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Applying Health Belief Model to Unveil Employees' Workplace COVID-19 Protective Behaviors: Insights for the Hospitality Industry

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Abstract: The overwhelming majority of the countries around the globe have witnessed severe cases of the COVID-19 outbreak. Unfortunately, many countries are still beset with such an infectious disease. Despite the fact that there is currently no specific approved cure for this deadly infection, restrictions (e.g., lockdown and border closing) are gradually eased. Meanwhile, businesses are reopening and outdoor leisure activities are about to start again based on strict health, social distancing, and hygiene rules. However, as we still have a long way to reach an ultimate treatment for such deadly virus, changing human behavior sounds the best defense in tackling this challenge till a vaccine is developed for protection against COVID-19. With this realization, using Health Belief Model as the theoretical underpinning, our study endeavors to unveil employees' adherence to protective health behaviors (PHBs) in the hospitality industry, which is known as a people-focused, labor-intensive, and service-oriented business. This is so crucial since there is a high degree of (frequent) interaction between employees and customers in hotels. Moreover, such establishments are known as areas where customers engage in a variety of activities that make health concerns even more crucial. To achieve the objectives of this research, we used secondary data obtained from one of the largest hotel-related online communities in the world: the 'Tales from the front desk'. Using template analysis approach, 1680 employees' comments were examined. The results revealed that hotel employees found themselves at high risk of being infected and several obstacles that impeded their PHBs in the workplace were identified. Our study will provide momentous implications about PHBs against COVID-19 for the hospitality industry.

Keywords: COVID-19; hospitality industry; health belief model; employee protective behavior

1 Introduction

It is obvious that cross-border human mobility and international tourism can be tremendously affected by concerns over human health [1]. It is also clear that health-care providers worry about the virus spreading quickly because travelers facilitate human-to-human transmission [2]. Dramatically, the first pandemic of the 21st century, Severe Acute Respiratory Syndrome, was associated with travel [3]. To slow down and control

the international spread of H1N1 influenza in 2009, travel-related controls were enacted by many countries after the emergence of the virus in Mexico [4]. The indication of international travel in the transmission of the 2014 Ebola virus disease from West Africa to other continents was also evident [5]. All of these infectious diseases caused considerable costs and negative effects on consumers and led to deteriorating demand for hotel rooms [6,2].

Although any of the above mentioned diseases caused widespread panic and substantial costs worldwide, none is barely comparable with the unprecedented outbreak of the current Coronavirus Disease, known as COVID-19, in its high rate of spread and huge number of death (Fig. 1). This is also true for news about the COVID-19 pandemic on social media, which has caused anxiety and negative well-being among people [7]. At the time of this research, there were nearly half a million death and around 10 million total confirmed cases across the world [8]. Destinations, which were listed among the top 10 receivers of around 40% of international tourist arrivals in 2019 such as the United States, France, Spain, Italy, Germany, United Kingdom, and Turkey [9], are now recording the highest rates of the confirmed infection cases in 2020. It is apparent that many governments have introduced full or partial COVID-19-induced travel restrictions. Lockdown, border closing, and the absence of transport led to a sharp decrease in people's geographical and social mobility [10,11]. For instance, recent data demonstrated that international tourist arrivals reduced by 36% in the United States, 44% in Europe, 35% in Africa, 40% in the Middle East, and 51% in Asia and the Pacific region [12].
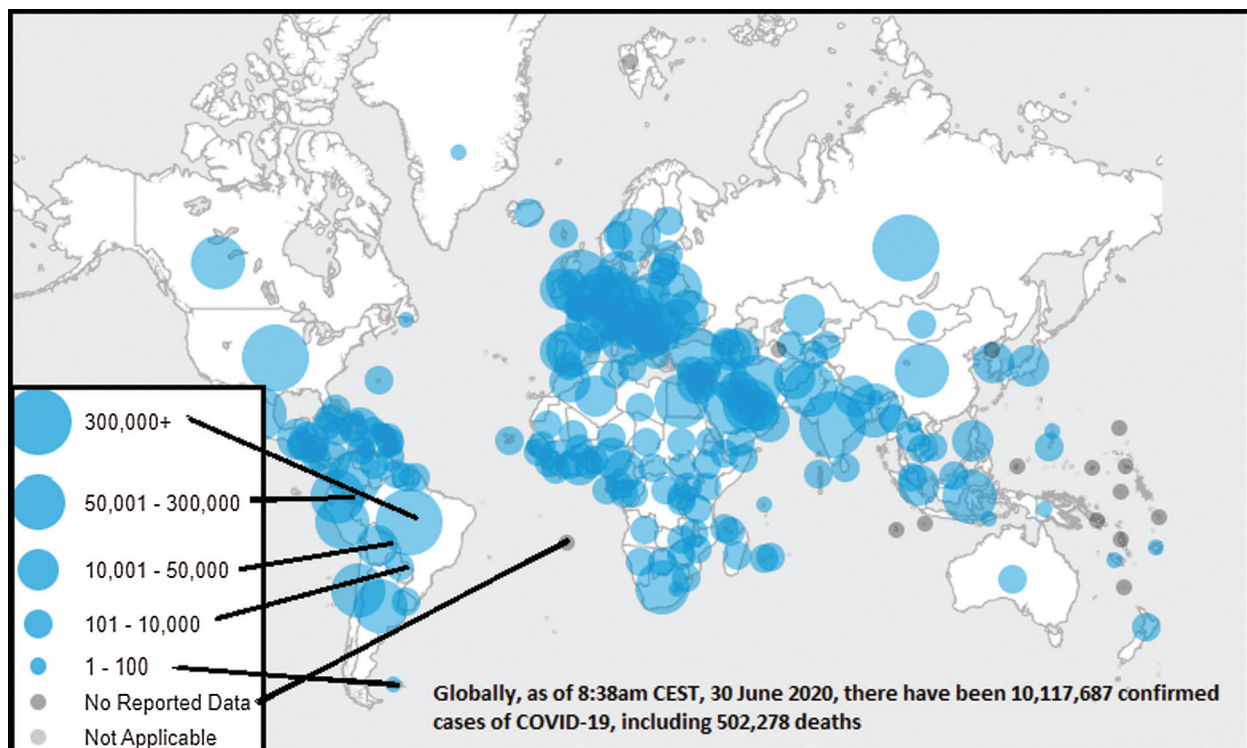
Figure 1: Global map of confirmed cases of COVID-19 [13]

