COVID-19 preventive measures and restaurant customers' intention to dine out: the role of brand trust and perceived risk

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Abstract

This study examined the roles of perceived preventive measures and brand trust on the intention to dine out at restaurants during the reopening period in the United States. A total of 587 participants, recruited through a market research company completed the data. Multiple regression was used for data analysis. The results indicated that perceived importance of preventive measures enhanced customers' intention to dine out via brand trust. Perceived risk moderated the relationship between perceived importance of preventive measures and brand trust. The study provided significant implications for restaurant operation during the reopening period.

Keywords COVID-19 · Restaurant management · Perceived risk · Intention · Brand trust

1 Introduction

Since March 2020, the COVID-19 pandemic has spread throughout the United States (US), resulting in hundreds of thousands of deaths in the country to date (Johns Hopkins Coronavirus Resource Center 2021). Because this disease is transmitted mainly through human interaction, many states in the US announced “stay-at-home” orders to restrict the movement of their populations beginning in March.

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Though proven effective in slowing down the spread of COVID-19, the stay-at-home orders have negatively impacted the US economy. The restaurant industry is no exception; stay-at-home orders limited the services that could be offered by restaurants. The sector's performance index—a monthly composite score that tracks the prospects and outlook of restaurants in the US—dropped to 94.8 in June 2020, the lowest score in this decade (National Restaurant Association [NRA] 2020). The restaurant industry, an especially labor-intensive sector in the US, lost more than five million jobs in April, which contributed to one-fourth of the country's total job loss and 4% of the unemployment rate (Zhang 2020).

To revive the economy, most states in the US began to relax their stay-at-home orders and implement reopening plans beginning in May 2020 (Lee et al. 2020). Restaurants were allowed to reopen their dine-in service with strict preventive measures in place, such as wearing masks, reduced occupancy, providing hand sanitizers, and maintaining social distance between customers. Even so, how to appeal to restaurant customers and regain their confidence in dining out remains a challenge to the restaurant industry. Additionally, restaurants are struggling with rulebreakers (Carey and Swalec 2020; Waxman 2020). Some restaurant customers may not be willing to practice preventive measures for the disease, as they feel compliance infringes on their lifestyle (Godycki-Cwirko et al. 2017; Haischer et al. 2020). To better respond to the varying reactions of their customers, restaurant operators must understand how customers' perception of the importance of preventive measures impacts their intention to dine out during the COVID-19 reopening period. However, studies are lacking in investigating this relationship since COVID-19 is the only influenza pandemic outbreak in the United States in the last ten years with the highest death toll in the last hundred years.

During the pandemic, a safe and healthy environment is the first priority for most customers, especially those who perceive preventive measures as essential. Brand trust refers to customers' perception of value and confidence toward the brand (Godfrey 2005; Sahin et al. 2011; Herbst et al. 2012; Riorini and Widayati 2016; Bruin Srivastava et al. 2016). Multiple studies pointed out that brand trust reduced the negative impact of uncertainty or perceived risk associated with a brand and increased customers' purchase intention (e.g., Matzler 2008; Sanchez-Franco 2009). Thus, the proposed relationship between customers' perception of preventive measures and dine out intention may be mediated by brand trust. In addition, researchers have indicated that individuals who perceive a high risk of COVID-19 will be more likely to comply with preventive measures (de Bruin and Bennett 2020) and highly endorse restaurants that fully implement preventive measures, avoiding restaurants that do not. Consequently, perceived risk may strengthen the impact of customers' recognition of the importance of preventive measures on their brand trust and intention to dine out.

Hence, this study aimed to examine the interplay between restaurant customers' perceptions of preventive measures, brand trust, and intention to dine out during the COVID-19 pandemic using a sample of U.S. restaurant customers recruited from Amazon Mechanical Turk (MTurk). Toward that end, the study investigated the moderating role of perceived risk on the relationships between the perceived importance of preventive measures and brand trust and between the perceived importance

of preventive measures and intention to dine out. PROCESS macro and hierarchical multiple regression were used for data analysis. Since the COVID-19 pandemic is the first global epidemic in this century and deeply impacts the restaurant industry, the results of this study provide unprecedented knowledge for the industry in preparing their reopening strategies during the pandemic.

