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Effect of CSR contribution timing during COVID-19 pandemic on consumers’ prepayment purchase intentions: Evidence from hospitality industry in China

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ABSTRACT
Corporate social responsibility (CSR) contributions are essential for hospitality companies during the COVID-19 pandemic. However, little is known about how CSR contribution timing during the pandemic might affect consumers’ prepayment purchase intentions. This paper takes a hospitality company as an example, using two experiments to explore (a) the effect of CSR contribution timing on consumers’ prepayment purchase intentions and (b) the potential roles of psychological contracts and distance to the COVID-19 risk center. Study 1 demonstrated that CSR contributions during the COVID-19 outbreak (vs. after its peak) led consumers to have higher prepayment purchase intentions, revealing the impact of CSR contribution timing. This effect was also driven by psychological contracts between consumers and the hospitality company. Study 2 showed that, when participants were in the peripheral area of a COVID-19 outbreak, CSR contributions during the outbreak (vs. after its peak) increased prepayment purchase intentions whereas the opposite effect occurred when consumers were in the risk center.

1. Introduction
Since December 2019, a novel coronavirus (COVID-19) has spread rapidly and become a global public health crisis (World Health Organization, 2020). The COVID-19 pandemic has severely affected China’s hospitality industry, causing many companies’ revenue to plummet. Data from the China Hotel Association (2020) show that the pandemic reduced the revenue of representative hospitality firms (a sample of 5109 hotels across 28 provinces in China) by 67.81% on average in 2020 compared with the prior year. COVID-19 has dealt a severe blow to the global hospitality industry as well. As the pandemic gradually eases, the Chinese government has allowed the hospitality sector to resume operations. Many hospitality companies have since launched prepayment products in hopes of generating swift cash flow: in an uncertain market, firms can boost demand and profits by offering prepayment products (Gundepudi et al., 2001).

To promote consumers’ purchase intentions around hospitality prepayment products, some companies have engaged in corporate social responsibility (CSR) (Wang et al., 2016). For example, in the tropical city of Sanya, China, Atlantis corporate held a wedding ceremony in June 2020 for 100 medical staff couples who had postponed their nuptials while working on the front lines of the pandemic. This gesture brought joy to healthcare personnel helping the public battle COVID-19 (Fosun, 2020).

Studies have presented a theoretical background regarding how CSR activities can influence consumers’ hospitality prepayment intentions. Specifically, consumers support CSR activities and then choose to pay firms (Chang et al., 2013; Ferreira et al., 2010; Pomerling and Dolnicar, 2009). CSR can also boost consumers’ trust in a company, thus enhancing their prepayment intentions (Boronat-Navarro and Pérez-Aranda, 2019; González-Rodríguez and Díaz-Fernández, 2020; Sen and Bhattacharya, 2001). Researchers have further discussed how factors such as CSR company–stakeholder fit, consumers’ CSR involvement, and corporate branding and reputation affect consumers’ responses to CSR activities (Alwi et al., 2017; Calabrese et al., 2012; Weber, 2008; Zasuwa, 2017).

However, no empirical study has yet examined CSR’s impact on prepayment in the context of a global crisis such as COVID-19. The effect of CSR contribution timing on prepayment amid a pandemic has also not been considered. Whether CSR conducted during or after the pandemic can differentially affect consumers’ purchase intentions around hospitality prepayment products remains unclear. To bridge this knowledge...
gap, this research draws upon the theory of psychological contracts: we suggest that the different timing of CSR contributions may shape (a) consumers’ perceptions of companies’ CSR efficacy and (b) the establishment of psychological contracts between companies and consumers, thereby informing consumers’ prepayment purchase intentions towards corporate products.

Furthermore, we consider whether consumers’ responses to different CSR timing may vary by COVID-19 outbreak severity. Referring to the psychological typhoon eye effect (i.e., the closer one is to the risk center, the lower their risk perceptions), we hypothesize that consumers’ distance from a COVID-19 risk center may affect their inferences about companies’ motivations behind CSR activities. More concretely, when consumers are in the peripheral area of a COVID-19 outbreak rather than in the risk center, companies’ CSR contributions in the midst of the outbreak (vs. after its peak) are expected to heighten consumers’ prepayment purchase intentions. The psychological typhoon eye effect implies that consumers in the peripheral area of COVID-19 (compared with those in the risk center) may be more likely to perceive the pandemic situation as serious; thus, consumers in the peripheral area (vs. the risk center) may respond more positively to companies’ CSR activities amid the outbreak.

This paper makes several contributions to the literature. First, we elaborate upon CSR-related theories and research. We especially focus on the timing of CSR contributions (e.g., during and after the COVID-19 outbreak). Second, we propose a research model to analyze whether and how CSR displayed by a hospitality company during the COVID-19 pandemic affects consumers’ prepayment purchase intentions. Third, in addition to providing theoretical evidence related to CSR, psychological contracts, and the psychological typhoon eye effect, our findings offer guidance for firms’ CSR engagement.

2. Literature review and research framework

2.1. CSR in the hospitality and tourism sector

CSR refers to a company’s legal or moral responsibilities to stakeholders (e.g., government personnel, suppliers, consumers, employees, communities, and the environment) while assuming economic responsibility (Brummer, 1991; Carroll and Buchholtz, 2000; Kyle and Ruggie, 2005). Carroll (1991) proposed the CSR pyramid model of economic responsibility, legal responsibility, moral responsibility, and charity responsibility. Extensive research has considered CSR’s effects on corporate performance, corporate reputation, brand equity, and other topics. For example, Suárez-Cebador et al. (2018) suggested that companies widely recognize the importance of CSR. A growing number of firms are achieving business success by demonstrating CSR in their business activities. Serra-Cantallops et al. (2018) indicated that many companies are applying CSR to management practices as well; doing so can help firms gain a social reputation along with competitive advantages to promote long-term business success.