The transmission of COVID-19 from person to person suspended people's mobility. According to the UNWTO [14], "…the benefits the sector brings are under threat: millions of jobs could be lost, and progress made in the fields of equality and sustainable economic growth could be rolled back. UNWTO therefore calls on governments to continuously review travel restrictions and ease or lift them as soon as

it is safe to do so." What is axiomatic is that travel restrictions cannot last forever and the governments gradually are lifting them. Even the destinations such as China have already entered this cautious restart phase [15]. Similarly, the World Economic Forum reported on the decision of the European Commission to resume travel safely (issued guidance) in order to reboot Europe's tourism industry, which almost contributes to 10% of the European Union's gross domestic product [16]. Removal of these restrictions will be fundamental to the hospitality and tourism industry's recovery that will initially occur on a domestic basis [17].

As a result of reductions in travel restrictions and lack of antiviral treatment or vaccine for COVID-19, understanding the factors that influence individuals' adherence to non-pharmaceutical protective behaviors is so critical for public health authorities and policy makers [18–20]. This is also so critical for the hospitality industry where both supervisory and non-supervisory employees are going to host the travelers. These employees are not only at the risk of getting infected but also transmitting the infection to others if they do not follow the recommended health behaviors. For this reason, the protective behaviors of hospitality employees are important to the economic survival of their companies.

The hospitality industry is characterized by close interaction of people and human mobility which makes it not only the co-creator of the pandemic but also the main receiver of its ramifications [21]. The ones employed in the hospitality industry are a prominent victim of pandemics [6,22]. According to the World Health Organization [8] (p.1), "…the lodging of guests in along with the services this entails (food and beverage, cleaning, activity organization, etc.)—and the interactions specific to these establishments (guest-guest, guest-staff, and staff-staff)…" This requires management of hospitality companies to pay utmost attention to issues of health, social distancing, personal hygiene, and protective behaviors.

In fact, service employees are beset with health and economic threats resulting from the COVID-19 pandemic [23]. Interfacing with the public and being in close contact with other staff are among the factors that put employees at high risk for illness and make them a potential nexus of infection transmission to the society [24]. Both factors are highly applicable to the careers in the hospitality industry which among a number of other jobs are categorized as occupations at the higher risk of exposure to coronavirus [25]. It is believed that surfaces in hotels may consist of higher microbial counts, which can be potential sources of disease transmission [26]. This fact supports the significance of the current study, which has not been considered in the literature before.