The rest of this paper is organized as follows. Section 2 presents the literature review related to COVID-19 and the restaurant industry, as well as four constructs (i.e., customers' perceived importance of preventive measures, perceived risk of COVID-19, brand trust, and behavioral intention) as discussed above. Section 2 focuses on the hypotheses development and introduces the proposed research model. Section 3 describes the research methodology. Section 4 presents the results of this study while Sect. 5 compares the findings with existing literature. The last section, Sect. 6 discusses the managerial implications and theoretical implications of the findings and provides suggestions for future research.

2 Literature review and hypotheses development

2.1 COVID-19 and restaurant preventive measures

COVID-19, the abbreviation of the specific coronavirus causing the global pandemic, has been called the “once-in-a-century” health crisis (World Health Organization [WHO] 2020). More than 121 million confirmed COVID-19 cases were reported worldwide, with over 2.6 million deaths as of March 2021 (Johns Hopkins Coronavirus Resource Center 2021). In contrast to other respiratory illnesses that spread primarily by coughing and sneezing, COVID-19 was found to spread by breathing and talking (Ningthoujam 2020). Human interaction with no precautions is believed to present a high risk of contagion (Centers for Disease Control and Prevention [CDC] 2020). In the past few months, most states in the US have enacted a period of mandatory stay-at-home orders to control the spread of the virus. Nonesential businesses, including restaurants, were closed in March 2020, which severely impacted the US economy (Kirzinger et al. 2020). The real GDP declined 5.0% in the first quarter of 2020 compared to the same period last year (U.S. Bureau of Economic Analysis 2020). The hospitality industry suffered the most significant losses among all industries. For example, restaurant revenue decreased by nearly 60% in the first quarter compared to the same period last year, and sales of dine-in service declined by more than 90% (NRA 2020). Because the hospitality industry is labor-intensive, this recession caused a wave of job losses—restaurants lost more than half a million jobs in March (Lock 2020).

To revive the economy, most US states began the process of relaxing stay-at-home orders in May 2020, which allowed restaurants to reopen dining service with proper preventive measures (Lee et al. 2020). To assist restaurants in safely reopening, the CDC and the NRA published guidelines for restaurants as a reference. The guidelines included four sections: food safety (e.g., change, wash, and sanitize utensils frequently), cleaning and sanitizing (e.g., clean and sanitize reusable menus, and provide sanitizing materials for customers), employee health and hygiene (e.g., pre-work screening,

sending sick employees home immediately, and requiring mask wearing), and social distancing (e.g., reservations-only, limited party size, and reducing occupancy by 50%). The guidelines suggested that not only restaurants but also customers follow these preventive measures. The CDC (2020) advised that dining in a restaurant without proper preventive measures entails a high risk of getting infected.

2.2 The perceived importance of preventive measures and intention to dine out

The CDC suggested that proper preventive actions, such as wearing masks and maintaining social distancing, could effectively protect the individual, especially healthy adults, against contracting COVID-19. Service industry, such as restaurants and retail stores, in most of states in the United States are required to follow the preventive measures to provide a safe place for their customers (U.S. Food and Drug Administration 2020). However, Americans have responded differently toward preventive measures during the pandemic—some Americans advocate strict preventive measures, others feel these measures could change their lifestyle are more reluctant to follow the rules (Van Bavel et al. 2020). Godycki Cwirko et al. (2017) argued that individuals may perceive the importance of preventive measures differently depending on whether those actions affect their lifestyle. In addition, many interviews (e.g., Advisory Board 2020; Vargas and Sanchez 2020) suggested that Americans does not wear mask because they miss the period before COVID-19 pandemic where mask wearing is a symbol of the pandemic. As a service industry, most restaurants do not want to offend their customers (Jones 2009). Therefore, though most restaurants requested their customers to follow preventive measures, such as social distancing and wearing masks while waiting in line, they have struggled with rule breakers (Callahan 2020). It is a dilemma for the restaurant industry today. To help restaurants to be more confident in implementing preventive measures during the pandemic, it is important for restaurants to understand the relationship between customers' perceived importance of preventive measures taken by restaurants during the pandemic and their intention to dine out. Previous literature suggested health consciousness is positively associated with customers' behavioral intention in restaurant industry. For example, Dipietro et al (2016) indicated that customers with high level of health consciousness prefer food and menu with nutrition information available. Choi and Zhao (2010) argued that customers' perception of the importance of healthy behavior will influence their restaurant selection. Therefore, it is postulated that customers who perceive preventive measures as highly important will have higher dining out intentions when the actions of the restaurants satisfy their expectations, and the following hypothesis was proposed:

H1 Customers' perceived importance of preventive measures taken by the restaurant is positively associated with customers' intention to dine out.

