Misinformation and work-related outcomes of healthcare community: Sequential mediation role of COVID-19 threat and psychological distress

Ali Nawaz Khan

School of Economics and Management, Hubei Engineering University, Xiaogan, Hubei, China

Abstract

By applying coping theory, this study develops and tests a process model investigating the sequential mediating roles of perceived COVID-19 threat and psychological distress on the relationships between social media misinformation and turnover intentions, and in-role performance. Hypothesized model for Study 1 was fully supported, showing that the association between social media misinformation and turnover intentions are each mediated sequentially, first by perceived COVID-19 threat and then by psychological distress. Additional support was found for the sequential mediation model when predicting turnover intentions and in-role performance in Study 2, using time-lagged data. Besides, this study found that resilience moderated social media misinformation’s sequential indirect effect on turnover intentions and in-role performance. Implications and future research directions have been discussed.

KEYWORDS

coping theory, in-role performance, perceived COVID-19 threat, psychological distress, resilience, social media misinformation, turnover intentions

1 | INTRODUCTION

Health authorities facing a huge problem of information associated to the disease as the world counters to the COVID-19 virus. Any of this information could be inaccurate and potentially damaging. Misinformation is extensively and rapidly circulated, making it tougher for the peoples to identify legitimate confirmation and endorsements from trustworthy sources, for example, their local health expert or WHO. Director of WHO stated
that COVID-19 was not the only pandemic but also “infodemic” outlining severe problems resulting from the prevalence of misinformation and false news regarding COVID-19 (Islam et al., 2020). Misinformation may have adverse impacts due to the spread of fake news on social media. Among the adverse effects witnessed for the period of the infodemic were anxiety, psychological distress, and mental well-being (Apuke & Omar, 2021; Islam et al., 2020; Khan, 2021; Laato et al., 2020). As the front line of defense, the medical staff is the most affected staff from this pandemic (Labrague & Santos, 2020). The effect of COVID-19 on psychological health and work-related outcome has been an issue of interest for researchers recently (Khan, 2021; Nadeem & KhaIiq, 2021; Islam et al., 2021). Question arises that how this situation of COVID-19 and misinformation about it can hamper the well-being of these medical workers? Several researchers explored the impact of misinformation and COVID-19 threat on public and health care staff (Apuke & Omar, 2020; Islam et al., 2020; Lee et al., 2020). However, little is known regarding these damaging impacts on the work-related outcomes (Labrague & Santos, 2020) of medical staff.

The medical staff all over the world has played a major role in crises and emergencies, including epidemic outbreaks, since the earliest days of the medical profession. When a crisis arises, it means it can be crucial or even hazardous for more or less able to contribute? What factors influence the ability of staff to accept assigned jobs? Therefore, learning from the current experiences and figuring out the determinants of the employees' ability to participate during a crisis is important. This study tried to investigate this issue that how medical worker will react in this threatening situation which can affect their mental as well as work-related well-beings which are critical for management as well for tackling these kinds of organizational crises.

At the end of February 2020 first case was confirmed in Pakistan which created panic of COVID-19 in the general population. As of December 2020 around 10300 medical workers got infected by the COVID-19 and at least 100 died, among them most were doctors (NCOt, 2020). Some medical professionals suggested that they were not able to take care of COVID-19 patients because of the unknown virus treatment, inadequate resources, and some individual reasons and this puts the management of those hospitals in a big challenge. During COVID-19, the medical staff’s dramatic high turnover rate was very striking (Labrague & Santos, 2020). Since the shortfall of medical workers is almost a global problem, for the current study research interest was ignited by this troubling situation. How the work attitude and psychological health of medical worker will be affected after interacting with fake news regarding COVID-19 on social media? And it can be a worthwhile research direction for investigation.

To test the hypothesized model, this study applied coping theory (Lazarus & Folkman, 1984), and carried out two studies. In Study 1, with a sample of nurses and paramedical workers and a cross-sectional design, this study checked the theorized main and sequential mediation effects on turnover intention as the outcome variable. Study 2 explored the proposed moderated sequential mediation impact of misinformation and resilience on turnover intention and in-role performance using samples of physicians/doctors who were most affected in medical staff, and incorporated a range of methodological improvements to validate and widen the main and sequential mediation results of Study 1. Study 2 applied time-lagged method, which collects effective constructs at four different points of time.

In short, the present study adds to the literature and expands it in at least the following ways: (1) this study tested the impacts of social media misinformation on the under-examined area in the context of the current pandemic (turnover intention) in Study 1 as well as in-role performance in Study 2; (2) this study explains a cognitive process and investigate the mediation process connecting social media misinformation to performance of healthcare staff; (3) this study further assess the directional effect of perceived COVID-19 threat on psychological distress over time in Study 2; and (4) this study test the moderating effect of resilience, both on the specific relationship between social media misinformation and perceived COVID-19 threat and on the process catalyzed by this effect, leading to psychological distress and work-related outcomes in Study 2. Following the theoretical model, shown in Figure 1, this study provides the relevant context and establishes the hypotheses below.
2 | THEORY AND HYPOTHESES DEVELOPMENT

2.1 | Coping theory

To test the hypothesized relationships this study applied coping theory. Coping is defined as “the cognitive and behavioral efforts exerted to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984). Coping deals with the adaptive actions that a person conducts in response to destructive events in his or her life. The coping theory is known as the most commonly used and recognized in psychology within the contextual model (Lazarus, 2000). This theory has five key components including cognitive efforts, behavioral efforts, internal demands, external demands, and resources (Beaudry et al., 2005). Cognitive efforts like acceptance, distancing, and escape attempt (turnover intention in this study) shift the contextual nature of the case, whereas behavioral efforts aim to change the situation itself, through behaviors such as finding more facts and evidence and confronting people (Lazarus & Folkman, 1984). Internal demands are individual expectations or objectives to be achieved by the environment, such as the desire of an individual to get a challenging job (in-role performance in this case) over the obstacles that a type of work effectively holds. External demands derive from the situational or social environment and should be fulfilled by people. Finally, how individuals cope relies on the available resources to them (monetary, material, physiological, physical, psychological, and behavioral) (Beaudry et al., 2005; Lazarus & Folkman, 1984).

By using two main sub-processes that continuously affect each other, individuals cope with disturbances (Lazarus & Folkman, 1984). Firstly, the possible effects of an incident are assessed by people (appraisal). The essence of the specific case and its meaning and importance is measured (primary appraisal). Likewise in the current study during COVID-19 medical workers will ask themselves “What is at stake for me in this situation?” The key challenge is to decide what the possible effects of this occurrence (specific internal/external demands) and what the personal meaning of the disturbance is. Disruptive events in management have been divided into two primary types: challenges are the incidents that are perceived to have positive outcomes (individuals will use social media for getting information about COVID-19 in this study), or threats, which are events that are considered to have negative effects (they will face the issue of misinformation about COVID-19 and prone to the threat, psychological distress, and adverse work outcomes). In addition to determining the severity of an occurrence, people often assess the coping preferences (resilience as an internal resource) available to them (secondary appraisal). Given the coping mechanisms available to them, they decide the level of influence they exercise over the situation and what they believe they should do about it (Lazarus, 2000). As stated above coping theory is suitable to study the hypothesized model as it pertains to the whole mechanism that how workers will react to COVID-19 while they are doing their jobs.
2.2 | Social media misinformation and perceived threat of COVID-19

Misinformation usually defined as “false or inaccurate information, especially that which is deliberately intended to deceive” and poses a great threat to public health during pandemics (Laato et al., 2020). Research has demonstrated many mechanisms that influence the dissemination of misinformation on social media, including the use of bot armies to exploit algorithms on the site to increase the popularity of fabricated stories (Weedon et al., 2017). Another mechanism refers to individuals themselves, which may be influenced by desires to warn or harm others (Chadwick & Vaccari, 2019). For the duration of this pandemic, some researchers have tried to clarify the association about social media and misinformation (Apuke & Omar, 2020; Islam et al., 2020). This confirms a growing perception that fake COVID-19 information in social media has become much more prominent (Cheng & Luo, 2020; Islam et al., 2020). Apuke and Omar (2020) applied the uses and gratification theory and found the motivation of fake news sharing regarding COVID-19 on social media. Similarly, Islam et al. (2020) investigated the impact of misinformation about the COVID-19 on social media fatigue from young adults in Bangladesh.