Against the above backdrop, using Health Belief Model (HBM) as the theoretical underpinning [27], our study set out to understand and explain employees' protective health behaviors in the hospitality industry. Our study aims to address the following decidedly critical research question: What are the factors that may potentially influence hospitality employees' COVID-19 protective health behaviors at work?

2 Background and Theoretical Framework

A search made in the extant literature demonstrates a number of studies on COVID-19. For instance, a recent study in Hong-Kong asserted that the behavioral change in population (including hygiene, face masks, and decrease in social contact) was related to the reduced spread of COVID-19 [28]. Moreover, in a recent review of literature, scholars found hand-hygiene interventions as an effective attempt for alleviating infectious diseases and their impacts in the workplace [29]. As stated by Anderson et al. [30], "individual behavior will be critical to control the spread of COVID-19" and "how individuals respond to advice on how best to prevent transmission will be as important as government actions" (pp. 933–934). This highlights the significant role of individual protective health behavior against COVID-19.

During the pandemic, guidelines used in both health-care and non-health-care settings are equally important [31]. This is because of the fact that a number of employees in these settings may trigger the risk of spread of the disease in plenty of countries. However, few studies are available, which report the

views toward the practice of the recommended measures associated with COVID-19 in the workplace [31]. There is an urgent need in response to the pandemic for the scientific community to formulate and implement policies and enhance collective behavior through scholarly research [19]. Despite this realization, little is known about COVID-19 in the hospitality and tourism literature and the majority of these studies are conceptual pieces. For example, they have focused on the role of the pandemic in the transformation of the travel industry [32], global restaurant industry [33], tourism and global change [34], tourists' consumption behavior [35], environment and climate change [36], impact of Coronavirus on tourism destinations [37], role of service robots during the epidemic in tourism and hospitality context [38], indigenous people [39], adventure tourism [40], right to participate in tourism [10], and travelers' social media communication related to COVID-19 [41].

There is irrefutable evidence that travel and tourism can accelerate the prevalence of pathogens. However, evidence about the interrelationship of hospitality and tourism and pandemics is scarce [17]. More importantly, the protective behaviors of hospitality employees have received little attention. Ignoring the significance of individuals' protective health behaviors may result in potential further waves of infection in every community as it happened in South Korea recently and forced the country to lockdown again [42].

As one of the most prominent contributors to the prediction of health-related behaviors [43], HBM (Fig. 2) was developed initially in the 1950s by social psychologists to depict the prevalent failure of individuals to engage in programs to prevent and detect disease [27]. Since then, the model has been extensively used and empirically tested in many studies to predict behaviors to avoid a range of health risk behaviors in various fields including tourism [44,45].
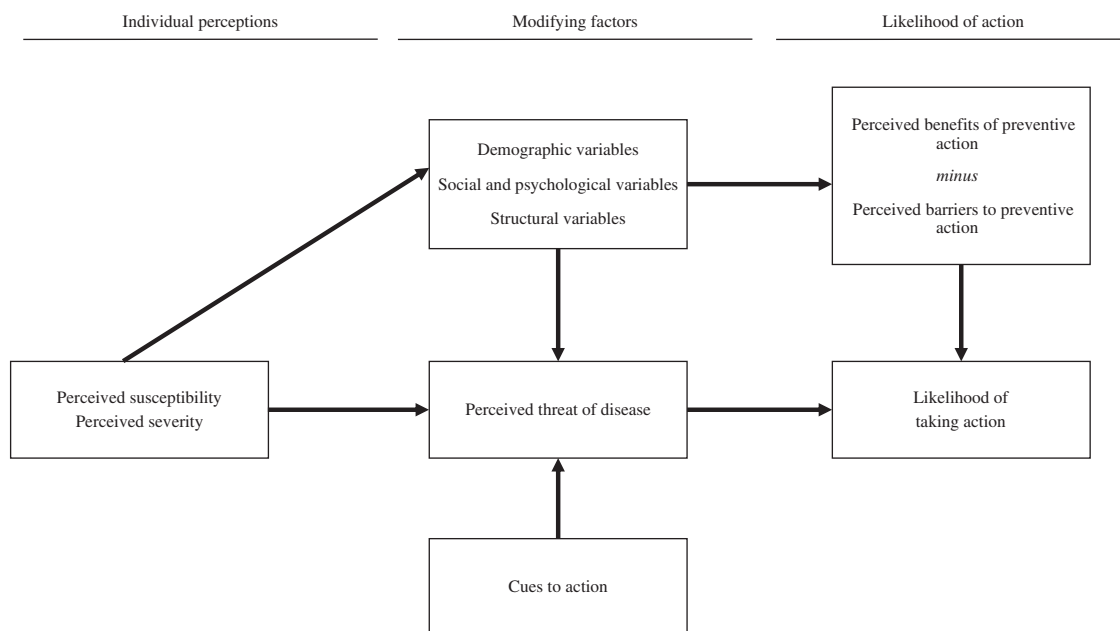
Figure 2: Health belief model adapted from Rosenstock (1974)

