

The role of customer familiarity in evaluating green servicescape: an investigation in the coffee shop context

The coffee shop context

Yoon Jung Jang

*Hotel, Restaurant and Institutional Management,
Yonsei Graduate School of Human Environmental Sciences, Seoul, Korea*

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Abstract

Purpose – This study aims to examine the impact of green atmospheric and communicative servicescape dimensions on customers' emotional and behavioral outcomes and explores the moderating effect of customer familiarity.

Design/methodology/approach – Data were collected from coffee shop customers in the USA. Structural equation modeling and a multigroup analysis were used for analysis.

Findings – The findings indicated that the atmospheric dimensions of green coffee shops have a greater impact than communicative dimensions on customers' green place attachment and loyalty. However, the effects of green servicescape depend on customer familiarity. The impact of the communicative servicescape on customers' attachment and loyalty is significantly greater in a high-familiarity group than in a low-familiarity group.

Practical implications – The findings provide coffee shop managers with insights into effective design of a green service environment. Although managers focus on both dimensions, they may use customer familiarity as a segmenting or targeting tool in designing the green service environment and developing a sustained relationship with customers with different levels of familiarity.

Originality/value – This study extends the existing servicescape models by incorporating green place attachment as a construct to comprehend customers' inner evaluations. It also contributes to the literature on attachment by demonstrating the clear linkage between both green servicescape dimensions and place attachment. This study highlights customer familiarity construct that should be a critical issue in advancing the understanding of customer behavior in the green servicescape context.

Keywords Green loyalty, Coffee shop, Customer familiarity, Green place attachment, Green servicescape

Paper type Research paper

1. Introduction

With increased competition, restaurant companies have attempted to distinguish themselves from their competitors by creating attractive and customer-friendly service environments that offer a unique experience (Jang *et al.*, 2015). A restaurant's ambiance, based on color, logos, displays and interior, is meant to evoke certain emotional responses, leading to the desired behaviors and brand loyalty (Line *et al.*, 2018; Meng and Choi, 2017). A coffee shop is the focus of this study because this sector has become a rapidly expanding industry in the USA; more than 35,500 coffee shops in the US report combined annual sales of approximately \$45bn (SDBCNet, 2019). The competition has allowed companies to offer differentiated premium services to attract customers who are willing to pay more. To attract environmentally conscious customers, owners of coffee shops have been trying to



incorporate environmentally friendly images (Jang *et al.*, 2015) by relying on decorative or aesthetic choices, signs and logos and by adopting environmental practices (e.g. recycling paper cups, offering reusable mugs and serving locally produced foods).

The environment of a segment within the service industry (e.g. restaurants and retail stores) is its servicescape (Bitner, 1992). A servicescape consists of two dimensions, namely, atmospheric/physical (e.g. color, design and layout) and communicative/human (e.g. employees' interactions with customers) (Chang, 2016; Dong and Siu, 2013; Durna *et al.*, 2015; Meng and Choi, 2017; Rosenbaum and Massiah, 2011). The service atmosphere has been considered critical in evoking customers' positive emotions, affecting their behavioral intentions (Mehrabian and Russell, 1974; Bitner, 1992). Many studies have confirmed the significant effect of external stimuli such as atmospheric elements on customers' emotions and behavioral intention (Chang, 2016; Line *et al.*, 2018; Mishra and Gupta, 2019; Park *et al.*, 2019). Some scholars have demonstrated the importance of communicative elements in the service environment in eliciting customer behavioral outcomes (Chang, 2016; Dedeoglu *et al.*, 2018; Jang *et al.*, 2015; Meng and Choi, 2017; Park *et al.*, 2019). However, few studies have included both dimensions of the servicescape in a single model (Chang, 2016; Dedeoglu *et al.*, 2018; Park *et al.*, 2019) and research on how customers respond to two servicescape dimensions while accounting for contextual factors (e.g. familiarity) is scant (Park *et al.*, 2019; Rhee and Jung, 2019).

Although prior studies found that customer familiarity (the extent to which customers have had prior experience with a business) significantly affects customer behavioral responses (Park *et al.*, 2019), few studies have investigated the moderating role of familiarity in the service environment, especially in the green servicescape context. Customers' perceptions of both elements of the servicescape may depend on their familiarity (Ha and Jang, 2010; Park *et al.*, 2019; Rhee and Jung, 2019); this familiarity may regulate their reactions to green atmospheric and communicative elements, exerting a differential effect on their emotional states and future patronage or loyalty. However, the dependence of customers' responses to these two servicescape dimensions on their familiarity with those establishments remains unclear.

Therefore, this study proposes a theoretical framework based on the models (Bitner, 1992; Mehrabian and Russell, 1974; Rosenbaum and Massiah, 2011) and examines whether and which green servicescape dimensions increase customers' emotional attachment and loyalty to green coffee shops. This study aims:

- To investigate the impact of green atmospheric and communicative servicescape dimensions on customers' green place attachment and loyalty.
- To identify whether customer familiarity with green coffee shops has a moderating effect on the relationship between the green servicescape dimensions and customers' attachment and loyalty to those coffee shops.

This study investigates the influence of green servicescape on customers' evaluations in the coffee shop context. To target environment-conscious customers, the visual evidence of eco-friendliness in the store environment should be taken into account in the design of the green service environment because of the intangible characteristics of green coffee shop services. Coffee shops' readily identifiable green service elements and their efforts to increase customer familiarity are gaining the attention of academics and practitioners (Jang *et al.*, 2015). Thus, it would be worthwhile to identify the clear linkage among green servicescape, customer emotional response and behaviors in the coffee shop context.

This study contributes to the literature in the following ways. It extends the stimulus – organism – response (SOR) model by incorporating green place attachment as a construct to

comprehend customers' inner evaluations that arise from their perceptions of environmental stimuli. In addition, this study treats employees' communicative cues as an important component of the green servicescape. Moreover, the communicative and atmospheric cues are combined in a single model, one that offers insight into customer behavior in the green service environment. Another contribution of this study to the literature on attachment is demonstrating the clear linkage between green servicescape dimensions and place attachment. Finally, the inclusion of the familiarity construct as a moderator in a model contributes to the body of knowledge. Although previous studies offer valuable insights into customer behavior in servicescape, the effect of contextual factors remains unexplored. This study highlights the customer familiarity construct, which should be a critical issue in advancing our understanding of customer behavior in the green servicescape context.

This study has valuable implications for coffee shop managers. Coffee shop managers have been initiating green practices to enhance their green image and to develop long-term relationship with target customers. However, without channels through which to communicate green practices, customers may not notice these pro-environmental actions. The design and communication of green service elements in-store environment would benefit managers who are eager to elicit customers' positive emotions and retain target customers who have a strong preference for green products and services.

Empirical research on the role of both dimensions of the green servicescape would help understand what factors in the green service environment create pleasurable emotions in consumers, enabling managers to manipulate critical environment cues which will regulate customers' positive emotional responses, an important antecedent of their future behaviors (e.g. revisit, recommendation). In addition, to enhance customers' recognition and positive perceptions of green servicescape in stores, this study emphasizes the importance of customer familiarity. This study provides managers with meaningful advice that will increase customer familiarity within stores.