2.3 The mediating role of brand trust

Brand trust, or confidence in a brand, refers to customers' perception of a brand's reliability in fulfilling their expectations (Ahmed et al. 2014). During the crisis of

COVID-19, customers who perceived preventive measures as highly important would expect the restaurant to provide a safe dining environment. Therefore, restaurants that implement preventive measures (e.g., mandatory masks and social distancing) during the COVID-19 pandemic would satisfy the expectations of customers who desire a safe dining environment (Sanchez-Franco 2009). This proactive action taken by the restaurants would in turn build a more favorable attitude toward brand and increase customers' brand trust.

Scholars have concluded that brand trust could enhance customers' purchase intention. For example, Lin and Lu (2010) reported that trust in a website could positively impact online purchase intention. In the hospitality industry, Rather et al. (2019) found that brand trust is associated with customers' behavioral intentions, such as (re)purchase intention and loyalty. Sanchez-Franco's study (2009) showed that brand trust played an essential role in customers' decision making when they were facing a high level of uncertainty. The society is still living with uncertainty caused by the COVID-19 pandemic, and the scientists have not fully understood the coronavirus (e.g., mutation, asymptomatic, and long-term physical damage to the body), and herd immunity has not been achieved (McPhillips 2021). Under such circumstance, it is postulated that customers will prefer a brand that they trust if they have to make a purchase decision, including dine out during the pandemic. Therefore, perceived importance of preventive measures taken by restaurants would impact customers' brand trust, which would further affect their intention to dine out during the pandemic. Hence, the following hypotheses were proposed:

H2 Customers' perceived importance of preventive measures taken by the restaurant is positively associated with customers' perceived brand trust.

H3 Customers' brand trust mediates the relationship between customers' perceived importance of preventive measures taken by the restaurant and their intention to dine out.

2.4 The moderating role of perceived risk

In general, perceived risk can be defined as the perception of the possibility of negative consequences caused by uncertainty (Oglethorpe and Monroe 1987). In terms of the infectious disease, physical health concern is considered as a risk for individuals (Law 2006; Lepp and Gibson 2003; Maser and Weiermair 1998; Sönmez and Graefe 1998). In the current study, perceived risk was used to evaluate customers' fear of the chance of being infected with COVID-19 and the chance that the disease will cause serious physical harm. Customers who perceive low risk of COVID-19 tend to believe COVID-19 will not adversely affect them as much. Their trust in a restaurant brand may not be as impacted by the restaurant's implementation of preventive measures when compared to customers' who perceive higher level of risk of COVID-19. For customers who perceived a high level of risk, the perceived importance of preventive measures as the way to reduce the chance of infecting COVID-19 will play a more important role in the brand evaluation and the restaurant selection process, compared to those who perceived a low level of risk. Hence, perceived risk

may strengthen the positive relationship between the perceived importance of preventive measures and brand trust, for which the following hypothesis was proposed:

H4 Customers' perceived risk moderates the positive relationship between customers' perceived importance of preventive measures taken by the restaurant and brand trust; the relationship is stronger when perceived risk is higher.

Despite believing that preventive measures are vital in slowing the spread of the pandemic, individuals with low level of perceived risk may have a higher level of tolerance of dining in restaurants that do not strictly follow the preventive measures (Hakim et al. 2021). Conversely, customers who perceived a high-level risk of COVID-19 will be extremely cautious in choosing those restaurants and will go with restaurants that strictly implement preventive measures when dining out (Yıldırım et al. 2021). Hence, the positive relationship between perceived importance of preventive measures implemented by the restaurant and customers' intention to dine out could be strengthened by customers' perceived risk. The following hypothesis is posited:

H5 Customers' perceived risk moderates the positive relationship between customers' perceived importance of preventive measures taken by the restaurant and intention to dine out; the relationship is stronger when perceived risk is higher.