HBM consists of several primary components that elucidate why individuals take actions to prevent or control a disease. Specifically, these dimensions are: 1) Perceived susceptibility, which refers to beliefs about the vulnerability or likelihood of getting the illness; 2) Perceived severity, which points out the sensation of the seriousness of contracting an illness and the evaluation of its medical and social consequences;

3) Perceived benefits, which allude to trust in the effectiveness of various actions available in alleviating the risks of the illness; 4) Perceived barriers, which denote the potential negative aspects of a specific health action; 5) Cues to action, which are associated with stimulus prompting a desire to take action; and 6) Demographic and psychosocial factors, which might influence individuals' perceptions and actions. This model was used as a guide to examine and interpret hospitality employees' preventive behaviors against COVID-19.

3 Materials and Methods

In the era of Web 2.0, qualitative approaches to study communities through a computer-mediated medium have received much attention among social science scholars [46]. Online social media platforms such as Facebook and virtual communities have provided the researchers with a rich source for collecting secondary data, e.g., [47,48]. Our study used netnography, which is a new qualitative research methodology [49]. By doing so, we aimed to understand hospitality employees' adherence to protective health behaviors during COVID-19 [50]. To achieve this, we used one of the largest online communities available in the world allocated to hospitality employees as a source of data collection: "Tales from the front desk" [51]. The passive lurker format was followed in this study where the researchers gathered content that already existed online without interfering with the ongoing discourse [52]. This community is a platform for hospitality employees who anonymously share their stories about their workplace and has more than 298,000 members.

In the first phase, the authors selected 16 topics as they used one of the following terms: "Coronavirus," "Virus," "COVID," "COVID-19," "Pandemic," and "Quarantine" out of many topics available within the platform. The total number of comments on the selected topics between March-May 2020 was 1680.

Referring to the targeted online community and searching through "subreddits" and selecting the relevant topics based on the aforementioned criteria, the authors copied and pasted all of the comments available in each post into a separate Word document. In the second phase, the authors printed out data and started the procedures of analysis using template analysis (TA) technique [53]. TA is a particular form of thematic analysis [54] that has been widely utilized in management research [55,56]. The first step in this technique was to read and re-read data to gain familiarity with the content, which is essential for doing the preliminary coding step (Tab. 1). One of the strengths of TA is the flexibility that enables the researchers to use *a priori* themes. These themes are defined in advance of detailed analysis, usually on the basis of pragmatic concerns or theoretical ideas that show the guidelines for a particular research [57]. Accordingly, derived from the tenets of HBM, further analysis began with six *a priori* themes (i.e., perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and modifying factors such as age, gender, and knowledge), which also formed our final coding template (Tab. 2). The theme-by-theme approach was used to give the principal findings from the analysis [57]. It is noteworthy to mention that as data were already available in public domain, no consent was sought for use in this study [50]. All of the comments were provided without the personal information of the writers and the anonymity was ensured in the community for all of the members. However, as is the case with any publicly available online text, data can be traced back with the original source.

4 Results

This section outlines the influential factors in hospitality employees' health-related behaviors during the COVID-19 pandemic based on the themes derived from HBM. Some of the related comments of hotel employees were given in order just after *a priori* themes and its characteristics had been mentioned (All quotes were pulled directly from the community members' posts).

