


# Fear of COVID-19, hotel employee outcomes and workplace health and safety management practices: Evidence from Sharm El-Sheikh, Egypt

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## Abstract

This paper investigates the effect of fear of COVID-19 on employee turnover intention and depression, hypothesizing the mediating effect of psychological well-being and the moderating effect of workplace health and safety management practices. Data was gathered from 687 employees of five-star hotels in Sharm El-Sheikh using a structured survey instrument with time-lag approach. A partial least-square-based path modeling (PLS-PM) was applied to analyze the dataset. The findings reveal the partial mediation of psychological well-being in the relationships of fear of COVID-19 with both turnover intention and depression. While workplace safety and management practices significantly moderate the relationship between fear of COVID-19 and both turnover intentions, depression also mediates the relationship. The findings add to the existing literature on the effects of COVID-19 through the dual lenses of protection motivation theory and attribution theory. We can employ these findings to overcome issues of employee well-being in the hotel setting.

## Keywords

Fear of COVID-19, workplace health and safety, employee depression, hospitality industry, psychological well-being

## Introduction

The 2019-coronavirus (COVID-19) pandemic ceased the hospitality industry's mainstream activities and caused a prompt decline in the average occupancy rates of hotels (Salem et al., 2021), leaving employees with concerns about job insecurity, anxiety, and depression (Aguiar-Quintana et al., 2021). This evidences a significant impact on socio-economic conditions as well as the psychological well-being of employees, as well as increased employee turnover (Salem et al., 2022). Recent empirical evidence suggests an increase in

depression, anxiety, fear, job burnout, and high turnover intentions because of the threat of unemployment and uncertainty (Teng et al., 2021). Furthermore, the threat of unemployment and the uncertainty of one's occupation bear a direct relationship with an

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unexpectedly lower level of performance (Hemington and Neill, 2022).

As the phenomenon of COVID-19 is ongoing and the empirical research on health and safety and the outcomes of hotel employees post pandemic waves is still scarce (Chi et al., 2021), the findings of this research will help to fill a crucial research gap. As such, creating a safe and secure working atmosphere is necessary to mitigate COVID-19 (Teng et al., 2021). Hitherto, only a few previous studies have evaluated the impact of psychological depression during the period of quarantine by considering the case studies of hotel employees during this pandemic outbreak (e.g. Aguiar-Quintana et al., 2021).

On the other hand, the Egyptian tourism and health ministries required hotels to adhere to health and safety regulations and to report them on a regular basis (Salem et al., 2022). As such, most hotels updated their health and safety processes, as well as their food and beverage safety programs, to meet contemporary food safety standards. Touchless disinfection is also possible thanks to novel cleaning technology (disinfecting mist and UV lamps). Furthermore, these hotels offered cleaning wipes in all guest rooms and employed signs as social distancing indicators (see Salem et al., 2021). According to World Health Organization recommendations, such hotels provide employee training on increased hygiene requirements, infection prevention, and safety protocols (Shehata and Selem, 2021).

This study seeks to explore the moderating role of these practices between fear of COVID-19 and both turnover intent and depression among hotel employees in Egypt. Thus, the primary objective of this study, therefore, is to assess fear of COVID-19 and hotel employees' outcomes (turnover intention and depression), with psychological well-being as mediator and workplace health and safety management practices (WHSMPs) as moderator.

Accordingly, this research contributes to the extant literature in three ways. First, it extends the literature related to fear of COVID-19. Second, this research is also beneficial for identifying different factors such as psychological well-being (Koul and Nayar, 2021), employee turnover (Demirović Bajrami et al., 2021) during COVID-19 in the Egyptian hotel setting. Third, the research findings also add a piece of new knowledge to the hospitality literature by assessing the moderating role of WHSMPs, drawing on protection motivation theory (Rogers and Prentice-Dunn, 1997) and attribution theory (Kelley, 1967). Moreover, previous studies have not investigated the moderating role of WHSMPs-to the authors' knowledge-in developing countries (e.g. Egypt), which may increase the actual contribution in the hospitality literature.

Next, there are several reasons that influenced the decision to choose the hotel industry in Egypt. First, the COVID-19 outbreak directly disrupted the business activities of enterprises in this huge industry, generating significant psychological and physical anguish among hotel employees (Salem et al., 2021); hence, there was high sensitivity to job turnover. Second, since this industry is a service industry, psychological well-being has a direct influence on hotel employees' outcomes (Su and Swanson, 2019). Thus, the next section discusses the underpinning theories and arguments for the relationships assumed in the proposed research model.

## Literature review

### *Theoretical background*

This paper is based on the theoretical underpinnings of protection motivation theory and attribution theory. While PMT formulates the effects of threatening health information on attitude and behavior changes, the attribution theory explains processes that enable a motivated individual to attain cognitive mastery of the causal structure of their environment (Kelley, 1967). The combination of these two theories provides a real basis for studying perceived causation and interpretation of individual behavior based on the perception or inference of cause (Kelley and Michela, 1980). Rogers and Prentice-Dunn (1997) elaborate on the crucial cognitive mediating processes that link the arousal of a state of fear to antecedent communication stimuli. PMT indicates that the threat of any impending danger, such as COVID-19, is greatly influenced by fear perceptions or appeals, which, in turn, induce protection motivation or attitude change.

According to Rogers (1975), cognitive appraisal processes that mediate attitude change are induced by three crucial components of a fear appeal: (a) the magnitude of noxiousness of a depicted event; (b) the probability of the occurrence of the event; and (c) the efficacy of a protective response. These fear appeals and the subsequent cognitive processes arouse protection motivation among individuals and direct their activities of self-protection (Maddux and Rogers, 1983). PMT theory has been used in multiple studies concerning COVID-19, most recently, to understand preventive behaviors, consumers' channel switching behaviors, vaccination behaviors, adaptive and maladaptive coping behaviors, and the effects of perceived risk and fear (Rather, 2021).

The extant literature in social psychology is full of research on perception, its causation, and the implications of perception (Johnston and Warkentin, 2010). This research on perception considers people's

interpretations of behavior in terms of its causes and the role of interpretation in determining their reactions to that behavior. Thus, causal attributions play a central role in human behavior as they reflect a person's understanding of the causal structure of the world and, thus, his interaction with the world (Kelley, 1967). According to Kelley and Michela (1980), "attributional research concerns the consequences of attributions. It entails the assessment or manipulation of perceived causes and the measurement of their effects on behavior, feelings, and expectancies." (p. 460). Attribution theory has been used in multiple studies concerning COVID-19 recently to understand public stigma, social transgression, tourist behaviors, and psychological health (Yao and Siegel, 2021).