3 Research methods

3.1 Sampling and data collection

Following approval by the Institutional Review Board in a university located in the southeastern region of the US, the study protocol commenced. The target population was US customers over 18 years old who had visited a restaurant prior to the COVID-19 pandemic. Amazon Mechanical Turk (MTurk), a platform that enables researchers to hire anonymous workers paying them minimal compensation for projects, was used to recruit participants. Compared to traditional recruiting methods, MTurk provides a more diverse and reliable candidate pool for researchers (Berinsky et al. 2012; Shank 2016). Qualtrics, an online survey provider, was used to prepare the self-reported online survey. Several screening questions were incorporated at the beginning of the survey to verify eligibility based on age and previous experience visiting a restaurant. Eligible participants were then asked to provide the name of a restaurant they used to visit before the pandemic and to complete the rest of the questionnaire based on the restaurant they mentioned. The rest of the survey was developed on the order of dining frequency, brand trust, perceived risk, perceived importance of preventive measures during COVID-19, and intention to dine out. Multiple attention-check questions, such as "Please select *Strongly agree*," were added in the survey to increase the authenticity of the data. Participants who failed to pass the attention-check questions were eliminated immediately, and the system automatically withdrew their responses from the data set.

A total of 50 respondents participated in the pilot study to help validate the readability and the clarity of the survey instructions and questionnaires. Minor adjustments, such as wording and font size, were applied according to feedback from participants in the pilot study. The final data collection was conducted in the summer of 2020.

3.2 Measurement scales

The items in the survey were adopted from previous literature on brand trust, purchase intention, and perceived risk. Brand trust was measured using a 10-item scale developed by Kabadayi and Lerman (2011). Some examples of the brand trust section include “The restaurant seems to be interested in its customers’ wellbeing” and “The restaurant seems to be very capable of serving its customers.” Intention to dine out was measured using three items adopted from Kim et al. (2012) study, which included purchase intention, repurchase intention, and word-of-mouth recommendation. Perceived risk was measured by four items modified from a study by Dryhurst et al. (2020), for example, the chance of COVID-19 infection and the chance of survival, if infected. Preventive measures were developed after reviewing the COVID-19 reopening guidelines published by the NRA and CDC (ServSafe 2020). The survey also collected the participants’ demographic information, such as age, education, household income, and gender. The study used a five-point Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*) to measure the items in each construct (Tables 1 and 2).

3.3 Data analysis

Data were analyzed using SPSS v. 24.0. Data cleaning was first performed to remove incomplete responses. Descriptive statistics (e.g., frequency, percentages, mean, and standard deviation) were calculated to summarize the data. Measurement reliability and validity were assessed through confirmatory factor analysis (CFA) with maximum likelihood estimation. A single-method factor test was performed using CFA to examine the common method variance. Then, the average score of each construct was computed for hypothesis testing. PROCESS v3.3 macro was used to test hypotheses 1 to 3. Hierarchical multiple regression was employed to examine the moderating effects in hypotheses 4 and 5.

4 Results

According to the sample size to free parameter ratio proposed by Bentler and Chou (1987), the target sample size for a study should be between 5:1 and 10:1. With 31 free parameters to be estimated, a sample size of 155 to 310 would be considered as sufficient for the current study. A total of 587 usable responses were collected. Participants were from 49 states within the U.S. with California ($n=86$, 14.7%), Texas ($n=52$, 8.9%), and New York ($n=42$, 7.2%) being the top three states.

When being asked to provide the name of a restaurant they liked to visit prior to the pandemic, a majority of the participants indicated that they liked to visit casual dining restaurants the most ($n=343$, 58.4%), followed by fast food restaurants ($n=160$, 27.3%). About 72% ($n=422$) of the restaurants mentioned by participants were chain restaurants. Approximately 71% ($n=419$) of the participants had visited the named restaurants frequently before the pandemic, ranging from *sometimes* ($n=311$, 53.0%) to *often* ($n=108$, 18.4%). Only 60.3% ($n=357$) of the participants indicated that they would frequently visit the named restaurant once it reopens, with 45.5% ($n=267$) of them selecting *sometimes* and another 15.3% ($n=90$) indicating *often*. A paired sample t-test was performed, and the result suggested a significantly lower level of their predicted visiting frequency after the restaurant reopens (2.68 ± 0.92) than before the COVID-19 pandemic (2.87 ± 0.83 , $p < 0.05$). Table 1 displays detailed demographic information of respondents.

