



Examining the Impact of Sensory Brand Experience on Brand Loyalty

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Abstract

This research investigates five sensory cues (i.e. visual, auditory, olfactory, tactile, and taste) influencing sensory brand experience leading to brand loyalty through customer satisfaction, brand attachment, and customer lovemarks. It also investigates the role of employee empathy in moderating the effect of sensory brand experience on customer satisfaction, brand attachment, and customer lovemarks. Our investigation followed a mixed-method research design, a predominantly quantitative approach by using questionnaire responses from 512 Chinese consumers, which is supported by 10 in-depth interviews and 4 focus group discussions to gain early insights into the subject area. The results suggest that five sensory cues have a significant impact on sensory brand experience and, in turn, contribute to customer satisfaction, brand attachment, and customer lovemarks. It also suggests that not all dimensions of customer satisfaction and brand attachment predict brand loyalty, and employee empathy negatively moderates the relationship between sensory brand experience and customer lovemarks.

Keywords Sensory brand experience · Customer satisfaction · Customer lovemarks · Brand attachment · Brand loyalty · Employee empathy

Introduction

A key object of any branding strategy is to create positive and memorable experiences to customers, leading to brand loyalty. In this respect, practitioners have long recognised the role of sensory experiences in engaging customers, affecting their consumption behaviour and patterns, and are therefore viewed as key factors in developing a competitive marketing strategy. Successful examples include technical brands such as Apple, with its ability to deliver a superior multisensory brand experience, which reached a market value of US\$ 612 bn in 2021 to become the second most valuable brand globally (Kantar 2021). Unquestionably, a positive sensory experience has now become a crucial brand

differentiator (Biswas and Szocs 2019; Elder and Krishna 2021; Roggeveen et al. 2020).

As an emerging concept, sensory brand experience (SBE) has also gained increasing attention in marketing, management as well as consumer psychology research. Brakus et al. (2009) were the first to conceptualise and operationalise SBE as a sensory dimension of brand experience and define SBE as a customer's response to direct or indirect brand-related stimuli. Since then, almost all marketing research has investigated SBE as a dimension of brand experience and has emphasised the important role of SBE in brand or customer outcomes. In recent years, sensory marketing literature has highlighted the role of SBE in appealing to customers' senses subconsciously and as a result has an autonomic influence on customer perception, judgement, and decision-making (e.g. Elder and Krishna 2021).

Most recently, Zha et al. (2021a, b, 2022) have reconceptualised SBE as an independent construct. They define it as a customer's response to brand-related stimuli emanating from a brand setting, shaped by both external and internal processes. They propose that future research should investigate SBE from integrative perspectives, encompassing embodiment, ecological, and branding lenses. Moreover, this study reveals that many existing studies have relied on Brakus et al.'s (2009) conceptual

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framework and measurement scale. This nebulous and nascent stage of development has prompted researchers to call for a more profound conceptualisation of the SBE concept, grounded in a theory-driven approach (Andreini et al. 2019; Zha et al. 2020a, b, 2021b). Consequently, there is a pressing need to operationalise SBE and devise a scale for its measurement.

A review of the corporate reputation literature indicates that a brand is perceived as a symbolic, multisensory representation. Sensory experience plays a pivotal role in shaping corporate visual identity, corporate communication (Bartholmé and Melewar 2011), and corporate image (Zha et al. 2022). Roggeveen et al. (2020) emphasised the significance of sensory experience, spotlighting the stimulation offered by the five types of sensory cues in a multisensory retail environment. SBE is activated when stimuli from the external environment trigger a consumer's sensory perceptions, brand affects, and subjective emotional states (Zha et al. 2021a, b). Although past consumer environment research and corporate reputation literature on SBE have identified certain sensory cues that influence a customer's SBE during the consumption process, the majority of studies have taken a cue-specific approach. To date, only a few have attempted to explore the encoding of multisensory cues in a brand setting context (Roggeveen et al. 2020; Zha et al. 2022). As a result, there's a distinct need for research that delves into the role of multisensory brand settings and their influence on SBE.

Extant research studied the impact of SBE on different brand outcomes, such as corporate reputation (Balakrishnan and Foroudi 2020), customer satisfaction (e.g. Foroudi 2019), consumer–brand relationships (e.g. Ding and Tseng 2015) and brand loyalty (e.g. Foroudi et al. 2016). However, little is known about the entrained relationship between SBE and its impact on the different dimensions of key consumer–brand relationship constructs. Understanding how SBE interacts with the individual dimensions of customer satisfaction, brand attachment, and customer lovemarks to influence brand loyalty will yield new insights into the interpollinating effects between brand variables.

From a service perspective, the significance of human-to-human interaction in a sensorially active retail environment is evident. The degree of employee empathy can greatly influence the brand's reputation through daily interactions with customers (Iglesias et al. 2019). Particularly in retail settings where the interface between employees and customers is pivotal, heightened empathy ensures that staff are adeptly prepared to meet customer needs, expectations, and demands. Consequently, it's essential to explore the moderating role of employee empathy in the relationship between SBE and brand outcomes.

This paper is anchored by three central research questions. Firstly, we seek to identify the factors that contribute to a

positive Sensory Brand Experience (SBE). Secondly, we aim to understand how a positive SBE influences variables such as customer satisfaction, brand attachment, customer lovemarks, and brand loyalty. Lastly, we're interested in the moderating role of employee empathy in the dynamic between SBE and outcomes like customer satisfaction, brand attachment, and customer lovemarks. Our exploration offers valuable contributions to the corporate reputation literature and the practice of corporate branding. We not only extend the existing knowledge of corporate branding by examining SBE as a distinct construct, but also delve into its antecedents, processes, and brand outcomes, as illuminated by Zha et al. (2021a, b). Our research further broadens the understanding about the five sensory cues in corporate brand settings, offering insights beneficial for practitioners aiming to enhance corporate reputation management, especially within the context of corporate identity studies as per Melewar and Skinner (2018). Moreover, this study illuminates the significance of sensory experiences in branding, illustrating how consumers process brand information through their senses, which in turn fortifies their relationships with brands. Finally, we introduce new, validated measurement items for SBE, which not only serve future research endeavours but also equip marketers with tools to distinguish SBE from the brand experience scale of Brakus et al. (2009), aiding in the crafting of authentic sensory branding strategies.

Background and hypotheses

SBE is defined as “the internal processing of brand data from a brand setting through a harmonisation of exteroceptive and interoceptive processes, culminating in brand sensations, brand affects, and subjective feeling states” (Zha et al. 2021a, b, p. 3). Establishing a positive SBE is fundamental for forging a bond between brands and their customers (Krishna and Elder 2021). Thus, adeptly managing the customer experience necessitates a profound grasp of SBE. According to recent reviews on SBE (Zha et al. 2021a, b) and brand experience (Zha et al. 2020a, b), the limited understanding surrounding SBE's essence has prompted researchers to advocate for deeper conceptual contributions. This paper pioneers the conceptualisation of SBE, probing it as a distinct marketing phenomenon characterised by its inherent assumptions, antecedents, moderators, and outcomes.

Differences Between Sensory Brand Experience and Other Brand Constructs

SBE is intimately connected to other brand-related constructs, such as brand experience, sensory experience, and brand attitudes. However, it retains its distinct identity. Sensory experience primarily concentrates on individual reactions to multisensory stimuli from the external milieu,



shedding light on the diverse sensory attributes intrinsic to those experiences (Elder and Krishna 2021). SBE, on the other hand, zeroes in on responses elicited by brand-specific stimuli set within a brand's context. Uniquely, SBE diverges from the brand experience as it is a unidimensional construct encompassing a spectrum of internal processes, including brand sensations, brand affects, and subjective feeling states. Conversely, brand experience emerges as a multidimensional response enveloping sensory, affective, intellectual, behavioural, and social facets triggered by brand-associated stimuli (Zha et al. 2022).

Moreover, brand attitudes are shaped by overarching evaluations, often rooted in established beliefs or instinctual affective responses (Faircloth et al. 2001; Ferrell et al. 2019). SBE, by contrast, doesn't merely orbit around broad brand assessments, such as a general affinity like "I like the brand." Rather, it unfolds as a series of internal processes steered by insights gleaned from external brand environments. These experiences might encapsulate specific emotive states that endow sensory data with significance, surpassing a mere general appreciation of the brand. Even though one might harbour a broad valuation of the experience, for instance, "I relish this experience," it's crucial to recognise that such an evaluation forms just a sliver of the expansive SBE paradigm.

Prior Sensory Brand Experience Scales

An examination of previous measurement scales for SBE reveals certain theoretical limitations. The scales developed by Brakus et al. (2009) and Gao (2020) are fundamentally rooted in experiential marketing theories, with items derived from aesthetics and sensory perceptions literature. However, these scales do not fully capture the multiparadigmatic approach championed by Zha et al. (2022b) in their recent conceptualisation of SBE. This gap limits their utility for marketers seeking to comprehend the neuropsychological dimensions that underpin a company's branding endeavours. Addressing these shortcomings, our research adheres to the framework proposed by Zha et al. (2022a). We incorporate foundational psychological theories, such as the embodiment theory and environmental psychology theory, merge them with consumer–brand relationship concepts, and glean insights from interviews with retail managers and consumers.

Hypothesis Development

The proposed framework delineates the relationship between a brand setting — characterised by a consortium of five sensory cues (visual, auditory, olfactory, tactile, and taste) — and SBE. In examining this primary relationship, our study leverages the ecological and embodiment perspectives,

specifically referencing Baker's behavioural setting theory and Barrett & Russell's (2015) Theory of Constructed Emotion. The depth of this relationship can best be comprehended within a brand behaviour setting, suggesting that the positivity level of an SBE is contingent upon the proficient management of the five sensory cues.

This research asserts that a consumption environment, exemplified by settings like shopping malls, epitomises a 'brand behaviour setting.' In such environments, stimulants are meticulously curated or manipulated to foster a specific SBE within the consumer's psyche.

The secondary aspect of the framework showcases the interplay between an array of brand variables: customer satisfaction, brand attachment, customer lovemarks, and brand loyalty. Rooted in consumer–brand relationship studies, scholars (Brakus et al. 2009; Japutra et al. 2018) have discerned a direct nexus between brand experience and consumer–brand relationships. Nevertheless, there has been scant exploration into the dimensions of consumer–brand relationships as preliminary intermediary brand variables culminating in brand loyalty.

The third facet emphasises the moderating role of employee empathy concerning the influence of SBE on customer satisfaction, brand attachment, and customer lovemarks. Drawing from the service experience literature (Aggarwal et al. 2005; Giacobbe et al. 2006; Iglesias et al. 2019), empathy is predominantly conceptualised as the capacity to discern, resonate with, and interpret the external world from another individual's perspective. Our study accentuates this role, positing that sales personnel incarnate the brand image and its inherent values. Such personnel are not merely 'prototypical employees' attuned to the customer's feelings but are also empathetic ambassadors of the brand's values. This empathy can act as a conduit, transmitting positive brand sensations and affects to the consumer. The conceptual framework of SBE is depicted in Fig. 1.