Although scholars have made many CSR-related research advances in recent decades, relatively few studies have explored CSR in hospitality and tourism—particularly in the hospitality industry. For instance, Serra-Cantallops et al. (2018) combed through research on CSR in hospitality from 2006 to 2015; among 48 papers covering three main areas (i.e., CSR practices, CSR reports, and CSR effects), only seven were from the consumer perspective (i.e., the impact of CSR on consumer behavior).

From a CSR practice view, Rhou et al. (2016) studied the impact of hospitality CSR on corporate performance. They found that hospitality CSR affects such performance through the mediating effect of stakeholders’ CSR perceptions. Holcomb et al. (2007) analyzed CSR websites and associated social media content. The authors noted that 80% of hospitality companies’ CSR activities included charitable donations, while few activities involved environmental protection or corporate value demonstration. Some researchers (Chung and Parker, 2010; Kasim, 2007; Scanlon, 2007) investigated hospitality companies’ CSR activities apart from charitable donations and discovered that this industry has invested heavily in CSR related to environmental protection.

From a consumer standpoint, D’Acunto et al. (2020) explored how consumers assess hospitality companies’ CSR when writing online reviews. The results showed that consumers are increasingly concerned about hospitality companies’ CSR activities, especially those related to community support and environmental protection. Boronat-Navarro and Perez-Aranda (2019) indicated that hospitality companies’ legal, ethical, economic, philanthropic, and environmental responsibilities exhibited through CSR can positively influence consumers’ intentions to purchase hospitality products in the future. Similarly, Gonzalez-Rodriguez and Díaz-Fernández (2020) found that hospitality companies’ environmental protection CSR activities can evoke consumers’ repeat purchases of associated hospitality products.

Based on the preceding discussion, more studies of CSR in hospitality and tourism are needed to verify its effects on consumers’ purchase intentions in these industries (Levy and Park, 2011; Park and Levy, 2014). Existing research has mainly focused on the impact of CSR on consumers’ purchase intentions, with scarce attention given to the relationship between hospitality CSR and consumers’ prepayment purchase intentions. Such purchase intentions are detailed in the ensuing sections.

2.2. Timing of CSR contributions

Most studies on the impact of CSR contribution timing have focused on stakeholder pressure, namely exploring how time urgency drives companies to demonstrate CSR. Companies generally face substantial pressure when stakeholders voice their expectations via multiple channels (Kassinis and Vafeas, 2006; Murillo-Luna et al., 2008; Randel et al., 2009). Stakeholder pressure for companies’ CSR contributions can arise from time urgency (i.e., the degree to which a company’s delayed CSR response to stakeholder demands is not accepted) (Dutton and Duncan, 1987; Mitchell et al., 1997). Specifically, when stakeholders are preoccupied with an issue, they tend to press companies to immediately engage in CSR to address these concerns.

Conversely, if stakeholders believe that a company is not responding to their concerns with timely CSR activities, then the company—stakeholder relationship can suffer (Dutton and Duncan, 1987). In a similar vein, some researchers (Agle et al., 1999; Dutton et al., 1994) have argued that companies deem stakeholder pressure to be urgent if a disrupted company–stakeholder relationship would be costly to the company. When companies see that the cost of not responding to stakeholder pressure is high, these firms will be highly attentive to stakeholder demands and more inclined to take decisive action. The company–stakeholder relationship could deteriorate or break down entirely otherwise (Dutton and Duncan, 1987; Eslesy and Lenox, 2006).

Companies may be compelled to adopt proactive CSR strategies in response to consumer pressure (the main form of stakeholder pressure) by actively engaging in and supporting CSR activities (Du et al., 2007). Companies strive to disseminate messages that create an image of taking social responsibility before receiving potentially negative CSR messages (Shimp, 2000). As a more passive strategy, companies may also engage in reactive CSR activities to protect their image upon facing reports of irresponsible social behavior (Murray and Vogel, 1997). Reactive CSR strategies generally lag behind consumers’ time pressure, pointing to a company’s failure to effectively anticipate consumers’ reactions (Shimp, 2000; Mick et al., 2009). Consumers might then perceive the company as being socially irresponsible; this assumption generates adverse consequences for firms (Günther and Scheibe, 2006).

2.3. Psychological contracts

The concept of a psychological contract, which emerged in organizational behavior research, refers to an informal tacit relationship between employers and employees (Argyris, 1960). Scholars have further
defined a psychological contract as a set of unwritten implicit expectations that organizational members hold toward an organization (Kotter, 1973; Levinson et al., 1962). In summarizing prior work, Rousseau (1990) defined a psychological contract as an employee’s perception of mutual responsibilities and obligations between the worker and organization.

As studies of psychological contracts expanded, researchers began to introduce the concept into the marketing field by suggesting that these contracts could also be used to explain the consumer–firm relationship (Biancero and Ellram, 1997; Roehling, 1997). For example, Biancero and Ellram (1997) described a psychological contract as the perception of a reciprocal agreement held by both parties (i.e., consumers and companies). Wu and Chen (2015) identified consumers’ psychological contracts as perceptions or beliefs about companies’ indicated responsibilities or obligations.

Many factors, aside from financial benefits, can compel people to establish psychological contracts with organizations (Rousseau and Tijoriwala, 1998). As an example, Wu and Chen (2015) found that consumers’ perceptions of hospitality companies’ CSR (e.g., corporate efforts to uphold societal interests and other moral responsibilities) promoted the formation of psychological contracts between consumers and these companies. Studies have also shown that consumers’ beliefs that a company is ethical, contributes to society, upholds humanitarian values, and enhances consumers’ self-image can foster psychological contracts with the company (Mason and Simmons, 2012). However, psychological contracts between consumers and companies can be negatively affected if consumers perceive companies as not (or incompletely) fulfilling their responsibilities to society (Goles et al., 2009). For instance, Pavlou and Gefen (2005) found psychological contracts between consumers and a company to loosen if consumers deemed the company as not taking social responsibility or as having violated social ethics protocols.