4.1 Measurement model

Confirmatory factor analysis (CFA) was employed to investigate the model fit. Due to low factor loadings (less than 0.5), two items of perceived risk, three of preventive measures, and three of brand trust were dropped from further analysis (see Table 2 for dropped items). CFA was again performed using the maximum likelihood estimation, and the results indicated a good fit between the theoretical model and the data: χ^2 (179) = 448.31, $p < 0.01$; comparative fit index (CFI) = 0.96; root mean square error of approximation (RMSEA) = 0.05; standardized root mean square residual (SRMR) = 0.05 (Tables 2 and 3).

To assess internal consistency, Cronbach's alpha and Composite reliability (CR) were computed. Both Cronbach's alpha values (from 0.80 to 0.90) and CR values (from 0.80 to 0.90) suggested good internal consistency of the studied constructs. In addition, factor loadings and each construct's t-value were checked to examine convergent validity, and the results showed that all indicator loadings were significant at 0.05; the majority of factor loadings were greater than 0.70 (Table 2) (Bagozzi and Yi 1988). Moreover, Table 3 shows that the Average variance extracted (AVE) values for all constructs are above 0.50 (Fornell and Larcker 1981). Therefore, convergent validity was achieved. As suggested by Fornell and Larcker (1981), discriminant validity can be examined by comparing squared pair-wise correlations between constructs and the AVE value of each construct. Table 3 demonstrates that the square root of each construct's AVE value (between 0.71 and 0.81) is higher than its correlations with other constructs, confirming discriminant validity.

A single-method-factor test was conducted through CFA to examine the common method variance, as data were collected from a single source (Podsakoff et al. 2012). The results suggested that the four-factor model is significantly better ($\chi^2 = 448.31$; CFI = 0.96; RMSEA = 0.05; $\Delta\chi^2 = 2117.29.89$, $p < 0.01$) than the one-factor model ($\chi^2 = 2565.60$; CFI = 0.60; RMSEA = 0.15), suggesting that common method bias was not a concern (Fig. 1).

Table 1 Demographic information ($N=587$)

	Frequency	%
<i>Gender</i>		
Male	296	50.4
Female	290	49.4
Prefer not to respond	1	.2
<i>Age</i>		
18–25	97	16.5
26–35	205	34.9
36–45	135	23.0
46–55	72	12.3
≥ 56	78	13.3
<i>Ethnicity</i>		
White	431	73.4
Black or African American	41	7.0
Hispanic	33	5.6
Asian	64	10.9
American Indian or Alaska Native	8	1.4
Other	10	1.7
<i>Education</i>		
High school or less	53	9.1
Some college	89	15.2
Associate's degree	45	7.7
Bachelor's degree	267	45.5
Graduate degree	108	18.4
Professional degree	23	3.9
Prefer not to respond	2	.3
<i>Household income</i>		
Less than \$20,000	55	9.4
\$20,000 to \$39,999	117	19.9
\$40,000 to \$59,999	131	22.3
\$60,000 to \$79,999	94	16.0
\$80,000 to \$99,999	75	12.8
\$100,000 and above	103	17.5
Prefer not to respond	12	2.0

4.2 Test of hypotheses

Gender, age, respondents' geographic location (state), and restaurant operation type were used as control variables in the analysis due to their potential effect on customers' brand trust and perceived risk (Davies et al. 2020; Papageorge et al. 2021). Hypotheses 1 to 3 were tested using PROCESS macro Model 4 (Hayes 2013). Bootstrapping was conducted with a sample size of 2000 and a 95% confidence interval (CI) to test the indirect effect (Hayes 2009). As suggested by Preacher and Hayes

Table 2 Results of the confirmatory factor analysis ($N = 587$)