Antecedents of the Sensory Brand Experience

Visual Sensory Cues → Sensory Brand Experience

Visual sensory cues encompass individual perceptions of prominent visual stimuli within a brand setting. These stimuli can range from functional and aesthetic design elements to ambient elements, and from social components to aspects related to trialability. Studies have shown that these cues can significantly influence consumer behaviour, shape corporate brand identity, enhance consumer moods, influence their assessment of products or services, and modify their sentiments towards a brand (Roggeveen et al. 2020). As part of their branding strategies, companies prioritise visual sensory cues to engage the consumer's visual modality. This is largely because the visual modality is the



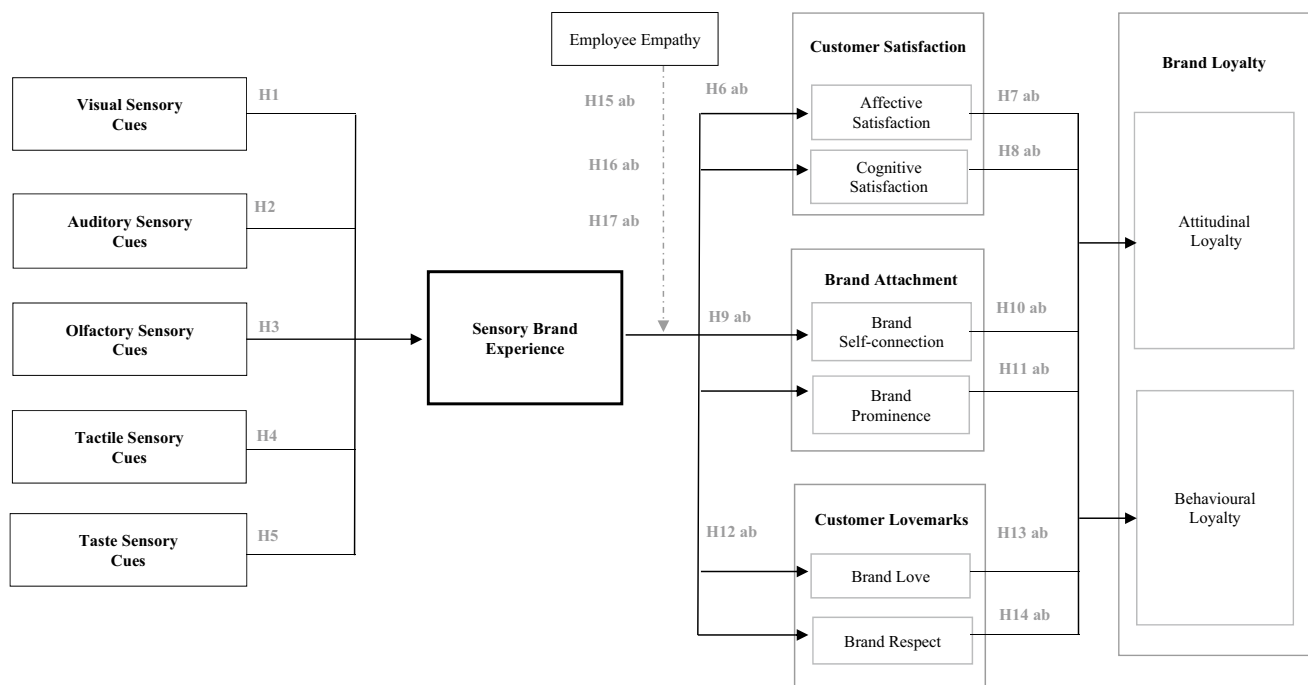


Fig. 1 Conceptual framework

most frequently utilised and trusted sensory system, often overshadowing other sensory inputs (Akarsu et al. 2021; Zha et al. 2021b).

Sample et al. (2020) contend that comprehending the intricacies of visual sensory stimulation and the processing of these visual cues is pivotal for marketing strategists and professionals. By grasping the nature of individual visual components, practitioners can devise an integrative visual marketing approach. SBE offers this cohesive conceptual framework, adeptly amalgamating various cues into a singular, unified brand viewpoint. The emphasis on research pertaining to visual sensory cues is paramount, given that these cues typically constitute our primary sensory impressions (Krishna 2012) and continue to dominate our brand consciousness.

Functional design elements, such as layout, signage, and physical comfort, play a pivotal role in shaping a store's visual appeal. The way merchandise is visually organised can significantly influence not just the quantity but also the type of products customers buy. Architectural and interior design elements contribute to this visual perspective and are integral to a brand's visual identity. Moreover, the choice of colour in product packaging and online marketing can significantly influence corporate communication through sensory experiences (Yu et al. 2020). Colour psychologists Labrecque et al. (2013) discerned that colours can convey two distinct meanings in the consumer's mind: embodied meaning, which is an intrinsic aspect of SBE, and referential meaning, which is associated with brand image and identity.

Research into visual cues also often explores lighting and brightness in a retail setting. According to Dong et al. (2015), an individual will experience bleakness in a darker environment but pleasure in a brighter environment and be more likely to have a positive sensory experience. Wilms and Oberfeld (2018) and Ringler (2020) also explained the importance of lighting in an environment that affects the consumer. In the earliest studies, Baker et al. (1992) argued that strong lighting is the key factor in giving the consumer pleasure. Even the appearance of service personnel has a role in the arousal of sensations and has a positive effect on a shopping journey (Pozharliev et al. 2015).

Some authors emphasise the visual stimuli based on explicit and implicit brand signals. Explicit brand signals include visual cues that carry information about brand identity and brand personality (Brakus et al. 2009; Roggeveen et al. 2020). Implicit brand signals include visual cues that emanate from store ambience and social interactive processes inferential in intended brand meanings. From the brand setting perspective, vision is both the primary receptor of external cues (Childers and Houston 1984; MacInnis and Price 1987) and the prime effector of secondary and multisensory response involving other sensual modalities (Elder and Krishna 2021). According to Krishna (2012) and Hultén (2011), visual perception is one of the perceptions of SBE. Therefore, this study expects that visual cues will be a key strategy to create a positive SBE. Thus:



H1: Greater presence of visually appealing sensory cues positively impacts sensory brand experience.

Auditory Sensory Cues → Sensory Brand Experience

Visual sensory cues are limited to the field of vision; this spans only “130 degrees vertically and horizontally” (Roggeveen et al. 2020, p. 130), while auditory cues suffer no such limitations. Individuals can receive auditory signals from all directions. Auditory sensory cues are sound-related cues and include the hearing and listening stimuli present in brand settings. Two types of auditory sensory cues are present: explicit cues, including store-wide, vocalised messages such as promotions, announcements, jingles, and cues arising from consumer/employee or employee/employee interactive processes; and implicit brand signals, including auditory cues from the store ambience such as background music and acoustic design that portray the intended meaning of the brand (Akarsu et al. 2021; Bartholme´ and Melewar 2011).

Research (Michel et al. 2017; Spence 2012; Turley and Milliman 2000) identified auditory cues impact consumers’ internal processes, such as emotions (pleasure, valence, mood, and arousal). Different types of brand settings (e.g. a high-end fashion boutique or a budget warehouse store) require different blends and levels of an auditory mix. As a result, the study can safely conclude that firms with well-managed auditory cues are more effective in influencing a positive SBE:

H2: Enhanced presence of auditory sensory cues positively influences sensory brand experience.

Olfactory Sensory Cues → Sensory Brand Experience

Olfactory sensory cues pertain to an individual’s perception of prominent olfactory stimuli within a brand setting. These cues involve the use of pleasing odours introduced through ambient scenting techniques. They encompass sensorial expressions such as product congruence, intensity, physically appealing features, advertising themes, and the signature brand scent. The primary objective of olfactory sensory cues is to amplify awareness, signalling the presence of specific agents in the air and assessing their quality to guide behaviour (Biswas et al. 2021; Bosmans 2006a, b; Hultén 2017; Krishna et al. 2010). Gulas and Bloch (1995) developed a conceptual model portraying ambient scent as an environmental cue that influences emotional responses and ultimately shopping behaviours. Spangenberg et al.’s (1996) conclusive study showed that customers in a scented environment were more likely to have positive perceptions and evaluations of the retail offering. Scents have also been observed to produce valenced behavioural outcomes, and as a result, are an appropriate subject for studying consumption

behaviour in the environment. Roschk et al.’s (2020) meta-analysis of 671 studies of pleasant ambient scents shows that a pleasant ambient scent has a demonstrable positive effect on customer responses.

Most researchers (Bajaj and Bond 2018; Lin et al. 2018; Mattila and Wirtz 2001) have concentrated on three main areas: first, the affective dimension of scent, including its effect on the pleasure response; second, the effect of scent on the arousal variable, including any psycho-physical processes; and third, scent intensity. There is no doubt that most research to date has focused mainly on the affective response to olfactory. The arousing quality of scent is an attribute linked to brand recall (Lwin and Morrin 2012). Scented products have also been shown to elicit higher levels of recall and recollection of salient product information (De Luca and Botelho 2021). Additionally, De Luca and Botelho (2020) established the link between familiar scents and customer-characterising brand meaning such as categorisation, recall, and choice. As a result, the study can safely conclude that firms with well-managed olfactory cues are more effective in influencing a positive SBE:

H3: Increased presence of tactile sensory cues positively contributes to sensory brand experience.

Tactile Sensory Cues → Sensory Brand Experience

Tactile sensory cues refer to an individual’s perception of notable tactile stimuli within a brand setting. This sense of touch facilitates the perceptual differentiation of aspects such as material, temperature, texture, weight, and steadiness. Touch is described as the sensations elicited by the stimulation of receptors in the skin. As one of the first human senses to develop and given that the skin is our largest sensory organ, touch is often viewed as one of our most intimate senses. Physical contact, especially with the hands, serves as a primary source of tactile input, playing a pivotal role in our touch perceptual system (Luangrath et al. 2020; Jha et al. 2020). This tactile information is the basis of Peck and Childers’s (2003a) development of the ‘need for touch’ scale, defined as a person’s preference or non-preference for using tactile means to extract information about a product. In a brand setting, tactile information provides customers with a tangible experience to characterise salient aspects of brand attributes and brand personality. Ensuring that customers have ample opportunities for tactile interaction with merchandise is key to success for many retail outlets.

Tactile information also comes through the interpersonal touch between staff members and customers (Luangrath et al. 2020). For instance, shoppers who receive touch leave higher tips for servers in a restaurant or report a more positive affect. In a brand setting, tactile cues provide a direct physical connection to the customer, bringing a sense of



tangibility to the overall SBE. As a result, the study can safely conclude that firms with well-managed tactile cues are more effective in influencing a positive SBE:

H4 The inclusion of appealing olfactory sensory cues has a positive effect on sensory brand experience.

Taste Sensory Cues → Sensory Brand Experience

Taste sensory cues refer to an individual's perception of prominent taste stimuli within a brand setting. These cues encompass free food sampling, the taste of food products, and attractions or aversions to certain flavours, which involve a multisensory input. A single negative response to a food item can lead to long-term avoidance, whereas a positive reaction can evoke deeply positive memories of food consumption. These memories can be more vivid and enriching than memories elicited by a singular auditory, visual, olfactory, or tactile experience (Elder and Krishna 2021; Hoegg and Alba 2007). In previous sensorial research, the influence of taste has been among the areas most widely covered, because of its contribution to the food and beverage industry (Biswas et al. 2021; Elder and Krishna 2021). Taste sensation is the result of impingement of external stimuli on the tongue resulting in one of five taste responses: salty, sweet, sour, bitter, and umami. As consumers' gastronomic sophistication increases, the role of taste cues in brand settings has become more and more significant. According to Roggeveen et al. (2020), food sampling influences consumer sensory experience in a retailing context. Moreover, some external sensory cues impacting taste perceptions, such as visual (e.g. brand label, colour of juice, price), auditory (e.g. music), oral haptic, and scent (e.g. the smell of food) can also influence consumers' expected taste experiences effectively. Based on the above observations, it is hypothesised that:

H5: The presence of enjoyable taste sensory cues positively enhances sensory brand experience.

Consequences of the Sensory Brand Experience

Sensory Brand Experience → Customer Satisfaction → Brand Loyalty

Over the last four decades, the concept of customer satisfaction has now the staple of marketing research, especially in the marketing domain (Hult et al. 2019; Nunkoo et al. 2020). Customer satisfaction pertains to the discrepancy between expectations and the actual experience, rooted in the consumer's initial perspective about the consumption experience (Bigné et al. 2005; Dash et al. 2021; Mithas et al. 2005). Affective satisfaction arises from the affirmation of

emotional expectations resulting from a positive experiential response to a product or service over time. In contrast, cognitive satisfaction stems from the validation of logical expectations based on a cognitive evaluation of a product or service's delivery over a period.

Some researchers (Barnes et al. 2014; Nysveen and Pedersen 2014; Japutra and Molinillo 2019) argue that customer satisfaction is the key outcome of brand experience because direct experiences serve to confirm or rebut brand hypotheses gathered through the media. Ha and Perks (2005) showed in their study on the retailing sector that consumers with satisfaction outcomes are usually those with direct experiences with the brand. Chahal and Dutta (2015) went further, demonstrating that it is the sensorial components of brand experiences that have the most direct impact on a customer's response. Also, Iglesias et al. (2019) view the response to the sensorial dimensions of the brand as a very important component of overall customer satisfaction.