### *Fear of COVID-19*

Fear of COVID-19 dominated (and still dominates) the recent social landscape all over the world (Ahorsu et al., 2020) and ignited the cognitive process of threat appraisal based upon the perceived vulnerability to the threat and the perceived severity of the threat (Zhang et al., 2020). According to Shehata and Selem (2021), fear of COVID-19 infection has become a worry because it not only impairs emotions but also cognitive and behavioral responses among hotel employees. There were widespread concerns in different sectors and societies, which led people to make guesses about how big the loss would be, considering the outputs, international trade, and labor employment (Tan et al., 2021). The pandemic seriously affected employment and output in tourism, wholesale and retail trade, and accommodation and catering and caused major upheavals in these sectors (Chi et al., 2021).

According to Majumdar (2021), travel and tourism were the worst hit of all the businesses affected by the COVID-19 pandemic. This pandemic provoked feelings of vulnerability, helplessness, loss of control, uncertainty, and threat to life in general (Hemmington and Neill, 2022; Miao et al., 2021). These worries, as witnessed worldwide, drew the attention of researchers, who developed the Fear of COVID-19 Scale (FCV-19S) with robust psychometric properties to complement the clinical efforts in preventing the spread and treating COVID-19 (Ahorsu et al., 2020).

### *Psychological well-being*

Psychological well-being denotes the degree of pleasantness in an individual's life and the effectiveness of an individual's psychological functioning (Hills and Argyle, 2002) among hotel employees. It has been understood from the perspective of hedonic and

eudaimonic perspectives (Viseu et al., 2020). From the hedonistic perspective, psychological well-being represents the quest for rewards or pleasure that one seeks towards attaining satisfaction with life, avoiding negative experiences or effects (Keyes et al., 2002). From the eudaimonic perspective, psychological well-being reflects the expression of the self and an assessment of what is meaningful in one's circumstantial life (Ryff and Singer, 2008). However, some ambiguity still exists in theorizing psychological well-being and the distinctiveness of its theoretical components.

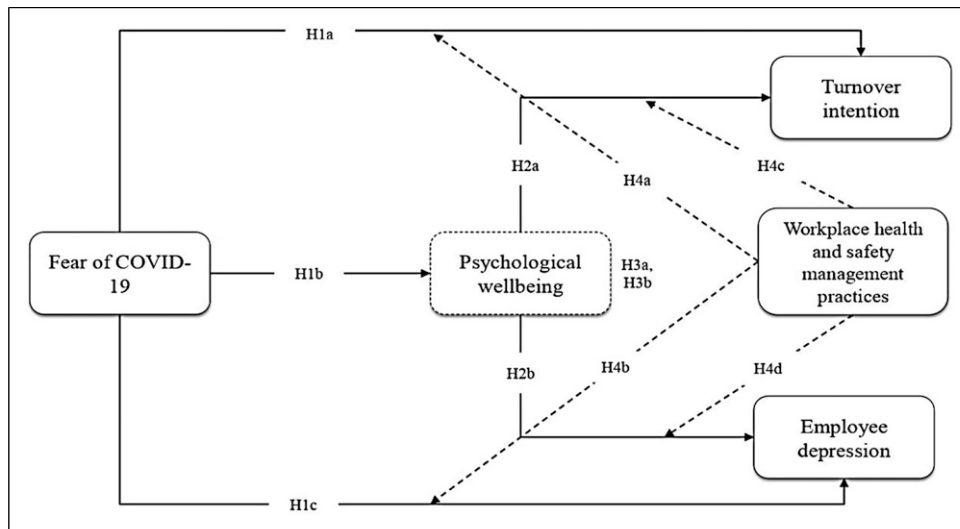
### *Turnover intention*

The voluntary turnover intention of employees, which predicts voluntary turnover behavior (Wayne et al., 1997), has financial and practical significance for organizations. Previous studies link turnover intention and behavior to a well-thought process of assessing the turnover-related costs and factors like individual values, attitudes, and personality (Teng et al., 2021). These turnover-related costs could mean the ultimate costs, other than human lives, that have emerged in employees' behavior post-COVID-19. Fear of COVID-19 is one such cost that has been instrumental in increasing psychological distress and job dissatisfaction, thus increasing turnover intentions among hotel employees (Schiffinger and Braun, 2020).

### *Employee depression*

Fear of COVID-19 and its contraction among people has led to stress, anxiety, and depression among employees, their families, and the general population (Zhang et al., 2020). The stressors associated with fear of COVID-19 have been the main causes of stress, anxiety, and depression among hotel employees (Aguiar-Quintana). According to Aguiar-Quintana et al. (2021), low consciousness and adaptive capacity, together with changes in sleep, social media posts, and other stressors such as the need for quarantine and worries related to economic well-being, cause stress among hotel employees.

Employees experience various levels of depression, anxiety, and insomnia because of not only the local environment (Kroenke et al., 2001) but also due to their worry about the conditions in their home countries (Su and Swanson, 2019). Hotel employees are more prone to depression and exhibit a higher risk of anxiety and/or depression (Aguiar-Quintana et al., 2021). Figure 1 presents the conceptual model and study hypotheses related to the linkages of fear of COVID-19 with hotel employees' outcomes (turnover intention, depression, and psychological well-being), as well as the



**Figure 1.** Research framework.

hypothesized role of WHSMPs as moderators in the relationship between fear of COVID-19 and such outcomes.