	Factor loadings	Composite reliability
Perceived risk		0.8
How likely do you think you will contact COVID-19 during the current pandemic?	–	
How severe do you think you will become, if infected by COVID-19	0.77	
How likely do you think you will survive COVID-19, if infected?	0.86	
How likely do you think you will infect your family members, if infected? *	–	
Brand trust		0.87
The restaurant seems to...		
Have sound principles that guide its behavior	0.6	
Keep its commitments	0.6	
Very capable of serving its customers	0.74	
Have necessary knowledge and recourses to fulfill its customers' needs	0.69	
Confident about this restaurant skill to serve its customers	0.78	
Competent in preparing food	0.74	
Performs its role of cooking food very well	0.72	
Concerned about its customers' health and safety*	–	
Would not do anything to hurt customers*	–	
Interested in its customers' wellbeing, not just its own profit*	–	
Preventive measures		0.9
Implement strict handwashing practices that include how and when to wash hands	0.79	
Implement procedures and practices to clean and sanitize surfaces	0.79	
Prohibit sick employees in the workplace	0.72	
Take employees' temperatures at the operators' discretion	0.56	
Require employees to wear face covering	0.61	
Train all employees on the importance of frequent hand washing, the use of hand sanitizers	0.81	

Table 2 (continued)

	Factor loadings	Com- posite reli- ability
Thoroughly detail-clean and sanitize entire facility	0.78	
Make hand sanitizer readily available to guests	0.68	
Update floor plans for common dining areas, redesigning seating arrangements to ensure at least six feet of separation between table setups	0.61	
Limit party size at tables*	–	
Use a reservations-only business model or call-ahead seating*	–	
Use technology solutions where possible to reduce person-to-person interaction: mobile ordering and menu tablets; text on arrival for seating; contactless payment options*	–	
Intention to dine out		0.84
I would dine out at this restaurant in the future	0.68	
I would recommend this restaurant to my friends and others	0.83	
I would spread positive word-of-mouth about this restaurant	0.86	

$\chi^2(179) = 448.31$, $p < 0.01$; CFI: .96; RMSEA: .05; SRMR: .05

*Dropped items

Table 3 Means, standard deviations, and correlation coefficients among performance appraisal aspects and psychological contract ($N=587$)

Measures	Mean	SD	1	2	3	4	AVE	The square root of AVE
1. Perceived risk	2.40	1.08	1				.66	.81
2. Brand trust	4.01	.53	-.07	1			.50	.71
3. Preventive measures	4.38	.63	.01	.36**	1		.51	.71
4. Intention to dine out	4.04	.70	-.10 **	.63**	.22**	1	.63	.79
Cronbach's alpha	–	–	.80	.87	.90	.83		

** $p < 0.01$ (two-tailed)

Fig. 1 Proposed research model

(2008), the significance of the indirect effect can be assessed by whether the confidence intervals include zero. Table 4 showed that preventive measures related positively to customers' restaurant brand trust (0.3031, $p < 0.01$). Hypothesis 2 was supported. The result of the analysis demonstrated that the indirect effect of preventive measures on intention to dine out via brand trust was significant (0.26, CI [0.19, 0.34]), while the direct effect of the perceived importance of preventive measures on intention to dine out was not significant (-0.01 , CI [-0.08 , 0.07]). Therefore, the effect of the perceived importance of preventive measures on restaurant customers' intention to dine out was fully mediated by brand trust, supporting hypothesis 3. Results indicated that the perceived importance of preventive measures was not significantly associated with intention to dine out, not supporting hypotheses 1 and 5.

Table 4 Results of regression analysis ($N=587$)

	Path	Coefficients	<i>P</i>	Results
H_1	Preventive measures $\rightarrow$ Intention to dine out	-.01	.86	Not supported
H_2	Preventive measures $\rightarrow$ Brand trust	.31	**	Supported

* $p < 0.05$; ** $p < 0.01$

Hierarchical multiple regression analysis was performed to examine hypothesis 4. Control variables were entered in Step 1. The perceived importance of Preventive measures (PM) and perceived risk (PR) were standardized before multiplication to create the interaction term (PM $\times$ PR). PM and PR were entered in Step 2 and the interaction term (PM $\times$ PR) in Step 3 was used to predict brand trust. The interaction of the perceived importance of preventive measures and perceived risk was significant for brand trust ($\beta=0.08$, $p<0.05$) (Table 5). The interaction accounted for the significant incremental variance of perceived brand trust ($\Delta R^2=0.02$, $p<0.05$).