2.4. Psychological typhoon eye effect

Anxiety, panic, and fear are instinctive human reactions during the COVID-19 outbreak (Islam et al., 2020). However, studies have revealed that objective risks in the external environment do not necessarily correspond to individuals’ subjective risk perceptions (Slovic, 1999). After the 2008 Wenchuan earthquake in China, a large-scale survey of residents in the risk center and non–risk center areas indicated that residents in non–risk center areas were more worried about the severity of the disaster than those in the risk center (Li et al., 2009). Residents in non–risk center areas, compared with residents in the risk center, also expected to need a longer time and more money to return to pre-disaster living standards (Li et al., 2009). In addition, residents of the risk center estimated that the need for physicians and psychologists, the likelihood of mass epidemics, and the number of earthquake avoidance measures required in the risk center would be lower compared with residents in non–risk center areas (Li et al., 2009).

This counterintuitive phenomenon has been replicated in other studies (Li et al., 2020; Xie et al., 2011). Additionally, this effect appears not to be temporary; it persisted between the risk center and non–risk center areas 1, 4, and 11 months after the earthquake (Li et al., 2010). Scholars have termed this effect the “psychological typhoon eye,” asserting that the closer one is to the risk center, the calmer their psychological response to risk and the lower their risk perceptions (Li et al., 2009).

2.5. Theoretical background and research framework

Social exchange theory posits that the interaction between individuals and organizations embodies an exchange relationship (Blau, 2017; Homans, 1958; Settoon et al., 1996). Blau (1964) showed that, in addition to material exchanges, individuals exchange non-material resources in social life (e.g., emotions, information, and services).

Hospitality companies engaged in CSR can provide corresponding social resources. Consumers, as the other party in the exchange relationship, receive social resources from CSR activities, which then inspire purchase intentions. Within the social exchange relationship, psychological contracts are formed when individuals invest mental resources into organizations that demonstrate CSR (Robinson, 1996). Psychological contracts can also influence consumers’ purchase intentions (Deng and Long, 2019; Morrison and Robinson, 1997).

Considering the difference between general risk perceptions and those associated with the COVID-19 pandemic, and by combining theories related to risk perceptions and the psychological typhoon eye effect (e.g., Li et al., 2009, 2010), our research model introduces the COVID-19 risk center (vs. non–COVID-19 risk centers) as a moderating variable to analyze the moderating effect of risk/non–risk centers on how CSR contribution timing shapes consumers’ prepayment purchase intentions.

Fig. 1 illustrates our proposed theoretical model in the context of the pandemic. We take CSR contribution timing as the independent variable, consumers’ prepayment purchase intentions as the dependent variable, psychological contracts as the mediating variable, and the COVID-19 risk center (vs. non–COVID-19 risk centers) as the moderating variable.

3. Hypothesis development

3.1. Effect of CSR contribution timing on consumers’ prepayment purchase intentions towards hospitality products

In terms of the timing of companies’ social responsibility, researchers (e.g., Becker-Olsen et al., 2006) have found that the more proactive a company’s timing when performing CSR activities, the more likely consumers are to express positive attitudes towards the company. Consumers’ intentions to purchase the company’s products thus increase. Companies who wait to exhibit social responsibility may be perceived as responding passively to their social responsibilities; that is, public pressure can force companies to assume social responsibility. Wagner et al. (2009) suggested that if companies’ timing of CSR activities is delayed, consumers will deem these activities inconsistent with companies’ original intentions to express social responsibility. More specifically, CSR performance under social pressure leads consumers to assume that such companies are hypocritical and can color consumers’ perceptions of these companies or brands. Gao (2009) distinguished CSR timing based on whether companies were proactive in taking social responsibility. Although companies can engage in social responsibility activities at different times, to the best of our knowledge, scant research has examined how the timing of companies’ CSR activities can influence consumers’ prepayment purchase intentions.

The notion of “prepayment purchase” refers to individuals making a purchase before consuming services or products, with companies deducting the prepayment once consumers use the purchase (e.g., Boyaci and Özer, 2010). Studies have shown that under the condition of uncertain commodity value, prepayment purchases can increase corporate profits (Gundepudi et al., 2001; Shugan and Xie, 2004; Xie and Shugan, 2001). Consumers determine their valuation of a product during the sales period and will not buy the product if their valuation is lower than the product price; however, these same consumers may make prepayment purchases when feeling uncertain about a product’s future value (Swinney, 2011). Loginova (2016) compared the profit maximization strategy of companies allowing prepayment purchases with companies that do not allow such purchases. Findings revealed that, when the market is relatively unstable and uncertain, companies should implement a prepayment strategy to increase their profits.

Earlier studies (e.g., Abdullah et al., 2017; Chung and Lee, 2019) outlined consumers’ perceived motives and perceived efficacy of companies’ CSR contributions. In light of research suggesting that CSR activities can affect consumers’ responses, the different timing of these activities may also influence consumers’ responses (e.g., prepayment...
4.7
4.8
4.9
5.1
5.2
5.3
5.4
5.5
5.6
5.7

Psychological typhoon eye effect
* risk center area
* non risk-center area

CSR contribution timing in COVID-19
* Contribution during the outbreak
* Contribution after the outbreak

Psychological contract
between consumers and hospitality companies

Consumer’s prepayment
Purchase intention

Fig. 1. Research framework.