Table 1: Examples of coding process

Quote	Initial code	A priori theme
"I'm also mostly waiting to eventually catch COVID-19 bc based on the modelling I've seen I've got a 25% chance by the end of the year."	Exposed to COVID-19	Perceived susceptibility
"I just requested a medical leave of absence from my hotel. It's too much of a risk to my health and life, being frontline in a travel based industry. I'm immuno compromised, and have no way of knowing exactly where my guests have been, who they've been in contact with, or how careful they're being with hygiene."	Weak immune system	Perceived seriousness
"You don't want to wear a mask unless you're sick. It prevents the person who is sick from being as contagious. If you're not sick and you wear a mask, it provides the perfect spot for getting sick. A warm and wet spot by your mouth and nose."	Ineffectiveness of action	Perceived benefits
"I actually considered getting a mask but then I realized that something like that would spread more fear then needed."	Psychological obstacle	Perceived barriers
"One front desk team member who had been in direct contact with the infected was told by her parents and made the conscious decision to quarantine herself."	Advice from others	Cues to action
"I will be cleaning and sanitizing everything though after that individual leaves my lobby to be safe, but I will not deny, because what if they just have a simple cold? Or they have really bad allergies?"	Knowledge about disease	Modifying factor

4.1 Perceived Susceptibility

Our analysis revealed that hospitality employees, particularly those working in front of the house and housekeepers, perceived themselves at the risk of getting infected by COVID-19. In fact, they believe that frontline position is a risky career at the time of the pandemic since they are exposed to the virus higher than other employees. The crowdedness of the workplace, risk of being in frequent direct contact with sick customers, touching the infectious hard surface in hotels, hosting customers whose symptoms are hidden and working with coworkers who might have been already infected are among the main reasons mentioned in this regard. Frontline employees perceived that they were at higher risk for COVID-19 and reported that this was inevitable in frontline service positions:

"I feel like it's kind of inevitable that I'm going to get it no matter what precautions I'm taking. I just had a guest literally cough in my face in the middle of his coughing fit earlier tonight and had to resist the urge to gargle with hand sanitizer after."

"I figure that I will likely come into close contact and get the virus regardless of how sanitary I am. The resort did implement more sanitizer stations everywhere and is having housekeeping clean public spaces vigilantly but who knows."

"The big issue is there is a period where you don't show symptoms but are still contagious so I could infect 30 people before I even know I am sick at all."

"Far too many opportunities for cross contamination…the housekeepers touch every surface of every room and even with gloves getting changed before every touch of the keys, with all the repeated contact and the virus living days on hard surfaces, one mistake would spread it everywhere."

Table 2: Final version of the template

1. Perceived susceptibility	*3. Perceived benefits* (+)	*5. Cues to action*
1.1 exposed to COVID-19	3.1 reduce risk of infection	5.1 strict guidelines in the workplace
1.1.1 crowded workplace	3.1.1 protect self	5.1.1 mask policy
1.1.2 sick guests	3.1.2. protect others (e.g., family,..)	5.2. advice from others
1.1.3 infectious hard surfaces	3.2 ineffectiveness of action (-)	5.2.1 managerial recommendations
1.1.4 infected coworkers	3.2.1 mask does not filter virus	5.2.2 experts' recommendations
1.1.5 risky career	3.2.2 only sick people need mask	5.3 sickness of others
		5.4 provided protective equipment
2. Perceived seriousness	*4. Perceived barriers*	5.5 news
2.1 lethal virus	4.1 hotel policies	
2.1.2 risk of losing loved ones	4.1.1 no policy/wrong policy	*6. Modifying factors*
2.1.3 death of people	4.1.1.1 no mask allowed for staff	6.1 knowledge about disease
2.2 weak immune system	4.1.2 policy with no enforcement	6.1.1 may be mistaken by allergy/flue
	4.2 lack of protective facilities in hotel	
	4.3 lack of organizational support	
	4.3.1 need to work while sick	
	4.3.2 no support while on sick leave	
	4.4 financial obstacles	
	4.4.1 protective equipment purchase	
	4.5 psychological obstacles	
	4.5.1 to be fun of others to wear mask	
	4.5.2 not to panic others (guests)	

4.2 Perceived Seriousness

COVID-19 was generally perceived to be a serious disease either threatening employees' own lives or the life of others. Some of the workers who suffered from weaker immune system or had a family member with such problems perceived the virus to be more dangerous. Moreover, employees who had witnessed the sickness of someone close or heard of death of other people were more aware of the seriousness of the disease. Employees were also so concerned about their older family members who might have been infected by them:

"COVID-19 is NOT a hoax. I don't understand how people can think it is. How many more people have to die before people believe it's real?"

"My wife is immunocompromised, and my work place is full of casual workers who will come in near death's door, because they can't afford not to. It's a serious concern."

"I want my hotel to close: My parents are older and I don't want to expose them to anything. I really hope it closes soon."