Most scholars are investigating the causal relationship between SBE and customer satisfaction from an empirical approach. For instance, Nysveen and Pedersen (2014) show that the SBE has a positive impact on customer satisfaction in the service setting. Sahin et al. (2013) demonstrated empirically the direct impact of SBE on customer satisfaction in the automotive industry. In view of such existing evidence from various research settings, and this research attempting to obtain further empirical insight into the impact of the SBE on customer satisfaction in the shopping mall industry (Van Kerrebroeck et al. 2017), it can be concluded that SBE has a positive effect on affective and cognitive satisfaction. Beyond the relationship between SBE and customer satisfaction, scholars also investigated the impact of customer satisfaction on attitudinal and behavioural loyalty (e.g. Sierra et al. 2017). For instance, in a consumer–company relationship model, Bhattacharya and Sen (2003) proposed that attitudinal loyalty is the result of consumers' satisfaction with the company, which is essentially a cognitive input. In the same vein, Ramaseshan and Stein (2014) examine the relationship between brand relationship variables and brand loyalty (attitudinal and behavioural). In a conceptual framework of brand experience, Brakus et al. (2009) empirically identified that customer satisfaction influenced brand loyalty positively. There is therefore ample evidence in literature attesting to the impact of consumer satisfaction on brand loyalty. Thus:

H6: Sensory brand experience has a positive effect on (H6a) affective satisfaction and (H6b) cognitive satisfaction.

H7: Affective satisfaction has a positive effect on attitudinal loyalty (H7a) and (H7b) behavioural loyalty.

H8: Cognitive satisfaction has a positive effect on (H8a) attitudinal loyalty and (H8b) behavioural loyalty.



Sensory Brand Experience → Brand Attachment → Brand Loyalty

Brand attachment refers to the strength of an individual's specific emotional bond with a particular object. This attachment encompasses two dimensions: brand-self connection and brand prominence. Brand-self connection measures the extent to which consumers perceive a link between themselves and the brand. On the other hand, brand prominence gauges the degree to which positive emotions and memories related to a brand are forefront in one's mind, serving as an indicator of the connection (Thomson and Matthew 2006; Thomson et al. 2005). In a brand attachment study, Donvito et al. (2020) argued convincingly that brand attachment reflected the internalised bonding of a relationship between a consumer and a brand. Studies have shown that consumers bond with brands that have values and personalities correlating to their own (Japutra et al. 2019). The brand, in this context, becomes an expression of the consumer's identity (Huang et al. 2018). Park et al. (2008) elaborated that brand attachment is developed when the values represented by the brand become absorbed into the construction of the self; in other words, by experiencing a brand's "core ideology or values, the consumer becomes motivated to pursue his/her personal goals" (pp. 9–10). Brakus et al. (2009) observed that over time, repeat experiences with a brand result in some form of emotional bonding and attachment.

Vivid and memorable multisensory experiences have been observed to have a catalytic role in activating emotional bonding and attachment (e.g. Borghini et al. 2009). Furthermore, Dolbec and Chebat (2013) find SBE influences brand attachment in a retail brand setting. Huang et al. (2018) confirmed a customer feeling crowded in a consumption environment can reduce the level of brand attachment due to the low degree of customer satisfaction. Japutra et al. (2019) also find SBE as a key determinant of brand attachment.

In addition, existing research has demonstrated consistently the causal relationship between brand attachment and brand loyalty. According to Park et al. (2010), two dimensions of brand attachment—brand-self connection and brand prominence influence favourable consumer behaviour, such as repeat purchases and positive brand attitude. Brocato et al. (2015) identified that a consumer's attachment to a service location yields a positive influence on word-of-mouth activities. Japutra et al. (2014) and Japutra et al. (2018), on the other hand, identified brand attachment as an important predictor of purchasing loyalty, which is essentially an affective input. Brand attachment itself has been found to contain cognitive elements related to brand-self connections. At a deeper level of attachment, a customer's beliefs about themselves become entangled with brand beliefs, creating a cognitive self-brand bonding. Based on the above observations, the following is hypothesised:

H9: Sensory brand experience has a positive effect on brand-self connection (H9a) and (H9b) brand prominence.

H10: Brand-self connection has a positive effect on attitudinal loyalty (H10a) and (H10b) behavioural loyalty.

H11: Brand prominence has a positive effect on attitudinal loyalty (H11a) and (H11b) behavioural loyalty.

Sensory Brand Experience → Customer Lovemarks → Brand Loyalty.

Customer lovemarks refer to a category of highly evolved brand relationships, encompassing both brand love and brand respect. Brand love is the arousal of feelings and emotions in a consumer due to their relationship with a brand. In contrast, brand respect is defined as a customer's positive sentiments and trust towards a specific brand. Roberts (2005) identified three variables—mystery, sensuality, and intimacy—which are considered precursors to customer lovemarks. These can be described within the context of a sensory brand. Cho et al. (2015) identified four major sensory themes (visual, olfactory, auditory, and tactile sensations) at this stage, characterising a customer's sensorial appreciation of a particular brand. From this BRQ perspective, customer lovemarks can be perceived as the outgrowth of the satisfaction and attachment variables.

Loyalty has also been defined as an enduring desire to maintain a valued relationship. Roberts (2005) suggested this 'beyond reason' commitment to maintaining a relationship is a sign of lovemarks, an essential ingredient in the formation of customer loyalty. Huang (2017) also identified two variables, brand love and brand respect, as key mediators between brand experience and brand loyalty. Since these two variables are key components of lovemarks, this is another validation of the relationship between lovemarks and brand loyalty. In a fashion brand study, Cho et al. (2018) demonstrated the correlation between SBE and two dimensions of customer lovemarks (brand love and brand respect) and its consequent effect on loyalty. In a sports brand study, Shuv-Ami et al. (2018) developed a lovemarks scale (brand love, brand respect) to assess brands with entrenched loyalty and its impact on behavioural intention. In a tourism context, Chen et al. (2020) and Han et al. (2020) identified the positive influence of lovemarks both brand love and brand respect have on brand loyalty. Song et al. (2019) demonstrated that customers' brand love and respect influenced brand loyalty positively in the hospitality industry. Thus, it is expected that customer lovemarks as a key consequence of SBE have a positive effect on brand loyalty and hypothesised that:



H12: Sensory brand experience has a positive effect on brand love (H12a) and (H12b) brand respect.

H13: Brand love has a positive effect on attitudinal loyalty (H13a) and (H13b) behavioural loyalty.

H14: Brand respect has a positive effect on attitudinal loyalty (H14a) and (H14b) behavioural loyalty.

Moderator (Employee Empathy)

Empathy is a concept borrowed from social psychology. Scholars have conceptualised employee empathy as having both cognitive and emotional dimensions (Kerem et al. 2001; Smith 2006). Cognitive empathy arises when an employee actively tries or possesses the inherent skill to comprehend and recognise a customer's feelings, thoughts, and intentions, also termed 'perspective-taking'. Emotional empathy pertains to an employee's ability to evoke feelings of profound empathetic concern and emotional contagion. Emotional contagion implies that emotions can transfer from one individual to another during brief interactions, leaving a lasting impression. In contrast, empathetic concern is one's reaction to another's feelings without having personally experienced such emotions before (Eisenberg and Strayer 1987; Hoffman 1984).

According to the service marketing literature, empathy is the ability to step into another's shoes to observe, feel, sense, and interpret the external world. More profoundly, empathy also encompasses vicariously participating in another's emotional experiences or mirroring a response to a witnessed event (Wei et al. 2020; Wieseke et al. 2012). Empathy is deemed essential for employees, especially in service settings, and plays a pivotal role in their success when interacting with customers (Bitner 1992). A high degree of employee empathy offers customers caring and personalised attention, thereby enhancing service quality. This lays the foundation for positive service encounters (Aggarwal et al. 2005). However, when employees lack empathy, consumers might disregard positive sensory cues or interpret them differently, resulting in potential misalignment between what the firm aspires to project through the sensorial setting and what the customer actually experiences and construes.

Given empathy's significance in influencing consumer–employee interactions, it's instrumental for customer satisfaction (Aggarwal et al. 2005; Giacobbe et al. 2006). Frontline employees who can discern customer needs and desired services can tailor their actions accordingly, improving service quality and, by extension, customer satisfaction (Bettencourt and Gwinner 1996; Gwinner et al. 2005). As noted by Makovic et al. (2018), when customers perceive employees as empathetic, it enhances brand equity.

Employees serve as crucial conduits for transmitting positive brand sentiments to customers (Howard and Gengler 2001). These feelings potentially affect brand attachment and customer lovemarks. As the service literature suggests, employees are pivotal stakeholders in companies. They can either elevate or tarnish the brand image during customer interactions (Gelb and Rangarajan 2014; Harris and de Chernatony 2001; Iglesias et al. 2017). Thus, a customer's positive brand experience hinges on employee behaviour, both cognitively and emotionally (Wieseke et al. 2012). Furthermore, Iglesias et al. (2019) find employee empathy negatively moderates the relationship between SBE and customer satisfaction and suggest that the significance of a positive SBE diminishes in the presence of high employee empathy compared to situations where employee empathy is low. In attempting to explain this *counterintuitive* result, Iglesias et al. (2019) highlight that the human factor as represented by the employee empathy construct should be segregated from the SBE construct which is defined by the authors as being more environmentally nuanced. Therefore when employee empathy levels are less intrusive, the influence of SBE on customer satisfaction is greater. The authors went on to suggest that a positive SBE can therefore serve as a compensatory factor in instances of lower employee empathy, contributing to enhanced customer satisfaction. They also highlight the need for further research exploring the moderating influence of employee empathy on SBE and brand outcomes in varied settings. This study aims to scrutinise the moderating effect of employee empathy on SBE, customer satisfaction, brand attachment, and customer lovemarks – aspects not yet extensively explored in existing literature.

Aligning with the service marketing literature's concept of employee empathy, this study posits that empathetic employees can assist customers by understanding and prioritising their best interests, thereby elevating the brand experience. Hence, employee empathy may significantly moderate the relationship between a positive SBE and customer satisfaction, brand attachment, and customer lovemarks. Based on these observations, the study hypothesises:

H15: The greater the employee empathy, the stronger the effect of sensory brand experience on affective satisfaction (H15a) and (H15b) cognitive satisfaction.

H16: The greater the employee empathy, the stronger the effect of sensory brand experience on brand love (H16a) and (H16b) brand respect.

H17: The greater the employee empathy, the stronger the effect of sensory brand experience on brand-self connection (H17a) and (H17b) brand prominence.



Methodology

Data Collection

Based on the research objectives and questions, this research conducted 10 interviews with retail managers (3) as well as (7) Chinese shopping mall customers (see Table 1), and four focus groups with Chinese shopping mall customers (see Table 2) prior to collecting the main survey. Specifying how the content domain is selected draws on a critical review of the relevant literature, complemented with ideas from qualitative observations (in-depth interviews and focus groups). The data triangulation enhanced the validity of results and enriched the research conclusions. Informants were interviewed (interviews and focus groups) face-to-face and in their native language (Chinese). After the interview, the translation-back-translation process was used in a non-mechanical way followed the suggestions of Harpaz (2003),

in which a small group with four bilingual individuals who are fluent in both English and Chinese discussed each question and the differences. Then, the pilot study was conducted with 90 Chinese customers.