Fig. 2. Influence of CSR contribution timing on prepayment purchase intention.

purchase intentions). For example, consumers experiencing the COVID-19 pandemic (i.e., during the outbreak) can more vividly process its severity than those who are exposed to the end of the pandemic (i.e., after the outbreak has been controlled). Therefore, companies conducting CSR activities amid the pandemic could give consumers a more positive impression than companies engaging in post-pandemic CSR. A more positive impression may increase consumers’ intentions to purchase a company’s products. We consider the potential of the COVID-19 pandemic to undermine consumers’ intentions to make in-person purchases at hotels and restaurants compared with prepayment purchases. Our first hypothesis is thus as follows, taking consumers’ intentions to make prepayment purchases for hospitality companies’ products as the dependent variable.

H1. CSR contributions during (vs. after) the COVID-19 outbreak heighten consumers’ prepayment purchase intentions.

3.2. Role of psychological contracts on consumers’ CSR perceptions

As mentioned, psychological contracts originally referred to individuals’ perceptions of the mutual responsibilities and obligations between employees and organizations; the term is often applied to the employee–employer relationship (e.g., Rousseau, 1990; Turnley and Feldman, 1999a, 1999b). However, the concept of a psychological contract can be used to describe many relationships between individuals and organizations, such as that between companies and consumers (Blancero and Ellram, 1997; Roehling, 1997). Blackston (1992) suggested that the consumer–firm relationship is based on consumers’ attitudes towards companies. Individuals also tend to personally objects to strengthen the interaction between themselves and the objective world (Nida and Smalley, 1959). There hence exists a theoretical basis for studying consumers treating companies as partners (Srull and Wyer, 1989). In this vein, consumers may establish psychological contracts with particular companies if these consumers treat companies as partners.

Rousseau and Tijoriwala (1998) suggested that psychological contracts include a transactional dimension (i.e., employers provide incentives, and employees correspondingly undertake work tasks), relational dimension (i.e., employees and employers invest in the long-term development of a mutual relationship), and member dimension (i.e., interpersonal relationships among employees). In this paper, a psychological contract concerns consumers’ perceptions of whether companies take responsible actions to maintain a mutual relationship (i.e., the relational dimension). Kickul and Lester (2001) found that situational factors, such as a person’s trust in a company and perceived procedural fairness, can also influence a psychological contract.

The public is paying increasing attention to CSR activities (Carroll and Shabana, 2010). Meanwhile, people’s CSR perceptions are informed by factors such as psychological contracts (e.g., Ali and Jung, 2017;...
In this paper, we focus on psychological contracts between consumers and hospitality companies. Turnley and Feldman (1999a, 1999b) stated that a psychological contract is based on employers’ commitments and employees’ perceptions of those commitments. Accordingly, consumers’ psychological contracts with hospitality companies may be based on these firms’ commitments to all of society, including potential consumers. In our discussion of hospitality companies’ CSR activities, we suggest that psychological contracts arise from companies’ CSR behavior. Psychological contracts entail individuals’ understanding that an organization is willing to take responsible measures to maintain a mutual relationship (e.g., Rousseau and Tijoriwala, 1998). We extrapolate this concept to the relationship between consumers and hospitality companies. In particular, consumers’ psychological contracts with hospitality companies should be based on consumers’ perceptions of hospitality companies’ social responsibility. Hospitality companies’ CSR activities and consumers’ perceptions thereof jointly form a psychological contract between both parties. In this paper, we explore whether psychological contracts between consumers and hospitality companies serve as a potential mediating variable of the main effect. Put simply:

H2. Psychological contracts mediate the effect of CSR contribution timing on consumers’ prepayment purchase intentions.

3.3. Moderating role of the psychological typhoon eye effect

We also consider the potential moderating effect of the psychological typhoon eye effect. Panic is a common emotional response to the COVID-19 pandemic. Generally, however, individuals may perceive an event’s danger differently (Slovic, 1987, 1999). We introduce the “psychological typhoon eye effect” to contextualize this asymmetry in risk perceptions. The psychological typhoon eye effect suggests that, contrary to intuition (i.e., people perceive stronger risk when closer to the risk center), the closer one’s distance to the risk center, the lower their risk perceptions (Li et al., 2009, 2010). Consumers who live different distances from the COVID-19 risk center are thus expected to perceive risk differently in this study.
The psychological typhoon eye effect indicates that an event’s objective risk does not necessarily align with individuals’ subjective risk. After the 2008 Wenchuan earthquake in China, residents in the earthquake center reported fewer mood swings than those in non-center areas (Li et al., 2009); the psychological typhoon eye effect lingered for several months after the earthquake (Li et al., 2010). Some researchers suggested that this psychological typhoon eye effect (i.e., asymmetrically perceiving risk in the risk center and non-risk center areas) occurs because individuals in the risk center may perceive risk by directly experiencing the negative event, whereas those in non-risk center areas may rely on indirect sources (e.g., media outlets, which could exaggerate the event’s severity) to gauge risk (Zheng et al., 2015).

Studies of this effect have primarily focused on evacuation from events such as disasters and epidemics, including exploring the effect of the underlying heuristic mechanism. However, no marketing research appears to have investigated the implications of the psychological typhoon eye effect. We thus consider whether this effect leads consumers in different areas (i.e., risk center vs. non-risk centers) to express different prepayment purchase intentions towards hospitality products, providing theoretical support for the effect from a marketing perspective. Different COVID-19 risk areas hence play a possible moderating role:

**H3.** Different COVID-19 risk areas moderate the effect of CSR contribution timing on consumers’ prepayment purchase intentions. Specifically, when consumers are in a non-risk center area, CSR contributions in the midst of the outbreak (vs. after its peak) will increase purchase intentions; the opposite effect will occur for consumers in the risk center area.