2. Literature review

2.1 Theoretical background

Mehrabian and Russell's (1974) SOR model, which originated in environmental psychology, highlights the influence of environmental stimuli on emotional response and consequent behaviors. The stimuli are external elements such as the physical atmosphere. The organism refers to internal evaluations relating to pleasure, arousal and dominance. Two opposite behaviors, namely, approach and avoidance, constitute the responses. The model explains how environmental stimuli can result in two types of behaviors through an individual's internal evaluation of environmental cues (Goi *et al.*, 2014; Kim and Moon, 2009; Mehrabian and Russell, 1974). It helps understand how different environmental cues affect customer behavior and suggests that the manipulation of a store's environment cues can regulate customers' positive emotional responses, which is an important antecedent of their future behaviors such as revisit or recommendations (Jang and Namkung, 2009).

Bitner (1992) applied environmental psychology to the understanding of customers' behaviors in service setting and coined the term "servicescape": "the built or man-made surroundings of the environment" (Bitner, 1992, p. 58). Bitner's (1992) servicescape model explained the effects of elements in the physical environment on customers' emotional responses and future behaviors. Tombs and McColl-Kennedy (2003) and Rosenbaum and Massiah (2011) expanded Bitner's (1992) model, arguing that a servicescape is a two-dimensional concept that includes the physical/tangible and social/intangible elements of the service environment. Their frameworks help explain the comprehensive environmental stimuli that may affect customer responses and behaviors in the service environment.

Although numerous studies explored the physical elements, only a few have examined the impact of both dimensions of servicescape on customer responses in the restaurant context (Meng and Choi, 2017; Lin and Mattila, 2010). By applying the expanded servicescape definition, this study proposes the inclusion of the green atmospheric and green communicative dimensions in the green servicescape model. Our goal is to provide coffee shop managers with insights into how a coffee shop's environment is manipulated to enhance its customers' green experience, thereby creating emotional bonds that help maintain long-term relationships.

With increasing pressures of environmental problems, embracing green aspects or elements in hospitality companies became an important issue for practitioners (Chan and Hsu, 2016). Many researchers have shown increasing interests in the following topics: the extent to which hotel or restaurants are committed to environmental management or practices (Jang and Zheng, 2020; Khatter *et al.*, 2019); managers' or employees' involvement (Chan and Hsu, 2016; Sharma *et al.*, 2020); customers' attitudes or behavioral intentions toward green or environmentally friendly restaurants/hotels (Balaji *et al.*, 2019; González-Rodríguez *et al.*, 2020; Olya *et al.*, 2019); the effect of green advertising messages such as attribute- and benefit-based appeal messages (Xu and Jeong, 2019). However, research on the green service environment within stores has been limited.

2.2 Green servicescape

The atmospheric component of the servicescape consists of the physical cues that are presented as visual or ambient aspects of a store or restaurant. According to Bitner (1992), the atmospheric component of the servicescape is created in three ways: ambiance (music, lighting and scent); spatial layout (design and arrangement of furnishings); and signs, symbols and artifacts (labels and logos). The use of attractive cues in the atmosphere of a store enhances customers' affection for the place and shapes their evaluation of the service environment (Baker *et al.*, 2002).

In this study, the green atmospheric servicescape conveys environmental friendliness through environmentally friendly signage, aesthetic interior, layout and facilities. By using environmentally friendly elements, restaurant owners can evoke favorable emotions from diners (Baker *et al.*, 2002). For example, Urth Café, an organic coffee shop in Los Angeles, CA, has huge pictures in green on one wall. The sign, logo and color scheme of the café convey environmental friendliness. Starbucks also chooses decorations and other aesthetic elements to create an environmentally friendly impression.

The communicative dimension of the servicescape is related to employees' delivery of services and interaction with customers; it includes employees' competence and ability to meet customer needs (Meng and Choi, 2017). In this study, the green communicative servicescape represents employees' professional behavior in advocating, delivering and promoting environmentally friendly service, such as providing information on the coffee shops' environmental products and services; advertising environmentally friendly products/services; and encouraging customers to use recyclable, reusable or compostable plates and cups.

Customers may be attracted to cultural cues embedded in stores related to their cultural values, environment, and traditions (Dong and Siu, 2013; Elliot *et al.*, 2013) because they tend to identify with a servicescape reflecting their cultural values or traditions. Elliot *et al.* (2013) showed that cultural cues, a factor of the physical servicescape, were found to be important in enhancing customers' sense of pleasure. Meanwhile, Buckley *et al.* (2008) argued that cultural landscape, a physical landscape shaped by local culture, is a key attraction that draws attention from people who visit the place. The cultural landscape

coupled with local traditions and cultures is considered as crucial as the natural environment (Apollo *et al.*, 2020). Presenting service environmental elements aligned with cultural landscapes will become a meaningful way for people who want to share local and cultural identities (Carr, 2008). Despite the importance of these cues, this study excludes them as a factor of atmospheric servicescape.

2.3 Green place attachment: emotional attachment to a green place

According to attachment theory from psychology, emotional attachment is an affective bond that people form through close relationships (Bowlby, 1979). Customers form emotional attachments with brands, companies and places they find meaningful (Fedorikhin *et al.*, 2008; Rosenbaum, 2006; Thomson *et al.*, 2005). Huang *et al.* (2017) argued that customers tend to feel comfortable with the brand to which they are emotionally attached. Moreover, customers who are strongly identified with the company tend to develop a strong attachment to the brand (Rather *et al.*, 2020). Line *et al.* (2018) showed that when customers believed that service personnel shares similar beliefs about prosocial behavior (e.g. pro-environmental behavior), they tend to be emotionally attached to the place. In this study, green place attachment is an individual's affective bonding to a place that conveys pro-environmental values and cues (Rosenbaum and Massiah, 2011; Yuksel *et al.*, 2010).

In some hospitality studies, researchers have placed special emphasis on place attachment, which they found to be significant in predicting customers' attitudinal and behavioral responses (Jang *et al.*, 2015; Line *et al.*, 2018; Tumanan and Lansangan, 2012). Customers with a strong place attachment may view a restaurant as a "home" that has ties to their lives and with which they hope to have a long-term relationship (Rosenbaum, 2006). Rosenbaum (2006) demonstrated that customers became loyal to a coffee shop when they felt emotionally connected to it. Meanwhile, Line *et al.* (2018) argued that restaurant customers who felt a similarity to other customers or employees in the service environment developed strong place attachment, forming commitment behaviors such as participating in the company's social behaviors, for instance, by donating to a cause that the business supported. Hwang *et al.* (2019) revealed the strong and direct influence of brand attachment on loyalty outcomes such as the shares of wallet or visits, implying that customers with higher brand attachment tend to spend more money on the target casino brand than on its competitors. Kang *et al.* (2017) argued that hotel customers create positive (love) or negative (despair) emotions toward the hotel brand through holistic experience woven by stimuli into the service environment, eliciting a high level of brand trust.

2.4 Green loyalty

Customer loyalty, an important antecedent to actual repeat or revisit behavior, is a crucial construct in predicting a company's performance (Hollebeek and Rather, 2019). Customers who are emotionally engaged in the companies tend to identify themselves more with the company and exhibit loyal behaviors such as repurchase, revisit or recommendation (Rather and Camilleri, 2019). Loyalty can be defined as customers' attitudinal or behavioral commitment to a target (Nam *et al.*, 2011). Behavioral loyalty reflects the frequency of repeat purchases, whereas attitudinal loyalty shows psychological commitment, such as intention to purchase (Nam *et al.*, 2011). This study adopts attitudinal loyalty, which is considered a better predictor of customers' future behaviors, to reflect their attitudinal commitment to the green coffee shop. Therefore, green loyalty refers to customers' intent to visit a green place that conveys pro-environmental values and cues.