Prior studies have shown that unexpected incidents, such as pandemics or environmental disasters, have serious emotional impacts and threats on individuals (Laato et al., 2020; Paredes et al., 2021). In the context of outbreaks, the understanding of risks is affected by a variety of factors, such as the probability of infection or disease and the magnitude of changes in the case of infection caused by the disease (Pérez-Fuentes et al., 2020). Social media misinformation has been related to the high level of threat (Laato et al., 2020) which causing stress. Therefore, individuals who perceive a higher perception of threat are at higher risk of facing adverse effects on psycho-biological health. In the case of COVID, the perception of danger is linked to the expectations of individuals as to how COVID-19 can create an adverse effect that can have damaging consequences in their lives. Individuals have also been shown to feel anxiety and stress because of the potential harm of COVID-19 which may lead to mental health problems (Garfin et al., 2020; Killgore et al., 2020; Marcelin et al., 2021). Coping is a complex process in which a person's cognitive and behavioral strategies to handle (i.e., minimize, accept, and master) stressful internal and external demands are continuously evolving (Lazarus, 2000). Negative emotions such as fear, anxiety, and distress may accompany an assessment of pain, loss, or threat to one's meaningful goals and well-being (Bano et al., 2019). Negative feelings will be followed with a coping response, such as problem-focused coping or emotion-focused coping, as well as avoidance-based coping mechanisms aimed at reducing or eliminating the stressor or its consequences (Sagar et al., 2010). However, failure of these coping strategies may produce adverse outcomes and can increase the level of threat (Wang et al., 2017). Therefore, this study expects that the more the individuals will counter misinformation about COVID-19 on social media more they will prone to COVID-19 threat.

**Hypothesis 1.** Social media misinformation will be positively related to the perceived COVID-19 threat.

2.3 | Perceived threat of COVID-19 and psychological distress

The perceived threat is the cognitive assessment of an individual's probability that a risk will influence them and how bad it would be if it does (Thompson, 2014). A threat is something that puts one's health at risk or danger. From the viewpoint of health communication, perceived threat clarifies the reactions of individuals to threat signals in responses to panic. Besides some initial discussion, most research supports the allegations that threat alerts raise the perceived threat and increase mental health and psychological distress (Keyserlingk et al., 2021; Paredes et al., 2021; Pérez-Fuentes et al., 2020). Individuals in a health crisis can't make life operate as before, as the stresses and uncertainties created by health threats are often too much to manage. Although using social media more medical information can help alleviate stress, the quest for information may raise uncertainty due to the threat induced by COVID-19 on social media. Recently, several studies have also documented that threat of COVID-19 is a significant predictor of mental and psychological issues especially depression and anxiety in public (Labrague & Santos, 2020; Lee et al., 2020; Paredes et al., 2021). Public concern and bewilderment have been posed by shifts in preventive
guidelines by health officials and a lack of agreement in the messages issued by media outlets. Moreover, as coping theory suggests that failure of the coping response can increase the level of anxiety, distress, and guilt (Sagar et al., 2010), this study follows the same logic that increased the level of COVID-19 will cause psychological distress when any individual failed to cope with this threatening situation. Thus, this study assumes that threat of the COVID-19 will lead individuals especially, health care professionals to psychologically distress and predict that:

Hypothesis 2. Perceived COVID-19 threat will be positively related to psychological distress.

2.4 Psychological distress and job-related outcomes

Psychological distress is a series of unpleasant cognitive and emotional signs related to natural mood swings in most individuals (Barnett & Brennan, 1995; Glickman et al., 1991; Khan, Khan, & Bodla, 2021; Khan, Khan, & Soomro, 2021; Khan, Khan, Bahadur, et al., 2021; Khan, Khan, & Farrukh Moin, 2021). During times of infectious epidemic crisis, the seriousness and fatality, and disease susceptibility can generate or worsen anxiety and fear among healthcare workers, possibly affecting their health and well-being, and work performance (Ahorsu et al., 2020). In reality, frontline medical workers, especially those working closely with patients with COVID-19, frequently see patients starving and dying, affecting their mental wellbeing and inducing fatigue compassion (Alharbi et al., 2020) and symptoms of posttraumatic stress (Kameg, 2020). On the one hand, cognitive efforts, the component of coping theory (Lazarus & Folkman, 1984) suggests that individuals will escape from the situation during the dangerous events (COVID-19 in this case) and will intend to leave their jobs as they will feel a serious threat from the environment (Beaudry et al., 2005; Moin et al., 2021).

According to coping theory, people try to obtain, retain, cope, and protect their resources (Lazarus & Folkman, 1984). Resources include psychological and job-related resources (Beaudry et al., 2005). The coping theory's general concept is that resource loss is substantially more influential than resource gain since it poses a significant danger to safety. This suggests that the actual or predicted loss of resources has greater motivating power than the projected gain of resources. Misinformation on social media about COVID-19 constitutes a form of resource loss (Garfin et al., 2020; Lee et al., 2020) in terms of the threat of COVID-19 and taxes individuals' ability to react to that demand. As a result, misinformation about COVID-19 will induce COVID-19 threat which will trigger psychological distress among healthcare workers. As such, when people are psychologically stressed, their resources are spent in the form of energy and time to cope with the traumatic situation and, as a result, they may indulge in preventative and withdrawal coping mechanisms to protect themselves from further loss of resources (Saleem et al., 2018). Therefore, this is optimal to predict the mechanism where social media misinformation will create a threat of COVID-19 which will lead to psychological distress among the healthcare worker, and finally, for saving their resources they will intend to leave the job.

On the other hand, the internal demands component of the coping theory suggests that individuals will have to accept the challenging job and perform well according to the requirement of the external environment (Lazarus & Folkman, 1984). The medical worker is required to do their jobs in a threatening environment and at the time of pandemic (Labrague & Santos, 2020) which is part of their duty assigned by the hospital (external environment). A threatening environment leading to psychological distress can eventually influence the work outcome (Lim & Tai, 2014; Sothmann et al., 1988; Liang et al., 2021). For instance, studies have shown that the threat of pandemics can prevent employees from meeting their job obligations (Garfin et al., 2020; Vindegaard & Benros, 2020). Psychological distress is correlated with adverse cognitive tasks and performance (Baum et al., 1981; Khan, Khan, & Bodla, 2021; Khan, Khan, & Soomro, 2021; Khan, Khan, Bahadur, et al., 2021; Khan, Khan, & Farrukh Moin, 2021; Xiongfei et al., 2019). When they are at work, workers who are threatened by a pandemic can continue to think and obsess about it, rendering them inattentive to job duties. Psychological distress can also diminish their determination and reduce their efforts (Robert & Hockey, 1997). This study proposes that misinformation on social media about the threat of COVID-19 as a stressor can increase psychological distress, which can then spill over to the workplace and impact job performance and turnover intentions. Based on the above theoretical arguments and literature this study predicts that:
Hypothesis 3. Psychological distress will be positively related to turnover intentions.

Hypothesis 4. Psychological distress will be negatively related to in-role performance.

2.5 | Sequential mediating roles of perceived COVID-19 threat and psychological distress

As specified in the hypotheses above, this study supposes that social media misinformation will predict perceived COVID-19 threat and that perceived COVID-19 threat will lead to psychological distress. Moreover, this study argued that psychological distress will be (a) positively related to turnover intentions and (b) negatively related to in-role performance. Consistent with the theoretical model which suggests a psychological mechanism whereby social media misinformation is related to in-role performance and turnover intentions through perceived COVID-19 threat first and then psychological distress (see Figure 1). Therefore, I suggest the subsequent hypotheses:

Hypothesis 5. The positive relationship between social media misinformation and turnover intentions will be sequentially mediated by perceived COVID-19 threat and psychological distress.

Hypothesis 6. The negative relationship between social media misinformation and in-role performance will be sequentially mediated by perceived COVID-19 threat and psychological distress.

2.6 | Moderating role of resilience

Until now, the claims of this study have been primarily situational in nature and indicate that social media misinformation triggers a threat-inducing mechanism for all healthcare workers, leaving them unable to meet demands in efficient ways and prompting them to suffer from psychological distress and therefore influencing their in-role performance at work. Nevertheless, this study understands that there may also be dispositional variables at work, which affect how social media misinformation catalyzes this process. Following the recommendation of Paredes et al. (2021), this study considers how resilience as personality factor impact the degree to which healthcare worker can use a tool for coping with social media misinformation. Resilience is defined as the capacity to deal with a crisis psychologically or emotionally or to return quickly to precrisis status (De Terte & Stephens, 2014). Resilience occurs when the individual uses’ cognitive processes and behaviors to promote personal assets and protect him/her from the possible negative effects of stressors. In line with the coping theory (Lazarus, 2000), resilience plays an important role in coping with the adverse effects of stressful circumstances. Previous research has shown that resilient people appear to experience lower levels of depression or anxiety when faced with stressful or adverse circumstances, can rebound more quickly to precrisis states, and return more quickly at a level of pre-stress (Luthar et al., 2000).