### 4. Study 1

Study 1 explored the impact of CSR contribution timing (i.e., during vs. after the COVID-19 outbreak) on consumers’ prepayment purchase intentions. The literature regarding the effect of CSR timing has revealed that, the more proactively timed a company’s CSR activities, the more likely consumers are to express positive attitudes towards the company and intend to purchase its products. Conversely, a company’s inability to assume social responsibility in a timely manner can cause consumers to view the company as facing public pressure to be socially responsible, eliciting negative attitudes and low purchase intentions towards a company’s products (e.g., Becker-Olsen et al., 2006; Gao, 2009; Wagner et al., 2009). We presume that consumers who are experiencing the COVID-19 pandemic (i.e., during the outbreak) are more likely to appreciate the severity of the crisis than consumers at the end of the pandemic (i.e., after the outbreak is under control). Correspondingly, a company’s CSR engagement during the outbreak is more likely to leave a positive impression on consumers than engagement after the outbreak, thus increasing consumers’ intentions to purchase prepayment products. We hypothesized that CSR contributions during the COVID-19 outbreak would promote consumers’ purchase intentions more strongly than contributions after the outbreak. Further, psychological contracts were expected to mediate the effect of contribution timing on consumers’ purchase intentions.

#### 4.1. Design & participants

One hundred and ten participants took part in this experiment. No individual participated in more than one experiment reported in this paper. The experiment involved a single-factor (i.e., timing of CSR contribution: during the COVID-19 outbreak vs. after its peak) between-subjects design. Participants were randomly assigned to one of two conditions: during and after the pandemic (i.e., the middle-of-event condition and after-event condition, respectively). The dependent variable was prepayment purchase intention, indicated by transactions on a particular hotel’s prepaid card.

### 4.2. Materials & procedures

To minimize the possible impact of participants’ impressions of real hospitality firms on prepayment purchase intentions, we designed a questionnaire regarding a hypothetical hospitality company in two experiments. The questionnaire was drafted in Chinese because study participants were native Chinese speakers. The hospitality company was presented as a national hotel chain with branches in various major Chinese cities. The hotel was named Sijimei, meaning “beautiful scenery throughout the year” in Chinese.

First, all participants read a brief introduction to Sijimei Hotel. They learned that the hotel provided guest rooms, catering, entertainment, leisure, and conference services and enjoyed a sterling reputation for high-quality service and a pleasant environment. Participants were also informed that (1) the hotel was offering prepaid cards due to the COVID-19 pandemic; (2) after purchasing a prepaid card holding RMB 1000 (yuan), consumers could choose their stay date and room type freely; and (3) the prepaid card would be valid for an extended period.

Participants were then told that Sijimei Hotel had been actively engaging in CSR to battle COVID-19, even as the business faced challenging circumstances. In the middle-of-event condition, participants read that Sijimei Hotel provided quarantine rooms for medical staff as soon as possible when COVID-19 outbreaks occurred. In the after-event condition, participants read that the hotel provided free and high-quality services for medical staff as the pandemic gradually came under control.

After reading these materials, each participant reported their prepayment purchase intentions and psychological contract with Sijimei Hotel. Survey items measuring each construct are listed in Table 1 along with items’ sources.

### 4.3. Results & discussion

#### 4.3.1. Demographic information

We recruited 110 participants from a popular online survey platform in China, Wenjuanxing; this site is similar to SurveyMonkey and Amazon Mechanical Turk. The samples for both studies reported in this paper were recruited from Wenjuanxing’s more than one million members. Wenjuanxing has an equal proportion of male and female members who hail from all regions of China and have a variety of occupations. As a professional survey website, Wenjuanxing’s sample is valid, diverse, and

### Table 1

| Construct                  | Survey items                                                                 | α    | Sources                          |
|----------------------------|------------------------------------------------------------------------------|------|----------------------------------|
| Prepayment purchase intention | (1) If you travel frequently and have the need to stay in a hotel, would you be willing to purchase Sijimei’s prepaid card? | 0.816 | Oliver, 1997; Chou, 2013         |
| Psychological contract     | (1) The products and services provided by Sijimei Hotel are safe and reliable and (2) Sijimei Hotel can provide long-term quality assurance for my purchase; (3) Sijimei Hotel not only cares about my purchase experience, but also pays attention to maintaining a good relationship with me. | 0.785 | Rousseau, 1995; Kingzott and Pocotich, 2007 |
consumers’ COVID-19 risk perceptions. Different COVID-19 risk areas (i.e., risk center vs. non-risk center) may moderate the effect of CSR timing on consumers’ prepayment purchase intentions. Study 2 aimed to replicate the findings from Study 1 in another consumption context and, more importantly, to test the moderating role of consumers’ distance from the pandemic center.

The literature on the psychological typhoon eye effect reflects that the objective risk of an event does not necessarily coincide with perceived risk: people in risk centers can express lower perceived risk than those in non-risk centers (e.g., Li et al., 2009, 2010; Zheng et al., 2015). We suggest that the psychological typhoon eye effect (i.e., the asymmetry in perceived risk between risk centers and non-risk centers) leads consumers in COVID-19 non-risk centers to perceive the pandemic as more severe than those in the risk center. Hospitality companies conducting CSR activities in areas whose consumers express high risk perceptions (i.e., non-COVID-19 risk centers) are more likely to leave positive impressions on consumers than companies engaging in CSR where consumers have low risk perceptions (i.e., COVID-19 risk center), thus enhancing consumers’ purchase intentions. We therefore hypothesized that CSR contributions during the COVID-19 outbreak (vs. after its peak) would lead to higher prepayment purchase intentions among consumers in non-risk centers, with the opposite effect manifesting among consumers in the risk center.