The main study involves the collection of data using a survey questionnaire for purposes of scale purification and hypothesis testing. Two versions of the questionnaires (Chinese and English) were produced by using the same construct measures. As an investigative context, a shopping mall was the preferred context because malls represent one of the most sensorially active consumption environments (Spence 2014). Malls today are no longer mere shopping environments; they are increasingly conceived as experience centres providing stimulation relating to all aspects of the sensory experience. This ensures that all dimensions of the sensorial experience including taste, touch, visual, auditory, and scent can be monitored and studied. As such, malls are prime subjects to investigate the full range of sensorial stimulation

Table 1 The details of in-depth interviews with customers and managers (Total: 10)

| Interview date | Organisation | Interview position | Interview approx. duration |
|---|--|--------------------------|----------------------------|
| 21.02.2019 | The MixC mall | Duty manager | 60 min |
| 26.02.2019 | The MixC mall | Store manager | 90 min |
| 12.03.2019 | The MixC mall | Marketing manager | 75 min |
| Topic discussed with retail managers | | | |
| To understand of the sensory brand experience | | | |
| The factors that influence sensory brand experience | | | |
| Their experience of what they understand the SBE and its influence brand loyalty | | | |
| Discussion of visual, auditory, olfactory, tactile and taste sensory cues in retail setting | | | |
| The main perceived impacts of sensory brand experience | | | |
| 24.12.2019 | 48 / regular 2 times per month/ female | Manufacturing employee | 50 min, |
| 30.12.2019 | 31/ regular 2–3 times per month / female | Customer service manager | 50 min |
| 31. 12.2019 | 32/regular 1–2 times per month / female | Banker | 60 min |
| 03.01.2020 | 25/ regular 2–3 times per month / female | Graduate | 60 min |
| 07.01.2020 | 21/ regular 1–2 times per month/male | Undergraduate student | 50 min |
| 12.01.2020 | 26/ regular 2 times per month/male | Teacher | 60 min |
| 14.01.2020 | 28/regular 1–2 times per month/ male | PHD candidate | 60 min |
| Topic discussed with consumers | | | |
| To understanding of the SBE | | | |
| General information about different sensory brand experience in shopping malls | | | |
| Impression of what they understand about sensory brand experience, brand loyalty | | | |
| The impact of the sensory brand experience on their consumers' mind | | | |
| Discussion of the name of visual, auditory, tactile, olfactory and taste cues | | | |
| Discussion of the most influential sensory cues for them | | | |
| The influence of sensory brand experience on customer lovemarks | | | |
| The influence of sensory brand experience on customer satisfaction | | | |
| The influence of sensory brand experience on brand attachment | | | |
| The elements of sensory brand experience | | | |
| The main perceived impact of the sensory brand experience | | | |



Table 2 Details of the participants in the focus groups

| Interview date | Number of participants | Interviewee occupation | Age range | Interview approx. length |
|----------------|------------------------|---|-----------|--------------------------|
| 20.02.2019 | 6 | R1: Event manager R2: Graphic designer R3: Teacher R4: Banker R5: Project manager R6: Entrepreneur | 35–55 | 90 min |
| 25.02.2019 | 6 | Employee of retailing | 25–35 | 83 min |
| 01.03.2019 | 6 | Master student | 25–29 | 60 min |
| 02.03.2019 | 6 | R1: Tech. employee R2: Homemaker R3: Homemaker R4: Property staff R5: Store designer R6: Homemaker | 25–37 | 62 min |

Topics discussed

Understanding of the sensory brand experience
 General information about different sensory brand experience in shopping malls
 Impression of what they understand about sensory brand experience, brand loyalty
 The impact of the sensory brand experience on their consumers' mind
 Discussion the name of visual, auditory, tactile, taste and olfactory sensory cues
 Discussion of the most influence sensory cues for them
 The influence of sensory brand experience on customer lovemarks
 The influence of sensory brand experience on customer satisfaction
 The influence of sensory brand experience on brand attachment
 The elements of sensory brand experience

in consumption experiences, but “far less research pertains to this area” (Spence 2014, p. 482).

Furthermore, shopping malls in China were chosen based on China's retail market becoming increasingly important for marketing studies because it is one of the biggest and most dynamic retail markets in the world; a phenomenon any serious scholar who wants to understand global retailing cannot afford to ignore (China Daily 2021). Moreover, Chinese shopping mall operators have prioritised the transformation of the traditional function of malls as shopping destinations to must-visit multipurpose experiential destinations (China Daily 2020).

A questionnaire survey was conducted with 512 Chinese shopping mall consumers who had positive shopping experiences in China in the last year via WenJuanXing (a Chinese online survey platform). Convenience sampling was used as viable as probability sampling, which is widely used in business and management-related fields of study (Bell et al. 2018; Foroudi et al. 2021). A seven-point Likert type scale was applied for the main survey, from strongly disagree (1) to strongly agree (7), to measure consumers' attitudes towards the SBE based on their past experience interacting with a shopping mall environment in China.

Table 3 shows the demographic profile of the survey respondents. The results show that most participants are women (64.8%) and the ages of the major group of

participants are between 36 and 45 years (42.1%), many of them have obtained an undergraduate degree (36.3%) and most of the participants were married (80.7%). The results also show the income level of respondents as representative of the middle-class population in China (¥50,000 to ¥100,000 35.2%; ¥100,001 to ¥150,000 20.3%). Based on the official data, the income of a middle-class household in China is around RMB 25,000 in a year (Statista 2021). As demonstrated in Table 3, all the respondents were asked to select a favourite Chinese shopping mall brand from which they had a positive shopping experience and have frequented in the past two months (once or less 45.6%; twice 35.6%; four times or more 18.8%; three times 11.8%).

Development of Measures and Refinement

We followed Churchill's (1979) approach to use a procedure with a set of items to measure the construct better. The definition of each construct is illustrated in Appendix 1. Besides the original pool of items identified from the extant literature, new items surfaced in the qualitative phase of the study that were also considered. The multi-item measures were modified to operationalise the constructs. Next, the initial item version was discussed with seven faculty members and three bilingual academics in the department of marketing at Middlesex University Business School to ensure the



Table 3 Demographic profile of the consumers of Chinese shopping malls (N = 512)

| Sample size (N) | N | % |
|---|-----|-------|
| Age | | |
| 18 to 24 years | 66 | 12.9 |
| 25 to 35 years | 81 | 15.8 |
| 36 to 45 years | 210 | 41.0 |
| 46 to 55 years | 81 | 15.8 |
| 56 to 65 years | 60 | 11.7 |
| 65 years old or more | 14 | 2.7 |
| Total | 512 | 100.0 |
| Gender | | |
| Male | 183 | 35.2 |
| Female | 327 | 64.8 |
| Total | 512 | 100.0 |
| Education | | |
| High school or less | 108 | 21.0 |
| Secondary/postsecondary specialised school | 166 | 32.4 |
| Undergraduate | 186 | 36.3 |
| Postgraduate and above | 52 | 10.3 |
| Total | 512 | 100.0 |
| Employment status | | |
| State-owned enterprise | 95 | 18.6 |
| Private enterprise | 121 | 23.6 |
| Foreign invested enterprise | 16 | 3.1 |
| Joint venture | 5 | 1.0 |
| Government department | 34 | 6.6 |
| Freelance | 48 | 9.4 |
| Student | 57 | 11.1 |
| Other | 76 | 14.8 |
| Retired | 60 | 11.7 |
| Total | 512 | 100.0 |
| Marital status | | |
| Married | 413 | 80.7 |
| Single | 94 | 18.3 |
| Divorced | 5 | 1.0 |
| Total | 512 | 100.0 |
| Income | | |
| Less than ¥ 50,000 | 147 | 18.7 |
| ¥50,000 to ¥ 100,000 | 180 | 35.2 |
| ¥100,001 to ¥ 150,000 | 104 | 20.3 |
| ¥150,001 to ¥ 200,000 | 38 | 7.4 |
| ¥200,001 to ¥ 250,000 | 8 | 1.6 |
| ¥250,001 to ¥ 300,000 | 12 | 2.3 |
| ¥300,001 to ¥ 350,000 | 3 | .6 |
| ¥350,001 to ¥ 400,000 | 4 | .8 |
| ¥400,001 to ¥ 450,000 | 16 | 3.1 |
| Total | 512 | 100 |
| How many times have you been to this shopping mall in the last two months? | | |
| Once or less | 219 | 45.6 |
| Twice | 162 | 35.6 |

Table 3 (continued)

| Sample size (N) | N | % |
|--------------------|-----|-------|
| Three times | 50 | 11.8 |
| Four times or more | 81 | 18.8 |
| Total | 512 | 100.0 |

content validity of the items. Additionally, two academics from Coventry University Business School London, who are experts familiar with the research topic, were involved in the process. The researcher asked them to examine if the measures met the theoretical meanings and how reflective each scale item was relative to the specific construct in questionnaire. After a set of adjustments and modifications, described in the following paragraphs, the judges agreed that all items were *highly representative* or *slightly representative* of their provided constructs and no item was assumed as *not at all representative*. The complete scales are provided in Appendix 2.

In this study, the SBE construct was developed based on the qualitative study and literature review (Brakus et al. 2009; Ding and Tseng 2015; Iglesias et al. 2019). The independent measures, such as visual sensory cues (Foroudi et al. 2020; Kim and Moon 2009; Melewar and Saunders 1999, 2000), auditory sensory cues (Booms and Bitner 1982; Bitner 1992), olfactory sensory cues (Chen and Lin 2018; Haase and Wiedmann 2018), tactile sensory cues (Booms and Bitner 1982; Bitner 1992), and taste sensory cues (Chen and Lin 2018), were obtained via the literature review, extant research, and qualitative study. The dependent measures of affective satisfaction (Westbrook and Oliver 1981), cognitive satisfaction (Westbrook and Oliver 1981), brand-self connection (Aaker et al. 2004; Escalas 2004; Park et al 2010), brand prominence (Park et al. 2010), attitudinal loyalty (Yoo and Donthu 2001; Melewar et al. 2017), and behavioural loyalty (Zeithaml et al. 1996) were obtained based on the existing scales. Brand love (Carroll and Ahuvia 2006), Brand respect (Cho et al. 2015), and employee empathy (Parasuraman et al. 1994) were employed through both the literature review and qualitative study.

Analysis and Results

To test the internal consistency of the scales, we conducted item-to-total correlations from each construct in IBM SPSS 22. Following Besrden and Netemeyer (1999), we eliminated items exhibiting values below 0.50 ($P < 0.001$). Thus, TSC_5 ($r = 0.478$, $P < 0.001$) and BA_BP4 ($r = 0.465$, $P < 0.001$) were dropped. The statistical control for the common method bias was investigated in this study by employing the Harman's (1967) one-factor test which is the most widely used



method, followed by Podsakoff et al. (2003; 2012). The finding illustrated that no common method bias (19.772%) was below 50% in this study because a single factor solution did not emerge. Next, we examined the remaining items for confirmatory factor analysis (CFA). We estimated a measurement model that contained 92 items corresponding to the 68 items corresponding to the 15 study constructs and control variables. Nomological validity was applied with the maximum likelihood (ML) estimation method to examine whether the model is a fit or not. The model fit results showed an acceptable model fit (chi-square statistic $\chi^2 = 3212.784$, $df = 2105$ $P < 0.001$, normed fit index [NFI] = 0.873, comparative fit index [CFI] = 0.952, goodness-of-fit index (GFI) = 0.973, Tucker-Lewis Index (TLI) = 0.948, and root mean square error of approximation [RMSEA] = 0.032) (Hair et al. 2019).

Covergent validity was achieved as the standardised factor loading was significant as above 0.7 (0.625 to 0.947 > 0.7), the Cronbach's alpha for each construct was above the threshold value of 0.7 (0.905 through 0.972) and met the reliability requirements, and the average variance extracted (AVE) for each construct was achieved with the recommended cutoff point of 0.5, and all composite validity results were significant (i.e. over 0.70) (Hair et al. 2019). Table 4 illustrates the results of descriptive, reliability, convergent validity, and model fit indicators. We assessed discriminant validity by using Fornell and Larcker's (1981) examination and identified that all the square correlation was below the AVE estimates (<0.90) among the constructs, discriminant validity was significant (see Table 5). In conclusion, the results of CFA results show the scales used have satisfactory measurement items and can therefore be further used to analyse the proposed hypotheses:

The proposed hypotheses were test-based on the standardised estimate and t -value in AMOS 26, and the results show the structural model is acceptable and fit as CFI, IFI and TLI were higher 0.90, and the RMSEA was lower than 0.08. The findings of hypotheses show the standardised regression path between hypothesised relationship between five sensory cues and SBE were fully accepted: visual sensory cues (VSC) H1 ($\gamma = 0.0.278$, t -value = 4.945), auditory sensory cues (ASC) H2 ($\gamma = 0.159$, t -value = 2.687), olfactory sensory cues (OSC) H3 ($\gamma = 0.0.176$, t -value = 2.767), tactile sensory cues (TCS) H4 ($\gamma = 0.123$, t -value = 2.187), and taste sensory cues (TASC) H5 ($\gamma = 0.0.148$, t -value = 2.677).