"I live with my grandmother who is already sick from pre-existing conditions and this place is doing nothing to guarantee employees remain healthy let alone guests."

4.3 Perceived Benefits

The majority of the employees found COVID-19 a serious disease and perceived that they were at higher risk. However, when it comes to their adherence to precautionary behaviors (e.g., wearing mask), there were two groups with two different thoughts. The first group consisted of employees who considered preventive procedures quite effective to protect themselves and others from getting infected. On the contrary, the second group included the ones who perceived such mechanisms ineffective:

"Not wearing masks, not properly distancing, not washing hands etc is no better than walking around stabbing people at arm's length with a syringe full of the virus."

"If you are at risk, or live with someone that is, you should take all possible precautions to not get it, not take it home to family."

"Apparently face masks won't do much. Germs can easily get through."

"Blue or white won't make much difference with those. They aren't even an N95 so at best just protect you from the spit or mucus if someone coughs or sneezes in your face. Even with an N95 about half the viruses will pass through if a person coughs right in your face."

4.4 Perceived Barriers

Employees discussed variety of obstacles and barriers that demotivated and hampered them to engage in healthy behaviors in the workplace. These factors include psychological barriers (e.g., negative perceptions of colleagues or customers), being obliged to purchase protective equipment at their own cost, lack of specific policy in the workplace to encourage and/or enforce protective behavior, inadequate facilities provided by hotels for staff to help protection, and problems associated with leave of sick absence:

"My coworkers gave me 'the look' when I came to work in PPE [personal protective equipment]. Then began making fun of a guest that was wearing gloves/masks. (While I'm standing there in full PPE)"

"I've read on here that some of ya'll are required to wear masks and gloves that is now "part of our uniform" according the management. It would not usually bother me but we had to buy our own masks with none being provided for us."

"I wish my boss enforced wearing a mask. He says its HIS building and he can do as he wants and no one can tell him differently. So employees and customers are going around with no masks."

"I was feeling sick throughout my shift last night and even though it was crystal clear that I couldn't do my job properly, they still kept me at work."

"We've been asking since October to have big bottles of hand sanitizes for the FD and here it is now in this situation and we still have none. Luckily I bring mine from home."

"If I get sick, no one can cover for me."

4.5 Cues to Action

Our analysis demonstrated a number of significant cues that employees stated in relation to their health behaviors in their work environment. These cues were comprised of strict guidelines in their workplace such as policy for wearing mask in the hotel, advices from others (either the experts or the managerial emphasis on health behaviors), news on media, sickness of others, and inclusion of health facilitating equipment in their workplace:

"All hotels, under direct instructions from the franchise, management company, and …, have instituted increased cleaning procedures. All high touch points are cleaned regularly (between each guest when possible), no staff is entering any room for 3 days after the guest departs, masks are almost uniformly enforced, room service-valet-bell carts- lounges- and other services that would be impossible to clean are also suspended. The larges hotel chain is providing all hotels with electrostatic machines to sanitize all surfaces."

"My doctor told me I'm not allowed to give hugs or handshakes. I'm restricted to fist bumps. Still customer contact, just a bit safer."

"I watched how the pandemic was spreading on the news. I designed signs encouraging guests to wash their hands in the bathrooms and put together little "wellness packages" to sell in our lobby shop with hand sanitizer, tissues, vitamin c cough drops, ect, and set up hand sanitizing stations throughout the lobby with appropriate signage to encourage guest use."

"I came into work today to find out one of my managers whom was here yesterday is at the hospital since last night with what she thought was the flu but shes been tested for all types of flu and has none. But is running a bad fever and is coughing/sneezing…. needless to say we are wiping down EVERYTHING with disenfectant wipes today!!"

"We have signs up from the county that say to wear masks. My GM just asked me to make more signs that say "NO mask, NO entry" to put at the entrance and fd."

"My management has put sanitizer everywhere. Lysol wipes all over the front desk. We have gloves we can use. We also closed the fitness centre and pool. I'm the NA and am enjoying the lack of human contact i would usually miss."

4.6 Modifying Factors

Among the modifying factors, the findings demonstrated that knowledge about the disease played a critical role in hospitality employees' responses to COVID-19. That is, several employees were confused about the symptoms of the disease as they mimicked other illness like flu and severe allergies. They were not sure about how long the incubation period might be and in some cases the appropriate health behaviors they should take in different circumstances and positions (e.g., kitchen):

"I won't be denying anybody entry into my hotel if they have done nothing wrong, because that isn't right? I will be cleaning and sanitizing everything though after that individual leaves my lobby to be safe, but I will not deny, because what if they just have a simple cold? Or they have really bad allergies?"