Loyalty as a predictor of business success has received substantial attention from practitioners and researchers (Koo and Kim, 2013; Rather and Hollebeek, 2019; Rather *et al.*, 2018; Rather *et al.*, 2020). Retaining customers and maintaining their loyalty in an extremely

competitive market is critical to the success of any restaurant. A unique environment can convey a restaurant's brand identity, influencing customers' consumption experience and leading to customer loyalty (Koo and Kim, 2013). In the service environment, customers who identify with a brand identity tend to develop a strong sense of connection, belongingness and emotional attachment to the brand, thereby leading to a greater level of loyalty (Rather and Hollebeek, 2019). When customers perceive a brand as delivering consistent values with theirs through communications in stores, they will prefer a brand while strengthening their values or identities (Rather *et al.*, 2018). Customers with a high level of identification with a brand are satisfied and emotionally committed, eventually developing a high level of loyalty toward a brand (Rather, 2017; Rather *et al.*, 2020).

Several studies have shown that the emotional states or emotional attachment generated from a service environment affected customers' commitment or long-term loyalty to a brand (Jang and Namkung, 2009; Line *et al.*, 2018). Therefore, this study incorporates green loyalty as an outcome of two green servicescape dimensions and of green place attachment.

3. Hypotheses development and research model

3.1 *Green atmospheric dimension, green place attachment and loyalty*

Mehrabian and Russell's (1974) SOR model explains how individuals' perceptions of different environmental stimuli in the service environment leads to emotional responses, finally affecting their actual behaviors. In a literature review, Lin (2004) demonstrated that atmospheric servicescape is an important cue that forms consumers' expectations, evaluations and attitudes of a service provider and service environment. Goi *et al.* (2014) confirmed the SOR linkage of Mehrabian and Russell's (1974) model, indicating that the retail stores' interior, layout and displays (stimulus) improved customers' experience, mood, and emotion (organism) and enhanced their cognitive and affective behavior (response) in retailing businesses.

The positive influences of atmospheric elements on customers' emotional and behavioral responses have been supported by prior hospitality studies (Jang and Namkung, 2009; Kim and Moon, 2009; Lin, 2004; Meng and Choi, 2017; Park *et al.*, 2019). For instance, Jang and Namkung (2009) investigated the effect of restaurants' stimuli including atmospheric elements on customer emotions and behaviors. Their findings implied that atmospheric cues significantly and directly influenced customers' positive emotions and behavioral intention. Kim and Moon (2009) explored the influence of the servicescape on customers' cognitive and emotional responses in a themed restaurant setting. They demonstrated that physical environmental elements greatly influenced customers' positive emotions, leading to higher revisit intentions. They also indicated that the facility's aesthetics was the servicescape factor most associated with pleasure. On the basis of these studies, green elements in a coffee shop's physical environment is expected to affect customers' emotions and behavioral outcomes. Therefore, we propose the following hypotheses:

- H1. A coffee shop's green atmospheric dimension positively influences customers' green place attachment.
- H2. A coffee shop's green atmospheric dimension positively influences customers' green loyalty.

3.2 *Green communicative dimension, green place attachment and loyalty*

In a service environment, customers' favorable perceptions of social servicescape, such as employees' communicative cues, produce a feeling of attachment to a service provider (Line *et al.*, 2018). Streukens and Andreassen (2013) argued that customers prefer to interact with

service providers who share their beliefs and values in the service environment. In other words, customers become emotionally connected to establishments that convey social cues customers perceive to be consistent with their values, and they form a long-term relationship with those businesses. [Mishra and Gupta \(2019\)](#) emphasized the role of service personnel as an actor who creates pleasurable experience for hotel guests, indicating that hotel customers felt positive when service personnel congruently behave with their social values. When customers believed that service personnel share similar beliefs about prosocial behavior (e.g. pro-environmental behavior), they tend to visit the store ([Line et al., 2018](#)).

Previous hospitality studies have demonstrated that communicative elements in the dining environment elicit emotional responses and behavioral outcomes ([Chang, 2016](#); [Dedeoglu et al., 2018](#); [Jang et al., 2015](#); [Lin and Mattila, 2010](#); [Mishra and Gupta, 2019](#)). For instance, in restaurants, [Jang et al. \(2015\)](#) showed that two social factors (employees and other customers) are important stimuli in determining customers' opinions of a restaurant and their behavioral intentions. At a resort, [Chang \(2016\)](#) found that the communicative servicescape – employees' helpfulness, friendliness and personalized attention – was as important as the substantive servicescape in creating enthusiasm and excitement and return and recommendation intentions among guests. [Dedeoglu et al. \(2018\)](#) indicated that servicescape's communicative elements were more influential on hotel guests' hedonic emotional values than the substantive (atmospheric) elements. Moreover, service employees who have shared values (e.g. environmental values) with their customers can be an important source of emotional and behavioral responses ([Streukens and Andreassen, 2013](#)). The following hypotheses are therefore proposed:

- H3. A coffee shop's green communicative servicescape positively influences customers' green place attachment.
- H4. A coffee shop's green communicative servicescape positively influences customers' green loyalty.

3.3 Customers' green place attachment and loyalty

Customer emotional attachment is a critical determinant of customers' desire to stay, intention to return, and intention to spread positive word of mouth ([Bitner, 1992](#)). Customers' strong and favorable emotions resulting from their evaluation of a service experience tend to have a significant effect on their behavioral intentions and loyalty ([Jang and Namkung, 2009](#); [Kim and Moon, 2009](#)).

Prior research has confirmed a significant positive relationship between customers' emotions and their behavioral outcomes, such as recommending the company to others, making the restaurant their first choice and showing long-term loyalty to the company ([Dedeoglu et al., 2018](#); [Koo and Kim, 2013](#); [Rosenbaum, 2006](#)). [Koo and Kim \(2013\)](#) showed that a store's environment produced a strong emotional attachment, beyond mere pleasure and this attachment generated loyalty. [Dedeoglu et al. \(2018\)](#) suggested that hotel guests' enjoyment and pleasure stimulated by the hotel servicescape elements had a significantly positive impact on word of mouth and revisit intentions. Moreover, patrons who share the philosophical or social values of an organization tend to show more emotional and attitudinal commitment to that organization ([Rosenbaum, 2006](#)). Meanwhile, [Line et al. \(2018\)](#) demonstrated that customers who feel a strong sense of belongingness and a high level of identification with the restaurant showed loyal behaviors. The following hypothesis is therefore suggested:

- H5. Customers' green place attachment positively influences green loyalty.

3.4 Customer familiarity

Customer familiarity is a critical influence on their evaluations of products and services (Lin, 2013). Customer familiarity is related to pre-purchase experiences, in terms of the number of prior purchases or frequency of patronage (Simonin and Ruth, 1988; Söderlund, 2002). Alba and Hutchinson (1987) described customer familiarity as customers' product- or service-related experiences with a business. Thus, customers' familiarity with a green restaurant can be defined as accumulated experiences with those restaurants (Alba and Hutchinson, 1987; Söderlund, 2002). Customers' familiarity or pre-purchase experiences provides knowledge about products or services and allows them to evaluate products/services using more detailed information (Söderlund, 2002). Unlike low-familiarity customers, high-familiarity customers enhance their expertise and tend to be more critical and use different cues or references for the evaluation of services, which affects their attitudes and future behaviors (Park *et al.*, 2019).