Furthermore, the direct hypothesised relationship between SBE and its outcomes was fully accepted: affective satisfaction H6a ($\gamma = 0.0.28$, t -value = 5.7) and cognitive satisfaction H6b ($\gamma = 0.0.201$, t -value = 4.064), brand-self connection H9a ($\gamma = 0.0.150$, t -value = 6.515) and brand prominence H9b ($\gamma = 0.0.186$, t -value = 6.485), and brand love H12a ($\gamma = 0.0.231$, t -value = 4.639) and brand respect H12b ($\gamma = 0.262$, t -value = 5.308). However, the hypothesised relationship between affective satisfaction and attitudinal loyalty

H7a ($\gamma = -0.078$, t -value = 0.072), cognitive satisfaction and behavioural loyalty H8b ($\gamma = 0.0.061$, t -value = 0.178), brand-self connection and behavioural loyalty H10b ($\gamma = 0.0.012$, t -value = 0.787), and brand prominence and behavioural loyalty H11b ($\gamma = 0.0.06$, t -value = 1.303) was rejected. The hypothesised relationship between affective satisfaction and behavioural loyalty (H7b), cognitive satisfaction attitudinal loyalty (H8a), brand-self connection and attitudinal loyalty (H10a), brand prominence and attitudinal loyalty (H11c), brand love and attitudinal loyalty (H13a), brand love and behavioural loyalty (H13b), brand respect and attitudinal loyalty (H14a), and brand respect and behavioural loyalty (H14b) was found to be significant ($\gamma = 0.150$, t -value = 3.317; $\gamma = 0.186$, t -value = 4.178; $\gamma = 0.118$, t -value = 2.657; $\gamma = 0.235$, t -value = 5.142; $\gamma = 0.200$, t -value = 4.459; $\gamma = 0.222$, t -value = 4.755; $\gamma = 0.208$, t -value = 4.703; $\gamma = 0.399$, t -value = 8.115, respectively).

After estimating the direct effects, the researcher examined the indirect effects to establish mediation effects. As illustrated in Table 6, employee empathy is a mediator of the relationship between SBE and affective satisfaction, cognitive satisfaction, and brand prominence, thus confirming hypotheses H15a, H15b, and H17b ($\gamma = 0.120$, t -value = 2.562; $\gamma = 0.126$, t -value = 2.605; $\gamma = 0.115$, t -value = 5.415). However, the moderator effect of employee empathy on SBE and customer lovemarks was not supported in both brand love (H16a) and (H16b) brand respect ($\gamma = -0.028$, t -value = 0.566; $\gamma = 0.032$, t -value = 0.503), and on SBE and brand-self connection (H17a) was rejected ($\gamma = -0.095$, t -value = 2.011).

The results of SEM show that 22 pathways out of the 29 pathways were supported (see Table 6). Figure 2 illustrates the validated model. Accordingly, the structural model illustrates a thorough examination of the hypothesised relationships between the constructs.

Discussion and Conclusion

Theoretical Contributions

This research contributes to the literature by providing a statistically validated conceptual model of SBE that explains the link between the SBE and the main factors (its antecedents) that influence a positive SBE, employee empathy (moderator), and its consequences. Particularly, this research demonstrates that the direct effect of five sensory cues in a brand setting has a significant impact on SBE. Several scholars (e.g. Biswas et al. 2021; Hultén 2011; Roggeveen et al. 2020) have suggested that multisensory cues (visual, olfactory, auditory, tactile, and taste) influence SBE positively. However, the relationship between all of five sensory cues and SBE has rarely been



Table 4 Scales and confirmatory factor analysis results

| Construct/item | Mean | SD | Codes | Cronbach's alpha | Factor loading | AVE | Construct reliability |
|--|------|-------|--------|------------------|----------------|-------------|-----------------------|
| Sensory Brand Experience | | | | .972 | | .500 | .888 |
| This shopping mall makes a strong visual impression on me | 5.75 | 1.028 | SBE_1 | | .660 | | |
| This shopping mall also makes a strong impression on my other senses | 5.57 | 1.120 | SBE_2 | | .601 | | |
| This shopping mall gives me a sense of fun | 5.71 | 1.018 | SBE_5 | | .713 | | |
| I feel this shopping mall always offers something innovative | 5.61 | 1.065 | SBE_8 | | .664 | | |
| This shopping mall always makes me feel comfortable | 5.65 | 1.015 | SBE_10 | | .786 | | |
| This shopping mall fulfils my needs for variety | 5.61 | 1.071 | SBE_12 | | .764 | | |
| This shopping mall offers a comfortable caring environment | 5.67 | 1.012 | SBE_13 | | .760 | | |
| The shopping mall offers exciting programmes for members on membership day | 5.67 | 1.008 | SBE_15 | | .691 | | |
| Visual Sensory Cues | | | | .971 | | .507 | .911 |
| I find the colours used in the exterior design of the shopping mall very appealing | 5.36 | 1.124 | VSC_1 | | .649 | | |
| I find the colours used in the interior design of the shopping mall attractive | 5.33 | 1.126 | VSC_2 | | .675 | | |
| The interior design of this shopping mall gives me a pleasant feeling | 5.45 | 1.073 | VSC_4 | | .777 | | |
| I find the exterior design of this shopping mall attractive | 5.49 | 1.096 | VSC_5 | | .813 | | |
| I feel the lighting of this shopping mall is bright | 5.37 | 1.233 | VSC_7 | | .659 | | |
| I would prefer the natural lighting in this shopping mall | 5.42 | 1.095 | VSC_9 | | .744 | | |
| I find the lighting design on the exterior very appealing | 5.48 | 1.067 | VSC_10 | | .783 | | |
| I find the window displays in this shopping mall always appealing | 5.01 | 1.494 | VSC_12 | | .560 | | |
| I always find the promotional posters in this shopping mall attract my attention | 4.99 | 1.481 | VSC_14 | | .769 | | |
| Auditory Sensory Cues | | | | .941 | | .528 | .768 |
| I find the background music pleasing | 5.30 | 1.174 | ASC_1 | | .619 | | |
| I find the style of music played enjoyable | 5.37 | 1.110 | ASC_2 | | .827 | | |
| The employees' tone of voice is always pleasant | 5.40 | 1.077 | ASC_3 | | .718 | | |
| Olfactory Sensory Cues | | | | .934 | | .635 | .874 |
| This shopping mall is filled with the aroma of food that appeals to me | 5.38 | 1.214 | OSC_1 | | .747 | | |
| The aroma in this shopping mall is good | 5.39 | 1.187 | OSC_2 | | .799 | | |
| The perfumed scenting of the premise feels pleasant | 5.31 | 1.206 | OSC_3 | | .834 | | |
| The fragrance of freshness (e.g. flowers, plants) feels nice | 5.39 | 1.162 | OSC_4 | | .804 | | |
| Tactile Sensory Cues | | | | .917 | | .547 | .782 |
| The chairs in the rest area of this shopping mall feel comfortable | 5.34 | 1.150 | TSC_1 | | .740 | | |
| The flooring used in this shopping mall feels comfortable | 5.44 | 1.152 | TSC_2 | | .804 | | |
| The indoor temperature in this shopping mall feels comfortable | 5.49 | 1.169 | TSC_3 | | .663 | | |
| Taste sensory cues | | | | .933 | | .607 | .885 |
| The free food samples available in this shopping mall are good | 5.34 | 1.205 | TASC_1 | | .767 | | |
| The cafes in this shopping mall are great | 5.44 | 1.179 | TASC_2 | | .845 | | |
| The bakery in this shopping mall is tasty | 5.54 | 1.168 | TASC_3 | | .790 | | |
| The popular beverages trending on the social media in this shopping mall are tasty | 5.51 | 1.131 | TASC_4 | | .784 | | |
| The local dishes in this shopping mall are delicious | 5.38 | 1.209 | TASC_5 | | .703 | | |
| Customer Satisfaction | | | | .929 | | .787 | .936 |
| <i>Affective satisfaction</i> | | | | | | | |
| I have truly enjoyed this shopping mall | 5.79 | 1.180 | CS_AF1 | | .875 | | |
| I feel happy about my decision to buy products at this shopping mall | 5.84 | 1.212 | CS_AF2 | | .909 | | |
| I feel satisfied with the public amenities provide by this shopping mall | 5.74 | 1.201 | CS_AF3 | | .865 | | |
| I feel satisfied with the service provided by this shopping mall | 5.91 | 1.214 | CS_AF4 | | .898 | | |



Table 4 (continued)

| Construct/item | Mean | SD | Codes | Cronbach's alpha | Factor loading | AVE | Construct reliability |
|--|------|-------|--------|------------------|----------------|-------------|-----------------------|
| Cognitive satisfaction | | | | .961 | | .787 | .905 |
| My choice to get to know this shopping mall has been a wise one | 5.83 | 1.127 | CS_CO1 | | .893 | | |
| I am sure it was the right thing to become a customer of this shopping mall | 5.77 | 1.135 | CS_CO2 | | .905 | | |
| The touchpoints of this shopping mall meet my expectation of the ideal touchpoints with this type of shopping mall | 5.84 | 1.170 | CS_CO3 | | .926 | | |
| Brand attachment | | | | | | | |
| Brand-self connection | | | | .941 | | .712 | .908 |
| This shopping mall matches my personality | 5.83 | 1.272 | BA_BS1 | | .801 | | |
| I feel this shopping mall is part of me | 6.00 | 1.390 | BA_BS2 | | .884 | | |
| I feel personal connection to this shopping mall | 6.08 | 1.394 | BA_BS3 | | .876 | | |
| The personality of this shopping mall is consistent with how I see myself | 5.89 | 1.361 | BA_BS4 | | .812 | | |
| Brand prominence | | | | .960 | | .663 | .887 |
| I really miss this shopping mall when I am away too long | 5.89 | 1.226 | BA_BP1 | | .818 | | |
| This shopping mall holds many memories for me | 5.91 | 1.209 | BA_BP2 | | .886 | | |
| No other shopping mall could take the place of this one | 5.94 | 1.326 | BA_BP3 | | .810 | | |
| I can't imagine living without this shopping mall | 5.90 | 1.169 | BA_BP5 | | .735 | | |
| Customer lovemarks | | | | | | | |
| Brand love | | | | .943 | | .747 | .898 |
| I love this shopping mall | 5.80 | 1.146 | LM_BL2 | | .881 | | |
| This shopping mall makes me very happy | 5.77 | 1.198 | LM_BL3 | | .857 | | |
| I am passionate about this shopping mall | 5.92 | 1.141 | LM_BL4 | | .855 | | |
| Brand respect | | | | .940 | | .736 | .933 |
| I respect this shopping mall | 5.85 | 1.197 | LM_BR1 | | .831 | | |
| This shopping mall seems honest to me | 5.79 | 1.203 | LM_BR2 | | .849 | | |
| I approve of this shopping mall's performance | 5.80 | 1.226 | LM_BR3 | | .859 | | |
| This shopping mall leads fashion trends season to season | 5.79 | 1.232 | LM_BR4 | | .884 | | |
| I trust this shopping mall | 5.70 | 1.272 | LM_BR5 | | .867 | | |
| Brand Loyalty | | | | | | | |
| Attitudinal loyalty | | | | .932 | | .702 | .922 |
| If I can find what I need in this shopping mall, I do not shop in another | 5.56 | 1.215 | BL_AT3 | | .831 | | |
| If this shopping mall was not available, it would make little difference to me | 5.74 | 1.144 | BL_AT4 | | .849 | | |
| Compared to other shipping malls that have similar feature, I am willing to pay a higher price at this shopping mall | 5.46 | 1.303 | BL_AT5 | | .806 | | |
| I believe, this shopping mall is contemporary | 5.60 | 1.146 | BL_AT6 | | .852 | | |
| I believe, this shopping mall is innovative | 5.63 | 1.163 | BL_AT7 | | .849 | | |
| Behavioural loyalty | | | | .924 | | .662 | .854 |
| I will recommend this shopping mall to others | 5.68 | 1.217 | BL_BH1 | | .754 | | |
| I will speak positively about this shopping mall | 5.51 | 1.299 | BL_BH2 | | .872 | | |
| I intend to keep buying at this shopping mall | 5.42 | 1.360 | BL_BH3 | | .809 | | |
| Employee Empathy | | | | .905 | | .669 | .890 |
| The employees of this shopping mall give customers individual attention | 5.49 | 1.016 | EM_1 | | .813 | | |
| The employees of this shopping mall deal with customers in a caring fashion | 5.42 | 0.972 | EM_2 | | .838 | | |
| The employees of this shopping mall understand the needs of their customers | 5.49 | 1.009 | EM_4 | | .832 | | |
| The employees of this shopping mall are willing to deal with customer complaints | 5.48 | 0.953 | EM_6 | | .789 | | |