### Hypothesis development

*Fear of COVID-19 and hotel employees' outcomes.* Hotel employees, during COVID-19, are known to have faced risks and psychological well-being issues (Koul and Nayar, 2021). The immediate threat together with the associated measures such as quarantine, lockdown, and isolation have adversely affected employees' psychological health, causing high rates of post-traumatic stress, depression, anxiety, and insomnia (Huang et al., 2020). Recent studies reveal the impact of fear of COVID-19 on turnover intentions among hotel employees (Schiffinger and Braun, 2020). However, not much is known about hotel employees. Assuming the situations of hospitals and hotels are more or less similar, the following hypothesis is posited concerning the employees in the Egyptian hotel industry:

**H1a:** Fear of COVID-19 is positively related to turnover intention.

Fear of COVID-19, mainly manifested in the forms of loneliness, being separated or divorced, greater emotional regulation, and poor sleep quality, was found to have affected psychological well-being (Ahorsu et al., 2020). According to research conducted in the United States and China, the negative effects of COVID-19 on psychological well-being among hotel employees were primarily manifested by depression, anxiety disorders,

post-traumatic stress disorder, and alcohol use disorders (Demirović Bajrami et al., 2021). Thus, the following hypothesis is postulated to explore this relationship:

**H1b:** Fear of COVID-19 is negatively related to psychological well-being.

Employees facing the pandemic constantly face physical and psychological stress on multiple fronts, bearing an immediate risk of being infected themselves first and transmitting the infection to their friends and family members consequently (Salem et al., 2022). Hotel employees are more prone to these risks and, facing stressors such as enormous workloads, moral dilemmas, despair, and isolation, become vulnerable to fear, anxiety, and depression (Bandara et al., 2020). COVID-19 has exposed the psycho-economic effects of job insecurity among hospitality employees and their psychological health, particularly depression when social support is low (Aguiar-Quintana et al., 2021). Thus, the following hypothesis connecting fear of COVID-19 with employee depression can be postulated:

**H1c:** Fear of COVID-19 is positively related to employee depression.

*Psychological well-being: Mediation effect.* Hotel employees who are not psychologically well are more likely to leave jobs (Albashiti et al., 2021). A study targeting 212 hotel employees in Indonesia found negative correlations between psychological well-being and turnover intentions (Amin and Akbar, 2013). Similarly,

a study of hotel employees revealed that negative feelings reflecting poor psychological well-being induced employees to quit their jobs (Yu et al., 2021). Other research has found a link between psychological well-being and quit intentions among hotel employees (Demirović Bajrami et al., 2021). Hence, this paper assumes that:

**H2a:** Psychological well-being has a negative impact on turnover intention.

The existing literature reveals a high prevalence of depression and anxiety among frontline professionals, particularly healthcare employees (Zhang et al., 2020). Individuals in a poor state of psychological well-being feel more anxiety and depression, and vice versa. A recent study found a significant negative relationship between psychological well-being and depression, demanding psychological support interventions among hotel employees (Koul and Nayar, 2021). However, research also suggests that positive health behaviors such as physical exercise yield psychological benefits and thus improve psychological well-being, which in turn reduces depression and anger (Yu et al., 2021). Hence, the following hypothesis is proposed to test the impact of psychological well-being on the depression of hotel employees:

**H2b:** Psychological well-being has a negative impact on employee depression.

The mediating effect of psychological well-being has been observed between leadership and turnover intention among hotel employees (Albashiti et al., 2021). Employee well-being, which also includes psychological well-being, moderates the relationship between stressors (e.g. Fear of COVID-19) and employee outcomes (e.g. turnover intention) (Bakar and Kim, 2020; Miao et al., 2021). The evidence from the literature is not clear about the effect of psychological well-being as a moderator or mediator. However, given that the moderating effect is known, it can be postulated that

**H3a:** Psychological well-being mediates the relationship between fear of COVID-19 and turnover intention.

Zhang et al. (2020) established a linkage between fear of COVID-19 and the three most common disorders: stress, anxiety, and depression. The extant literature, as discussed earlier, also indicates a relationship between fear of COVID-19 and psychological well-being (Demirović Bajrami et al., 2021).

Depression and anxiety are often considered negative indicators of psychological well-being. Studies also observe that psychosocial issues, which lead to higher levels of anxiety and depression, affect the psychological well-being of hotel employees (e.g. Koul and Nayar, 2021). The extant literature hitherto reveals a bi-directional relationship between psychological well-being and depression. Given the above evidence in the context of COVID-19, the following hypothesis can be postulated:

**H3b:** Psychological well-being mediates the relationship between fear of COVID-19 and employee depression.

*Workplace health and safety management practices.* Workplace health and safety management practices are designed to protect and promote employee health and safety in a complex, interconnected, and dynamic work environment (Vinodkumar and Bhasi, 2010). During the COVID-19 pandemic, the world has witnessed a significant health crisis causing disruption and slowdown in industry, taking away human lives, jobs, and the vibrancy in the economy, demanding management a balance between production, profit, and safety in the workplace (Shehata and Selem, 2021). Globally, organizations responded to these health emergencies by iteratively inducing positive behavioral changes among employees (Kim et al., 2021).

Studies observing epidemiological restrictions during COVID-19 and related workplace risk assessment in the home office of teleworkers, even done by virtual visits, have been found effective in the management of health and safety (Matisane et al., 2021). Despite the supportive WHSMPs in hotel organizations during this pandemic, well-being scores have seen a decline (e.g. Kim et al., 2021). The current study provides a different look at the nature of the employee's condition in this period, who has actually realized the COVID-19 risk, but there is confusion in his matter whether to surrender to the status quo and leave work, or to go along with current matters in the case of the availability of well-established practices that preserve his health and safety and all those around him. Thus, the following hypotheses could be proposed:

**H4a:** WHSMP moderates the relationship between fear of COVID-19 and turnover intention.

**H4b:** WHSMP moderates the relationship between fear of COVID-19 and employee depression.

**H4c:** WHSMP moderates the relationship between psychological well-being and turnover intention.

**H4d:** WHSMP moderates the relationship between psychological well-being and employee depression.

## Methods

### *Sampling and data collection*

A survey-based quantitative design was used in this paper (Sekaran and Bougie, 2013) to examine the focal role of COVID-19 on hotel employee outcomes (turnover intention and depression) through psychological well-being and workplace health and safety management practices. The sampling frame of this study consisted of employees of 26 five-star hotels in Sharm El-Sheikh, Egypt using non-probability sampling (purposive sampling and snowball sampling). In snowball sampling, current research participants find new participants among intensive labor. Consequently, data that is sufficient for study is obtained as the sample grows like a snowball. In purposive sampling, when it comes to choosing the respondents, rely on the researcher's discretion (Sharma, 2017).

Several factors influenced our decision to choose the hotel industry in Egypt. First, the COVID-19 outbreak directly disrupted the business activities of enterprises in this huge industry, generating significant psychological and physical anguish among hotel employees (Salem et al., 2021); hence, there was high sensitivity to job turnover (Salem et al., 2022). Second, the hotel industry is one of Egypt's four economic pillars and has a significant role in the social and economic development of the country (Ghanem and Saad, 2015). Third, since this industry is a service industry, psychological well-being has a direct influence on hotel employees' outcomes (Su and Swanson, 2019).

