .83, and CRs vary from 0.79 to 0.83, both of which were greater than the least accepted values of 0.7, approving their satisfactory level of reliability, convergent validity, and internal consistency.[69]

The statistical significance of the standardized factor loadings was greater than 0.5 (the significant proportion was larger than 0.7). Besides, the average variance extracted (AVE) for each of the individual constructs was greater than 0.5 (see Table 2), indicating convergent validity. Furthermore, the square root of the AVE of the latent variables was larger than the correlations between them, and the correlation between these measures was less than .80 (see Table 3), indicating that they were discriminately valid.[69,71] The variance inflation factor for every variable was less than the recommended cutoff of 10, indicating that multicollinearity does not exist.[62] This study further tested Harman's single factor test for CMB threat. Findings state the first factor explaining only 35.4% of variance which was in the acceptable range[62] stating no issue of CMB in the data.

Structural Model

Table 3 displays the study constructs' means, standard deviations, and correlations, including the square root of the AVE. We tested the structural model with data in 2 steps.[72] Initially, we tested the direct and indirect paths using Mplus-24 and a bootstrapping technique. The suggested model's general fit indices were satisfactory because the values were within the widely recognized ranges: CFI = 0.938, TLI = 0.921, and RMSEA = 0.062. The path coefficient was then computed in the second step (see Figure 1).
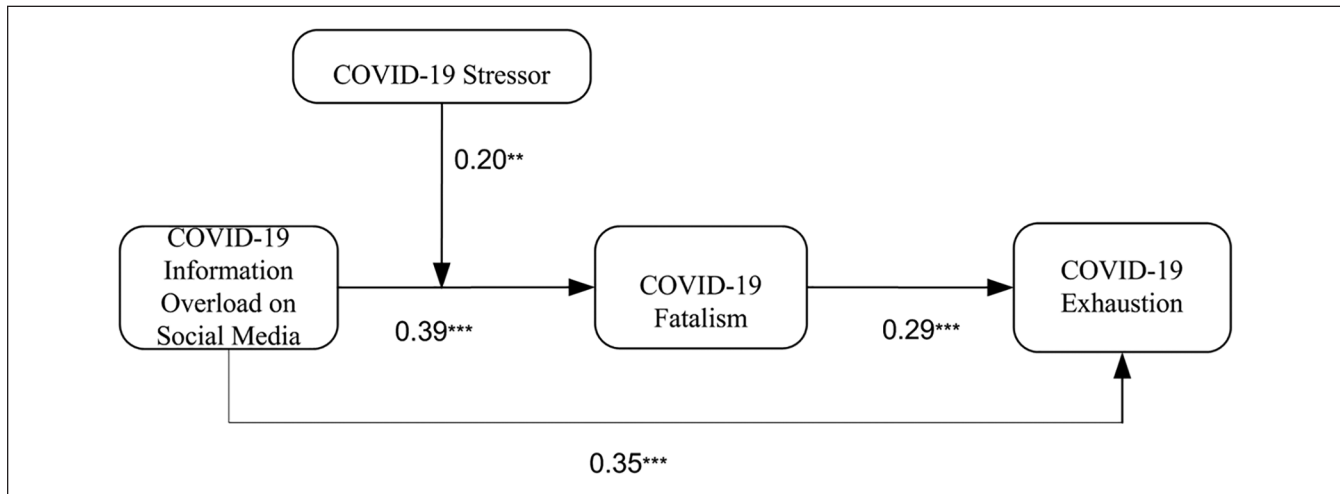
Results

As revealed in Figure 1, participants' CIO on social media use was positively associated with their COVID-19 fatalism ($\beta = .39$, $P < .001$) accepting hypothesis 1a. The results imply individuals who scored high at CIO on social media tended to experience more COVID-19 fatalism. Similarly, CIO on social media was a significant predictor of COVID-19 exhaustion ($\beta = .35$, $P < .001$) accepting hypothesis 1b as well. This means that healthcare professionals who experienced greater CIO on social media reported more COVID-19 exhaustion. Moreover, COVID-19 fatalism was positively linked with COVID-19 exhaustion ($\beta = .29$, $P < .001$). Furthermore, a bootstrapping test was used to test the mediating hypothesis. The results from bootstrapping disclosed that the CIO on social media was indirectly related to COVID-19 exhaustion via COVID-19 fatalism, with standardized indirect effects of 0.07 (95% CI = [0.03, 0.14]), stating that hypothesis 2 was also accepted.