The researchers have found that customer familiarity influences customers' evaluations, eliciting more favorable attitudes and future behavioral intentions (Dedeoglu *et al.*, 2018; Söderlund, 2002). Rhee and Jung (2019) demonstrated that brand familiarity enhances favorable attitudes toward the brand in addition to generating attention and responses to its marketing stimuli, directing favorable brand evaluations. That is, customers who are familiar with the brand easily pay attention to that brand, devoting less effort to information processing and thus readily engaging in such cues. Further, several researchers have pointed out that high-familiarity customers respond to and evaluate services differently and use different cues, which may have a variable effect on emotional satisfaction and behavioral response (Ha and Jang, 2010; Söderlund, 2002). For instance, Söderlund (2002) contended that high-familiarity customers displayed greater satisfaction and behavioral intentions than those with less familiarity. When service performance is high, high-familiarity customers were found to respond more positively to service and express greater satisfaction and more favorable repurchase and word-of-mouth intentions than low-familiarity customers. Thus, high-familiarity customers are more likely to note the difference in service performance, which eventually affects the emotional and future behavioral intentions (Söderlund, 2002).

Dedeoglu *et al.* (2018) indicated that first-time and repeat visitors had different responses to the elements of the atmospheric servicescape, leading to different emotions. Customers with little experience tend to use peripheral cues in evaluating product/service because they lack the knowledge to assess them; however, customers with greater familiarity tend to use central cues from accumulated knowledge based on real and previous experiences and use different cues (Alba and Hutchinson, 1987; Ha and Jang, 2010). Hence, unlike first-time visitors, customers with prior experience show different perceptions of service in the service environment, and these perceptions eventually have different emotional and behavioral outcomes (Ha and Jang, 2010).

On the basis of the literature, customers with low familiarity are expected to consider peripheral factors, such as green atmospheric servicescape components, to evaluate green restaurant services because such components can be easily assessed without prior knowledge (Ha and Jang, 2010). However, customers who are familiar with a green restaurant may use more central cues such as communicative cues for assessing services related to that restaurant's environmental friendliness. Customers with high familiarity may easily notice when the stores' employees express and project environmental friendliness, which will lead to a personal and emotional connection with them and eventually satisfy their core needs for sharing the same value and strengthen their identities (Line *et al.*, 2018; Rather *et al.*, 2020). Therefore, more experienced customers in green stores are likely to

develop more trust in employees and companies while being emotionally attached to the firm (Kang *et al.*, 2017; Rather *et al.*, 2020).

Therefore, the hypothesis that coffee shops' green atmospheric servicescape has a stronger effect on the green place attachment and loyalty of customers who are less familiar with green coffee shops is reasonable. Simultaneously, coffee shops' communicative servicescape is expected to have a stronger effect on the green place attachment and loyalty of customers who are more familiar with those coffee shops.

In addition, customer familiarity is found to regulate the impact of emotional satisfaction on subsequent customer behavioral outcomes such as loyalty (Velazquez *et al.*, 2010). High-familiarity customers tend to mention a prior and positive experience when evaluating services; emotional satisfaction with positive experiences tends to generate a strong commitment to the brand (Velazquez *et al.*, 2010). Customers having a strong emotional bond with a familiar brand tend to have a positive relationship with that brand, which would influence future (purchase) behavior (Lin, 2013). Thus, the following hypotheses are proposed:

- H6a.* A coffee shop's green atmospheric servicescape has a stronger effect on the green place attachment of customers who are less familiar (vs more familiar) with green coffee shops.
- H6b.* A coffee shop's green atmospheric servicescape has a stronger effect on the loyalty of customers who are less familiar (vs more familiar) with green coffee shops.
- H6c.* A coffee shop's green communicative servicescape has a stronger effect on the green place attachment of customers who are more familiar (vs less familiar) with green coffee shops.
- H6d.* A coffee shop's green communicative servicescape has a stronger effect on the loyalty of customers who are more familiar (vs less familiar) with green coffee shops.
- H6e.* Green place attachment has a stronger effect on the loyalty of customers who are more familiar (vs less familiar) with green coffee shops.

The conceptual framework is presented in Figure 1.

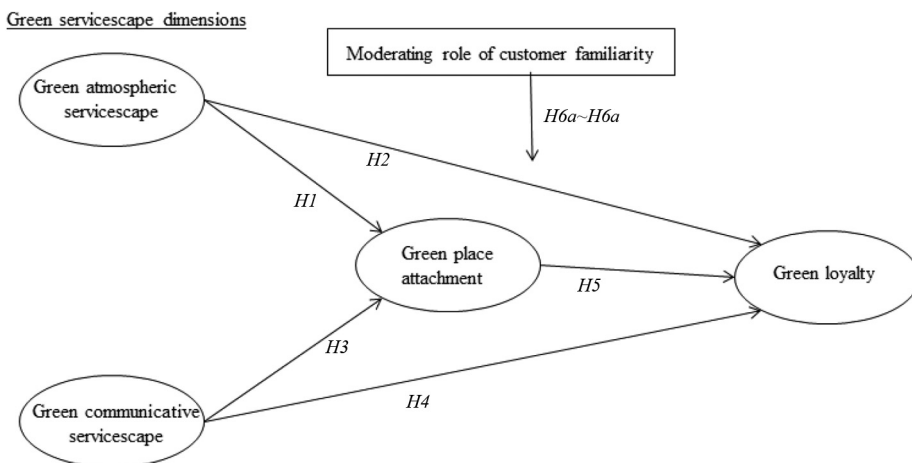


Figure 1.
Proposed conceptual model

4. Methodology

4.1 Sample and data collection

The sample was composed of coffee shop customers who had previously visited green coffee shops in the US. Coffee shops were selected as sample restaurants because they have been most actively implementing noticeable eco-friendly practices (Jang *et al.*, 2015; Jeong and Jang, 2010): offering recycling bins for plastic and paper cups in the store or using recyclable take-out containers.

Convenience sampling was used to collect the data from Amazon Mechanical Turks (MTurk), a platform with a representative sampling frame of US consumers (Mason and Suri, 2011). MTurk is an appropriate sampling platform for this study because it enables researchers to collect the data for a short time at reduced costs. The results are comparable in reliability with traditional methods of data collection (Buhrmester *et al.*, 2016).

The questionnaires were distributed over 2 weeks in May 2019. Volunteers were asked to read a cover letter explaining the purpose of the study. They were also asked to read a definition of green coffee shops and respond to it based on their own experiences with green coffee shops. Green coffee shops were defined as those that have adopted environmental initiatives such as offering food sourced from local ingredients, using recyclable cups or take-out containers and placing recycling bins in their stores. Two selection criteria were used. Participants had to be at least 18 years old and living in the USA and have patronized a green coffee shop at least once in the month before the survey. The questionnaire was developed in English. Potential non-response bias was assessed using a *t*-test between two groups of early and late participants (Armstrong and Overton, 1977). No significant difference was confirmed between the two groups in the study constructs of green atmosphere and communicative servicescape, green place attachment and green loyalty.

This study followed the proposed sample size guideline by Garver and Mentzer (1999) and Hoelter (1983) and set 350 responses as a target. They suggested that the minimum sample size for structural equation modeling (SEM) analysis should be 200 or more. Many hospitality studies (Lee *et al.*, 2014; Park *et al.*, 2014) have followed this guideline. To ensure valid responses, those that were completed in less than 5 min and failed to follow attention-checking items were deleted. Among 354 responses collected, 318 were retained for the final analysis.