The detrimental psychological effects triggered by disasters or traumatic events are minimized by resilience (Blackmon et al., 2017). Mental well-being has been positively linked to resilience (Paredes et al., 2021). Research recently described resilience as a strategy to deal with the challenges of psychological health resulting from COVID-19 (Khan, 2021). For example, in a study conducted on U.S. adults, Killgore et al. (2020) concluded that greater resilience scores were linked to lower levels of risk about the effects of COVID-19. Another study by Paredes et al. (2021) found that more resilient individuals are less prone to COVID-19 threat. Similarly, people with less resilience exhibited greater difficulties dealing with the emotional difficulties of the situation. Following main component of the coping theory, this study understands resilience as a psychological resource for healthcare workers that enable them to cope with danger of COVID-19. This study expects low-resilience workers to be extremely vulnerable to stimuli from their environment that threaten their resources. In the face of misinformation on social media, these people, who feel they do not have the power to fulfill their environmental demands, stand to be particularly shaken. Those high in resilience, on the other hand, would be less at...
COVID-19 threat overall and thus less impacted by new stressors, such as misinformation. This indicates moderating effects of resilience, both on the particular relationship of COVID-19 threat-social media misinformation and on the mechanism catalyzed by this effect, contributing to psychological distress and outcome variables. Therefore, I propose the following hypotheses:

**Hypothesis 7.** The positive relationship between social media misinformation and perceived COVID-19 threat will be weaker for those who are high at the resilience and vice-versa.

**Hypothesis 8.** The indirect relationship between social media misinformation and turnover intentions through perceived COVID-19 threat and psychological distress will be weaker for those who are high versus low in resilience.

**Hypothesis 9.** The negative indirect relationship between social media misinformation and in-role performance through perceived COVID-19 threat and psychological distress will be weaker for those who are high versus low in resilience.

### 3 | STUDY 1 OVERVIEW

Study 1 tested the effects of social media misinformation on turnover intentions first through perceived COVID-19 threat and then through psychological distress. In this study, researcher collected data from randomly selected paramedical staff including nurses and other staff. In both studies, informed consent was obtained and proper SOPs by NCOC were followed and social distancing was properly maintained while collecting the data.

#### 3.1 | Study 1 method

The sample for Study 1 was collected from randomly selected government hospitals in Pakistan’s mega-cities. Researcher obtained surveys from 350 hospital-employed paramedical workers. Participation in the study was voluntary, and confidentiality was guaranteed to respondents. These surveys analyzed the opinions of the paramedical staff regarding social media misinformation, perceived COVID-19 threat, psychological distress, and turnover intentions. Questionnaires were circulated and obtained with the help of some management contacts at the hospitals with maintaining proper social distance. Every participant was assigned an ID number and after filling their responses they were instructed to put it into a sealed envelope and handover it to the respective HR professional. It is noted that anonymity of the responded was insured as only researcher can see their responses. Researcher received 228 responses collectively, an overall 65% available response rate. The sample in Study 1 was largely female (71%), with an average age of 34.83 years and working experience of 4.72 years in current role.

#### 3.2 | Measurement scales

All items for the variables evaluated in both studies were measured by using a five-point Likert scale with endpoints ranged from (1) strongly disagree to (5) strongly agree. Some modifications were made in the wording of the items to fit the context of this study. Gender, age, and experience in the current hospital were included as demographic variables.
3.2.1 | Social media misinformation

This study applied three questions based on Wei et al. (2010) and Cheng and Luo's (2020) scale to investigate the cognitive elaboration of misinformation among the participants. Sample items included "I often recall the misinformation and reflect on some related issues during the COVID-19 pandemic." Paramedical staff responded to these questions ($\alpha = 0.82$).

3.2.2 | Perceived COVID-19 threat

For measuring perceived COVID-19 threat this study utilized four items based on the Tyler and Cook (1984) which is also used recently (Paredes et al., 2021) by defining COVID-19 pandemic as the threat term specified in the four items of the scale. One of the items included was "Level of consciousness about the impact of the pandemic on people's lives." Health workers responded to these items ($\alpha = 0.89$).

3.2.3 | Psychological distress

Six items were evaluated on a scale developed by the Center for Depression Epidemiologic Studies (Radloff, 1977; Tepper, 2000) to quantify psychological distress. One of the measuring items was, "I had trouble keeping my mind on what I was doing." The medical worker rated how their emotions and behaviors were in several particular ways during the time of COVID-19 ($\alpha = 0.92$).

3.2.4 | Turnover intentions

This study utilized the five items scale adapted by (Palanski et al., 2014; Crossley et al., 2007) to measure turnover intentions. Sample item included "I will quit this hospital as soon as possible." Employees rated their responses in the context of COVID-19 ($\alpha = 0.85$).

3.3 | Results for Study 1

Table 1 shows the descriptive statistics, correlations matrix, and value of alpha of the study variables. Given Study 1's cross-sectional nature, the potential for common method bias (CMB) may exists (Khan, Ali, et al., 2019; Khan, Khan, Bodla, et al., 2019; Khan, Khan, & Gul, 2019; Podsakoff et al., 2003). Therefore, using confirmatory factor analysis (CFA), researcher attempted to resolve the possible problems of CMB. Measurement models were tested using the TLI, IFI, CFI, RMSEA, and SRMR. First, I carried out a CFA along with all components that make up measures of social media misinformation, perceived COVID-19 threat, psychological distress, and turnover intentions. The four-factor model revealed the best fit to the data ($\chi^2 = 233.57$, $df = 129$, TLI = 0.95, IFI = 0.96, CFI = 0.96, RMSEA = 0.06, SRMR = 0.06) and range was according to recommended level (Cao et al., 2018; Khan & Ali, 2018; Khan, Khan, & Farrukh Moin, 2021). For checking the possibility of CMB a comparison was done for four-factor model with three-factor model where social media misinformation and perceived COVID-19 threat were loaded onto the one factor ($\chi^2 = 636.25$, $df = 132$, TLI = 0.75, IFI = 0.78, CFI = 0.78, RMSEA = 0.13, SRMR = 0.11). Results showed the four-factor model was better than a three-factor model. Similarly, two-factor model was also fitted the data poorly ($\chi^2 = 840.74$, $df = 134$, TLI = 0.65, IFI = 0.70, CFI = 0.69, RMSEA = 0.15, SRMR = 0.13) therefore, this study assumed that
there was no threat in the data for CMB and the measures were distinct (Khan, Ali, et al., 2019; Khan, Khan, Bodla, et al., 2019; Khan, Khan, & Gul, 2019; Mehmood et al., 2020).

### 3.4 | Hypotheses testing

To test the hypothesized model, this study used regression analysis. Social media misinformation predicted perceived COVID-19 threat ($\beta = 0.48$, $p < 0.001$) and perceived COVID-19 threat predicted psychological distress ($\beta = 0.19$, $p < 0.001$), as shown in Table 2, providing supporting evidence for Hypotheses 1 and 2. Support for Hypothesis 3 was also found because psychological distress was positively linked to turnover intentions ($\beta = .38$, $p < 0.001$).

The PROCESS macro (Hayes, 2018) has been commonly used to evaluate indirect effects in multiple mediator models and this study utilized it to test the serial mediation hypotheses. PROCESS uses bootstrapping methods to repeatedly sample from the data set and make statistical inferences within each sample. If there is no zero in the 95% confidence
interval (CI) values, it may infer that the hypothesis is statistically significant (Preacher et al., 2007). This study used PROCESS Model 6 with 5,000 bootstrap iterations to evaluate the strength of the unstandardized indirect effects described in Hypothesis 5. Hypothesis 5 indicates that first through perceived COVID-19 threat and then through psychological distress, the positive relationship between social media misinformation and turnover intention will be serially mediated. The outcome of the PROCESS Model 6 presented in Table 3 showed that the indirect effect of social media misinformation on turnover intention through perceived COVID-19 threat and then psychological distress was significant ($ab = 0.04$, 95% CI = [0.02, 0.07]), supporting the Hypothesis 5. In conclusion, the findings are confirmed by the results of Study 1, which indicates that social media misinformation predicts perceived COVID-19 threat, perceived COVID-19 threat predicts psychological distress, and psychological distress is positively linked to turnover intention. Besides, this study gained support for the theorized serial mediation.