Table 4 (continued)

| Construct/item | Mean | SD | Codes | Cronbach's alpha | Factor loading | AVE | Construct reliability |
|----------------|------|----|-------|------------------|----------------|-----|-----------------------|
|----------------|------|----|-------|------------------|----------------|-----|-----------------------|

Fit statistics: Chi-square/ X^2 = 3212.78, d.f. = 2105; AGFI = .827; GFI = .973; TLI = .948; RMSEA = .032

Chi-square (X^2); degree of freedom (Df); Root mean square error of approximation (RMSEA); Goodness-of-fit index; (GFI); Comparative fit index (CFI); Normated fit index (NFI); and Tucker-Lewis Index (TLI); AVE = average variance extracted

Table 5 Summary of discriminant validity

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1. BLBH | 0.81 | | | | | | | | | | | | | | |
| 2. SBE | 0.09 | 0.71 | | | | | | | | | | | | | |
| 3. VSC | 0.07 | 0.60 | 0.71 | | | | | | | | | | | | |
| 4. ASC | 0.03 | 0.55 | 0.56 | 0.73 | | | | | | | | | | | |
| 5. OSC | 0.03 | 0.59 | 0.59 | 0.59 | 0.80 | | | | | | | | | | |
| 6. TSC | 0.09 | 0.50 | 0.48 | 0.45 | 0.59 | 0.74 | | | | | | | | | |
| 7. TASC | 0.01 | 0.54 | 0.53 | 0.53 | 0.60 | 0.54 | 0.78 | | | | | | | | |
| 8. CSAF | 0.43 | 0.21 | 0.17 | 0.20 | 0.16 | 0.15 | 0.15 | 0.89 | | | | | | | |
| 9. CSCO | 0.38 | 0.14 | 0.13 | 0.16 | 0.08 | 0.12 | 0.12 | 0.52 | 0.87 | | | | | | |
| 10. BABS | 0.33 | 0.26 | 0.24 | 0.21 | 0.24 | 0.20 | 0.19 | 0.54 | 0.26 | 0.84 | | | | | |
| 11. BABP | 0.40 | 0.25 | 0.22 | 0.20 | 0.22 | 0.18 | 0.24 | 0.64 | 0.36 | 0.69 | 0.81 | | | | |
| 12. LMBL | 0.44 | 0.18 | 0.08 | 0.13 | 0.17 | 0.12 | 0.16 | 0.35 | 0.36 | 0.32 | 0.33 | 0.86 | | | |
| 13. LMBR | 0.57 | 0.20 | 0.18 | 0.13 | 0.12 | 0.16 | 0.16 | 0.48 | 0.52 | 0.41 | 0.52 | 0.47 | 0.86 | | |
| 14. BLAT | 0.57 | 0.16 | 0.16 | 0.05 | 0.10 | 0.17 | 0.16 | 0.34 | 0.39 | 0.38 | 0.45 | 0.40 | 0.46 | 0.84 | |
| 15. EM | 0.11 | 0.63 | 0.47 | 0.58 | 0.54 | 0.43 | 0.50 | 0.27 | 0.18 | 0.25 | 0.24 | 0.15 | 0.16 | 0.19 | 0.82 |

Bold values in diagonal are the square roots of average variance extracted (AVE)

examined. Thus, this research contributes to a rich understanding of the drives of SBE and implies that in the shopping mall industry, it is the combination of five sensory cues in a brand setting rather than any single stimulant that has a strong impact on SBE.

This research also illustrates that SBE can be a key factor in influencing consumer–brand relationships, including the dimensions of customer satisfaction, brand attachment, and customer lovemarks. This is consistent with previous studies that demonstrates that a positive SBE can transfer a positive feeling and meets consumers' expectations (e.g. Iglesias et al. 2019), also play an important role in activating emotional bonding, and that, over time, can become a memory and fluency or the ease in consumers' mind (e.g. Dolbec and Chebat 2013). Furthermore, customer interviewees from focus groups described this from their point of view:

The most important thing for a shopping mall is to make the customer happy through multiple touch-points, from before making a purchase, to purchase, to post-purchase stage, that can be product, as well as service. Also need to understand what customer wants and needs, so they will be buying products from you and become a regular customer (FG3).

I went to the UK last year for studying, I always miss the old time; I spent a lot of time with my family in The MixC mall. We always go there after dinner, so we walked around the mall, sometimes buying food-products, but sometimes we just wanted to look around, and watch a show in there. It comfortable to be there, so I have many good memories in The MixC mall. Now I am back to Hefei, so we still go the mall on the weekend or after work (FG4)

Two manager respondents also mentioned the role of SBE in their marketing activities:

...we managers should be more considerate about how to provide a superior experience to our customers, and we believe the power of sensory elements. If the in-store sensory experience is attractive, it can be differentiated easily among competitors which is a key device. Typically, positive sensory experiences that can make a strong impression and connect with consumer senses, enhance customer satisfaction, awareness, and recall, so companies can improve their brand equity. (He, Store manager)

...we want to use sensory impression effectively, not too much but focus on the visual, it's not just about



Table 6 Results of hypothesis testing

| Standardised regression paths | | Estimate | S. E | C.R | P | Hypothesis |
|-------------------------------|--|----------|-------|--------|-------|---------------|
| Direct effects | | | | | | |
| H1 | Visual sensory cues → Sensory brand experience | 0.278 | 0.051 | 4.945 | *** | Supported |
| H2 | Auditory sensory cues → Sensory brand experience | 0.159 | 0.054 | 2.687 | 0.007 | Supported |
| H3 | Olfactory sensory cues → Sensory brand experience | 0.176 | 0.047 | 2.767 | 0.006 | Supported |
| H4 | Tactile sensory cues → Sensory brand experience | 0.123 | 0.044 | 2.187 | 0.029 | Supported |
| H5 | Taste sensory cues → Sensory brand experience | 0.148 | 0.040 | 2.677 | 0.007 | Supported |
| H6a | Sensory brand experience → Affective satisfaction | 0.280 | 0.076 | 5.7 | *** | Supported |
| H6b | Sensory brand experience → Cognitive satisfaction | 0.201 | 0.073 | 4.064 | *** | Supported |
| H7a | Affective satisfaction → Attitudinal loyalty | -0.078 | 0.040 | -1.799 | 0.072 | Not Supported |
| H7b | Affective satisfaction → Behavioural loyalty | 0.150 | 0.037 | 3.317 | *** | Supported |
| H8a | Cognitive satisfaction → Attitudinal loyalty | 0.186 | 0.042 | 4.178 | *** | Supported |
| H8b | Cognitive satisfaction → Behavioural loyalty | 0.061 | 0.039 | 1.348 | 0.178 | Not Supported |
| H9a | Sensory brand experience → Brand -self connection | 0.331 | 0.077 | 6.515 | *** | Supported |
| H9b | Sensory brand experience → Brand prominence | 0.331 | 0.076 | 6.485 | *** | Supported |
| H10a | Brand-self connection → Attitudinal loyalty | 0.118 | 0.041 | 2.657 | 0.008 | Supported |
| H10b | Brand-self connection → Behavioural loyalty | 0.012 | 0.038 | 0.27 | 0.787 | Not Supported |
| H11a | Brand prominence → Attitudinal loyalty | 0.235 | 0.043 | 5.142 | *** | Supported |
| H11b | Brand prominence → Behavioural loyalty | 0.060 | 0.039 | 1.303 | 0.192 | Not Supported |
| H12a | Sensory brand experience → Brand love | 0.231 | 0.076 | 4.639 | *** | Supported |
| H12b | Sensory brand experience → Brand respect | 0.262 | 0.074 | 5.308 | *** | Supported |
| H13a | Brand love → Attitudinal loyalty | 0.200 | 0.042 | 4.459 | *** | Supported |
| H13b | Brand love → Behavioural loyalty | 0.222 | 0.039 | .208 | *** | Supported |
| H14a | Brand respect → Attitudinal loyalty | 0.208 | 0.042 | 4.703 | *** | Supported |
| H14b | Brand respect → Behavioural loyalty | 0.399 | 0.042 | 8.115 | *** | Supported |
| Moderating effect | | | | | | |
| H15a | Sensory brand experience × Employee empathy → Affective satisfaction | 0.120 | 0.044 | 2.562 | 0.01 | Supported |
| H15b | Sensory brand experience × Employee empathy → Cognitive satisfaction | 0.126 | 0.044 | 2.605 | 0.009 | Supported |
| H16a | Sensory brand experience × Employee empathy → Brand-self connection | 0.095 | 0.045 | 2.011 | 0.044 | Not Supported |
| H16b | Sensory brand experience × Employee empathy → Brand prominence | 0.115 | 0.045 | 2.415 | 0.016 | Supported |
| H17a | Sensory brand experience × Employee empathy → Brand love | -0.028 | 0.045 | -0.575 | 0.566 | Not Supported |
| H17b | Sensory brand experience × Employee empathy → Brand respect | 0.032 | 0.043 | 0.669 | 0.503 | Not Supported |

*** $P < 0.001$

Path relationship between independent variable on dependent variable, β standardised regression coefficient, *SE* standard error, *P* level of significance

using multiple sensory stimuli, understand the meaning and importance of sensory cues, it's also about choosing the right mix to create a psychologically convincing sensory experience. (Xu, Marketing manager)

This research offers a novel insight into how the dimensions of customer satisfaction impact on the two dimensions of brand loyalty. The results show affective satisfaction effects behavioural loyalty, while cognitive satisfaction affects attitudinal loyalty. Most extant studies (e.g. Brakus et al. 2009; Iglesias et al. 2019; Wieseke et al. 2012) show the customer satisfaction and loyalty represent the 'holy grail' of the business world, and find that customer satisfaction can significantly affect brand loyalty. This research

shows that not all dimensions of customer satisfaction lead to attitudinal and behavioural loyalty. This means that building brand loyalty should not only consider cognitive satisfaction but also affective satisfaction. The discussion above is supported by a customer interviewee:

I feel strongly happy with the The MixC mall including its product and service. For example, they are always providing comfortable public facilities, good quality of products. It just feels good. Each time when I go to the MixC mall, I feel happy, and I can find everything I needed. They also can quickly deal with my questions and complaints, which are very important. So, I am a regular customer, make pur-