According to Shehata and Selem (2021), Sharm El-Sheikh has been chosen as the most touristic city that contains luxury hotels and beach resorts. The reason for choosing the five-star hotels was to ensure maximum compliance with safety protocols to deal with the fear of COVID-19 (Salem et al., 2021). Occupational safety and health practices have been found to be better implemented in luxury hotels (Haid et al., 2022). It has been observed that the five-star hotels in Egypt significantly contribute to planning, establishing, implementing, auditing, and improving ISO-22000 dimensions (Elias et al., 2016). Thus, a clear focus on five-star hotels assures WHSMP, one of the key variables or a suspected moderator in our case. To check the face validity, 17 industry experts and academic participants were invited to a focus group discussion; three academicians and six industry experts took part and offered their valuable feedback to modify the survey. Using the Google Form platform, we

conducted a pilot test on 62 out of 100 participants (are not included in the main dataset). Participants made minor notes, so we took their comments into consideration.

The survey was sent to the employees using two sources: an online platform and a hardcopy with personal attendance. The online questionnaire was created using SurveyMonkey because it was difficult to enter most hotels for safety reasons due to the perceived severity of COVID-19's third wave. As such, a total of 960 surveys were distributed, targeting 48 employees in 20 five-star hotels who agreed to voluntarily participate in a verbal constant. Between August 2021 and late October 2021, 734 responses were gathered. To reduce common method bias (CMB), a time-lag approach was used to collect data three times. In Time1, respondents were asked about their fear of COVID and their psychological well-being through a hardcopy questionnaire throughout last August. Respondents were asked about their intention to leave the hotel and their feelings of depression and anxiety about future work using a hardcopy questionnaire throughout last September in Time2.

Finally, due to the COVID conditions in Egypt, we were forced to collect data using the online survey from respondents about WHSMPs throughout last October in Time3. Notably, a set of MSc/PhD students helped the author in charge of collecting the data to reach employees at each time. This was by providing their e-mails and their WhatsApp numbers in Time3 (online survey), as well as obtaining paper questionnaires from the author and assisting him in collecting data in Time1 and Time2 (hardcopy surveys). Accordingly, the omission of 47 incomplete responses, left 687 valid responses for statistical processing. G\*Power 3.1 was also conducted (Faul et al., 2009) where the power index for the study sample exceeded the threshold of 0.80. Accordingly, the sample size was found sufficient for statistical testing in this study. Table 1 presents information related to the sample profile.

### *Measures*

All construct items were extracted from relevant previous studies. Responses to scale-based questions were recorded on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Fear of COVID-19 was measured with seven items modified by Ahorsu et al. (2020);  $\alpha = 0.82$ . The sample item was like "My hands become clammy when I think about COVID-19". Psychological well-being was measured with eight items derived from Hills and Argyle (2002);  $\alpha = 0.85$ . A sample item of this scale was like "I can fit in everything I want to".

**Table 1.** Sample profile (N = 687).

Category	Frequency	%	Category	Frequency	%
Gender			Marital status		
Male	530	77.1	Single	375	54.6
Female	157	22.9	Married	312	45.4
Age			Professional experience		
< 21 years	140	20.4	< 2 years	167	24.3
21 to < 30 years	219	31.9	2 to < 5 years	142	20.7
30 to < 40 years	166	24.2	5 to < 8 years	240	34.9
≥ 40 years	162	23.6	≥ 8 years	138	20.1
High educational level			Department		
MSc/PhD	71	10.3	Food and beverages	162	23.6
Diploma	95	13.8	Marketing and sales	162	23.6
Bachelor	178	25.9	Front office	181	26.3
High school	164	23.9	Finance	71	10.3
Preparatory school	150	21.8	Housekeeping	109	15.9
Other	29	4.2	Security	2	.3

**Table 2.** Confirmatory composite analysis results.

Constructs	Items code	IL	t-value	CI		CA	CR	AVE	VIF
				5%	95%				
Employee depression	DEPR1	0.79	59.63	0.764	0.815	0.920	0.933	0.609	1.095
	DEPR2	0.791	61.65	0.762	0.813				
	DEPR3	0.767	49.40	0.733	0.793				
	DEPR4	0.772	47.39	0.736	0.800				
	DEPR5	0.755	47.22	0.723	0.783				
	DEPR6	0.796	60.43	0.766	0.818				
	DEPR7	0.789	57.21	0.760	0.815				
	DEPR8	0.790	56.18	0.762	0.816				
	DEPR9	0.768	48.85	0.736	0.796				
Turnover intention	TURN1	0.814	52.52	0.781	0.841	0.877	0.910	0.670	1.040
	TURN2	0.817	51.11	0.783	0.847				
	TURN3	0.811	57.90	0.780	0.836				
	TURN4	0.819	60.69	0.790	0.843				
	TURN5	0.832	67.42	0.802	0.853				
Psychological well-being	WELL1	0.717	34.47	0.672	0.753	0.906	0.924	0.602	1.095
	WELL2	0.766	43.83	0.726	0.794				
	WELL3	0.781	46.91	0.747	0.812				
	WELL4	0.785	50.96	0.755	0.814				
	WELL5	0.789	46.73	0.751	0.817				
	WELL6	0.779	51.82	0.749	0.807				
	WELL7	0.813	56.27	0.783	0.837				
	WELL8	0.773	43.04	0.734	0.803				
Fear of COVID-19	FEAR1	0.764	41.50	0.727	0.798	0.902	0.922	0.629	1.072
	FEAR2	0.791	47.85	0.757	0.822				
	FEAR3	0.789	52.17	0.754	0.814				
	FEAR4	0.805	55.56	0.774	0.830				
	FEAR5	0.804	58.57	0.776	0.829				
	FEAR6	0.790	48.85	0.758	0.820				
	FEAR7	0.810	60.39	0.782	0.834				

(continued)

Table 2. (continued)