### 4 STUDY 2 OVERVIEW

The objective of Study 2 was to broaden the findings of Study 1 in the following ways. First, this study gathered data at four points in time, to conform to the suggested sequential mediation shown in Figure 1. Second, this study used in-role performance as a positive work outcome to eliminate the shortcoming of the first study where I included only negative work outcomes (turnover intentions). Third, I have enlarged this study by including physicians as most of the previous research on medical workers is on nurses (Alharbi et al., 2020; Labrague & Santos, 2020), therefore, this study tried to eliminate the gap in the literature and included medical doctors in Study 2. Fourth, for eliminating the issue of the CMB this study utilized the supervisor’s rating of the outcome variable (in-role performance). Lastly, this study analyzed resilience as an individual difference moderator of the serial mediation model.

#### 4.1 Study 2 method

Similar to Study 1, researcher collected data from the randomly selected hospitals situated in the mega-cities of Pakistan. In this study, data were collected from randomly selected physicians or medical doctors to eliminate the gap in past research. Furthermore, for minimizing the issue of CMB (Khan, Khan, & Bodla, 2021) and according to the sequence outlined by research model, this study collected data at four different points in time with the interval
### TABLE 3  Bootstrap results of the direct and indirect effects of social media misinformation on outcome variables

**Results for mediation analysis for Study 1**

| Effect                                      | β     | LLCI  | ULCI  |
|---------------------------------------------|-------|-------|-------|
| **Direct and indirect effects of social media misinformation on turnover intentions** |       |       |       |
| Social media misinformation → Turnover intentions | 0.48*** | 0.39  | 0.55  |
| Social media misinformation → COVID-19 threat → Turnover intentions | 0.05** | 0.01  | 0.12  |
| Social media misinformation → Psychological distress → Turnover intentions | 0.13**** | 0.07  | 0.22  |
| Social media misinformation → COVID-19 threat → Psychological distress → Turnover intentions | 0.04*** | 0.02  | 0.07  |

**Results for mediation analysis for Study 2**

| Effect                                      | β     | LLCI  | ULCI  |
|---------------------------------------------|-------|-------|-------|
| **Direct and indirect effects of social media misinformation on turnover intentions** |       |       |       |
| Social media misinformation → Turnover intentions | 0.37**** | 0.29  | 0.46  |
| Social media misinformation → COVID-19 Threat → Turnover intentions | 0.01  | -0.00 | 0.05  |
| Social media misinformation → Psychological distress → Turnover intentions | 0.12**** | 0.06  | 0.20  |
| Social media misinformation → COVID-19 threat → Psychological distress → Turnover intentions | 0.01*  | 0.01  | 0.03  |

**Direct and indirect effects of social media misinformation on in-role performance**

| Effect                                      | β     | LLCI  | ULCI  |
|---------------------------------------------|-------|-------|-------|
| Social media misinformation → In-role performance | -0.33***** | -0.47 | -0.18 |
| Social media misinformation → COVID-19 threat → In-role performance | -0.07***** | -0.15 | -0.01 |
| Social media misinformation → Psychological distress → In-role performance | -0.13***** | -0.23 | -0.06 |
| Social media misinformation → COVID-19 threat → Psychological distress → In-role performance | -0.01* | -0.03 | -0.00 |

**Moderated mediation for Study 2**

**Conditional indirect effects of social media misinformation on turnover intentions**

| Effect                                      | β     | LLCI  | ULCI  |
|---------------------------------------------|-------|-------|-------|
| Social media misinformation → COVID-19 threat → Turnover intentions |       |       |       |
| -1 SD resilience (low level) | 0.03  | -0.00 | 0.08  |
| 1 SD resilience (mean level) | 0.02  | -0.00 | 0.04  |
| +1 SD resilience (high level) | -0.00 | -0.02 | 0.02  |

| Effect                                      | β     | LLCI  | ULCI  |
|---------------------------------------------|-------|-------|-------|
| Social media misinformation → COVID-19 threat → Psychological distress → Turnover intentions |       |       |       |
| -1 SD resilience (low level) | 0.03*** | 0.01  | 0.06  |
| 1 SD resilience (mean level) | **0.01* | 0.00  | 0.03  |
| +1 SD resilience (high level) | **-0.00** | -0.02 | 0.01  |

**Conditional indirect effects of social media misinformation on in-role performance**

| Effect                                      | β     | LLCI  | ULCI  |
|---------------------------------------------|-------|-------|-------|
| Social media misinformation → COVID-19 threat → In-role performance |       |       |       |
| -1 SD resilience (low level) | -0.17***** | -0.30 | -0.07 |
| 1 SD resilience (mean level) | -0.07*** | -0.15 | -0.01 |
| +1 SD resilience (high level) | 0.02  | -0.06 | 0.10  |
of 2 weeks which is usually used in the prior research (Lavelle et al., 2019). For this study participants were compensated by mobile phone recharge vouchers valuing equally to 4$ each. The data were collected with the help of the management of concerned hospitals and for the anonymity of the respondents; same technique was applied as in Study 1. At Time 1 data were collected regarding social media misinformation, resilience, and demographic variables. After the 2-week intervals at Time 2, researcher asked the respondents to provide the response related to their level of COVID-19 threat. This study collected data about psychological distress at Time 3. Finally, at Time 4 researcher asked the respondents to rate their level of intention to leave the job and requested their immediate supervisor to rate their in-role performance. For matching the responses this study assigned a separate ID to each participant and their respective supervisor.

At Time 1 this study contacted 486 physicians or medical doctors to participate in the study and collected responses from 403 participants. Fifteen responses were discarded as respondents responded carelessly. After 2 weeks, the remaining 388 respondents were again contacted and this time received 326 useable responses. At Time 3 researcher asked those 326 participants to provide their response and received 294 useable responses. Finally, after 2 weeks of the third stage of the data collection, researcher contacted these 294 respondents and their immediate supervisors at Time 4. At this stage, this study received 242 useable responses as 52 responses were removed because some of them were carelessly filled (12) and in some cases, responses were not matched in dyads (40), therefore, this study continued to analyze the data based on 242 responses in dyads. The sample of Study 2 was approximately equally divided by male (51%) and female (49%) participants, with the 32.55 years average age of the participants. The mean work experience (in years) of the respondents was 4.48.

### 4.2 Measures

To test misinformation (the participants in Study 2 were changed to physicians or medical doctors; α = 0.83), perceived COVID-19 threat (α = 0.84), psychological distress (α = 0.91), and turnover intentions (α = 0.83), this study used the same measures and response scales listed in Study 1.

#### 4.2.1 In-role performance

The supervisor’s rating of in-role performance was measured using a four-item scale developed by Williams and Anderson (1991). Items started with the stem “This employee” and continued with “performs tasks expected of him/her.” Cronbach’s α was 0.89.
4.2.2 | Resilience

This study used nine items from Connor and Davidson’s (2003) scale to assess resilience as a personality trait. One of the sample items was “When things look hopeless, I don’t give up.” Researcher asked respondents to specify the characteristics that they felt suit their quality of thinking or their personality ($\alpha = 0.92$).

4.3 | Results for Study 2

The mean, SD, the value of alpha, and correlations between the variables of Study 2 are listed in Table 1. While constructs were assessed at various points in time, there is still the potential for CMB. As a result, this study tried to solve the possible problems of CMB and test the uniqueness of the models utilizing CFA (Khan, Khan, Moin, et al., 2020; Khan, Khan, Soomro, et al., 2020; Khan, Khan, & Soomro, 2020). First, I run CFA along with all constructs of the model including social media misinformation, perceived COVID-19 threat, psychological distress, resilience, in-role performance, and turnover intentions. The six-factor model was best fit ($\chi^2 = 728.52$, $df = 419$, TLI = 0.92, IFI = 0.93, RMSEA = 0.05, SRMR = 0.05) all values were according to desired ranges (Khan et al., 2019; Pitafi et al., 2018; Islam, Attiq, Hameed et al., 2019). A comparison was done for checking the possibility of CMB for six-factor model with five-factor model where social media misinformation and perceived COVID-19 threat were loaded onto the one factor ($\chi^2 = 1059.16$, $df = 424$, TLI = .84, IFI = 0.86, CFI = 0.85, RMSEA = 0.08, SRMR = 0.07). Findings revealed six-factor model was better than the five-factor model. Similarly, four-factor model also fitted the data poorly ($\chi^2 = 1309.49$, $df = 428$, TLI = 0.78, IFI = 0.80, CFI = 0.79, RMSEA = 0.09, SRMR = 0.09) consequently, this study assumed that there was no threat in the data for CMB and constructs were different (Khan, Khan, Soomro, et al., 2020).