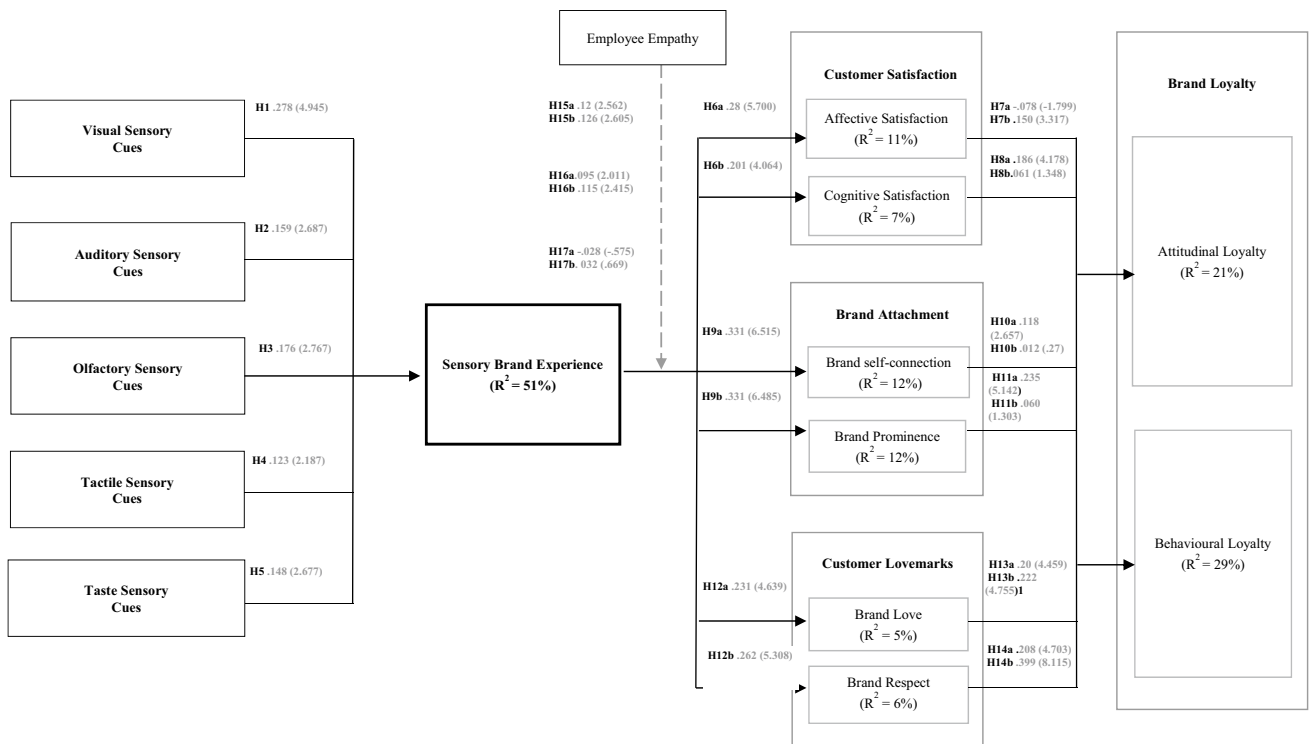


Fig. 2 Validated structural model

chase often and recommend this mall to my friends. I think because the good feeling and meet my needs and wants, so I am loyal to this mall (Sun).

The finding also shows that two dimensions of customer lovemarks directly influence attitudinal and behavioural loyalty. This supports Cho et al. (2015) and Chen et al. (2018) that a high degree of customer lovemarks leads to brand loyalty, as high brand love and brand respect can contribute to creating the most stable brand loyalty. Thus, consumers who love and respect the brand are more loyal to the brand over others. The customer interviewee commented this view:

I think if I like a mall, of course, I would like to spend more time in there, regular visit the mall, and recommend it to my friends. Most importantly, the mall has offer something innovative and fun, so I feel happy, like it, trust it. I will be a loyal customer (Bao).

Furthermore, two dimensions of brand attachment—brand-self connection and brand prominence only positively influence behavioural loyalty, but negatively influence attitudinal loyalty. This supports Chaudhuri and Holbrook (2001) who suggest that brand effect is positively related to purchase (behavioural) loyalty. Furthermore, a consumer interviewee comment highlighted the significance of brand attachment on behavioural loyalty:

When I think my favourite mall, I think that I became a loyal customer because the positive feeling that gives me the mall is part of my life, I should go there often and have a look if there anything I could buy. DeJi mall always come to my mind first when I want to go shopping. It is a luxury mall and all of things in the mall make me feel just me, it like you try clothes, you know it suits you or not, it hard to explain it, but I would say DeJi mall is customer like me tend to be a loyal customer (Li).

Another contribution is the employee empathy that positively moderates the relationship between SBE and two dimensions of customer satisfaction, as well as brand prominence. This finding implies that empathy has been considered as a crucial element for employee success interacting with customers (Aggarwal et al. 2005; Weißhaar and Huber 2016; Zeithaml 2000a, b). However, it is constant with Iglesias et al.'s (2019) paper showing that customer satisfaction is a post-consumption evaluation of the SBE, while customer lovemarks and brand-self connection are the emotional responses, the higher levels of automatic emotional responses are not dependent on the evaluation of employee's empathy levels.



Managerial Implications

This study provides managerial contributions for retailers and brand managers in their role as marketers who are focused on shaping multisensory branding strategies to improve brand loyalty. We have developed a new measurement tool that includes a typology of 8 unique features of SBE. This tool aims to assist brands in formulating an effective SBE marketing strategy. Managers should be equipped to address questions such as: What is the nature of the relationship between sensory cues and a company's sensory experience branding? Which sensory cues influence feelings of comfort, convenience, innovation, fun, excitement, and care, as well as visual impressions and impressions on other senses? How can we describe the impact of a company's competencies on SBE?

To do so effectively, managers need to accept a comprehensive understanding of the important influence of sensory management from both firm-side and consumer-side viewpoints. In doing so, managers should select the right mix of sensory cues with each setting (visual, auditory, olfactory, tactile, and taste) to develop an end-to-end marketing strategy to achieve the firm's branding objectives (Fig. 1). That means managers and retailers can benefit from a thorough understanding of the key components of the concept to deliver a positive SBE which may enhance brand outcomes – dimensions of customer satisfaction, brand attachment, customer lovemarks, and brand loyalty.

By understanding the consumer and business market needs, as well as the brand's strength and weaknesses, managers can make the right decisions in designing a positive SBE for targeted market needs and consumers. The study's findings and insight would provide firms both inside and outside China with useful information on the Chinese consumer's shopping behaviour, needs and motivations, as well as implications for the worldwide retail industry in the future.

There is no doubt that the shopping mall industry is encountering major challenges as more firms are developing online retailing platforms to replace physical stores to improve their customer experience through efficient search and delivery retailing channels. This is driving physical store brands to seek innovative ways to improve their customer experience, consumers at the end of the day still need some form of physical setting to fulfil their need for human-to-human interaction and embodied response. From this perspective, shopping mall brands should continue to invest in the training of employees, since the result of this study shows unequivocally employee empathy is a key factor moderating the link between SBE and customer satisfaction and brand prominence in the physical store setting.

This research is useful for marketers in explaining to brand managers the knowledge and expertise to exploit the potential of a multisensory approach (Elder and Krishna

2021), and the causal linkages between the transaction environment as a multisensory environment (Zha et al. 2021a, b). In the SBE environment, nothing is left to chance; every single item in the store is sensorial and primed to produce the optimal SBE effect (Fürst et al. 2020) such as when walking into a cafe or a store, as walking into an artificial environment surrounded by a host of brand-encoded sensory cues. By understanding the inner workings of a multisensory process, the practitioner becomes better informed and better equipped to exploit the spectrum of sensory cues to project the intended image of the brand that leads to customer affective, emotional, and behavioural responses.

This study also contributes to marketing practices by emphasising the consumer's psychological dimensions underlying a company's branding operational processes. As mentioned earlier, the SBE is a key element to evoke feelings and emotional responses in the minds of consumer. Therefore, it is fruitful for marketing managers to note the importance of the psychological aspect of the SBE rather than simply emphasising and focussing on sensations.

Limitations and Future Research

Despite this research that made theoretical contributions and managerial implications, it cannot be without some limitations. First and foremost, this research is limited to a single research setting: the shopping mall industry in China. Therefore, future research conducted in a different cultural, geographical, and social context may reveal diversities in findings. Examining the framework in products and brands other than shopping malls and comparing the findings across retailer and product brands would also be interesting. Second, the sample consists only of Chinese consumers. Thus, the generalisability of the findings needs to take this into consideration. Further research should involve tests conducted across different cultural, ethnic, and social contexts including comparisons between responses to SBE in developed, developing, and lesser developed economies. These cross-cultural studies will provide insights into how the internal processing of sensory experiences varies across countries and cultures.

Third, a non-probability sampling method was applied to mitigate the lack of access to a complete sampling model to process the convenience sampling of consumers. However, to estimate the number of sampling errors occurring, future research should consider using probability sampling techniques. In addition, this research takes a single perceptive as consumer point of view, and it has been measured by the academia, who were concerned with both views of consumer and firms. Future research could take a managerial point of view to improve the scope of the study. This may not yield the same consequences in terms of findings.



Appendix 1

The main constructs after the qualitative study stage and their definitions.

| Construct | Definitions | Major references |
|--------------------------|--|---|
| Sensory Brand Experience | “SBE is the internal processing of brand data from a brand setting via an entrainment of exteroceptive and interoceptive processes resulting brand sensations, brand affects and subjective feeling states” | Zha et al. (2021a, b, p. 2) |
| Visual sensory cues | Visual sensory cues are an individual perception of salient visual stimuli within a brand setting, consisting of both functional and aesthetic design elements, ambient elements, social and trialability elements. These cues have been observed to affect consumer behaviour, enhance consumers' mood, influence their evaluation of products or services, and alter their feelings towards a brand | Hekkert (2006a, b), Krishna (2012), Roggeveen et al. (2020), and Sample et al. (2020) |
| Auditory sensory cues | Auditory sensory cues are sound-related cues and include the hearing and listening stimuli present in brand settings realised in the context of music, words or voices and ambient background sounds (noise, service or product sounds, noise levels caused by consumers talking or environmentally naturally occurring sounds); which are part of a brand's overall sensorial expression including jingles, voice and music atmosphere, attentiveness and thematic and signature sounds and sound brand | Akarsu et al. (2021), Bartholme' and Melewar (2011), Krishna (2011), Milliman (1982), Sayin et al. (2015), and Zha et al. (2021a, b) |
| Olfactory sensory cues | Olfactory sensory cues are the individual perception of salient olfactory stimuli within a brand setting, these cues are the application of pleasure odours through ambient scenting techniques, with sensorial expressions including product congruence, intensity and physical attractive features, advertising, theme, and signature brand scent. The primary role of olfactory sensory cue is to heighten awareness by alerting the organism to existence of agents in the air, to check their quality for guidance of behaviour | Biswas et al. (2021), Bosmans (2006a, b), Hultén (2017), Krishna et al. (2010), Morrin and Ratneshwar (2003), and Spangenberg et al. (1996) |
| Tactile sensory cues | Tactile sensory cues are an individual perception of salient tactile stimuli within a brand setting, and the sense of touch which enables the perceptual differentiation of material, temperature, texture, weight, and steadiness, also define touch as sensations aroused through the stimulation of receptors in the skin, as one of the first of our human senses to develop and the largest sensory organ present. it is often regarded as one of our most intimate senses, involving physical contact with the skin, with the hands playing a major role as our principal source of input to the touch perceptual system | Akarsu et al. (2021), Hultén (2011), Luangrath et al. (2020), Peck and Childers (2003), and Zha et al. (2021a, b) |
| Taste sensory cues | Taste sensory cues are an individual perception of salient taste stimuli within a brand setting, include free food sampling and the taste of food products, are taste attraction or taste aversion involving a multisensory input. A single negative reaction to something eaten can lead to consistent long-term avoidance, while a positive reaction can recall highly positive experiences of food consumption perhaps more rich and vivid than a single auditory, visual, olfactory, or tactile experience | Biswas et al. (2021), Elder and Krishna (2021), Hoegg and Alba (2007), Spence et al. (2014), and Zha et al. (2021a, b) |
| Customer Satisfaction | Customer satisfaction is disconfirmed expectations coupled with the consumer's initial reference point about the consumption experience. satisfaction is also described as an evaluation of an emotion as a cognitive-affective state resulting from cognitive evaluations (including disconfirmation), as well as from emotions these evaluations evoke. An overall satisfaction refers to an affective state that is the emotional reaction to a good or service over time | Bigne' et al. (2005), Dash et al. (2021), Mithas et al. (2005), and Szymanski and Henard (2001) |
| | <i>Affective satisfaction</i> | Affective satisfaction is the confirmation of affective expectations derived from a positive experiential response to the delivery of a good or service over time Kim et al. (2018), Iglesia et al. (2019), and Olive (1980) |
| | <i>Cognitive satisfaction</i> | Cognitive satisfaction is the confirmation of cognitive expectations derived from a cognitive evaluation of the delivery of a good or service over time Kim et al. (2018), Iglesia et al. (2019), and Olive (1980) |