Among the 318 respondents, 58.5% ($n = 186$) were women and 41.5% ($n = 132$) were men. Approximately, 42.8% of the respondents were between 21 and 30 years old; 23.9% between 31 and 40 years old; 14.2% between 41 and 50 years old; 13.8% between 51 and 60 years old; and 5.3% were 20 years old or younger. In terms of education, 39.9% were 4-year college graduates; 23.6% had no more than a high school diploma; 21.1% were graduates of 2-year college degrees; and 15.4% had a graduate degree. Regarding monthly income, a majority of the respondents (55.3%) earned <\$50,000, 26.1% earned \$50,000–\$74,999, 10.4% earned \$75,000–\$99,999 and 8.2% earned ≥\$100,000.

4.2 Instrument development

The questionnaire items were based on our literature review and modified to fit the green coffee shop context. They were then reviewed for content validity by four hospitality experts. After slight modifications in wording, the questionnaire was pilot tested on 30 coffee shop customers who had visited a coffee shop at least once in the previous 30 days. The final questionnaire was based on their feedback. The questionnaire contained five constructs to test the hypotheses suggested in the proposed model: the coffee shop's green atmospheric and communicative servicescapes, green place attachment, green loyalty and customers' familiarity. The items included in the questionnaire are presented in Table 1.

Constructs and items	Standardized loading	CR	AVE	The coffee shop context
<i>Green atmospheric servicescape</i> ($\alpha = 0.933$)		0.934	0.824	
The decorations or aesthetic choices of the shop give the impression of environmentally friendliness	0.895			
The overall branding (sign, logo, color scheme, etc.) of the shop indicates environmental friendliness	0.915			
This coffee shop (in terms of atmosphere) gives you the impression that they are environmentally friendly	0.913			
<i>Green communicative servicescape</i> ($\alpha = 0.919$)		0.921	0.701	
The coffee shop's employees encourage customers to use recyclable/reusable products (e.g., mug cup, tumbler)	0.740			
The coffee shop's employees provide the necessary information on its health/environmental product/practices	0.878			
The coffee shop's employees try to promote eco-friendly activities	0.909			
The coffee shop's employees are responsive to customers' health/environmental needs	0.834			
The coffee shop's employees advertise their environmentally friendly products/practices	0.815			
<i>Green place attachment</i> ($\alpha = 0.967$)		0.965	0.822	
I feel this coffee shop is a part of me	0.876			
I identify strongly with this coffee shop	0.901			
I am very attached to this coffee shop	0.931			
I feel a strong sense of belonging to this coffee shop	0.955			
This coffee shop means a lot to me	0.916			
Visiting this coffee shop says a lot about who I am	0.857			
<i>Green loyalty</i> ($\alpha = 0.947$)		0.949	0.860	
I would recommend this coffee shop to my friends or others because it is environmentally friendly	0.920			
I would like to come back to this coffee shop in the near future because it is environmentally friendly	0.949			
This coffee shop would be my first choice over other coffee shops because it is environmentally friendly	0.913			
Notes: $\chi^2_{(110)} = 286.333$ ($p < 0.001$), CFI = 0.970, NFI = 0.952; TLI = 0.963; RMSEA = 0.071; All <i>t-values</i> are significant at $p < 0.001$; CR = Composite reliability; AVE = Average variance extract				Table 1. Measurement model evaluation: the results of confirmatory factor analysis

The green atmospheric dimension was measured with three items adapted from the scales developed by [Durna et al. \(2015\)](#) and [Kim and Moon \(2009\)](#), with minor modifications. For example, the item “The decoration in the hotel is fashionable” has been changed to “The decorations or aesthetic choices of the shop give the impression of environmental friendliness.” The green communicative servicescape was measured with five items based on the scales by [Dong and Siu \(2013\)](#), with minor modifications. Respondents were asked on how they perceived green atmospheric and communicative elements in coffee shops they have patronized. Green place attachment was assessed with six items adapted from [Yuksel et al. \(2010\)](#), which were modified to fit the restaurant setting. Respondents were asked to indicate their emotional attachment to the green coffee shop they had visited. Green loyalty was measured using three items adapted from [Nam et al. \(2011\)](#) and [Jang and Namkung \(2009\)](#). Respondents were asked to indicate how attitudinally committed they were to the green coffee shop. Their familiarity with green coffee shops was measured using three items based on [Lin \(2013\)](#) and [Simonin and Ruth \(1988\)](#); the degree to which they are familiar with

a green coffee shop, recognize it, and have heard of it before. All constructs were assessed on seven-point Likert-type scales, anchored by 1 (*strongly disagree*) and 7 (*strongly agree*). Finally, demographic information including gender, age, income, and education was gathered.

4.3 Data analysis

We conducted descriptive statistics for frequency, mean, and standard deviation and followed [Anderson and Gerbing \(1988\)](#) two-step approach – measurement model and structural model evaluation – to test the hypotheses. Confirmatory factor analysis (CFA) was conducted to test the adequacy of the measurement model and assess composite reliability, convergent validity and discriminant validity. SEM was then performed to test hypothetical relationships among the five constructs proposed in the conceptual model. Finally, to evaluate the moderating effect of customers’ familiarity with green restaurants, a structural invariance test was conducted after a measurement invariance test ([Byrne, 2009](#)).

In cross-sectional studies, common method bias (CMB) can be an issue, so the presence of CMB should be evaluated ([Rather, 2020](#); [Rather et al., 2019](#); [Raza et al., 2020](#)). To evaluate CMB in the data, this study used Harman’s single-factor test ([Podsakoff et al., 2003](#)). In this test, when a single factor accounts for most of the covariance (>50%), CMB is detected. The variance explained by the first factor was 30.7% (<50%), confirming that the effects of CMB on the results are not a serious concern.

5. Results

5.1 Measurement model

The appropriateness of the measurement model was assessed by conducting a CFA, following [Anderson and Gerbing \(1988\)](#). The results show that the measurement model fits the data well ($\chi^2_{(110)} = 286.333$ ($p < 0.001$), CFI = 0.970, NFI = 0.952; TLI = 0.963; RMSEA = 0.071). [Table 1](#) shows standardized loadings for observed variables, Cronbach’s α , the composite reliability, and average variance extracted (AVE) for each construct. All factor loadings (0.740 to 0.955) are significant ($p < 0.001$), satisfying the minimum cutoff level of 0.5 ([Hulland, 1999](#)). The AVE values of all constructs (0.701 to 0.860) are also greater than the suggested cutoff of 0.5, indicating each construct’s convergent validity. Cronbach’s alpha and composite reliability exceed the recommended thresholds of 0.70 and 0.60, respectively ([Fornell and Larcker, 1981](#); [Nunnally, 1978](#)), demonstrating each construct’s reliability. Discriminant validity was tested by comparing the square root of each construct’s AVE with the correlations among constructs ([Table 2](#)). The square root of the AVE of each construct (the diagonal values in [Table 2](#)) is greater than the correlation value between a pair of constructs, suggesting discriminant validity among the constructs ([Fornell and Larcker, 1981](#)).

Table 2.
Correlation of latent variables and discriminant validity

Variable	Mean	SD	1	2	3	4
Green atmospheric servicescape	4.62	1.465	<i>(0.908)</i>			
Green communicative servicescape	4.55	1.241	0.719**	<i>(0.837)</i>		
Green place attachment	4.01	1.608	0.366*	0.421 **	<i>(0.907)</i>	
Green loyalty	4.78	1.446	0.546*	0.633**	0.484**	<i>(0.927)</i>

Notes: * $p < 0.05$; ** $p < 0.01$; Diagonal values (in italic) are the square root of the AVE

5.2 Structural model and hypothesis tests

After demonstrating the validity of our measurement properties, SEM was conducted to test research hypotheses. Table 3 indicates that the structural model's fit to the data was satisfactory ($\chi^2_{(110)} = 286.333$ ($p < 0.001$), CFI = 0.970, NFI = 0.952; TLI = 0.963, RMSEA = 0.071).