"I think the biggest lesson here is that people dont realize you or any staff at a local business are not trained doctors, nursing, or medical professionals. The symptoms mimic a few other common ailments and without proper testing and screening there is no way to tell absolutely".

"Can be a symptomatic for like 14 days and spread it to other people in that time. No signs of symptoms but still carrying/spreading."

"Yeah, they're now saying it's a 26 day incubation period."

"there really isn't anything in place around here to give us direction, haven't heard of any local hotline setup or anything like that."

"Does your property serve breakfast, or other foods? What I had in mind was just using the sanitizer solution that dishes get after being scrubbed. It'd be so easy! Just toss them in and let them soak."

"…maybe a shallow Tupperware container and an inch of alcohol…put on the lid…give them a swish… then let them sit for a minute. Once taken out, they should air dry on their own within a minute, and hopefully not leave any observable residue."

"I bought hand sanitizer and N95 masks when the news of the coronavirus first broke a month ago. I remember SARS, and this is already much worse."

5 Discussion

5.1 Review of Findings

Our study enhances current knowledge on employees' protective health behaviors in the following ways. Specifically, our research presents significant findings that add to the scarce literature on hotel employees' protective health behaviors against COVID-19. Moreover, it extends the application of HBM to the hospitality industry. Further, it demarks itself from the recent literature on COVID-19 in hospitality and tourism by using an online community as a source of experiment.

The risk of infectious disease epidemics has been rising since the latter half of the 20th century in spite of the public health and medical advances [17]. Greater human mobility and migration as well as the changing geographic distributions of disease vectors seem to be responsible for the quick spread of such disease [5]. The recent crisis of COVID-19 which resulted in some strict forms of lockdown and travel bans as strategies to confine the spread of the virus does not appear to leave humans alone in the near future. Thus the communities are obliged to adapt themselves to this new uncalled guest till the vaccine is available. The restrictions and other travel-related blocks are being eased and are expected to be diminished completely sooner or later as "governments will not be able to minimize both deaths from coronavirus disease 2019 (COVID-19) and the economic impact of viral spread" [30](p. 931).

If not managed properly, reopening one of the world's largest industries (hospitality), which has a huge direct contribution to the global economy and employment, can bring about more health-related costs than financial benefits to nations. In the meantime, hotels which are the chief elements in the tourism life cycle, burden even heavier responsibility to implement strategies that minimize the health risk of traveling. Hotels are not only the point of contact between healthy and ill customers but also can harbor numerous contaminated fomites that can put the lives of employees in danger as well.

The occupational characteristics of this sector that mandates interfacing with the public can make it a nexus of disease transmission to the society. In order for hotels to be successful in controlling the contagious COVID-19, the active participation of employees in protective health behaviors is so critical. Understanding the factors that may influence hotel employees' (non)adherence to protective health behaviors can provide valuable ideas to the hospitality industry in order to apply the expedient interventions to change their behaviors accordingly.

On the other hand, there is little information available about hospitality employees' workplace protective behaviors at the time of the COVID-19 pandemic. To fill in this gap, drawing on HBM [27], our study observed a large community of hotel employees to explain their health-related responses to the emergence of the COVID-19. In light of HBM, we identified a number of fundamental factors in shaping hotel employees' protective health behaviors. In order to take action to avoid the illness, employees should believe that they are susceptible to it and the disease may have at least moderate severity to their lives. Moreover, they should perceive that taking actions can be beneficial and these actions would enable them to overcome barriers. In the meanwhile, the role of cues to the appropriate action and the modifying factors such as age, gender, and knowledge about the disease are also important. The findings of our study disclosed that hospitality employees, particularly in frontline positions, found themselves at high risk of being infected because of their frequent contact with customers.

Additionally, the virus was often recognized to be fatal for employees' own health or a serious threat to the well-being of employees who dealt with customers. However, when coming to take actions, some of the employees believed that the protective equipment was ineffective and they may not be able to save them, especially in case of using masks. On the other side, employees, who perceived protective behaviors

beneficial, reported several obstacles that could be classified into three levels. They are the organizational barriers such as the lack of suitable policies to encourage and enforce protective behaviors in a work environment, inadequate protective facilities and equipment available in hotels, and problems related to their leave of sickness absence. Financial barriers are often confined to the purchase of personal protective equipment such as masks, gloves, or sanitizers. Psychological barriers are mainly related to how others (e.g., coworkers, customers) may judge their protective behaviors (e.g., wearing mask).