Constructs	Items code	IL	t-value	CI		CA	CR	AVE	VIF
				5%	95%				
Management commitment toward workplace health and safety	MCWHS1	0.804	67.84	0.777	0.825	0.917	0.932	0.633	1.000
	MCWHS2	0.799	67.62	0.773	0.821				
	MCWHS3	0.740	52.54	0.712	0.766				
	MCWHS4	0.806	65.43	0.781	0.828				
	MCWHS5	0.800	60.71	0.772	0.824				
	MCWHS6	0.818	74.50	0.796	0.839				
	MCWHS7	0.797	66.05	0.774	0.819				
	MCWHS8	0.799	63.96	0.774	0.821				
Workplace health and safety training	WHST1	0.792	61.63	0.766	0.816	0.875	0.909	0.667	1.000
	WHST2	0.831	71.80	0.809	0.852				
	WHST3	0.822	68.99	0.799	0.841				
	WHST4	0.824	68.45	0.799	0.848				
	WHST5	0.813	64.15	0.787	0.837				
Workplace health and safety rules and procedures	WHSRP1	0.824	65.85	0.801	0.847	0.819	0.881	0.649	1.000
	WHSRP2	0.768	49.61	0.737	0.795				
	WHSRP3	0.813	61.22	0.784	0.836				
	WHSRP4	0.815	59.60	0.786	0.840				
Workplace health and safety promotion policies	WHSP1	0.797	64.11	0.771	0.822	0.829	0.887	0.661	1.000
	WHSP2	0.797	58.69	0.769	0.823				
	WHSP3	0.831	73.37	0.808	0.850				
	WHSP4	0.828	66.25	0.803	0.851				

To measure employee turnover intention, five items were captured from [Wayne et al. \(1997\)](#); Cronbach's  $\alpha = 0.89$ . A sample item was like "I am seriously thinking of quitting my job." Nine items were used and adopted from [Kroenke et al. \(2001\)](#) to measure employee depression. This scale has been used in the context of hotels by [Chen \(2021\)](#); Cronbach's  $\alpha = 0.89$ . A sample item was like "I felt down and depressed." Finally, the hierarchical component model (HCM) allows for the addition of higher-order variables ([Sarstedt et al., 2019](#)). As a result, the loading of the second-order latent variable may be represented as the first-order latent variable.

Moreover, [Hair et al. \(2018\)](#) show that HCMs allow the PLS route model to be more parsimonious by minimizing the number of structural model links and expanding the bandwidth of information covered by the relevant constructs. As a result, 21 items were developed to assess the WHSMPs construct from [Vinodkumar and Bhasi \(2010\)](#). This construct consisted of four sub-constructs: management commitment toward workplace health and safety (eight items;  $\alpha = 0.86$ ), workplace health and safety training (five items;  $\alpha = 0.82$ ), workplace health and safety rules and procedures (four items;  $\alpha = 0.81$ ), and workplace health and safety promotion policies (four items;  $\alpha = 0.64$ ). This is the first study to the authors' knowledge to use WHSMPs construct as a multidimensional scale in the hospitality context, adding to this paper's originality.

### Common method bias

To control CMB issues, this study employed some procedural and statistical remedies ([Podsakoff et al., 2003](#)). First, the psychological separation was applied in the instrument as both the predictor and criterion constructs targeted the same respondents. Second, respondents were informed about the survey's objective, anonymity, and confidentiality. Third, the full collinearity test was attempted to ensure that the VIF values were less than 3.33 ([Kock and Lynn, 2012](#)). Finally, Harman's single factor test was conducted to ensure that a single factor does not explain a significant amount of variance. The maximum variance (24.29%) arising out of a single factor was found to be less than the overall variance (50%) as recommended by [Podsakoff et al. \(2003\)](#).

### Analysis and findings

SmartPLS 3.2.9 software-based partial least squares path modeling (PLS-PM) approach was used to conduct the analysis. The PLS-PM approach was chosen for several reasons. First, PLS is highly suited to predictive studies ([Sharma et al., 2021](#)). Second, PLS commands supremacy over other approaches in analyzing mediation effects ([Hair et al., 2019](#)). Third, it is outfitted with cutting-edge statistical techniques, such as analysis of discriminant validity using the heterotrait-monotrait (HTMT) method, conducting the moderation



analysis using graphs, and performing the hypotheses testing using confidence intervals (Crocetta et al., 2021).

### Confirmatory composite analysis

Scholars have recently approved confirmatory composite analysis (CCA) as a methodological process for verifying PLS-PM measurement models (see Schubert, 2021). All of the constructs in this study were first-order reflective constructs, with the exception of WHSMPs, which was a second-order reflective construct. To acquire values for t-statistics and confidence intervals in PLS-PM, the bootstrapping approach was carried out (Crocetta et al., 2021), and all the item loadings were validated together with their significance (Hair et al., 2019). The standardized item loadings, t-statistics, and confidence intervals for each item of all the constructs are listed in Table 2.

Construct reliability was assessed as the second step of CCA (Crocetta et al., 2021) with composite reliability (CR) and Cronbach’s alpha (CA) in line with the criteria stated by Hair et al. (2019). The results shown in Table 2 confirm the reliability of all the constructs using CR and CA approaches. Convergent validity was ensured using the values of average variance extracted (AVE), in the third step of CCA (Hair et al., 2020). The AVE values of the constructs in Table 2 attest to sufficient convergent validity.

Next, discriminant validity was assessed in the fourth step of CCA (Hair et al., 2020) using heterotrait-monotrait (HTMT) ratio recommended by Hair et al. (2019). For comparable and non-similar constructs, the HTMT value requirement should be less than 0.90 and 0.85, respectively (Schubert, 2021). Hence, these values confirm the constructs’ discriminant validity. The variable mean scores and standard deviations obtained for the total sample (Sekaran and Bougie, 2013), are shown in Table 3. The data analysis results suggest that employee depression mean scores and standard deviations of employee depression (M=

4.51, SD = 1.128) and turnover intention (M= 4.55, SD = 1.133) were relatively high, indicating most of the respondents have high intentions to leave work in this hotel and feel high levels of stress and depression that put them in a poor psychological state.

The results also indicate that the mean scores and standard deviation of COVID-19 fear (M = 4.57, SD = 1.126) were relatively high. This indicates that most respondents had elevated levels of fear of contracting COVID-19 infection. Moreover, the results showed that the mean scores and standard deviation of psychological well-being and sub-dimensions of workplace health and safety management practices were average values. This means respondents’ well-being and their sense of happiness vary, as does their awareness of whether or not to apply these practices (see Table 3).

