Journal of Hospitality and Tourism Management 45 (2020) 67–70

Contents lists available at ScienceDirect

Journal of Hospitality and Tourism Management

journal homepage: www.elsevier.com/locate/jhtm

Effects of COVID-19 on preferences for private dining facilities in restaurants

Jungkeun Kim[a], Jacob C. Lee[b,*]

[a] Department of Marketing, Auckland University of Technology, 120 Mayoral Drive, Auckland, 1010, New Zealand
[b] Dongguk Business School, Dongguk University, 30 Pildong-ro 1-gil, Jung-gu, Seoul, 04620, South Korea

ARTICLE INFO

Keywords:
COVID-19
Perceived threat
Private dining
Private table
Restaurant choice

ABSTRACT

The present research investigates the effects of the perceived threat of COVID-19 and the salience of the virus on consumers' preference for private dining facilities. Integrating the theories about the psychology of risk with research on preference for private dining, we predict that the prominence of the virus systematically increases preference for private dining facilities. Four studies (N = 812) consistently support our prediction. Consumers who perceive the threat of the COVID-19 pandemic to be high (vs. low) evaluate the private dining restaurant (Study 1) and the private dining table (Study 2) highly. Moreover, two experiments showed that the salience of the virus generates a preference for the private (vs. non-private) dining table (Study 3) and for the restaurant with private rooms (Study 4). This research provides a strategy for the restaurant industry to recover from the negative effects of the COVID-19 pandemic.

1. Introduction

COVID-19 generated a major crisis for hospitality businesses such as hotels, restaurants, and bars. For example, restaurants were forced to close because of the lockdown policy in early 2020. In addition, consumers showed tendency to avoid other people in public. Even after reopening, jurisdictions suggested or ordered such businesses to focus on delivery service or to reduce seating capacities because of the social distancing policy. The forecast for the future of restaurants are catastrophic. Experts estimate that over half of restaurants will not survive (Severson & Yaffe-Bellany, 2020). Therefore, a strategic move to maintain consumer demand in the crisis (Pizam & Mansfeld, 1996) is critically important (Sigala, 2020).

Many people overreacted to COVID-19 in ways such as by stockpiling materials or going to extremes to avoid other people. In the service context, consumers are also reluctant to visit restaurants and bars. Therefore, under these circumstances, it is important to consider the various factors that might restore consumer intentions to visit restaurants. Accommodation in private rooms in restaurants is an important factor in consumers' perception and evaluation of restaurants (Hwang & Yoon, 2009; Tse, So, & Sin, 2006; Yim, Lee, & Kim, 2014). Based on the behavioral inhibition system theory (Elliot, 2006), the contagion effect (Argo, Dahl, & Morales, 2006), and the crisis management theory (Barton, 1994), in this paper we examine the effect of perceived threat and the salience of COVID-19 on the preference for restaurants with private dining facilities and for private dining tables. Ultimately, this research suggests a recovery strategy from the devastating effect of the COVID-19 pandemic on hospitality industries (Sigala, 2020).

2. Literature review

In general, people have strong motivation to engage in social and physical interaction (Hill, 2009). However, the COVID-19 pandemic dramatically forced the whole world to live in a new normal. A pandemic historically generates fear of other people based on the perceived threat of pathogens (Murray & Schaller, 2010). People also tend to have subjective impressions (rather than objective views on actual phenomena) of the disease threat (Slovic, Fischhoff, & Lichtenstein, 1980). Therefore, it is important to understand how the perceived threat of COVID-19 affects various behaviors, including the preference for restaurants.

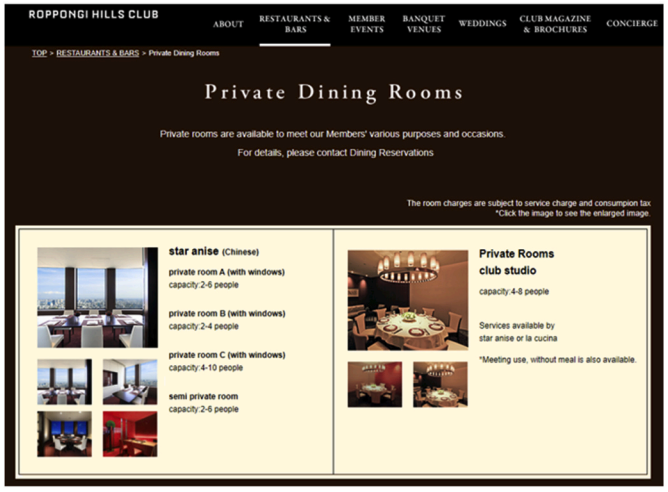
We predict that consumers who perceive the COVID-19 threat to be high will prefer private dining restaurants or private tables in a restaurant. We make this prediction based on several theories. First, the behavioral inhibition system theory (Elliot, 2006) suggests that the anxiety caused by the pandemic can generate avoidance behavior, such as increasing physical distance from others in social interactions. The desire for safety increases, and thus people avoid other people who might carry COVID-19 (Crandall & Moriarty, 1995). In addition, the contagion effect (Argo et al., 2006; Kim, 2017) focuses on humans' exaggerated inferences of the transmission of the essences of the