Several factors were identified in this study as cues of employees' protective health behaviors. Strict guidelines in hotels which do not only provide information about the disease but also delineate a detailed list of responsibilities for staff are at the top of the list. Advices from other people like experts, news from TV or internet as well as establishment of adequate protection services in hotels are some of the cues mentioned by employees. Lastly, our study found minor relevance of modifying factors in shaping employees' attitudes and behaviors toward COVID-19. Especially, employees' knowledge about COVID-19 beside the age can be considered an influential variable on their protective health behaviors.

5.2 Practical Implications

Our study provides useful implications for managers who can use them to have their employees engaged more in protective health behaviors. Specifically, hotels should prepare strict guidelines, which explicitly identify the seriousness of the disease and explain in detail the steps they have taken as a response. Management commitment to the rules and regulations about protective health behaviors should be emphasized. Signs and announcement should be available for employees and hotel customers. Hoteliers should also provide their employees with the protective equipment. These can be stressed in training programs where employees can share their ideas about protective health behaviors.

Professional health experts can be invited to hotels periodically to train how employees can protect themselves and others from the spread of the disease. Employees can gain knowledge and find answers for their questions in mind related to the virus. The usefulness of the protective behaviors can be discussed during such training programs and communication meetings. The potential misperceptions about the application of protective health behaviors can be mitigated accordingly. Practicing such behaviors is likely to mitigate their job stress associated with COVID-19 and promote their mental health.

Support provided by the organization during the pandemic should always be in place as plenty of employees have various financial, psychological, and physical concerns. Employees' health should be the highest priority for hoteliers because they are among the most important assets of the organization and are expected to be very careful about the whole community's health. Undoubtedly, hotels should provide facilities for employees to work in a more healthy and hygienic environment by reducing unnecessary face-to-face contacts, managing crowdedness, and minimizing the use of risky materials such as money exchange between employees and customers. Such precautions would send signals to employees that management really cares about employees' mental health and well-being. These practices are so critical because there is evidence showing that customer-contact employees such as nursing staff and hotel and foodservice workers suffer from anxiety and depression as a result of the COVID-19 pandemic [58,59].

5.3 Concluding Remarks

It is important to use epidemic prevention and control methods against COVID-19 due to the lack of vaccine or drugs developed for protection. Particularly, this issue now seems more critical as the majority of businesses and outdoor leisure activities are reopening. Service-oriented workplaces are among the areas, where both employees and customers are at increased risk of COVID-19 due to the potential (frequent) interaction. Therefore, employees' adherence to the protective health behaviors can not only protect themselves from the coronavirus disease but also can prevent lots of other customers and coworkers from getting infected. This study used data collected from an online community with the aim

of understanding employees' protective health behaviors in the hospitality industry. Our study supported the application of HBM as a useful framework to explain these behaviors in hotels. The findings of the study asserted that although hotel employees perceived themselves at high risk of being infected, they were confronted with some obstacles that impeded their protective health behaviors in the workplace. Based on the findings of the current study, several practical solutions were provided for the industry.

Though our study contributes to the current knowledge base, the findings reported here should be interpreted in light of the following limitations. First, our study used the original HBM, which has a clear-cut avoidance orientation [27]. Future studies can use the expanded HBM [60], which includes perceived self-efficacy as an approach to understanding and influencing hospitality employees' health-related behavior. Second, data for our study was confined to small number of employees' comments. Therefore, future studies can utilize more comments to broaden the database concerning employees' protective health behaviors against COVID-19.

Third, due to the limited access to hotel employees because of COVID-19, our study used secondary data. When barriers limiting human mobility and travel restrictions are minimized, using primary data to be collected from employees concerning their protective health behaviors against COVID-19 in future studies would pay significant dividends. Fourth, since the authors used an online community where demographic information of informants was unavailable, future studies can use quantitative techniques, which would enable the researchers to collect data about participants' profile. Finally, as the community members anonymously participated in discussions and their gender and age were not specified, the findings cannot support the effects of these demographic variables on employees' health behaviors. Accordingly, future studies should measure the role of these variables as well.

Conflicts of Interest: The authors declare that they have no conflicts of interest to report regarding the present study.

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