### Structural model assessment

As the first step in SMA, it was ensured that excessive levels of multicollinearity were not a concern (Crocetta et al., 2021). The results shown in Table 2 reveal that the VIF values are substantially below the upper threshold of 3 as advised by Hair et al. (2020). This allowed us to proceed with SMA. The structural paths were evaluated in the second step by calculating the significance and size of the path coefficients. The statistical significance of hypothesized paths was determined using the bootstrapping approach followed by the values of confidence intervals (CI) that do not include zero between the lower and upper levels (Crocetta et al., 2021).

Table 4 shows the significance of all the direct and indirect effects of putative relationships. The values of confidence intervals, t-statistics, and path coefficients for these effects are reported in Figure 2. Partial competitive mediation was tested using the procedure recommended by Hair et al. (2019). Accordingly, psychological well-being (WELL) mediated the relationship of fear of COVID-19 (FEAR) with both

**Table 3.** Discriminant validity (HTMT).

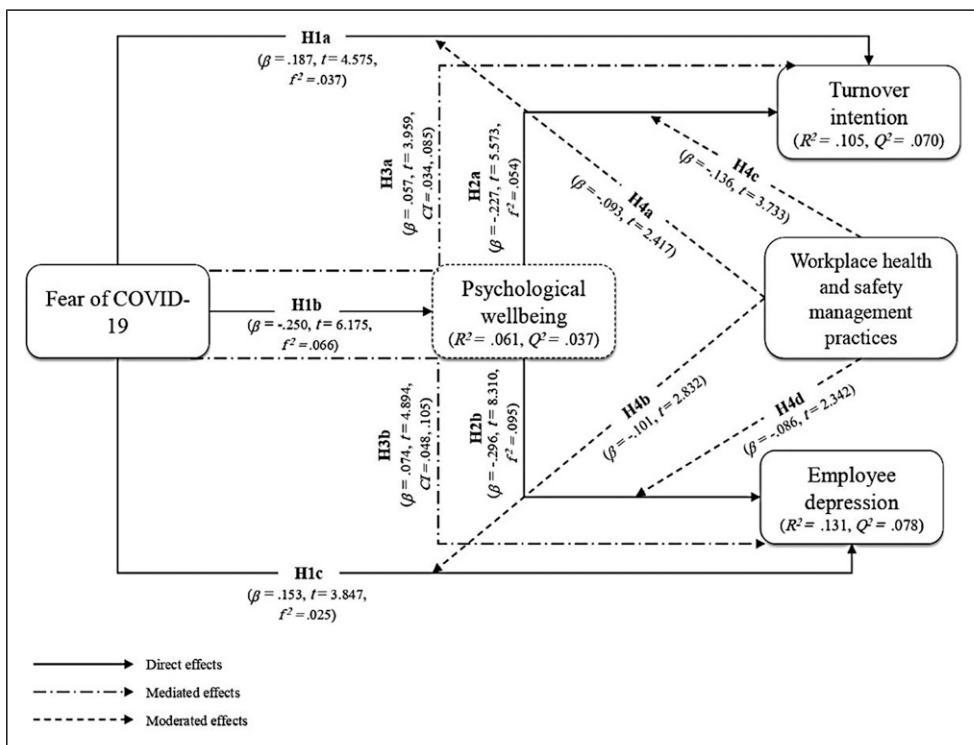
Constructs	M	Std.	1	2	3	4	5	6	7	8
1 Employee depression	4.51	1.28								
2 Fear of COVID-19	4.57	1.26	0.240							
3 Management commitment toward workplace health and safety	3.76	1.35	0.244	0.113						
4 Psychological well-being	3.31	1.24	0.357	0.270	0.142					
5 Turnover intention	4.55	1.33	0.613	0.266	0.234	0.301				
6 Workplace health and safety promotion policies	3.85	1.33	0.275	0.091	0.674	0.181	0.237			
7 Workplace health and safety rules and procedures	3.70	1.23	0.219	0.152	0.686	0.233	0.266	0.623		
8 Workplace health and safety training	3.79	1.39	0.347	0.147	0.669	0.113	0.349	0.693	0.654	

**Table 4.** Structural model assessment.

H	Structural paths	Path coefficient	t-value	p-value	95% CI	f2	Decision
Direct hypotheses							
H1a	FEAR → TURN	0.187	4.575	0.000	[0.114, 0.268]	0.037	Supported
H1b	FEAR → WELL	-0.250	6.175	0.000	[-0.329, -0.172]	0.066	Supported
H1c	FEAR → DEPR	0.153	3.847	0.000	[0.078, 0.228]	0.025	Supported
H2a	WELL → TURN	-0.227	5.573	0.000	[-0.301, -0.149]	0.054	Supported
H2b	WELL → DEPR	-0.296	8.310	0.000	[-0.366, -0.225]	0.095	Supported
Indirect hypotheses (Mediation effects)							
H3a	FEAR → WELL → TURN	0.057	3.959	0.000	[0.034, 0.085]		Supported
H3b	FEAR → WELL → DEPR	0.074	4.894	0.000	[0.048, 0.105]		Supported
Predictive relevance							
Q <sup>2</sup> for DEPR	0.078	Q <sup>2</sup> for WELL		0.037	Q <sup>2</sup> for TURN	0.070	

Note. \*\*\*p < 0.001, \*\*p < 0.01, \*p < 0.05.

CI = confidence interval; FEAR = fear of COVID-19; TURN = turnover intention; WELL = psychological well-being; DEPR = employee depression; WHSMPs = workplace health and safety management practices.



**Figure 2.** Structural model results.

turnover intention (TURN) and employee depression (DEPR).

The in-sample prediction assessment was made in the third step of SMA, reporting effect size (f<sup>2</sup>) and predictive relevance (Q<sup>2</sup>). The f<sup>2</sup> values indicate how well independent constructs may predict the coefficient of determination in a dependent construct. The f<sup>2</sup> values are 0.01, 0.6, and 0.10, indicating small, medium, and strong effects, respectively, in tourism and

hospitality research (Khalilzadeh and Tasci, 2017). Figure 2 presents the f<sup>2</sup> values which meet the expectations of medium-close to strong effects. Furthermore, predictive relevance (Q<sup>2</sup>), also known as out-of-sample prediction, is a hybrid of in-sample and out-of-sample methodologies for evaluating the prediction accuracy of a structural model (Stone, 1974).