Table 3. Descriptive Statistics, Square Root of AVE and Correlation Matrix.

Constructs	Mean	SD	1	2	3	4
1.COVID-19 stressor	4.17	1.74	-			
2.COVID-19 information overload on social media	3.55	1.16	0.10*	(0.74)		
3.COVID-19 fatalism	3.35	0.84	0.19**	0.27***	(0.70)	
4.COVID-19 exhaustion	3.47	0.79	0.11*	0.35***	0.34***	(0.71)

Note. (1) Correlation is significant at the ***$P < .001$, **$P < .01$, *$P < .05$; (2) Square roots of AVE for every constructs is shown in parentheses, (3) n = 314.

Figure 1. Result of the path analysis.
***$P < .001$. **$P < .01$.

For testing hypothesis 3 a multiplicative term between CIO on social media and COVID-19 stressor was computed. The interactive term was added in the path analysis. The result in Figure 1 states that it was significant ($\beta = .20$, $P < .01$), therefore, accepting hypothesis 3 as well. The finding of this effect was further drawn in Figure 2. Figure 2 stated that the relationship between CIO on social media and the COVID-19 fatalism was stronger when the COVID-19 stressor was higher ($\beta = .59$, $P < .001$), and was weaker when the stressor was weaker ($\beta = .19$, $P < .05$).

Moreover, following the lead of recent research,[73,74] we put our moderated mediation model to the test using the PROCESS macro.[75] We used this tool to avoid the theoretical and statistical limitations that come with conventional methods of testing mediation and moderation. The tool employs a bootstrap test, which is assumed to be better than the traditional techniques because bootstrapping-based confidence intervals account for non-normality in the distribution of mediated effects.[76] Moreover, bootstrapping produces an observational approximation of a statistic's sampling distribution with the substitute from the original information, but evaluates the effect from the impactful resultant data. This method generates both direct effects of the independent variable on the dependent variable and indirect effects, which are the magnitude differences between these variables transmitted via mediating variable. We received support for our moderated mediation model, which was uniform with the regression analysis. The bootstrapping results at 5000 repetitions prove that the indirect effect of COVID-19 information overload on COVID-19 exhaustion via COVID-19 fatalism is statistically significant at the mean ($\beta = .05$, 95% confidence level [0.02, 0.10]), at +1SD ($\beta = .09$, 95% confidence level [0.02, 0.16]), but insignificant at −1SD ($\beta = .02$, 95% confidence level [−0.01, 0.06]), of COVID-19 stressor. This proved the hypothesis 4 of this study as well.

Discussion

Even though the widespread use of social media by healthcare professionals, research on the direct effects of social media on their mental health has yielded mixed results. During the COVID-19 pandemic in Pakistan, the current study provided new insights by empirically examining a moderated mediation pathway connecting CIO on social media to COVID-19 exhaustion among healthcare professionals.