* Corresponding author.
E-mail addresses: jkkim@aut.ac.nz (J. Kim), lee.jacob.c@gmail.com (J.C. Lee).

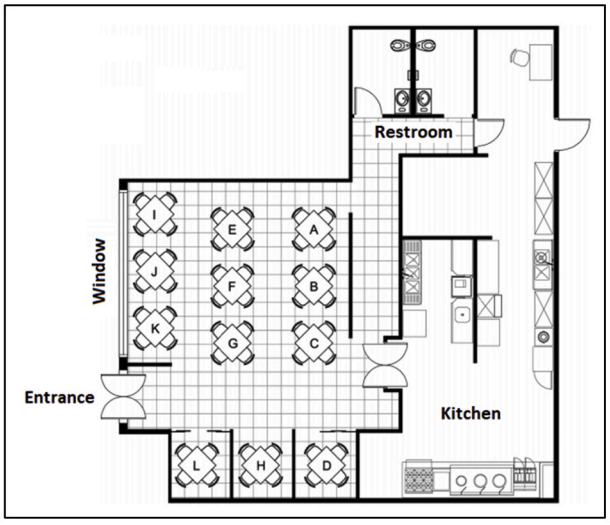
https://doi.org/10.1016/j.jhtm.2020.07.008
Received 29 June 2020; Received in revised form 15 July 2020; Accepted 15 July 2020
Available online 21 July 2020

Stimuli of Studies

Study 1



Studies 2 & 3



Study 4

Restaurant A		Restaurant B
American (Traditional), Cocktail Bars	Type	American (Traditional), Cocktail Bars
4.23/5.00	Rating	**4.27**/5.00
1,302 reviews	# of Reviews	**1,068** reviews
Vegetarian options **Yes** Kids menu **Yes**	Amenities	Vegetarian options **Yes** Kids menu **Yes**
15 tables including **3 balcony tables**	# of Tables	**15 tables** including **3 private rooms**

Fig. 1. Stimuli for studies.

objects. This effect showed people's avoidance of direct (Argo et al., 2006) and indirect physical contact (Kim, 2017). Finally, research on crisis management suggests that consumers show more interest in travel options that are perceived to be prepared (e.g., being certified as clean and safe according to protocols such as the *CovidClean* program; Barton, 1994; Pizam & Fleischer, 2002; Tse et al., 2006). This preference for options that reflect preparedness suggests that people show a greater demand for options that involve less risk (Rittichainuwat & Chakraborty, 2009). Integrating the above, we hypothesize:

H1. The high perceived threat of the COVID-19 pandemic will increase preference for a restaurant with private rooms.

H2. The high perceived threat of the COVID-19 pandemic will increase preference for a private (vs. non-private) table in a restaurant.

We conducted four empirical studies (total N = 812) during May and June of 2020, when the COVID-19 pandemic was prevalent. Because of the special situation, all participants were U.S. residents recruited from an online panel (Amazon Mechanical Turk) for a nominal payment. All stimuli are illustrated in Fig. 1.

3. Study 1: Showing the main prediction (H1) in private dining restaurant evaluation

Study 1 investigated the main prediction about the perceived threat of the virus and attitude toward a private dining restaurant. We expected that consumers who perceive a high perceived threat of the virus would show a higher overall preference toward the private dining restaurant.