4.4 | Hypotheses testing

Similar to Study 1, this study used regression analysis to test the model. As presented in Table 4 social media misinformation was positively related to perceived COVID-19 threat ($\beta = 0.17$, $p < 0.05$) and perceived COVID-19 threat was positively associated with psychological distress ($\beta = 0.17$, $p < 0.01$), providing supporting evidence for Hypotheses 1 and 2 and replicating the findings of Study 1. Support for Hypotheses 3 and 4 was also found because psychological distress was positively related to turnover intentions ($\beta = 0.37$, $p < 0.001$) and negatively related to in-role performance ($\beta = -0.39$, $p < 0.001$).

For testing indirect effects as stated in Hypotheses 5 and 6, PROCESS Model 6 with 5000 bootstrap iterations was utilized. Hypothesis 5 indicates that the association between social media misinformation and turnover intention will be serially mediated first through perceived COVID-19 threat and then through psychological distress. The results of Model 6 are presented in Table 3 showed that the indirect effect was substantial ($ab = 0.01$, 95% CI = [0.01, 0.03]), accepting H5. Similarly, results presented in Table 3 revealed that indirect effects of misinformation on in-role performance are serially mediated first through perceived COVID-19 threat and then through psychological distress ($ab = -0.01$, 95% CI = [-0.03,-0.00]), supporting the Hypothesis 6 as well. Hypothesis 7 indicates that, for those with high resilience, the positive relationship between misinformation and COVID-19 threat would be weaker. As Table 4 illustrates ($\beta = -0.23$, $p < 0.01$), resilience significantly predicted the relationship between misinformation and COVID-19 threat. The interaction plot (see Figure 2) employing mean-centering, showed that at the higher level of resilience this relationship was weaker ($\beta = -0.03$, nonsignificant) as compared to the lower level of resilience ($\beta = .41$, $p < 0.001$). This states that individuals with a high level of resilience are less affected by the misinformation and perceive a low level of COVID-19 threat. The pattern of the interaction supports Hypothesis 7.
|                          | COVID-19 threat (T2) | Psychological distress (T3) | Turnover intentions (T4) | In-role performance (T4) |
|--------------------------|----------------------|-----------------------------|--------------------------|-------------------------|
|                          | M1       | M2       | M3       | M1       | M2       | M3       | M1       | M2       | M3       | M1       | M2       | M3       |
| Age (T1)                 | 0.01     | 0.01     | 0.01     | 0.01     | 0.00     | 0.00     | -0.00    | 0.01     | 0.01     | 0.01     | 0.01     | 0.01     |
| Gender (T1)              | 0.02     | 0.07     | 0.06     | 0.04     | 0.04     | 0.09     | 0.09     | 0.07     | -0.11    | -0.10    | -0.09    |
| Tenure (T1)              | -0.07    | -0.08    | -0.07    | -0.01    | 0.01     | -0.02    | -0.01    | -0.01    | 0.01     | -0.03    | -0.02    |
| Social media misinformation (T1) | 0.17* | 0.11* | 0.18** | 0.36*** | 0.33*** | 0.37*** | 0.35*** | 0.23*** | -0.33** | -0.25** | -0.12* |
| Resilience (T1)          | -0.22** | -0.24** |          |          |          |          |          |          |          |          |          |
| SMI × Resilience (T1)    | -0.23** |          |          |          |          |          |          |          |          |          |          |
| Perceived COVID-19 Threat (T2) |          |          |          | 0.17** | 0.14** | 0.09* | -0.49*** | -0.42*** |
| Psychological Distress (T3) |          |          |          |          |          |          | 0.37*** |          |          |          |          |
| $R^2$                    | 0.05*    | 0.10*** | 0.15*** | 0.20*** | 0.25*** | 0.25*** | 0.29*** | 0.41*** | 0.08** | 0.26*** | 0.31*** |
| $\Delta R^2$             | 0.05*** | 0.10*** | 0.05*** | 0.04*** | 0.16*** | 0.18*** | 0.23*** |

Note: $N = 242$. Beta coefficients are unstandardized.
Abbreviations: SMI, social media misinformation; T, time.
*p < 0.05; **p < 0.01; ***p < 0.001.
Hypothesis 8 proposes that the indirect link between misinformation and turnover intentions will be moderated by resilience so that the sequentially mediated influence of misinformation on turnover intentions via COVID-19 threat and psychological distress for those with high resilience will be weaker. This study tested the indirect effects of misinformation on turnover intentions through COVID-19 threat and psychological distress across various levels of resilience using PROCESS Model 83 with 5,000 bootstrap iterations to test Hypothesis 8. The index of moderated mediation (index = −0.01, 95% CI = [−0.03, −0.00]), was significant which produces a recognized test of moderated mediation. The indirect effect of misinformation on turnover intentions via COVID-19 threat and psychological distress, as shown in Table 3, was more positive and significant (estimate = 0.03, 95% CI = [0.01, 0.06]) when resilience was low but when resilience was high (estimate = −0.00, 95% CI = [−0.02, 0.01]) these effects become insignificant as this study predicted. Moreover, Hypothesis 9 predicts the indirect relationship between misinformation and in-role performance will be moderated by the resilience, and this sequentially mediated influence of misinformation on in-role performance via COVID-19 threat and psychological distress will be weaker for those who scored high at resilience. A similar procedure was applied to test Hypothesis 9 as used in Hypothesis 8. Index of moderated mediation was significant (index = 0.01, 95% CI = [0.00, 0.03]) and as this study predicted, the indirect effect of misinformation on in-role performance via COVID-19 threat and psychological distress become insignificant when resilience was higher (estimate = 0.00, 95% CI = [−0.01, 0.01]) but was stronger and negative when resilience was lower (estimate = −0.03, 95% CI = [−0.06, −0.01]) suggesting that hypotheses, Hypothesis 8 and Hypothesis 9 were according to as hypothesized such as high level of resilience reduce the damaging impacts of social media misinformation, COVID-19 threat and psychological distress on turnover intentions and in-role performance.

5 | DISCUSSION

Misinformation and fake news on social media and its impacts are of increasing field of study for researchers in recent times (Apuke & Omar, 2021; Cheng & Luo, 2020; Laato et al., 2020). The effects of misinformation on an individual’s behaviors, including mental health and fatigue, have been investigated in a few studies (Islam et al., 2020; Lee et al., 2020). This study built and tested a process model with sequential mediators and an individual difference moderator to better understand why misinformation influence these behaviors and in-role performance in the context of the current COVID pandemic. This study incorporated recent research and theory into building the model. In two studies, for all of the theorized direct, sequential mediation, moderating, and moderated mediation

![Figure 2](image-url)  
**Figure 2** Moderating role of resilience on the social media misinformation–perceived COVID-19 threat relationship (Study 2)
effects found support. In Study 1, this study found support linking social media misinformation to turnover intentions first via COVID-19 threat and then psychological distress in health-care settings. Researcher repeated and advanced the results of Study 1 and predicted in-role performance in Study 2, and included many methodological improvements. For instance, researcher gathered the relevant measures at four points in time to conform to the sequential process of hypothesized model (Khan et al., 2021) and sample consisted of physicians or medical doctors from different hospitals.

Social media misinformation as a stressor, findings supported the predictions that social media misinformation enhances the COVID-19 threat which predicted psychological distress. Integrating findings related to fake news and health impacts of COVID-19 research in recent times (Islam et al., 2020; Pennycook et al., 2020). Similarly, this study hypothesized and found support that psychological distress is related to turnover intentions which is consistent with the existing literature (Khan, Khan, Moin, et al., 2020; Khan, Khan, Soomro, et al., 2020; Khan, Khan, & Soomro, 2020; Labrague & Santos, 2020; Saleem et al., 2018). Moreover, findings in Study 2 show that psychological distress is negatively related to in-role performance. Due to the scarcity of literature in the context of COVID-19 and performance this study is unable to compare these findings, however, results are consistent with the findings in general literature (Lim & Tai, 2014; Schneider et al., 2012). This study also found support for the process model showing that the link between social media misinformation and both in-role performance and turnover intentions were each sequentially mediated by COVID-19 threat first and then psychological distress.