The findings of the current study indicated that CIO on social media enhances the COVID-19 fatalism, which is inconsistent with previous research that has found that social media has a positive influence on dealing with health-related
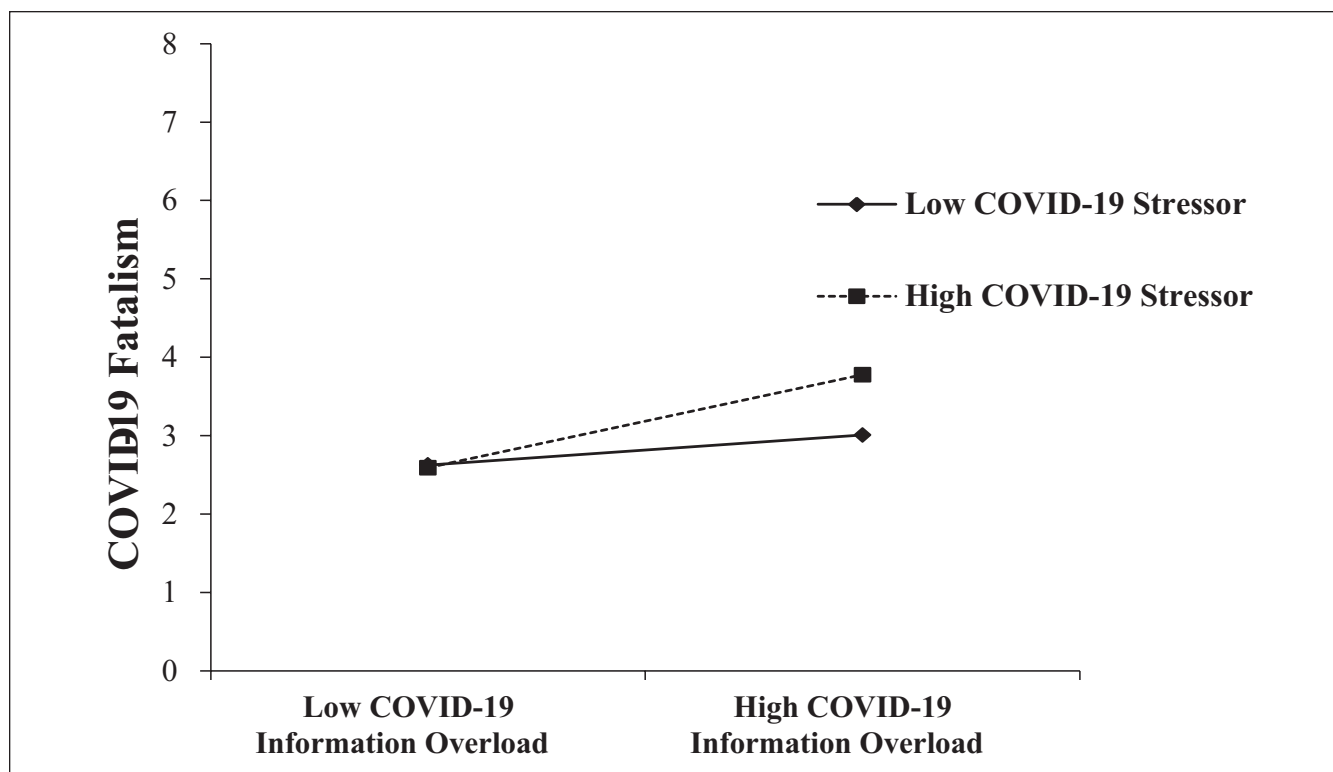
Figure 2. Interaction effects of COVID-19 stressor and COVID-19 information overload on COVID-19 fatalism.

problems.[38,77] The possible reason for this contradictory reason can be that these studies investigated the positive side of social media use, however, by considering information overload during COVID-19 on social media this study investigated the negative side of social media on its users. Healthcare professionals use social media during a pandemic for gaining new knowledge about the virus,[78] however, due to excessive and fake information prevailing on social media one can be caught in the condition which is known as information overload which creates uncertainty about the virus[1,13] and this uncertainty can lead toward mental health problems and fatalism.[36,50]