All structural paths were found to be significant, except the impact of coffee shops' green communicative servicescape on customers' green place attachment.

The effect of coffee shops' green atmospheric dimension on customers' green place attachment ($\beta = 0.327$, $t = 3.942$, $p < 0.001$) and green loyalty ($\beta = 0.415$, $t = 5.754$, $p < 0.001$) was significant, supporting *H1* and *H2*, respectively. However, contrary to our expectations, the path from the communicative servicescape to customers' green place attachment was not significant ($\beta = 0.130$, $t = 1.578$, n.s.); thus, *H3* was not supported. The path from communicative elements to customers' green brand loyalty was significant ($\beta = 0.155$, $t = 2.234$, $p < 0.05$), confirming *H4*. Finally, green place commitment was found to be a significant predictor of green loyalty ($\beta = 0.252$, $t = 5.037$, $p < 0.001$), supporting *H5*. Concerning the squared correlation (R^2), for green loyalty, the amount of variance explained by green place attachment was 47%. For place attachment, the amount of variance explained by both atmospheric and communicative servicescape was 29%.

5.3 The moderating effect of customer familiarity

To investigate the hypothesized moderating effect of customers' green restaurant familiarity, the sample was split into two groups based on the mean score (mean = 4.40, SD = 1.49, skewness = -0.33) of the customer familiarity variable. Respondents who scored below the mean were assigned to the low-familiarity group ($n = 151$), whereas those who scored above the mean were assigned to the high-familiarity group ($n = 167$).

5.3.1 Measurement invariance testing across the groups. Before applying the multiple-group SEM, a measurement invariance test was conducted to test for an invariant factor structure between the two groups (Byrne, 2009). Table 4 shows that the unconstrained model ($\chi^2_{(220)} = 465.217$, $p < 0.001$, CFI = 0.956, NFI = 0.921, TLI = 0.946, RMSEA = 0.059) and the full-metric invariance model ($\chi^2_{(233)} = 473.459$, $p < 0.001$, CFI = 0.957, NFI = 0.920, TLI = 0.950, RMSEA = 0.057) had adequate fit statistics. A statistically significant chi-square difference between the unconstrained model and full-metric invariance model is evidence of non-invariance between the groups (Byrne, 2009). As shown in Table 4, a chi-

Hypothesis	Paths	Proposed model		
		Standardized coefficient	<i>t</i> -value	Results
<i>H1</i>	Green atmospheric servicescape $\Rightarrow$ Green place attachment	0.327	3.942***	Supported
<i>H2</i>	Green atmospheric servicescape $\Rightarrow$ Green loyalty	0.415	5.754***	Supported
<i>H3</i>	Green communicative servicescape $\Rightarrow$ Green place attachment	0.130	1.578 n.s.	Not supported
<i>H4</i>	Green communicative servicescape $\Rightarrow$ Green loyalty	0.155	2.234*	Supported
<i>H5</i>	Green place attachment $\Rightarrow$ Green loyalty	0.252	5.037***	Supported

Notes: $\chi^2_{(110)} = 286.333$ ($p < 0.001$), CFI = 0.970, NFI = 0.952; TLI = 0.963, RMSEA = 0.071; R^2 for green place attachment = 0.185; R^2 for green loyalty = 0.470; * $p < 0.05$, *** $p < 0.001$; n.s. = non-significant

Table 3.
Structural model
evaluation

square difference test revealed no significant difference between the unconstrained model and full-metric invariance model ($\Delta\chi^2_{(13)} = 8.242, p > 0.01$), thus supporting measurement invariance.

5.3.2 Multiple group structural equation modeling. After confirming the measurement invariance between the two groups, a multi-group SEM analysis was performed to examine the moderating role of customers' green restaurant familiarity. The findings are shown in Table 5. An unconstrained structural model (baseline model) was found to have a satisfactory fit to the data ($\chi^2_{(220)} = 465.217, p < 0.001$, CFI = 0.956, NFI = 0.921, TLI = 0.946, RMSEA = 0.059). The unconstrained structural model (baseline model) was then compared with the fully constrained model ($\chi^2_{(225)} = 482.385$, CFI = 0.954, TLI = 0.945, NFI = 0.918, RMSEA = 0.060). The chi-square difference between the two models was statistically significant ($\Delta\chi^2_{(5)} = 17.168, p < 0.05$) (Table 5).

Next, each model, where the specific path was constrained to be equal between the two groups, was compared with the baseline model using a chi-square different test. The results of the structural invariance test are summarized in Table 5. The structural model with parameter estimates is presented in Figure 2. The coefficients of the path from green atmospheric servicescape to green place attachment ($\Delta\chi^2_{(1)} = 0.030$, df = 1, n.s.) and from green atmospheric dimension to green loyalty ($\Delta\chi^2_{(1)} = 0.000$, df = 1, n.s.) were not significantly different between the two groups. Thus, H6a and H6b were not supported.

For the path from green communicative servicescape to green place attachment, the chi-square difference between the two groups was significant at 0.1 significance level ($\Delta\chi^2_{(1)} = 2.855$, df = 1, $p < 0.1$), supporting H6c. Even though the difference is not strongly significant ($p < 0.05$), the difference across two groups was clear, given the path coefficients for both groups: the path coefficient from green communicative servicescape to green place attachment was significant and high within the high-familiarity group ($\beta = 0.232, t = 2.021, p < 0.05$) but not significant and low within the low-familiarity group ($\beta = -0.023, t = -0.206$, n.s.).

Most interestingly, the path from green communicative servicescape to green loyalty was significantly different between the two groups ($\Delta\chi^2_{(1)} = 4.977$, df = 1, $p < 0.05$), supporting H6d. The high-familiarity group ($\beta = 0.276, t = 3.135$) showed a stronger impact of green communicative servicescape on green loyalty than the low-familiarity group ($\beta = -0.010, t = -0.093$). Finally, the path from green place attachment to green loyalty did not differ between the low- and high-familiarity groups ($\Delta\chi^2_{(1)} = 1.367$, n.s.); therefore, H6e was not supported.