5. Study 2

In Study 1, we identified a main effect of CSR contribution timing on consumers’ prepayment purchase intentions and a mediating effect of psychological contracts. Specifically, CSR contributions during the COVID-19 outbreak (vs. after its peak) generated higher prepayment purchase intentions. Psychological contracts played a partial mediating role, driving the main effect of CSR contribution timing on consumers’ prepayment purchase intentions. However, Study 1 did not consider the potential moderating effect of the psychological typhoon eye effect. As mentioned earlier, the psychological typhoon eye effect may influence consumers’ COVID-19 risk perceptions. Different COVID-19 risk areas (i.e., risk center vs. non-risk center) may moderate the effect of CSR timing on consumers’ prepayment purchase intentions. Study 2 aimed to replicate the findings from Study 1 in another consumption context and, more importantly, to test the moderating role of consumers’ distance from the pandemic center.

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5.1. Design & participants

In total, 310 participants took part in this experiment. The experiment featured a 2 (CSR contribution timing: middle-of-event vs. after-event) × 2 (distance to risk center: COVID-19 risk center vs. non-COVID-19 risk center) between-subjects design. Participants were randomly assigned to one of four conditions.

5.2. Materials & procedures

During data collection, Beijing was experiencing a second wave of the COVID-19 outbreak and became the risk center for COVID-19 in China. Therefore, in Study 2, experimental material concerned the Beijing outbreak. Participants in the risk center condition were recruited from Beijing, while those in the non-risk center condition were recruited from the southern city of Guangzhou (far from Beijing).

All participants first read a brief introduction to Sijimei Restaurant. They learned that Sijimei Restaurant had branches in major Chinese cities (e.g., Beijing, Wuhan, Guangzhou, Haikou) and enjoyed a positive reputation for food service and taste. All participants read that (1) the restaurant was offering prepaid cards due to the COVID-19 pandemic; (2) after purchasing a prepaid card holding RMB 500 (yuan), consumers could reserve a date to eat at the restaurant; and (3) the prepaid card would be valid for an extended period.

After reviewing these materials, all participants expressed their intentions to purchase the restaurant’s prepaid card based on three questions: (1) “If you often eat in restaurants, would you be willing to purchase Sijimei’s prepaid card?”; (2) “If you often eat in restaurants, to what extent would you be willing to purchase Sijimei’s prepaid card?”; (3) “Would you be willing to recommend Sijimei’s prepaid card to friends who often eat in restaurants?” All items were scored on a 7-point scale ranging from 1 = strongly disagree to 7 = strongly agree (α = 0.802). Each participant was next asked to indicate their psychological contract based on the following items: (1) “The products and services provided by
Sijimei Restaurant are safe and reliable; (2) “Sijimei Restaurant can provide long-term quality assurance for my purchase”; (3) “Sijimei Restaurant not only cares about my purchase experience, but also pays attention to maintaining good relationship with me.” Again, all items were scored on a 7-point scale ranging from 1 = strongly disagree to 7 = strongly agree (α = 0.633). Participants then reported their demographic information.

5.3. Results & discussion

5.3.1. Demographic information

We recruited 310 participants from Wenjuanxing. Table 3 summarizes the sample by age (M_age: 31.67 years), income (average monthly income of RMB 7533.51 yuan), gender (42.6% men, 57.4% women), education level (predominantly graduate students), and occupation (predominantly enterprise employees).

5.3.2. Purchase intention

A 2 (CSR contribution timing: during vs. after the COVID-19 outbreak) × 2 (distance to risk center: COVID-19 risk center vs. non-COVID-19 risk center) analysis of variance unveiled no main effect of CSR contribution timing [F(1, 306) = 0.106, p = 0.745] or distance to the risk center [F(1, 306) = 0.547, p = 0.46] on consumers’ prepayment purchase intentions. However, the two-way interaction between CSR contribution timing and distance to the risk center was significant [F(1, 306) = 14.34, p < 0.05, η^2 = 0.045]. Follow-up contrasts showed that, among participants in the non-COVID-19 risk center condition, the restaurant’s CSR contributions during the COVID-19 outbreak (vs. after its peak) enhanced consumers’ prepayment purchase intentions [M = 5.43, SD = 1.01 vs. M = 4.90, SD = 1.22; F(1, 306) = 8.206, p < 0.05, η^2 = 0.026]. For participants in the COVID-19 risk center condition, CSR contributions during the outbreak (vs. after its peak) led to higher prepayment purchase intentions [M = 4.84, SD = 1.25 vs. M = 5.29, SD = 1.22; F(1, 306) = 6.179, p < 0.05, η^2 = 0.022].

5.3.3. Psychological contracts

To provide evidence for the role of psychological contracts, we conducted a moderated mediation analysis (Model 8; bias-corrected bootstraps = 5000; Hayes, 2013) using the PROCESS macro. Bootstrapping results showed a significant indirect effect (b = −0.7758, SE = 0.1616, bias-corrected 95% CI = [−1.1035, −0.4629]). For participants in the non-COVID-19 risk center condition, CSR contributions in the midst of the pandemic induced stronger psychological contracts, leading to greater prepayment purchase intentions (b = −0.5016, SE = 0.1103, bias-corrected 95% CI = [−0.7213, −0.2864]). However, for participants in the COVID-19 risk center condition, CSR contributions after the outbreak’s peak induced stronger psychological contracts and higher prepayment purchase intentions (b = 0.2742, SE = 0.1120, bias-corrected 95% CI = [0.0590, 0.5035]).

In sum, Study 2 replicated the findings of Study 1 using a different stimulus (i.e., a restaurant). More importantly, Study 2 provides clear evidence of the moderating role of distance to the COVID-19 risk center (vs. non–COVID-19 risk center). We discovered that when participants were within the non–COVID-19 risk center, CSR contributions during the outbreak (vs. after its peak) boosted individuals’ prepayment purchase intentions. The opposite was true for consumers within the COVID-19 risk center.