The Q<sup>2</sup> values were created using the blindfolding technique in PLS-PM (Hair et al., 2019). A non-zero

value of  $Q^2$  as a criterion demonstrates prediction accuracy for an endogenous construct (Sharma et al., 2021). As such, the  $Q^2$  values for WELL, DEPR, and TURN were 0.037, 0.078, and 0.070, respectively, in this study. Moreover,  $R^2$  is a commonly used statistical indicator for assessing the predictability of the structural model (Hair et al., 2020). The results presented in Figure 2 show that fear of COVID-19 explained 16.1% of the variance in psychological well-being, while the latter, combined with fear of COVID-19, explained 10.5% and 13.1% of the variance in turnover intention and employee depression, respectively.

Out-of-sample prediction was ensured using the criteria suggested by Sharma et al. (2021). Adopting SmartPLS 3.2.9, the entire sample was systematically split into equal-sized folds using the PLSpredict approach (Schuberth, 2021). The endogenous constructs (TURN and DEPR) were made the key focus when conducting out-of-sample prediction. The dataset for this study was separated into sevenfold after determining the sample size criteria. MAE (mean absolute error) and RMSE (root mean squared error) were used to determine the fit.

The linear model (LM) benchmark values were greater than both the MAE and RMSE values for each item of the endogenous constructs, that is, TURN and DEPR in PLS-PM (Hair et al., 2020). Since none of the TURN and DEPR indicators has a greater prediction error than the LM benchmark, the structural model is deemed to have excellent out-of-sample predictive power.

### *Moderation analysis*

A two-stage approach was used to estimate the moderating effect, as suggested by Becker et al. (2018). The results of the moderation analysis reported in Figure 3 indicate that WHSMPs dampens the relationship between fear of COVID-19 and both TURN and DEPR. Furthermore, WHSMPs strengthens the relationship between psychological well-being and both TURN and DEPR.

## **Discussions and conclusions**

### *General discussion*

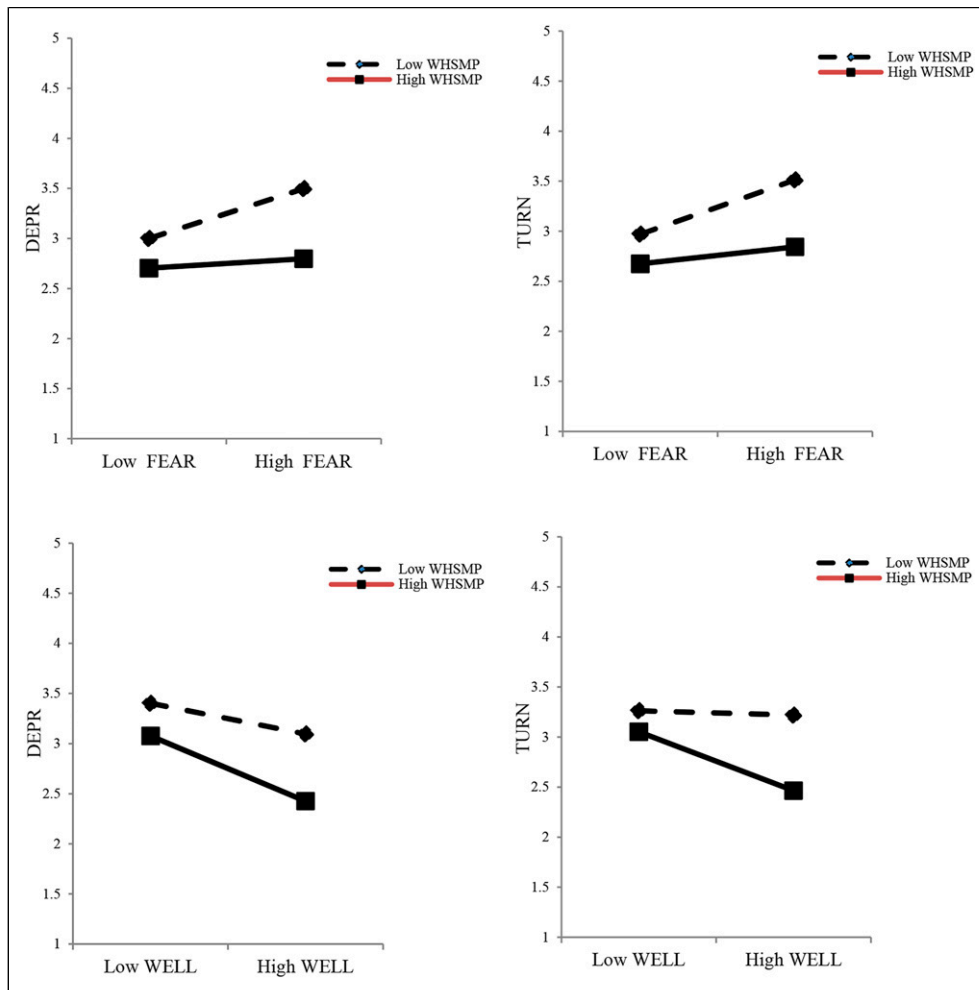
This research investigated fear of COVID-19 and hotel employee outcomes, considering several factors that include turnover intention, employee depression, psychological well-being, and workplace health and safety management practices (Teng et al., 2021). In this

research on hotel employees in Sharm El-Sheikh, fear of COVID-19 was found to have a significant impact on employee outcomes, more specifically on turnover intention. The results indicate that the respondents felt like leaving their current jobs in the hotel industry due to fear of contracting COVID-19 (Salem et al., 2022). This behavior conforms to the key premise of attribution theory, which assigns the reaction (i.e. turnover intention) to the cause (i.e. perception of fear) (Kelley and Michela, 1980).

This paper also revealed a negative relationship between fear of COVID-19 and psychological well-being of employees. This result is in line with prior research, as the majority of the employees were uncomfortable with their jobs during the peak of the COVID-19 pandemic (Salem et al., 2021). Accordingly, organizations introduced strict guidelines advising regular hand washing, sanitation, lockdown, and keeping physical distance under what we can call WHSMPs. This study indicates the importance of developing appropriate WHSMPs to reduce the impact of pandemics like COVID-19 on the hotel industry. Employees will feel comfortable and protected from COVID-19 infections and other health problems if proper health and safety measures are in place (Salem et al., 2021).

This research also established that fear of COVID-19 is positively related to employee depression. The findings seek support from the research conducted by Miao et al. (2021), who claimed that pandemics like COVID-19 provoke feelings of vulnerability, helplessness, loss of control, uncertainty, and threat to life in general. Employees working in the hotel industry normally interact with guests who come from different countries around the globe. This implies that they are exposed to the threat of contracting COVID-19 and thus face challenges in minimizing depression and enhancing psychological well-being.