In sum, a multi-group SEM analysis confirmed the significant moderating effect of customer familiarity on the relationship between green communicative servicescape and place attachment, as well as on the relationship between green communicative servicescape and loyalty. The results indicate that high-familiarity customers were more responsive to communicative cues and have more favorable perceptions of such cues in stores, ultimately leading to stronger place attachment and greater loyalty to green coffee shops. However, contrary to our expectations, the moderating effect of customer familiarity was not

Table 4.
Assessment of
measurement
invariance

Models	χ^2 (d.f.)	CFI	NFI	TLI	RMSEA	$\Delta\chi^2$	Full metric invariance
Unconstrained model	465.217 (220)	0.956	0.921	0.946	0.059	$\Delta\chi^2_{(13)} = 8.242,$ $p > 0.01$ (insignificant)	Supported
Full-metric invariance model	473.459 (233)	0.957	0.920	0.950	0.057		

Hypothesis	Paths	Low familiarity group			High familiarity group			Baseline model	Nested model (Constrained to be equal)
		β	t-values	β	t-values	β	t-values	$\chi^2 = 465.217$, df = 220	$\chi^2 = 465.247^a$ df = 221
H6a	Green atmospheric servicescape $\Rightarrow$ Green place attachment	0.328**	2.828	0.252*	2.252				$\chi^2 = 465.217^b$, df = 221
H6b	Green atmospheric servicescape $\Rightarrow$ Green loyalty	0.419***	3.656	0.365***	4.276				$\chi^2 = 468.072^c$, df = 221
H6c	Green communicative servicescape $\Rightarrow$ Green place attachment	-0.023 ns	-0.206	0.232*	2.021				$\chi^2 = 470.194^d$, df = 221
H6d	Green communicative servicescape $\Rightarrow$ Green loyalty	-0.010 ns	-0.093	0.276**	3.135				$\chi^2 = 466.585^e$, df = 221
H6e	Green place attachment $\Rightarrow$ Green loyalty	0.166*	2.018	0.294 ***	4.785				

Chi-square difference test
a $\Delta\chi^2_{(1)} = 0.030$, n.s. (H6a: Not supported)
b $\Delta\chi^2_{(1)} = 0.000$, n.s. (H6b: Not supported)
c $\Delta\chi^2_{(1)} = 2.855^+$, $p < 0.1$ (H6c: Supported)
d $\Delta\chi^2_{(1)} = 4.977^*$, $p < 0.05$. (H6d: Supported)
e $\Delta\chi^2_{(1)} = 1.367$, n.s. (H6e: Not supported)

Notes: Goodness-of-fit statistics for baseline model: $\chi^2_{(220)} = 465.217$; CFI = 0.956; TLI = 0.946; NFI = 0.921; RMSEA = 0.059; $^+p < 0.1$; $*p < 0.05$; $***p < 0.01$; $***p < 0.001$; n.s. = non-significant

Table 5.
Structural invariance
model assessment

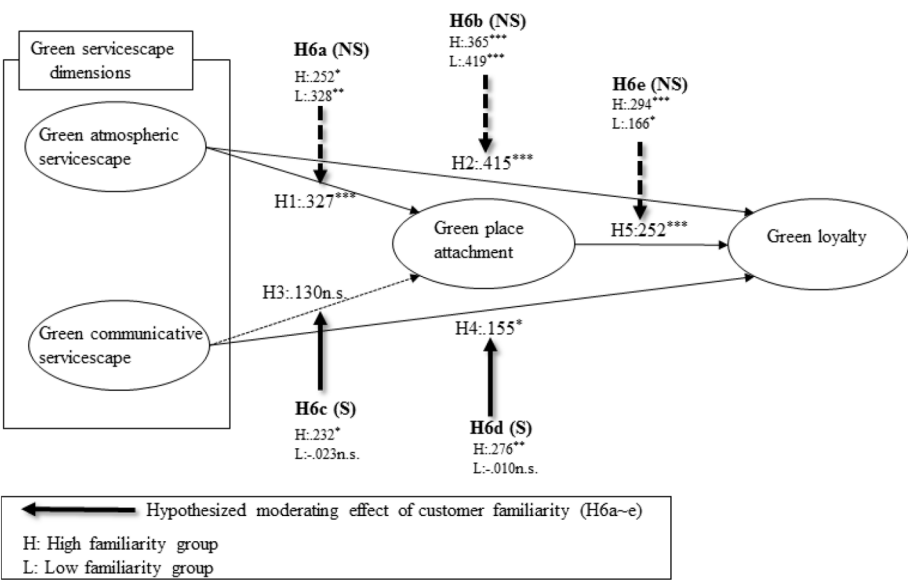


Figure 2.
Structural model with
parameter estimates

Notes: Goodness-of-fit statistics for the structural model: $\chi^2 = 286.333$ ($df = 110$, $p < 0.001$, $\chi^2/df = 2.60$), CFI = 0.970, NFI = 0.952; TLI = 0.963, RMSEA = 0.071; Goodness-of-fit statistics for the base model: $\chi^2 = 465.217$ ($df = 220$, $p < 0.001$, $\chi^2/df = 2.11$), CFI = 0.956, NFI = 0.921, TLI = 0.946, RMSEA = 0.059; Two identical structural models were evaluated (high [$n = 167$] and low [$n = 151$] familiarity groups); S = Significant; NS = Not Significant; $+p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; n.s. = non-significant

significant in the relationship between green atmospheric servicescape and place attachment or that between green atmospheric servicescape and loyalty. In both high- and low-familiarity groups, the effect of atmospheric cues on place attachment and loyalty was strong and significant. The results highlight the importance of atmospheric cues in both groups in the evaluation of green coffee shops, regardless of customers' prior experiences.

6. Discussions and conclusions

6.1 Discussions

Given customers' increasing interest in environmentally friendly services in the hospitality industry, coffee shops should manipulate two dimensions of the servicescape to promote and present eco-friendly images of their brands. Projecting environmental friendliness within a service environment appeals to customers' environmental preferences and encourages continued patronage, leading to a business's long-term profitability.

This study proposed a green servicescape model that includes the atmospheric and communicative dimensions and considers customer familiarity as a moderating variable in predicting customers' emotional and behavioral responses. The findings indicated that the green atmospheric servicescape was a stronger and better predictor than the green communicative servicescape of customers' green place attachment and loyalty. Green communicative servicescape was also found to be a significant and direct predictor of customers' behavioral outcomes such as loyalty. Moreover, an analysis of moderating

factors regarding customer familiarity showed interesting results. Unlike green atmospheric servicescape, the effect of green communicative servicescape was significantly moderated by customer familiarity. This indicates that, in a high-familiarity group, the effect of the green communicative servicescape was significantly greater than that in a low-familiarity group, implying the important moderating role of customer familiarity in the green restaurant servicescape model.

The significantly strong effect of green atmospheric servicescape on green place attachment and loyalty implies that the stores' eco-friendly atmosphere is important in eliciting customers' emotional attachment and loyalty. The results affirm the findings of previous studies in hospitality (Meng and Choi, 2017; Park *et al.*, 2019), which demonstrated that physical elements were the most important predictive factor of customers' behaviors. Kang *et al.* (2017) noted that customers' emotions, triggered by atmospheric stimuli in the service environment, eventually led to positive attitudes toward the brand.

The significant effect of communicative servicescape on customers' green loyalty indicates the importance of employees' communicative cues in the formation of customers' long-term loyalty in the green service environment. This result is consistent with the findings of prior studies that supported the significance of communicative servicescape in eliciting customer behavior (Chang, 2016; Durna *et al.*, 2015; Mishra and Gupta, 2019). As Mishra and Gupta (2019) noted, service personnel whose values or beliefs resonate with those of their customers are important in eliciting customers' positive evaluations toward the store.

However, contrary to our expectations, the effect of green communicative elements was not significant in generating customers' emotional attachment to green coffee shops. This result may be explained by our further analysis of moderation, which showed that in a low-familiarity group, the effect of communicative servicescape on green place attachment was low ($\beta = -0.023$), possibly shaping the effect of communicative servicescape on green place attachment.