6. General discussion

6.1. Conclusion

Against the backdrop of the COVID-19 pandemic, we have analyzed the impact of hospitality companies’ CSR contribution timing on consumers’ prepayment purchase intentions, taking psychological contracts as a mediating variable and the risk region (risk center vs. non-risk center) as a moderating variable. Our hypothesis testing results, based on data analysis, are summarized in Table 4.

The key findings of this paper are as follows:

(1) As hypothesized in H1, CSR contribution timing has a main effect on consumers’ prepayment purchase intentions, resulting in significant differences in individuals’ intentions to buy a company’s prepaid card. Specifically, CSR contributions during the COVID-19 outbreak (vs. after its peak) raised consumers’ prepayment purchase intentions. Within an uncertain market, companies can increase their profits by selling prepaid products (e.g., Gundepudi et al., 2001). The pandemic has evoked a tumultuous market environment. Considering that consumers may be reluctant to purchase products in person due to the risk of COVID-19 infection, prepayment purchase options can better capture consumers’ purchase intentions than in-store purchases. Studies have shown that companies can promote consumers’ purchase intentions by conducting CSR activities (e.g., Alvi et al., 2017; Calabrese et al., 2012; Wang et al., 2016). Our findings revealed differences in the impact of CSR contribution timing (i.e., during or after the outbreak) on consumers’ prepayment purchase intentions amidst the pandemic. Consumers experiencing the COVID-19 outbreak may urgently need CSR contributions for various reasons (e.g., high perceived risk). Therefore, companies that can address this need promptly will reap the rewards of high purchase intention. This pattern coincides with prior work (e.g., Becker-Olsen et al., 2006; Gao, 2009; Wagner et al., 2009) indicating that the more proactively timed a company’s CSR activities, the more likely consumers are to demonstrate positive attitudes and high purchase intentions towards the company and its products.

| Table 3 | Participants’ demographic information. |
|------------------------|-------------------------------|
| N = 310 | Frequency (mean) | Percentage (standard deviation) |
| Age | 31.67 | 9.18 |
| Monthly income | 7533.51 (yuan) | 5433.51 (yuan) |

Gender: Male 132 (42.6%); Female 178 (57.4%)
Education: Senior high 30 (9.7%); Undergraduate 51 (16.5%); Graduate 197 (63.5%); Doctoral 32 (10.3%)
Career: Student 39 (12.6%); Education 11 (3.5%); Government institution 44 (14.2%); Enterprise 199 (64.2%); Other 17 (5.5%)

| Table 4 | Summary of hypothesis tests. |
|------------------------|-------------------------------|
| No. | Research hypothesis | Accepted/Rejected |
| H1 | CSR contributions during (vs. after) the COVID-19 outbreak heighten consumers’ prepayment purchase intentions. | Accepted |
| H2 | Psychological contracts mediate the effect of CSR contribution timing on consumers’ prepayment purchase intentions. | Partial mediation effect |
| H3 | Different COVID-19 areas moderate the effect of CSR contribution timing on consumers’ prepayment purchase intentions. | Accepted |
As hypothesized in H2, we found evidence for the mediating role of psychological contracts. Notably, the effect of CSR contribution timing on prepayment purchase intention appeared driven by psychological contracts. This result suggests that hospitality companies engaging in CSR during (vs. after) the COVID-19 pandemic are more likely to establish psychological contracts with consumers, thereby increasing consumers’ prepayment purchase intentions. This trend echoes research showing that CSR affects consumers’ purchase intentions through the mediating role of psychological contracts (e.g., Ali and Jung, 2017; Deng, 2012; Deng and Long, 2019; Sweetin et al., 2013). Our findings also imply that other mediating effects exist in the impact of CSR contribution timing on consumers’ prepayment purchase intentions. According to some studies (e.g., Brown and Dacin, 1997; Klein and Dawar, 2004; Yoon et al., 2006), corporate evaluation may have a potential mediating effect on the impact of CSR contribution timing on prepayment purchase intention. For instance, Brown and Dacin (1997) pointed out that companies with high social responsibility are likely to receive positive corporate evaluations from consumers when controlling for corporate philanthropy and employee involvement. Klein and Dawar (2004) also confirmed that CSR activities can effectively enhance consumers’ evaluations of a company even when the company’s reputation has been damaged. Yoon et al. (2006) demonstrated that the higher a consumer’s corporate evaluation and the better their evaluations of products produced by the company, the greater the consumer’s intentions to purchase the company’s products.

As hypothesized in H3, we identified a moderating role of distance to the COVID-19 risk center (vs. non–COVID-19 risk center). That is, the effect of CSR contribution timing on prepayment purchase intention seems contingent on one’s distance to the COVID-19 risk center. This result aligns with studies showing that closeness to the risk center leads to higher risk perceptions than distance from the risk center (e.g., Li et al., 2009, 2010; Lima, 2004; Maderthaner et al., 1978; Melber et al., 1977). In our case, consumers in the COVID-19 risk center surprisingly exhibited lower risk perceptions than those in the non–COVID-19 risk center. Individuals in risk centers apparently perceive risk through direct experiences, whereas those in non–risk centers rely on indirect sources that may exaggerate risk severity to gauge risk (Kasperson et al., 1988; Wiegman and Gutteling, 1995; Zheng et al., 2015). Regarding the effects of risk perceptions on purchase intentions, Kotler (1997) suggested that consumers’ perceived risk heavily influences their decisions to change, postpone, or cancel purchases. Mitchell (1999) discovered that reducing perceived risk is a key factor that consumers consider in their purchase intentions. Our paper adds evidence of the relationship between risk perception and purchase intention from the psychological typhoon eye perspective.