The research also revealed that fear of COVID-19 had a lower effect on depression in comparison to PWB, which had a higher impact (see Figure 2). It has been observed that the aforementioned awareness and interactions of employees in the hospitality sector might help them to develop a certain level of COVID-19 resilience (at least at a psychological level) that ameliorates their turnover intent to some extent. The literature too highlights the role of positive psychology as a central pillar in building individual and organizational resilience, where PWB, particularly as an outcome of organizational support and care (Khan et al., 2019), has been a predominant factor in curing anxiety, depression, and fear exhibited by employees. Based on fear of COVID-19 in the hotel industry, it becomes vital to improve the psychological



**Figure 3.** The moderating effect of workplace health and safety management practices.

well-being of employees to contain both high turnover intention and employee depression.

Improving the psychological well-being of hotel employees requires management to create a favorable working environment (Shehata and Selem, 2021). This can improve employees' motivation and retention in the hotel industry. Altogether, the findings confirm the presence of fear appeals and the subsequent cognitive processes arousing protection motivation among individuals (reduced depression and increased psychological well-being), thereby directing their activities of self-protection (expression of their intention to quit) as envisaged by the protection motivation theory (Maddux and Rogers, 1983). Finally, the dual lenses of protection motivation theory and attribution theory explain the relationship between fear of COVID-19 and associated employee outcomes comprehensively.

### *Theoretical implications*

This study provides many theoretical contributions. First, the current study provides new insights on how fear of COVID-19 has affected the hotel industry. These insights contribute exclusively to the sparse literature on psychological depression and employee turnover, especially during the period of quarantine (e.g. Aguiar-Quintana et al., 2021). Second, the findings obtained from this research add new knowledge to the extant literature on the impact of COVID-19 from the dual lenses of protection motivation theory and attribution theory. This new knowledge can be seen in the integrative perspective of turnover as a reaction to COVID-19 related threats (attribution theory), employees' drive to protect themselves (protection motivation theory), and the partial mediation effect of

psychological well-being and the moderating effect of WHSMPs.

Third, this research highlights the mediating role of psychological well-being as a potential mediator and WHSMPs as a potential moderator in ameliorating the impact of fear of COVID-19 on both turnover intention and employee depression. Thus, the research brings significant insights and groundings to advance hospitality research in the areas of workplace health promotion (Haid et al., 2022) and employee welfare (Bandara et al., 2020) through WHSMPs and PWB. This provides future researchers with a new knowledge base that they can apply when conducting further research on how the COVID-19 pandemic has influenced the hotel industry. Last but not least, it also provides a combination of theories and a conceptual framework that can be used to study the effects of fear of COVID-19 not only in the hotel industry but also in other important sectors of the economy. This is the first study—to the authors' knowledge—to use WHSMPs' construct as a multidimensional scale in the hospitality context.

### *Managerial implications*

The findings of this study also have certain managerial implications for the hotel industry. First, hotel management can apply the insights obtained from this research study to improve their working environment and protect employees from the risks of contracting COVID-19. Second, the findings associated with WHSMPs stress the need for the provision of better health and safety practices in the hotel sector to reduce the stress or depression among employees, caused by fear of COVID-19. The study also revealed that fear of COVID-19 has a negative impact on the well-being of the employees. As a result, the manager should use the findings obtained from the current research study to develop appropriate measures to improve the welfare and well-being of employees. The study also suggests the creation of a favorable working environment as one major intervention.

Third, there is a great need to direct human resource managers to pay attention to the personal hygiene of employees because the first impression of the hotel's quality is taken from the first people the guests meet in the reservation, restaurant, and reception areas. Fourth, because Arab culture is absolutely different from Western culture (Europe, America, and Asia), HR managers should follow the instructions to implement health and safety instructions in the work environment in order to reduce the perceived intensity of fear of COVID-19, which centers on infection with the Omicron virus and other mutated viruses from this

dreaded pandemic. Fifth, a psychologist should be provided to monitor the moods of all hotel employees to reduce their feelings of depression in the event that the previous solutions failed to improve the quality of work-life in light of the current crisis.

Finally, moral incentives must be provided to reduce the rate of labor turnover, which affects the hotel's ability to compete, as well as its attempt to attract and train new employees, which costs the hotel management exorbitant amounts of money. Besides, the critical role of hotel employees in making decisions and implementing wise leadership principles must be strengthened to retain such employees because they represent a sustainable competitive advantage that is difficult to obtain at such times by peer competitors. Besides, as the WHSMPs scale has been developed for Vinodkumar and Bhasi (2010) in this study, future studies can benefit from its application to HRM in the hospitality context (e.g. restaurants or resorts) as a checklist in the workplace. In general, the practical contributions of this research would be beneficial not only for the hotel industry but also for health and social care staff, behavioral scientists, and managers working in the industrial sector in addressing complex mental health conditions, coping mechanisms, and their prevention.

### *Limitations and future research*

Although the research study was successful, it faced a few limitations that could have had an impact on its outcome and reliability. This paper only considered a sample of hotel employees in Sharm El-Sheikh. This implies that the general view of the entire population in the hotel industry might not have been considered, and the results cannot be generalized. Therefore, future studies should include comparisons between employees in luxury and lower-level hotels (three-, four-, and five-stars), as well as a comparison between Egypt and other countries whose geographical conditions are similar but whose employees' and management's cultures differ. Future studies also should focus on multilevel analysis to clarify the extent to which the fear of COVID-19 affects hotel staff outcomes.

Furthermore, the auxiliary role of contextual factors in the relationship between fear of COVID-19 and employee outcomes can be explored. Future studies can examine employee interventions during the three waves of COVID-19 or perform a comparison between before, during, and post-COVID-19 periods with additional control variables like gender and age groups. Besides, the effect of fear of COVID-19 on case reporting, ability to cope, and job immersion, can also be examined.

### Author's Contribution

Kareem M. Selem: Conceptualization, Methodology, Software, Formal Analysis, Data Curation, and Validation

Muhammad Shakil Ahmad: Validation, Investigation, Supervision, Writing-Reviewing & Editing, and Project Administration

Rakesh Belwal: Conceptualization, Resources, and Writing-Original Draft Preparation

Kholoud AlKayid: Visualization, Investigation, Resources, and Writing-Original Draft Preparation

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### Informed consent

All participants were provided information regarding verbal consent to partake in the research.

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