This study argues that frontline healthcare workers low in resilience are especially sensitive to fake news and its impacts; thus, one would expect that those who encounter misinformation about COVID-19, manifested as higher levels of COVID-19 threat. In contrast, this study argued that those high in resilience will experience lower levels of COVID-19 threat stemming from the higher level of resilience and be less influenced by social media misinformation. In favor of this argument, this study revealed that the link between misinformation and COVID-19 threat was weaker for those high in resilience compared to those low in resilience. Finally, this study found that resilience reduced the sequential indirect and damaging impacts of misinformation on turnover intentions and in-role performance via COVID-19 threat and psychological distress, as hypothesized. These results show that attitudinal and behavioral reactions differ as a component of resilience and supported coping mechanism of coping theory (Lazarus & Folkman, 1984).

5.1 Contribution to theory and implications for practice

This study extended the coping theory and social media misinformation literature in the context of COVID-19 in several ways. First, past studies on social media misinformation in the context of COVID-19 examined the impact of misinformation on mental and psychological health only (Alharbi et al., 2020; Islam et al., 2020). Putting on less attention on the withdrawal behavior and performance. Such research has been called for given that in organizational settings (Labrague & Santos, 2020). To fill the gap in the literature and respond to the call for research, this study included turnover intention as a dependent variable in Study 1 while further contributing to the understanding of in-role performance in Study 2. Second, this study extends prior work on stress and coping by introducing the construct of social media misinformation and testing its relationship to job-related outcomes. This study further extended coping theory (Lazarus & Folkman, 1984), by providing empirical support of resilience as a boundary conditions against the adverse effects of social media misinformation, COVID-19 threat, and psychological distress on work-related outcome variables.

Also, to illustrate how social media misinformation influences turnover intentions and in-role performance through COVID-19 threat and psychological distress, this study describe a sequential mediating process. Moreover, this study used supervisor ratings of in-role performance to decrease the probability of CMB impacting the findings. Recent research by Labrague and Santos (2020), using the sample of nurses in the Philippines is one of the few to check the impact of the threat of COVID-19 on work satisfaction and turnover intentions. These researchers found
that the impact of fear of COVID-19 was negatively related to work satisfaction and positively related to psychological distress and turnover intentions. This study extended this study by linking social media misinformation to in-role performance through the sequential mediating process using a different set of variables. Finally, past research has examined the moderating effects of resilience on the relationship between COVID-19 threat and future anxiety. Paredes et al. (2021), found that the relationship between COVID-19 threat and future anxiety was weaker for those who scored high at resilience. Therefore, findings of current study go beyond the past research not only by including the resilience as a moderator in the relationship between social media misinformation and COVID-19 threat but also by adding it as a moderator on the sequentially mediated relationships.

During the COVID-19 pandemic, the distribution of misinformation was shown as a major obstacle (Pennycook et al., 2020). In this process, the role of social media is exemplified by its enhanced use during COVID-19 (Paredes et al., 2021; Islam, Pitafi, Arya, et al., 2021). The results of current study will help in adding clarification to this situation, offering information that can assist management of the hospitals, healthcare workers, policymakers, and developers of social media networks who want to tackle the work and psychological health-related issues. In this regard, on the basis of coping theory this study suggests to health worker that finding someone to look after your back through difficult times, will make it easier to overcome stress. People suffering from depression, drug abuse, grief, and loneliness gain immensely from supportive coping strategies in other fields as well (Kakar & Khan, 2020; Kessler et al., 2003). Simple approaches such as holding a group conversation, calling a friend, opening up to a counselor, or discussing everyday issues with parents or bosses may assist in adjusting to and managing life stressors without being overwhelmed.

Second, the results of the current study show the positive relationship between social media misinformation and the threat of COVID-19 in healthcare workers. This implies that misinformation can increase the level of the threat in the healthcare workers who are the frontline defense against the COVID-19 pandemic which has serious consequences. Therefore, there is a need for regulatory control of social media platforms. Third, it will help to minimize the perceived threat and potential psychological distress caused by the outbreak by introducing public policies and plans to respond to mental health issues. Clear communication techniques should be encouraged by governments because the consumption of social media and news sources can provide incorrect information, causing fear and stress (Khan & Khan, 2019; Pitafi et al., 2020; Raza et al., 2020). Fourth, as the results of this study showed that threat of COVID-19 was positively related to psychological distress leading to turnover intentions. To enhance the ability of healthcare staff to efficiently care and treat for coronavirus patients, hospitals must formulate or create COVID-19 training plans. To maintain social distancing, this can be encouraged by utilizing alternate channels such as webinars, social media platforms, or other video technologies.

Finally, COVID-19 has been regarded as one of the infectious diseases with significant psycho-social effects (Paredes et al., 2021), requiring the introduction of mental health treatments to enhance cognitive well-being in the cases of many individuals. As findings of this study suggested that resilience can reduce the adverse impacts of the misinformation and COVID-19 threat not only on the psychological health of the individuals but also reduce the adverse effects on the work-related outcomes (turnover intentions and in-role performance) as a coping technique. Past literature (Killgore et al., 2020; Paredes et al., 2021) also stated that resilience is a very important coping strategy to curb the adverse impacts of COVID-19.

5.2 | Limitation and future research

When interpreting and generalizing study results, cautions should be kept in mind in light of the described limitations. First, this study was conducted in one country, therefore; it may affect the generalizability of the findings in other countries or cultures. Second, this study also did not determine the participants’ prior mental health problems. To assess improvements in mental health due to the evolution of the pandemic, future research should conduct longitudinal studies. Additional research can also involve experimental and observational models to assess real
pandemic activity (Paredes et al., 2021). Third, this study included only perceived COVID-19 threat and psychological distress as serial mediators. Other variables such as anger, anxiety, depression, and fatigue can take effects and can influence an individual's behavioral intentions and performance in this context. Finally, this study included resilience as a moderator in the research model. The future researcher can include other individual differences moderators such as proactive personality and social support in the context of social media misinformation and perceived COVID-19 threat.

**PEER REVIEW**
The peer review history for this article is available at https://publons.com/publon/10.1002/jcop.22693.

**DATA AVAILABILITY STATEMENT**
The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

**ORCID**
Ali Nawaz Khan http://orcid.org/0000-0002-3577-3770

**REFERENCES**
Ahorsu, D. K., Lin, C. Y., Imani, V., Saffari, M., Griffiths, M. D., & Pakpour, A. H. (2020). The fear of COVID-19 scale: Development and initial validation. *International Journal of Mental Health and Addiction*, 1–9. https://doi.org/10.1007/s11469-020-00270-8

Alharbi, J., Jackson, D., & Usher, K. (2020). The potential for COVID-19 to contribute to compassion fatigue in critical care nurses. *Journal of Clinical Nursing*, 29(15-16), 2762–2764. https://doi.org/10.1111/jocn.15314

Apuke, O. D., & Omar, B. (2020). User motivation in fake news sharing during the COVID-19 pandemic: An application of the uses and gratification theory. *Online Information Review*, 45, 220–239. https://doi.org/10.1108/OIR-03-2020-0116

Apuke, O. D., & Omar, B. (2021). Fake news and COVID-19: Modelling the predictors of fake news sharing among social media users. *Telematics and Informatics*, 56. https://doi.org/10.1016/j.tele.2020.101475

Bano, S., Cisheng, W., Khan, A. N., & Khan, N. A. (2019). WhatsApp use and student's psychological well-being: Role of social capital and social integration. *Children and Youth Services Review*, 103(8), 200–208. https://doi.org/10.1016/J.CHILDYOUTH.2019.06.002

Barnett, R. C., & Brennan, R. T. (1995). The relationship between job experiences and psychological distress: A structural equation approach. *Journal of Organizational Behavior*, 16(3), 259–276. https://doi.org/10.1002/job.403160307

Baum, A., Singer, J. E., & Baum, C. S. (1981). Stress and the Environment. *Social Work in Public Health*, 32(1), 65–76. https://doi.org/10.1080/19371918.2016.1188746

Beaudry, A., Molson, J., & Pinsonneault, A. (2005). Understanding user responses to information technology: A coping model of user adaptation. *MIS Quarterly*, 29, 3.