6.2. Theoretical contributions

First, this paper explored the impact of CSR contribution timing on consumers’ prepayment purchase intentions under the background of the COVID-19 pandemic. Findings enrich our understanding of CSR in times of crisis. Specifically, to our best knowledge, this paper is the first to discuss CSR contributions occurring at different times during a crisis, indicating that consumers hold disparate perceptions of similar CSR activities at different times. Previous studies did not address consumers’ perceptions of CSR contributions from a temporal asymmetry standpoint (i.e., people perceive different time periods distinctly). However, growing evidence of temporal asymmetry has emerged in the psychology domain, particularly in cognitive psychology (e.g., Ferrante et al., 2013). Our findings suggest that CSR contributions at different times are not necessarily equal.

In addition, this paper provides theoretical support for the mediating role of psychological contracts between CSR contributions and consumers’ prepayment purchase intentions. In the organizational behavior field, extensive research has explored how psychological contracts affect the organization–employee relationship (e.g., Turnley and Feldman, 2000). However, in terms of consumer behavior in the marketing realm, scarce work has evaluated the company–consumer relationship on the basis of psychological contracts. For example, Zweig and Aggarwal (2005) noted that consumers were prone to terminating the firm–consumer relationship with companies that breached psychological contracts. Our paper applied the concept of psychological contracts to assess the brand–consumer relationship in terms of COVID-19. We found that consumers’ perceptions of psychological contracts with hospitality companies guided these individuals’ prepayment purchase intentions.

Lastly, this paper confirms that, with respect to the pandemic, the psychological typhoon eye effect has a moderating effect on the impact of CSR contribution timing on consumers’ purchase intentions. We observed that CSR contributions during the outbreak (vs. after its peak) increased consumers’ prepayment purchase intentions, while the opposite effect held for consumers in the COVID-19 risk center. Many studies related to emergencies have focused on emergency warnings and emergency systems relative to the COVID-19 pandemic (e.g., Grasselli et al., 2020). However, the pandemic’s effects are tied not only to the outbreak itself but also to how people perceive, interpret, and respond to this crisis. The public often relies on intuitive perceptions and judgments (i.e., risk perceptions) when evaluating risk events (Slovic, 1987). Some studies (e.g., Wiegman et al., 1991) have shown that, under the same information ambiguity condition for a risk event, individuals who experience the event directly (e.g., being at the risk center of the COVID-19 outbreak) can mitigate their unrealistic psychological panic caused by information ambiguity. Therefore, individuals with direct experience express less panic than those without such experience (e.g., in the non–risk center of the COVID-19 outbreak). Also, people who directly experience risk or extreme events may perceive the event as having a lower occurrence rate than those who receive indirect information from other sources, possibly resulting in risk perception asymmetry between risk center and non–risk center areas (e.g., Bishara et al., 2009; Camilleri and Newell, 2011; Hau et al., 2008; Tilt, 2006).

6.3. Managerial implications

Our findings provide meaningful guidance for hospitality companies managing consumer–brand relationships. These companies’ brand relationship management should focus on maintaining psychological contracts with consumers. Hospitality companies should also become more aware of CSR engagement and learn how to exhibit social responsibility at a particular time. Furthermore, hospitality companies should adopt tailored strategies to maintain long-term brand–consumer relationships based on consumer segments’ unique characteristics.

During the COVID-19 pandemic, some hospitality companies have taken impressive measures to help fight the outbreak (e.g., providing quarantine venues). Such companies assume great social responsibility. To effectively contribute social responsibility during the pandemic, hospitality companies should allocate their limited resources wisely. The psychological typhoon eye effect evidently applies to emergencies such as the COVID-19 pandemic; therefore, hospitality companies can devise CSR activities knowing that people in certain areas (i.e., risk center vs. non–risk centers) may have higher anxiety. For example, individuals in a COVID-19 risk center may have lower anxiety than those in a non–COVID-19 risk center. Hospitality companies can hence invest resources in regions where people have higher anxiety to ease tension. Appropriate CSR contribution strategies can help hospitality companies better respond to crisis events.
6.4. Limitations and future directions

First, all data in this paper were collected via experiments; no secondhand data (e.g., public data on the internet) were included. Our data source may be insufficiently comprehensive. The conclusions may therefore have limited applicability because real situations can differ from our experimental setting. For example, participants in our experiments were asked to speculate about their prepayment purchase intentions (instead of actually making a purchase). Individuals may make different decisions in real situations. Many researchers in psychology, economics, and management have expressed concern about hypothetical tasks adopted in many decision-making experiments, as real-life decisions can differ drastically from imaginary ones (e.g., Camerer and Mobbs, 2017; Galotti, 1989; Galotti et al., 2006). Therefore, future studies could incorporate data gathered through observations or fieldwork.

Second, this paper only discusses the impact of CSR contribution timing on the dependent variable of prepayment purchase intention. To develop a more holistic understanding of the functional mechanism of CSR contribution timing, subsequent research can explore the effects of CSR contribution timing from other perspectives, such as brand attitude and corporate evaluation.

Third, although we considered the effect of CSR contribution timing in terms of COVID-19, we did not analyze whether the pandemic’s unique characteristics may have affected our findings. For example, the extent of COVID-19’s impact, its widespread transmission, and a ballooning number of confirmed cases might also have influenced our results. Scholars could compare the similarities and differences of this pandemic (as an infectious disease epidemic) and other emergency events to contextualize CSR engagement in diverse situations.

Lastly, our work did not distinguish consumers based on personality traits or individual characteristics. We may have therefore overlooked the potential effects of different features on people’s prepayment purchase intentions. Consumers’ personal characteristics (e.g., attribution types) can shape their attitudes towards and evaluations of CSR activities. Future research can further explore how consumer attribution, sense of control, and other characteristics may affect the impact of CSR on individuals’ purchase intentions.

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