This study also found that CIO on social media has a positive and direct relationship with COVID-19 exhaustion as well as indirect effects through COVID-19 fatalism and fatalism is positively related to COVID-19 exhaustion. These findings are consistent with previous studies that have linked social media information to poor mental health[79] and fatalism to poor mental health[37,48] during COVID-19. Fatalism, which is linked to a belief in the efficacy of divine or spiritual forces rather than individual forces in influencing life outcomes,[35,47] causes a sense of future unpredictability, which raises COVID-19 exhaustion. Roseman et al[80] proposed that events with low control potential (eg, CIO on social media) produce adverse (ie, COVID-19 fatalism) feelings like depression or stress rather than reactive (ie, rigidity to avoidant conditions) feelings like motivation to combat

COVID-19 exhaustion. This is especially true for healthcare professionals, which were overburdened with the CIO on social media due to a lack of resources to combat this threat.[81]

Another key finding pertains to the moderating role of the COVID-19 stressor. Disaster-related stressors, in addition to media exposure, have been identified as one of the most important factors of mental health (Paul et al., 2014). The COVID-19 stressor is considered a common stressor that healthcare professionals in the current study experienced during the COVID-19. A greater COVID-19 stressor level is linked to an increased level of COVID-19 fatalism. Prior research has found that people who have been exposed to more COVID-19 stressors are more likely to develop anxiety disorders and depression.[60] Furthermore, CIO on social media was linked to COVID-19 fatalism at the different levels of COVID-19 stressor. It appears that healthcare professionals who were exposed to a higher level of stress were more susceptible to COVID-19 fatalism.

Finally, an important finding of the current study is the acceptance of the moderated-mediation-related hypothesis. Results show that the indirect effect of the CIO on social media on COVID-19 exhaustion via COVID-19 fatalism at the different levels of the COVID-19 stressor was stronger, especially; this relationship was stronger at the high level of the COVID-19 stressor. Even though there is no prior empirical evidence that can be compared with this finding, this result suggests that healthcare professionals who were

exposed to information overload on social media during COVID-19 and more vulnerable to COVID-19 exhaustion and fatalism in the presence of COVID-19 stressor.

Theoretical Contributions

This study contributed to existing research in the following ways; first, this study extended the DSMM model by including moderating variable of COVID-19 stressor. Our model provides a more comprehensive framework by emphasizing the importance of including social factors (such as COVID-19 stressor) as moderators of the effect of COVID-19 information overload on individual wellbeing factors (ie, fatalism). Second, to our understanding, our moderated mediation process is the first to show the impact of healthcare professionals' social media information overload on mental health during global health crises. This investigative model could be used in future studies to look at how social media can help healthcare professionals to promote their health during the period of pandemics. Third, according to media studies, although SM became the primary source of information for some groups during the COVID-19 isolation, the influence of SM use as a medium of communication during such events is less clear.[13] This research classifies the negative effects of an oversupply of epidemics information on social media from the perception of users, as well as the potential drawbacks of using social media in crises.

Finally, while some studies suggest that the global epidemic lockdown contributed to healthcare professionals' mental distress,[4,82] the psychological processes (ie, the antecedents and consequences of these severe negative states) have not been investigated.[1,13] Our research sheds new light on healthcare professionals' psychological well-being during the lockdown as a result of social media use, demonstrating that CIO on social media affected psychological processes and, as a result, formed healthcare professionals' social media use behavior. Particularly, we exemplify the research context and describe 2 distinct psychological trajectories by highlighting pandemic-related (ie, COVID-19 fatalism and COVID-19 exhaustion) and information-related (ie, COVID-19 stressor) psychological factors, in contrast to previous research that focused on generic psychological conditions deriving from information overload. This technique contributes to a better understanding of information overload on social media as a growing issue in the age of information, as well as the psychological mechanisms that frame social media users' behavioral patterns.[13]

Practical Contributions

This research provided some important implications for the practice as well. First, the role of the CIO on social media demonstrated in this study suggests that in the face of a wide range of health information and increased information sharing during COVID-19, health policymakers should guide healthcare professionals to focus on some preferred and credible social media outlets and make more meaningful relationships with online colleagues for a fruitful conversation. Second, it is advantageous for SM users, in this case, healthcare professionals, to comprehend the effects of SM (mis) use on their mental health. This study recommends healthcare professionals SM users self-observe their social media information usage, self-assess psychological states connected with SM, and self-adjust their social media use, thus preserving positive SM use routines and mental well-being, particularly during disaster situations.