First, participants residing in the U.S. (n = 199, 44.7% female, average age = 37.1) were given the basic information about COVID-19. Then they were asked to indicate how they perceived the threat of the virus on four items (e.g., what are the chances of you getting infected with the coronavirus?) based on Kim (2020) and Kim et al. (2020) along 7-point scales (1 = extremely low, 7 = extremely high; Cronbach's α = 0.80). Second, participants were asked to imagine that they were booking a restaurant and found that one option was a private dining restaurant, as shown in Fig. 1. Then they indicated their overall attitude toward the restaurant on a 3-item measurement (1 = very bad/negative/unfavorable, 7 = very good/positive/favorable; Cronbach's α = 0.88). Finally, participants indicated their demographic information.

The regression analysis (IV = perceived threat, DV = attitude) indicated that the perceived threat of the virus increased participants' attitude toward the private dining restaurant (R^2 = 0.10, F (1, 197) = 22.81, β = 0.32, p < .001), supporting H1. The positive effect of the perceived threat on the attitude held (F (1, 194) = 6.75, β = 0.32, p < .001) even when additional variables (i.e., age, gender, family income) were entered in the regression as controls.

4. Study 2: Testing the main prediction (H2) in table selection task

Study 2 replicated the previous study in a restaurant table selection setting. The overall procedure was similar to Study 1 except for a few modifications. First, participants residing in the U.S. (n = 252, 52.4% female, average age = 36.8) indicated their perceived threat of the virus on two items (e.g., In your opinion, is coronavirus a serious threat?; 1 = not at all, 7 = very much; Cronbach's α = 0.80). Then, they were shown a restaurant layout with 12 different tables (Tables A – L), as shown in Fig. 1 (adapted from Hwang & Yoon, 2009), and they evaluated each table using a 7-point measurement (1 = I never like to sit, 7 = I like to sit best).

The result of several regression analyses (IV = perceived threat, DV = evaluation of each table) indicated that the perceived threat increased evaluation only for the private dining Table D (R^2 = 0.02, F (1, 250) = 5.67, β = 0.15, p = .018), supporting H2. For the non-private dining table K, we found a marginally significant effect, but the direction was opposite (R^2 = 0.01, F (1, 250) = 3.12, β = −0.11, p = .079). For all other tables, the regression analysis result was not significant (all ps > .10).

5. Study 3: Manipulating the salience of the threat of COVID-19 in table selection task

Study 3 was an experiment that replicated Study 2 with a few modifications. First, rather than evaluating all tables, this study mainly focused on the relative preference between Table D (a private dining table) and Table J (a non-private dining table that is usually preferred because it is by the window). Second, participants in Studies 1 and 2 rated the perceived threat of the virus before the main evaluation. In this study, we manipulated the order of measuring the perceived threat and the assessment of preference in order to manipulate the salience of the perceived threat of COVID-19.

Participants residing in the U.S. (n = 174, 47.1% female, average age = 36.2) were randomly assigned to one of the two (salience of COVID-19: high [threat first] vs. low [evaluation first]) between-subjects conditions. Participants then rated their relative preference between Tables D and J (1 = definitely choose Table J, 7 = definitely choose Table D). Participants also evaluated each table with the same scale of Study 2 (along a 7-point scale). Perceived threat of COVID-19 was measured as in Study 2.

The results of ANOVA (IV = the salience of the virus, DV = relative preference for Table D [vs. J]) indicated that the preference for Table D was higher when the threat was more prominent ($M_{high\ salience}$ = 5.53, SD = 2.12 vs. $M_{low\ salience}$ = 4.71, SD = 2.49; F (1, 172) = 5.49, p = .020, η^2 = 0.031), supporting H2. The results involving separate evaluation were similar, in that Table D (i.e., private dining table) was evaluated more highly when the salience was high ($M_{high\ salience}$ = 5.63, SD = 1.80 vs. $M_{low\ salience}$ = 5.15, SD = 1.78; F (1, 172) = 3.11, p = .079, η^2 = 0.018). In contrast, the evaluation for Table J showed the opposite pattern ($M_{high\ salience}$ = 3.90, SD = 2.16 vs. $M_{low\ salience}$ = 4.50, SD = 1.81; F (1, 172) = 3.92, p = .049, η^2 = 0.022), again supporting H2 (Fig. 2).

6. Study 4: Replicating Study 3 in the restaurant choice task

Study 4 was an experiment that manipulated the salience of the virus in order to provide further evidence of the causal relationship. In Study 4, we manipulated the salience of COVID-19 in a different way than that used in Study 3. In addition, Study 4 assessed on the preference for the restaurant with private rooms (vs. without private rooms).