Regarding the moderation effect of customer familiarity on the relationship between green servicescape and customer responses, the findings reveal that customer familiarity is a significant moderator of the relationship between the communicative servicescape and customers' green place attachment and loyalty. This finding is consistent with the work of Streukens and Andreassen (2013), who confirmed that communicative elements were an important source for high-familiarity customers in affecting customers' positive behavioral responses in a service environment, where customers and employees, who may share their values, interact. This implies that high- and low-familiarity customers respond differently to environmental stimuli, especially communicative cues in stores. Compared with unfamiliar customers, familiar customers tend to use more central cues such as communicative servicescape than peripheral cues such as atmospheric servicescape in assessing services, which may affect their future behaviors (Ha and Jang, 2010). High-familiarity customers tend to be more responsive to communicative cues in environmentally friendly service settings, where employees may represent their ideal image of environmentalists (Streukens and Andreassen, 2013). Interestingly, these high-familiarity customers pay more attention to communicative aspects as their green experiences accumulate and such elements become crucial in their service evaluation (Park *et al.*, 2019).

6.2 Theoretical implications

This study contributes to the literature on the SOR model by demonstrating the critical role of the construct of customers' attachment. It used green place attachment as a construct to comprehend customers' inner evaluations, which arise from their perceptions of environmental

stimuli. Introducing attachment construct into a theoretical framework enhances the understanding of customer response behavior in a service environment. This agrees with the argument of [Line et al. \(2018\)](#), who suggested that place attachment is important in understanding the relationship between environmental stimuli and customer response behaviors.

This study extends the research on the SOR and servicescape model by examining social cues as component of external stimuli or servicescape dimensions. Two aspects of the green servicescape were incorporated in one model, which has rarely been done. This study supports the argument that both atmospheric and communicative elements should be considered significant servicescape dimensions within the hospitality environment ([Chang, 2016](#); [Dedeoglu et al., 2018](#)). Unlike prior studies of social factors related to customers, this study focused on employees' green communicative elements, by treating employees as a means of transferring and conveying the green actions and image of the company.

Moreover, this study contributes to the literature on attachment theory by demonstrating the clear linkage between green servicescape dimensions and place attachment. Despite many attachment studies in the hospitality industry, few of them have investigated the effect of servicescape dimensions on customers' place attachment in the green restaurant context. To the best of our knowledge, this is the first empirical investigation of the relationships among green servicescape dimensions, customer place attachment and loyalty.

This study explores whether and how customers' familiarity with green restaurants influences associations among green servicescape dimensions and customer emotional and behavioral responses. Despite the extensive literature on the servicescape, there is a limited body of research on how customers respond to two servicescape dimensions while accounting for contextual factors (e.g. familiarity) ([Park et al., 2019](#)). The result shows the importance of customer familiarity as a significant moderating variable in studying customers' place attachment and subsequent behaviors in the green restaurant servicescape. The role of customer familiarity offers researchers new ideas about expanding the servicescape framework.

Finally, this study contributes to the literature on environmental management. Unlike prior environmental studies mainly focused on green policies or practices ([Chan and Hsu, 2016](#); [Sharma et al., 2020](#)), this study proposes the green servicescape model that includes the stores' green atmospheric/communicative elements as antecedents and customer familiarity as a moderator. The findings of the study may offer researchers insights to further extend the extant model of green servicescape that will help in full understanding of customer behavior in environmentally friendly stores.

6.3 Managerial implications

Coffee shop managers have been adopting green practices in response to stakeholders' concern for environmental protection. By doing so, managers expect to improve their businesses' pro-environmental image, thereby building a long-term relationship with target customers who value prosocial or pro-environmental behavior. However, without channels to communicate those pro-environmental practices, customers are unlikely to notice them. Therefore, designing a green service environment in stores would benefit coffee shop managers who are eager to retain customers who crave green products and services. This study has the following valuable implications for coffee shop managers who plan to implement and advertise their pro-environmental initiatives.

This study confirms that green atmospheric stimuli are the most important servicescape factors in predicting customers' affective and behavioral responses in green coffee shops. Understanding the servicescape dimensions that customer value most would provide coffee

shop managers with insight into the effective design of a green service environment. Green coffee shop managers or marketers should use environmentally friendly cues, for instance, natural colors, design, scents and environmentally friendly symbols and lighting, to convey an eco-friendly image.

Our results also showed that green communicative elements are significant and direct predictors of customers' behavioral outcomes such as loyalty. This implies that coffee shop managers who want their brands to be recognized as environmentally friendly should hire staff whose pro-environmental values (Jang *et al.*, 2017) will reflect and respond to those of their customers (Streukens and Andreassen, 2013). Jang *et al.* (2017) contended that restaurant managers with environmental values responded favorably to stakeholders' environmental needs. Managers may also need to design green communicative cues – such as responsiveness to customers' interest in pro-environmental products/services – and train employees to behave in an environmentally friendly manner.

Finally, the multigroup analysis confirmed the significant moderating role of customer familiarity. In a high-familiarity group, the impact of the communicative servicescape on customers' green place attachment and loyalty was significantly stronger than in a low-familiarity group. Therefore, coffee shop managers must understand that the effectiveness of marketing cues related to environmental friendliness depends on customer familiarity. Managers may use customer familiarity as a segmenting and targeting tool in developing long-term relationships with green customers (Söderlund, 2002). For instance, to introduce first-time customers to the green environment, managers may present them with atmospheric cues that will make them more receptive to the green store and brand (Söderlund, 2002). To target high-familiarity customers, managers may design more sophisticated services that can produce stronger green experiences by elaborating a service design or process related to the green communicative servicescape (Lin, 2013).

To increase customer familiarity with the stores' green elements, coffee shop managers are advised to put various and wide range of efforts in adopting environmental initiatives, from simple actions (e.g. placing recycling bins in stores) to proactive actions (e.g. purchasing and using energy- or water-efficient equipment). Moreover, marketers should use various channels to communicate with and educate their customers. For instance, they could create brand communities on social media to share the stores' green products and services. This will help deliver the company's values by appealing to customers' beliefs and values and thus maintain a long-term relationship between coffee shops and their customers (Rather *et al.*, 2018). Managers will also need to develop a green service design blueprint and identify the points that may significantly affect customers' perceptions of eco-friendliness. By doing so, they will be able to promote the stores' green actions and develop their communications and interactions with customers.

Finally, managers are advised to recognize the key role of cultural landscapes – landscape embedded with local cultures – which might have a significant meaning for a particular customer group who wishes to interact with local cultures and environment (Carr, 2008). They may try to embrace locality (local's authentic values or identities) to create a place that reflects local or cultural landscapes (Apollo *et al.*, 2020; Buckley *et al.*, 2008). Given its importance, future studies may focus on this factor and suggest ways to enhance customers' experience of the place's cultural landscapes.

6.4 Limitations and future research

This study has several limitations. It was conducted with coffee shop customers in the USA, so generalizing the findings should be done with caution. Future studies may test the green servicescape model in different restaurant types, cultures and countries.

This study excluded cultural cues as a factor of atmospheric servicescape. Customers may more favorably respond to cultural cues in service environments when they recognize that a store's servicescape reflects their traditions or cultural background (Elliot *et al.*, 2013). Such cues should be considered in further servicescape studies for designing the ideal service environment.

Moreover, this study suggests the importance of social factors in evaluating the green service environment, with special attention to the communicative aspects of service providers. Future studies may place more emphasis on service personnel elements of servicescape, which is uncommonly found in social servicescape studies. Finally, this study incorporated customer familiarity as a moderating variable in the green servicescape model. Future studies may include other different and emerging constructs investigated in restaurant contexts including restaurant-based customer engagement, value co-creation, service innovation, service quality and customer experience to examine the predictive power of the model (Hollebeek *et al.*, 2019; Rather and Hollebeek, 2020; Rather and Sharma, 2019).

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Corresponding author

Yoon Jung Jang can be contacted at: yoonyj923@gmail.com