Third, the findings of this study can help social media platform providers to a better understanding of the reasons and psychological mechanisms underlying user disconnection from SM. This study illustrates the negative effects of CIO on social media on healthcare professionals' psychological well-being, furthermore to the ease and suitability of SM use in the COVID-19 interaction during the epidemic. To ensure the long-term growth of social media, media companies should pay particular attention to users' mental health associated with social media use. More notably, media companies should enable personalized SM use by creating content filtering features. Particularly, social media network companies could use machine learning techniques to determine emotionally distressed users and permit users to restrict that information fully or partially pertaining to harmful impacts to them.[13,83] User empowerment and the long-term growth of social media platforms would both benefit from this type of customized service. Healthcare professional as frontline fighter against pandemic represents high influential users who can help society with their knowledge. As a result, media companies must pay close attention to healthcare professionals' social media usage patterns and develop services to meet their needs and priorities in this area.

Fourth, fatalism was found to have an impact on emotional well-being in this research. As a result, health policymakers must work to reduce individuals' fatalistic beliefs. Introducing a role model to increase individuals' encouragement to cope with health issues and teaching effective self-management skills are examples of strategies that should be used. It is worth noting that more culturally relevant coaching programs are required, as fatalism is impacted by the distinct culture[38] grounded in religious societies like Pakistan. Finally, the finding of this study suggested COVID-19 stressor as an impactful moderator which can enhance the adverse impact of information overload on fatalism and exhaustion. Legislators, healthcare organizations, psychologists, and healthcare professionals must all be aware of the possible negative effects of constant SM exposure. To mitigate negative feelings stimulated by information overload, the general public, particularly those who have been directly or indirectly traumatized by COVID-19, could be recommended to avoid extreme SM use and learn impactful coping skills (eg, reappraisal) to avoid psychological well-being losses.

Limitations and Future Research Directions

The current study has several limitations. First, respondents were entirely recruited through SM, and those who did not use any form of SM may have been excluded from the study, potentially exposed to the sample's representativeness. Second, to avoid the issue of social desirability and CMB this study collected data in the time-lag format, given that in the DSMM,[14] emotional response was classified as a state-like factors. Future studies could benefit from using other designs, for example, experience sampling studies or daily diaries studies, to record the daily variability of emotions and SM use patterns.[60] Third, only the possible mediating role of emotional states (fatalism) was investigated in this study. Other DSMM intermediaries, including cognitive appraisal or excitatory reactions,[57] are likely to occur and should be investigated further in future studies. Moreover, we didn't consider the vaccination effects; future studies should continue this line of research by considering vaccination effects. Finally, because this study only collected data from Pakistan and only from healthcare professionals, its applicability to other countries and sectors may be constrained. Provided that COVID-19 is a global health emergency,[4] more comparative research should be done, especially in communities with various health issues and healthcare systems.

Conclusions

This study investigated the impacts of COVID-19 Information Overload on COVID-19 exhaustion via COVID-19 Fatalism by using the DSMM framework. Furthermore, moderating effects of COVID-19 Stressor on the relationship between COVID-19 Information Overload and COVID-19 Fatalism were also investigated. This study found that COVID-19 Information Overload is an important influencer of fatalism and exhaustion. Moreover, the COVID-19 Stressor strengthens the positive relationship between COVID-19 Information Overload and fatalism as well as indirect effects of COVID-19 Information Overload on exhaustion through fatalism. These findings have some important implications for practice and research.

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Availability of Data and Materials

Data for this study can be attained on the request from the corresponding author.

Ethical Approval

All procedures performed in studies involving human participants were following the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Ethical approval was taken from the ethical committee of participating organizations.

Permission to Reproduce Material From Other Sources

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