Blackmon, B. J., Lee, J., Cochran, D. M., Kar, B., Rehner, T. A., & Baker, A. M. (2017). Adapting to life after hurricane katrina and the deepwater horizon oil spill: An examination of psychological resilience and depression on the Mississippi Gulf Coast. *Social Work in Public Health*, 32(1), 65–76. https://doi.org/10.1080/19371918.2016.1188746

Cao Xiongfei, Khan Ali N., Zaigham Ghulam H. K., Khan Naseer A. (2019). The Stimulators of Social Media Fatigue Among Students: Role of Moral Disengagement. *Journal of Educational Computing Research*, 57, (5), 1083–1107. http://dx.doi.org/10.1177/0735633118781907

Chadwick, A., & Vaccari, C. (2019). News sharing on UK social media: Misinformation, disinformation, and correction. https://repository.lboro.ac.uk/articles/report/News_sharing_on_UK_social_media_misinformation_disinformation_and_correction/9471269

Cheng, Y., & Luo, Y. (2020). The presumed influence of digital misinformation: Examining US public’s support for governmental restrictions versus corrective action in the COVID-19 pandemic. *Online Information Review*, https://doi.org/10.1108/0108-08-2020-0386

Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*, 18(2), 76–82. https://doi.org/10.1002/da.10113

Crossley, C. D, Bennett, R. J., Jex, S. M., & Burnfield, J. L. (2007). Development of a global measure of job embeddedness and integration into a traditional model of voluntary turnover. *Journal of Applied Psychology*, 92(4), 1031.
De Terte, I., & Stephens, C. (2014). Psychological resilience of workers in high-risk occupations. Stress and Health, 30(5), 353–355. https://doi.org/10.1002/smi.2627

Garfin, D. R., Silver, R. C., & Holman, E. A. (2020). The novel coronavirus (COVID-19) outbreak: Amplification of public health consequences by media exposure. Health Psychology, 39(5), 355–357. https://doi.org/10.1037/hea0000875

Glickman, L., Tanaka, J. S., & Chan, E. (1991). Life events, chronic strain, and psychological distress: Longitudinal causal models. Journal of Community Psychology, 19(4), 283–305. https://doi.org/10.1002/1520-6629(199110)19:4<3C28::AID-JCOP2290190402%3E3.0.CO;2-5

Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (second). Guilford Press.

Islam, A. K. M. N., Laato, S., Talukder, S., & Sutinen, E. (2020). Misinformation sharing and social media fatigue during COVID-19: An affordance and cognitive load perspective. Technological Forecasting and Social Change, 159, 120201. https://doi.org/10.1016/j.techfore.2020.120201

Islam, T., Attiq, S., Hameed, Z., Khokhar, M. N., & Sheikh, Z. (2019). The impact of self-congruity (symbolic and functional) on the brand hate: a study based on self-congruity theory. British Food Journal, 121(1), 71–88. https://doi.org/10.1108/BFJ-03-2018-0206

Islam, T., Meng, H., Pitafi, A. H., et al., (2021). Why do citizens engage in government social media accounts during COVID-19 pandemic?. Telematics and Informatics, 62, 101619.

Islam, T., Pitafi, A. H., Arya, V., et al. (2021). Panic buying in the COVID-19 pandemic: A multi-country examination. Journal of Retailing and Consumer Services, 59, 102357.

Kakar, A., & Khan, A. N. (2020). The impacts of economic and environmental factors on sustainable mega project development: Role of community satisfaction and social media. Environmental Science and Pollution Research, 28, 2753–2764. https://doi.org/10.1007/s11356-020-10661-y

Kameg, B. N. (2021). Psychiatric-mental health nursing leadership during coronavirus disease 2019 (COVID-19). Journal of Psychiatric and Mental Health Nursing, 28(4), 507–508. https://doi.org/10.1111/jpm.12662

Kessler, R. C., Barker, P. R., Colpe, L. J., Epstein, J. F., Gfroerer, J. C., Hiripi, E., Howes, M. J., Normand, S.-L. T., Manderscheid, R. W., Walters, E. E., & Zaslavsky, A. M. (2003). Screening for serious mental illness in the general population. Archives of General Psychiatry, 60(2), 184–189. https://doi.org/10.1001/archpsyc.60.2.184

Keyserlingk, L., Yamaguchi-Pedroza, K., Arum, R., & Eccles, J. S. (2021). Stress of university students before and after campus closure in response to COVID-19. Journal of Community Psychology, jcop.22561. https://doi.org/10.1002/jcop.22561

Khan, A. N. (2021). A diary study of psychological effects of misinformation and COVID-19 Threat on work engagement of working from home employees. Technological Forecasting and Social Change, 171, 120968. https://doi.org/10.1016/J.TECHFORE.2021.120968

Khan, A. N., & Ali, A. (2018). Factors affecting retailer’s adoption of mobile payment systems: A SEM-neural network modeling approach. Wireless Personal Communications, 5, 2529–2551. https://doi.org/10.1007/s11277-018-5945-5

Khan, A. N., Ali, A., Khan, N. A., & Jehan, N. (2019). A study of relationship between transformational leadership and task performance: The role of social media and affective organisational commitment. International Journal of Business Information Systems, 31(4), 499. https://doi.org/10.1504/IJBIS.2019.101583

Khan, A. N., Khan, N. A., & Bodla, A. A. (2021). The after-shock effects of high-performers turnover in hotel industry: A multi-level study. International Journal of Contemporary Hospitality Management, 60, 952–955. https://doi.org/10.1108/IJCHM-12-2020-1439

Khan, A. N., Khan, N. A., Bodla, A. A., & Gul, S. (2019). Impact of psychopathy on employee creativity via work engagement and negative socioemotional behavior in public health sector. Personnel Review. https://doi.org/10.1108/PR-02-2019-0072

Khan, A. N., Khan, N. A., & Soomro, M. A. (2021). The impact of moral leadership on construction employees’ psychological behaviors. IEEE Transactions on Engineering Management, 60, 1–9. https://doi.org/10.1109/TEM.2020.3020371

Khan, N. A., & Khan, A. N. (2019). What followers are saying about transformational leaders fostering employee innovation via organisational learning, knowledge sharing and social media use in public organisations? Government Information Quarterly, 36(4):101391. https://doi.org/10.1016/j.giq.2019.07.003

Khan, N. A., Khan, A. N., Bahadur, W., & Ali, M. (2021). Mobile payment adoption: A multi-theory model, multi-method approach and multi-country study. International Journal of Mobile Communications, 19(4), 1–14. https://doi.org/10.1504/IJMC.2021.10032082

Khan, N. A., Khan, A. N., & Farrukh Moin, M. (2021). Self-regulation and social media addiction: A multi-wave data analysis in China. Technology in Society, 64(2), 101527–101541. https://doi.org/10.1016/j.techsoc.2021.101527

Khan, N. A., Khan, A. N., & Gul, S. (2019). Relationship between perception of organizational politics and organizational citizenship behavior: Testing a moderated mediation model. Asian Business & Management, 18(2), 122–141. https://doi.org/10.1057/s41291-018-00057-9
Khan, N. A., Khan, A. N., Moin, M. F., & Pitafi, A. H. (2020). A trail of chaos: How psychopathic leadership influence employee satisfaction and turnover intention via self-efficacy in tourism enterprises. *Journal of Leisure Research*, 52(3), 347–369. https://doi.org/10.1080/0147682X.2020.1785359

Khan, N. A., Khan, A. N., Soomro, M. A., & Khan, S. K. (2020). Transformational leadership and civic virtue behavior: Valuing act of thriving and emotional exhaustion in the hotel industry. *Asia Pacific Management Review*, 25(4), 216–225. https://doi.org/10.1016/j.apmrv.2020.05.001

Khan, N. A., Khan, A. N., & Soomro, M. A. (2020). Influence of ethical leadership in managing human resources in construction companies. *Journal of Construction Engineering and Management*, 46(11), 1–13. https://doi.org/10.1061/(ASCE)CO.1943-7862.0001919

Khan, M. M., Mubarik, M. S., Islam, T., Rehman, A., Ahmed, S. S., Khan, E., & Sohail, F. (2021). How servant leadership triggers employee satisfaction and turnover intention via self-efficacy in tourism enterprises. *Asia Pacific Management Review*, 26(1), 113216. https://doi.org/10.1016/j.apmrv.2020.113216

Laato, S., Islam, A. K. M. N., Islam, M. N., & Whelan, E. (2020). What drives unverified information sharing and cyberchondria during the COVID-19 pandemic? *European Journal of Information Systems*, 29(3), 288–305. https://doi.org/10.1080/0960085X.2020.1770632

Labrague, L. J., & Santos, J. A. A. (2020). Fear of COVID-19, psychological distress, work satisfaction and turnover intention among frontline nurses. *Journal of Nursing Management*, 28(11), 13168. https://doi.org/10.1111/jonm.13168