First, participants residing in the U.S. (n = 187, 46.0% female, average age = 37.6) were randomly assigned to one of the two between-subjects conditions (salience of COVID-19: high [writing about own experience of lockdown] vs. low [no writing task]). Participants in the high salience condition were asked to write about their daily experiences during the lockdown. In contrast, participants in the low salience condition did not do a writing task. Participants were then exposed to two restaurants (either having private rooms or not; Fig. 1) and asked to rate their preference (1 = definitely choose Restaurant A [without private rooms but with balcony tables], 7 = definitely choose Restaurant B [with private rooms]).

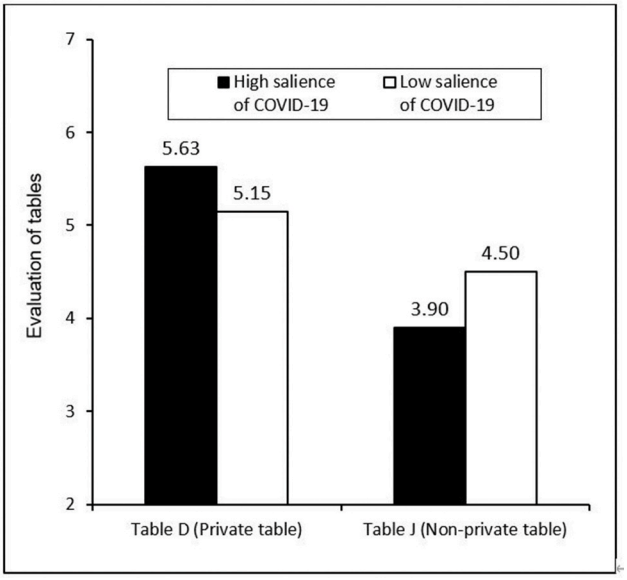


Fig. 2. Results of Study 3.

The results of a one-way ANOVA (IV = the salience of the virus, DV = preference for Restaurant B [vs. A]) indicated that the preference for Restaurant B [vs. A] was significantly higher when the salience of the threat was high versus low ($M_{high\ salience}$ = 4.45, SD = 2.52 vs. $M_{low\ salience}$ = 3.68, SD = 2.55; F (1, 185) = 4.18, p = .042, η^2 = 0.022), again supporting H1.

7. General discussion

The present research provided four empirical studies to investigate the effect of the perceived threat and the salience of COVID-19 on the preference for a private dining restaurant and a private dining table. We found that consumers who perceived the threat of the COVID-19 pandemic to be high (vs. low) evaluated the private dining restaurant (Study 1) and the private dining table (Study 2) highly. In addition, the salience of the virus generated the preference for the private (vs. non-private) dining table (Study 3) and for the restaurant with private rooms (Study 4).

This paper has several theoretical and practical implications. First, it increases the understanding of the effect of perceived disease threat on restaurant decisions. The results of this paper supported our predictions that the perceived threat of COVID-19 increases avoidance of others, especially under the high perceived threat of the pandemic. Second, previous studies mainly focused on the individual's preference for or attitude toward the private dining facility (e.g., Hwang & Yoon, 2009; Tse et al., 2006) or perception of price (Yim et al., 2014). This paper extends the understanding of facilities management in the hospitality setting by incorporating the psychological effects on customers of environmental factors. Third, this paper provides a straightforward suggestion for hospitality managers, in that emphasizing private dining rooms or private tables could be a quick solution for the decrease in restaurant customers because of the pandemic. Fourth, this paper suggests another recovery strategy for the negative effect of the disease on the sale of hospitality service (Chen, Jang, & Kim, 2007; Tse et al., 2006).

This paper has a few limitations, suggesting a future study. First, all studies were conducted using an online panel. Although our use of multiple studies involving multiple methods consistently supported our hypotheses, after the pandemic is controlled, a field study can complement our studies (Yi, Lee, & Kim, 2018). Second, future studies can investigate the effect of the perceived threat on the evaluation of spatial distances between tables in a restaurant. Finally, the results of this paper can be extended to private social dining settings as well (Qian, Law, & Fan, 2020) and to our understanding consumers' happiness from dining experiences (Lee, Hall, & Wood, 2018).

Financial disclosure

The authors received financial support for the research, authorship, and/or publication of this article: This work was supported by Institute of Information & communications Technology Planning & Evaluation (IITP) grant funded by the Korea government (MSIT) (No. 2019-0-00050).

Declaration of competing interest

Jungkeun Kim and Jacob C. Lee declare that we have no conflict of interest in this paper.

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