To understand the nature of interaction effects, the brand trust score was plotted at the combination of the mean ± 1 SD (high and low levels) for both preventive measures and perceived risk. Figure 2 indicates that the effect of the perceived importance of preventive measures on customers' perceived brand trust is positive for customers with a high level of perceived risk (simple slope=0.28, $p<0.05$) and a low level of perceived risk (simple slope=0.20, $p<0.05$). The positive relationship between the perceived importance of preventive measures and brand trust was greater for customers with a high level of perceived risk when compared to those with a low level of perceived risks, lending support to hypothesis 4.

5 Discussion

The present study examined the relationships among customers' perceived importance of preventive measures, brand trust, and intentions to dine out during the reopening period, as well as the moderating role of the perceived risk on the relationships between the perceived importance of preventive measures and brand trust, and between the perceived importance of preventive measures and intentions to dine out. The results indicated that customers' frequency and intentions to dine out have significantly decreased compared to 2019, the time before the pandemic. These findings are consistent with the fact that, although sales in the US restaurant industry have rebounded after reopening, they were still much lower than the same period of 2019 (NRA 2020). These results also suggest that there is a need for restaurants to seek strategies to increase customers' willingness to dine out. Some of these strategies could include understanding the customers' expectations and wants from the restaurants during the reopening. For example, customers desired single-use menus restaurants replace the traditional

Table 5 Results of the moderating test ($N=589$)

Variables	Brand trust		
	Step 1	Step 2	Step 3
<i>Control variables</i>			
Gender	-.03	-.07	-.08
Age	.003	.002	.001
Location	-.001	-.001	-.001
Operation type	.10*	.11*	.11*
<i>Predictor variable</i>			
Preventive measures (PM)		.20**	.20**
<i>Moderator</i>			
Perceived risk (PR)		-.05*	-.05**
<i>Interaction</i>			
PM $\times$ PR			.08**
R ²	.01	.15	.17
ΔR^2	.01	.14**	.02**
ΔF	2.02	47.87**	14.26**

* $p < 0.05$; ** $p < 0.01$ **Fig. 2** Interaction effect of brand trust

menus with this kind of menu or ask customers to scan the QR code to view the menus (QSR Magazine 2020). The results of this study also supported findings of the previous literature by revealing that procedures to clean and sanitize surfaces, prohibiting sick employees from working and training all employees about the importance of frequent hand washing and use of hand sanitizers were perceived as important for the participants (Walczak and Reuter 2004).

Although viewed as important, implementing preventive measures may not directly translate to customers' visit intention as showed by the results of this study. Its value lies within its possibility in increasing brand trust, which served as a full mediator in this study. Customers would dine in a restaurant, in which they have a high level of trust during the pandemic.

In addition, the results highlight that the relationship between the perceived importance of preventive practices and brand trust is stronger as customers' perceived risk increases. Those who perceived lower risk of COVID-19 may be more reluctant to change their lifestyle in the era of the new normal (Van Bavel et al. 2020). Compared to their counterparts, customers who perceive a high COVID-19 risk experience greater changes in their lives and higher levels of uncertainty. Previous studies have indicated that the decision-making process relies heavily on accessible knowledge (Higgins 1996; Wyer and Srull 1989) during times of uncertainty. Similarly, Bock et al. (2012) emphasized that as uncertainty increases, the effect of the information from transference-based sources on the trust of products will be enhanced when transference-based sources are "official" or "proof sources." Since the CDC, the nation's official health protection agency, agrees that preventive measures are the only effective method to protect oneself during the COVID-19 pandemic (CDC 2020), the higher the level of risk that customers perceive, the more significant will be the effect of the perceived importance of preventive measures on trusting the restaurant.

6 Conclusion

Rebuilding customers' confidence in the reopening of dine-in service during the COVID-19 pandemic is essential for the recovery of the restaurant industry. The present study bridged the gap between literature and practice by introducing a novel model that examines the relationships among the perceived importance of preventive measures, brand trust, and dining out intentions during the reopening period. The results showed that the perceived importance of preventive measures would positively impact the intention to dine out via brand trust. Further, this study confirmed that the effects of the perceived importance of preventive measures in the proposed model would be strengthened with customers who perceive a high risk.