Lavelle, J. J., Rupp, D. E., Herda, D. N., Pandey, A., & Lauck, J. R. (2019). Customer injustice and employee performance: Roles of emotional exhaustion, surface acting, and emotional demandsabilities fit. *Journal of Management*, XX(X), 1–29. https://doi.org/10.1177/01492063198969426

Lazarus, R. S. (2000). Toward better research on stress and coping. *American Psychologist*, 55(6), 665–673. https://doi.org/10.1037/0003-066X.55.6.665

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer Publishing

Lee, J. J., Kang, K. A., Wang, M. P., Zhao, S. Z., Wong, J. Y. H., O’Connor, S., Yang, S. C., & Shin, S. (2020). Associations between COVID-19 misinformation exposure and belief with COVID-19 knowledge and preventive behaviors: Cross-sectional online study. *Journal of Medical Internet Research*, 22(11), e22205. https://doi.org/10.2196/22205

Liang, X., Hu, X., Islam, T., & Mubarik, M. S. (2021). Social support, source credibility, social influence, and solar photovoltaic panels purchase intention. *Environmental Science and Pollution Research*, 1–18. https://doi.org/10.1007/s11356-021-14750-4

Lim, S., & Tai, K. (2014). Family incivility and job performance: A moderated mediation model of psychological distress and core self-evaluation. *Journal of Applied Psychology*, 99(2), 351–359. https://doi.org/10.1037/a0034486

Luther, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71(3), 543–562. https://doi.org/10.1111/1467-8624.00164

Marcelin, L. H., Cela, T., Dembo, R., Jean-Gilles, M., Page, B., Demezier, D., Clement, R., & Waldman, R. (2021). Remote delivery of a therapeutic intervention to court-mandated youths of Haitian descent during COVID-19. *Journal of Community Psychology*, jcop.22559. https://doi.org/10.1002/jcop.22559

Mehmood, K., Li, Y., Jabeen, F., Khan, A. N., Chen, S., & Khalid, G. K. (2020). Influence of female managers’ emotional display on frontline employees’ job satisfaction: A cross-level investigation in an emerging economy. *International Journal of Bank Marketing*, 38(7), 1491–1509. https://doi.org/10.1108/IJBM-03-2020-0152

Moin, M. F., Wei, F., Khan, A. N., Ali, A., & Chang, S. C. (2021). Abusive supervision and job outcomes: A moderated mediation model. *Journal of Organizational Change Management*, https://doi.org/10.1108/JOCM-05-2020-0132

Nadeem, M., & Khaliqu, N. (2021). A study of community knowledge, attitudes, practices, and health in Pakistan during the COVID-19 pandemic. *Journal of Community Psychology, jcop*, 22512. https://doi.org/10.1002/jcop.22512

NCOC. (2020). *National Command Operation Center*. Retrieved from https://ncoc.gov.pk/

Palanski, M., Avey, J. B., & Jiraporn, N. (2014). The effects of ethical leadership and abusive supervision on job search behaviors in the turnover process. *Journal of Business Ethics*, 121(1), 135–146. https://doi.org/10.1007/s10551-013-1690-6

Paredes, M. R., Apaolaza, V., Fernandez-Robin, C., Hartmann, P., & Yañez-Martinez, D. (2021). The impact of the COVID-19 pandemic on subjective mental well-being: The interplay of perceived threat, future anxiety and resilience. *Personality and Individual Differences*, 170, 110455. https://doi.org/10.1016/j.paid.2020.110455

Pennycook, G., McPhetres, J., Zhang, Y., Lu, J. G., & Rand, D. G. (2020). Fighting COVID-19 misinformation on social media: Experimental evidence for a scalable accuracy-nudge intervention. *Psychological Science*, 31(7), 770–780. https://doi.org/10.1177/0956797620939054

Pitafi, A. H., Kanwal, S., Ali, A., Khan, A. N., & Waqas Ameen, M. (2018). Moderating roles of IT competency and work cooperation on employee work performance in an ESM environment. *Technology in Society* (Vol. 55). https://doi.org/10.1016/j.techsoc.2018.08.002
Pitafi, A. H., Khan, A. N., Khan, N. A., Ren, M. (2020). Using enterprise social media to investigate the effect of workplace conflict on employee creativity. *Telematics and Informatics, 55*, 101451. https://dx.doi.org/10.1016/j.tele.2020.101451

Podsakoff, P., Mackenzie, S., & Lee, J. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903.

Preacher, K., Rucker, D., & Hayes, A. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research, 42*(1), 185–227.

Pérez-Fuentes, M., del C., Molero Jurado, M., del M., Martos Martínez, Á., & Gázquez Linares, J. J. (2020). Threat of COVID-19 and emotional state during quarantine: Positive and negative affect as mediators in a cross-sectional study of the Spanish population. *PloS One, 15*(6), e0235305. https://doi.org/10.1371/journal.pone.0235305

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385–401.

Raza, M. Y., Khan, A. N., Khan, N. A., Ali, A., & Bano, S. (2020). Dark side of social media and academic performance of public school students: Role of parental school support. *Journal of Public Affairs, 20*(3), https://doi.org/10.1002/pa.2058

Robert, G., & Hockey, J. (1997). Compensatory control in the regulation of human performance under stress and high workload: A cognitive-energetical framework. *Biological Psychology, 45*(1–3), 73–93. https://doi.org/10.1016/S0301-0511(96)05223-4

Sagar, S. S., Busch, B. K., & Jowett, S. (2010). Success and failure, fear of failure, and coping responses of adolescent football players. *Journal of Applied Sport Psychology, 22*(2), 213–230. https://doi.org/10.1080/10413201003664962

Saleem, S., Yusaf, S., Sarwar, N., Raziq, M. M., & Malik, O. F. (2018). Linking abusive supervision to psychological distress and turnover intentions among police personnel: The moderating role of continuance commitment. *Journal of Interpersonal Violence, 36*, 4451–4471. https://doi.org/10.1177/0886260518791592

Schneider, S. K., O’Donnell, L., Stueve, A., & Coulter, R. W. S. (2012). Cyberbullying, school bullying, and psychological distress: A regional census of high school students. *American Journal of Public Health, 102*(1), 171–177.

Söthmann, M. S., Hart, B. A., Horn, T. S., & Gustafson, A. B. (1988). Plasma catecholamine and performance associations during psychological stress: Evidence for peripheral noradrenergic involvement with an attention energetical framework. *Psychological Assessment, 1*(1), 31–43. https://doi.org/10.1207/s15327043apa0101_2

Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal, 43*, 178–190.

Thompson, T. (2014). Perceived threat. *Encyclopedia of health communication*. Sage Publications, Inc. https://doi.org/10.4135/9781483346427.n411

Tyler, T. R., & Cook, F. L. (1984). The mass media and judgments of risk: Distinguishing impact on personal and societal level judgments. *Journal of Personality and Social Psychology, 47*(4), 693–708. https://doi.org/10.1037/0022-3514.47.4.693

Vindegaard, N., & Benros, M. E. (2020). COVID-19 pandemic and mental health consequences: Systematic review of the current evidence. In *Brain, behavior, and immunity* (Vol. 89, pp. 531–542). Academic Press Inc. https://doi.org/10.1016/j.bbi.2020.05.048

Wang, J., Li, Y., & Rao, H. R. (2017). Coping responses in phishing detection: An investigation of antecedents and consequences. *Information Systems Research, 28*(2), 378–396. https://doi.org/10.1287/isre.2016.0680

Weedon, J., Nuland, W., & Stamos, A. (2017). Information Operations and Facebook. Retrieved from https://www.facebook.com/notes/mark-zuckerberg/building-global-community/10154544292806634

Wei, R., Lo, V.-H., & Lu, H.-Y. (2010). The third-person effect of tainted food product recall news: Examining the role of credibility, attention, and elaboration for college students in Taiwan. *Journalism & Mass Communication Quarterly, 87*(3–4), 598–614. https://doi.org/10.1177/107769901008700310

Williams, L. L., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management, 17*(3), 601–617.

Xiongfei, C., Khan, A. N., Ali, A., & Khan, N. A. (2019). Consequences of cyberbullying and social overload while using SNSs: A study of users’ discontinuous usage behavior in SNSs. *Information Systems Frontiers, 22*, 11343–1356. https://doi.org/10.1007/s10796-019-09936-8

---

**How to cite this article:** Khan, A. N. (2022). Misinformation and work-related outcomes of healthcare community: Sequential mediation role of COVID-19 threat and psychological distress. *Journal of Community Psychology, 50*, 944–964. https://doi.org/10.1002/jcop.22693