6.1 Theoretical and practical implications

Based on the results, the present study contributes to the body of literature and practices related to dining out behavior during the COVID-19 pandemic. First, although previous studies have examined the mediating role of brand trust on purchase intention in other settings, such as online purchase experiences (Giantari et. 2013), few studies have investigated the mediation effect of brand trust on purchase intention in the restaurant context during a pandemic. Therefore, this study contributed to the body of literature by confirming the full mediating role of brand trust in the relationship between the perceived importance of preventive measures and the intention

to dine out during the COVID-19 reopening period. Second, previous studies have involved infectious diseases in the context of the hospitality and tourism sectors, such as Severe acute respiratory syndrome (SARS) (Kuo et al. 2008; McKercher and Chon 2004) and the Middle East respiratory syndrome (MERS) (Joo et al. 2019; Pavli et al. 2014), but COVID-19 is the first global pandemic in this century, and there is a need to revisit if factors that associated with consumers' behavioral intention remain the same. This study incorporated factors such as perceived importance of preventive measures, which has not been widely used in previous studies to better understand consumers' purchase intention in this context. Third, previous studies only suggested that brand trust decreased the perceived risk of potential negative outcomes of the behavior (e.g., Jin et al. 2016; Kim et al. 2008; Matzler et al. 2008). This study provided evidence that under a difference circumstance, perceived risk strengthened the positive relationship between the perceived importance of preventive measures and brand trust during the COVID-19 pandemic.

The results of the present study also have some practical implications that could benefit the food and beverage industry in the US during the reopening period. The result could also contribute to the risk management for future pandemics. Though COVID-19 has negatively impacted the hospitality industry, some restaurants have not fully complied with and followed the guidelines recommended by the CDC and the NRA (Frías and Smiley 2020). The present study identified the importance of preventive measures in building brand trust and attracting customers to dine out during the pandemic. Therefore, following the guidelines for practicing stricter preventive measures to promote a safe and healthy dining environment seems to be pragmatic in generating revenue and sustaining the restaurant business during this crisis. In addition, older adults and individuals with certain medical conditions have a higher risk of contracting COVID-19 (CDC 2020). Similar to the grocery stores, restaurants could allocate special dining hours for this group of populations, in order to establish a favorable brand image among them. Moreover, restaurants could make the practice of their preventive measures and extra care to the high-risk group more visible by showcasing their active endeavors to establish a safer dining environment via various marketing outlets (e.g., restaurant websites and other social media platforms). These active efforts may include employee hygiene training and more frequent cleaning and sanitizing practices. The restaurants should also build good trusting relationships with their existing clientele. For example, a study showed that a brand could enhance the level of trust among customers during the COVID-19 pandemic by not taking advantage of the situation to maximize their profits and by focusing on the wellbeing of their employees and customers (Qualtrics 2020). According to these marketing strategies, restaurants could strengthen their trust among customers by demonstrating these behaviors and values.

6.2 Limitations of the study and suggestions for future research

The current study has some limitations, which therefore provide avenues for future research. First, the participants were recruited through MTurk, an online market research company. Although the study applied several measures, such as

attention-checking and open-ended questions, to increase the data quality, a sample from MTurk cannot be regarded as a truly random sample (Stritch et al. 2017). Because the pandemic limits the opportunities for face-to-face data collection, MTurk served as an alternative for data collection. Future research could collaborate with restaurants to gather data from their customer bases in real-time settings. Second, the results of this study represented only restaurant customers in the US. Susskind et al. (2020) from International Monetary Fund indicated that policies and economic responses during the COVID-19 are different from country to country. Future research might include a broader sample to allow multi-group comparison analyses using data from other countries. Third, this study used a cross-sectional design, and data were collected at the early stage of restaurant reopening. A future study could employ a longitudinal design to evaluate whether perceived risk and perceived importance of preventive measures have changed over time as individuals are gradually adapting to the new normal. Finally, this study suggested that implementing preventive measures during the COVID-19 pandemic could increase brand trust and customers' intention to dine out, but it remains unclear whether the intention will translate into actions. Sheeran et al. (2002) stated that there is a gap between intention and action. Thus, further research could investigate the gap between intention and action as it relates to the pandemic setting.

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