| Construct | Definitions | Major references |
|---------------------|--|--|
| Brand attachment | Brand attachment is the intensity of a person's target-specific emotional bond between a person and a specific object, including the brand with the self or with places, it also defined as the extent to which an object which is owned, expected to be owned, or previously owned by an individual, is used by that individual to maintain his or her self-concept | Ball and Tasaki (1992), Brocato et al. (2015), Japutra et al. (2019), Park et al. (2010), Thomson and Matthew (2006), and Thomson et al. (2005) |
| | <i>Brand-self connection</i> | Japutra et al. (2019), Thomson et al. (2005), Thomson (2006), and Park et al. (2010) |
| | <i>Brand prominence</i> | Aw et al. (2021), Moradi and Badrinarayanan et al. (2021), Park et al. (2010), and Tellis et al. (2019) |
| Customer Love-marks | Customer lovemarks is established towards brands that can leverage on their entrenched connection with consumers to develop an enhanced status of the brand in the consumer's mind based on a combination of high brand love and respect generating loyalty beyond reason | Batra et al. (2012), Chen et al. (2020), Cho et al. (2018), and Roberts (2005) |
| | <i>Brand love</i> | Batra et al. (2012), Cho et al. (2018), and Roberts (2005) |
| | <i>Brand respect</i> | Cho et al. (2018) and Roberts (2005) |
| Brand loyalty | Brand loyalty is the strength of the relationship between an individual's relative attitude and repeat patronage; it is a deeply held commitment to re-buy or re-patronise a preferred product/service consistently in the future, thereby causing repetitive same brand or same brand set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour, | Chaudhuri and Holbrook (2001), Dick and Basu (1994), Ha et al. (2011), Kim et al. (2018), Melewar et al. (2017), Russell-Russell-Bennett et al. (2007), Yi and Jeon (2003), and Zeithaml et al. (1996) |
| | <i>Attitudinal loyalty</i> | Chaudhuri and Holbrook (2001) and Yao et al. (2019) |
| | <i>Behavioural loyalty</i> | Chaudhuri and Holbrook (2001) and Yao et al. (2019) |
| Employee empathy | Employee empathy is the ability to sense employee emotions, coupled with the ability to imagine what consumer might be thinking or feeling. Empathy is a social psychological construct describing the ability to stand in someone else's shoes to see, feel, perceive, and explain the external world. At a deeper level, empathy also includes the ability to participate vicariously in the other person's emotional experiences, or to share the same response to an observed experience | Barrett-Lennard (1981), Goldstein and Michaels (1985), and Iglesia et al. (2019) |



Appendix 2

Measurement items of the theoretical constructs and the codes.

| Construct | Item wording | Codes | Item code |
|---------------------------------|---|-----------------------------------|-----------|
| Sensory brand experience | | | |
| 1 | This shopping mall makes a strong visual impression on me | Adapted from Brakus et al. (2009) | SBE_1 |
| 2 | This shopping mall also makes a strong impression on my other senses | Adapted from Brakus et al. (2009) | SBE_2 |
| 3 | This shopping mall appeals to my senses | Adapted from Brakus et al. (2009) | SBE_3 |
| 4 | This shopping mall always provides me with an extraordinary feeling | The qualitative study | SBE_4 |
| 5 | This shopping mall gives me a sense of fun | The qualitative study | SBE_5 |
| 6 | I find this shopping mall sensually interesting | Adapted from Brakus et al. (2009) | SBE_6 |
| 7 | I find this shopping mall entertaining (e.g. theme park, playground, theatres...) | The qualitative study | SBE_7 |
| 8 | I feel this shopping mall always offers something innovative | The qualitative study | SBE_8 |
| 9 | The popularity of this shopping mall with visitors makes me feel good | The qualitative study | SBE_9 |
| 10 | This shopping mall always makes me feel comfortable | The qualitative study | SBE_10 |

| Construct | Item wording | Codes | Item code |
|----------------------------|---|--|-----------|
| 11 | I find this shopping mall very convenient (e.g. accessibility, parking, safety, location, self-checkout service...) | The qualitative study | SBE_11 |
| 12 | This shopping mall fulfils my needs for variety | The qualitative study | SBE_12 |
| 13 | This shopping mall offers a comfortable caring environment | The qualitative study | SBE_13 |
| 14 | The products and/or services I purchased from this shopping mall are always of the right quality | The qualitative study | SBE_14 |
| 15 | The shopping mall offers exciting programmes for members on membership day | The qualitative study | SBE_15 |
| Visual sensory cues | | | |
| 1 | I find the colours use in the exterior design of the shopping mall very appealing | Adapted from Faircloth et al. (2001) | VSC_1 |
| 2 | I find the colours used in the interior design of the shopping mall attractive | Adapted from Faircloth et al. (2001) | VSC_2 |
| 3 | I find the colour combination of the interior décor very appealing | Adapted from Chebat and Morrin (2007); Chen and Lin (2018) | VSC_3 |
| 4 | The interior design of this shopping mall gives me a pleasant feeling | Adapted from Melewar and Saunders (1999, 2000) | VSC_4 |
| 5 | I find the exterior design of this shopping mall attractive | The qualitative study | VSC_5 |



| Construct | Item wording | Codes | Item code | Construct | Item wording | Codes | Item code |
|-----------|--|---|-----------|-------------------------------|--|---|-----------|
| 6 | This shopping mall has an appealing architectural style | Adapted from Foroudi et al. (2020); Chen and Lin (2018) | VSC_6 | 19 | This employees in this shopping mall are attractive | The qualitative study | VSC_19 |
| 7 | I feel the lighting of this shopping mall is bright | The qualitative study | VSC_7 | Auditory sensory cues | | | |
| 8 | I feel the light of this shopping mall is dark | The qualitative study | VSC_8 | 1 | I find the background music pleasing | Adapted from Chen and Lin (2018) | ASC_1 |
| 9 | I would prefer natural lighting in this shopping mall | The qualitative study | VSC_9 | 2 | I find the style of music played enjoyable | Adapted from Chen and Lin (2018) | ASC_2 |
| 10 | I find the lighting design on the exterior very appealing | The qualitative study | VSC_10 | 3 | The employees' tone of voice is always pleasant | The qualitative study | ASC_3 |
| 11 | I find the interactive interior lighting design aesthetically pleasing | The qualitative study | VSC_11 | 4 | The background noises (e.g. phones, other people talking) in this shopping mall do not bother me | Adapted from Bernard and Bitner (1982); Bitner (1992) | ASC_4 |
| 12 | I find the widow displays in this shopping mall always appealing | The qualitative study | VSC_12 | Olfactory sensory cues | | | |
| 13 | I always find the celebrity endorsing posters in this shopping mall attractive | The qualitative study | VSC_13 | 1 | This shopping mall is filled with the aroma of food that appeals to me | Adapted from Chen and Lin (2018) | OSC_1 |
| 14 | I always find the promotional posters in this shopping mall attract my attention | The qualitative study | VSC_14 | 2 | The aroma in this shopping mall is good | Adapted from Chen and Lin (2018) | OSC_2 |
| 15 | The digital signage of this shopping mall is always interesting | The qualitative study | VSC_15 | 3 | The perfumed scenting of the premise feels pleasant | Adapted from Haase and Wiedmann (2018) | OSC_3 |
| 16 | The art exhibits on display in this shopping mall are attractive | The qualitative study | VSC_16 | 4 | The fragrance of freshness (e.g. flowers, plants) feels nice | The qualitative study | OSC_4 |
| 17 | The employees in this shopping mall are always dressed neatly | Adapted from Schmitt (1999) | VSC_17 | Tactile sensory cues | | | |
| 18 | The other customers of this shopping mall look nice | The qualitative study | VSC_18 | 1 | The chairs in the rest area of this shopping mall feel comfortable | Adapted from Chen and Lin (2018) | TSC_1 |
| | | | | 2 | The flooring used in this shopping mall feels comfortable | The qualitative study | TSC_2 |
| | | | | 3 | The indoor temperature in this shopping mall feels comfortable | Adapted from Bernard and Bitner (1982); Bitner (1992) | TSC_3 |
| | | | | 4 | The facilities in this shopping mall are clean | The qualitative study | TSC_4 |



| Construct | Item wording | Codes | Item code | Construct | Item wording | Codes | Item code |
|-------------------------------|--|--|-----------|------------------------------|--|---|-----------|
| 5 | I can sense the materials used in this shopping mall are of very high quality | The qualitative study | TSC_5 | 2 | I am sure it was the right thing to become a customer of this shopping mall | Adapted from Westbrook and Oliver (1981) | CS_CO2 |
| Taste sensory cues | | | | 3 | The touchpoints of this shopping mall meet my expectation of the ideal touchpoints with this type of shopping mall | The qualitative study | CS_CO3 |
| 1 | The free food samples available in this shopping mall are good | Adapted from Chen and Lin (2018) | TASC_1 | Brand attachment | | | |
| 2 | The cafes in this shopping mall are great | The qualitative study | TASC_2 | Brand-self connection | | | |
| 3 | The bakery in this shopping mall is tasty | The qualitative study | TASC_3 | 1 | This shopping mall matches my personality | Adapted from Aaker et al. (2004); Escalás (2004); Thomson et al. (2005); Park et al. (2010) | BA_BS1 |
| 4 | The popular beverages trending on the social media in this shopping mall are tasty | The qualitative study | TASC_4 | 2 | I feel this shopping mall is part of me | Adapted from Aaker et al. (2004); Escalás (2004); Thomson et al. (2005); Park et al. (2010) | BA_BS2 |
| 5 | The local dishes in this shopping mall are delicious | The qualitative study | TASC_5 | 3 | I feel personal connection to this shopping mall | Adapted from Aaker et al. (2004); Escalás (2004); Thomson et al. (2005); Park et al. (2010) | BA_BS3 |
| Customer satisfaction | | | | 4 | The personality of this shopping mall is consistent with how I see myself | Adapted from Malaer et al. (2011) | BA_BS4 |
| Affective satisfaction | | | | Brand prominence | | | |
| 1 | I have truly enjoyed this shopping mall | Adapted from Westbrook and Oliver (1981) | CS_AF1 | 1 | I really miss this shopping mall when I am away too long | Adapted from Brocato et al. (2015) | BA_BP1 |
| 2 | I feel happy about my decision to buy products at this shopping mall | Adapted from Westbrook and Oliver (1981) | CS_AF2 | 2 | This shopping mall holds many memories for me | Adapted from Brocato et al. (2015) | BA_BP2 |
| 3 | I feel satisfied with the public amenities provide by this shopping mall | Adapted from Westbrook and Oliver (1981) | CS_AF3 | 3 | No other shopping mall could take the place of this one | Adapted from Japutra et al. (2018); Denies et al. (2016) | BA_BP3 |
| 4 | I feel satisfied with the service provided by this shopping mall | The qualitative study | CS_AF4 | | | | |
| Cognitive satisfaction | | | | | | | |
| 1 | My choice to get to know this shopping mall has been a wise one | Adapted from Brakus et al. (2009); Oliver (1980) | CS_CO1 | | | | |

| Construct | Item wording | Codes | Item code | Construct | Item wording | Codes | Item code |
|----------------------------|--|--|-----------|----------------------------|---|---|-----------|
| 4 | This shopping mall plays an important role in my life | Adapted from Japutra et al. (2018); Denies et al. (2016) | BA_BP4 | 3 | If I can find what I need in this shopping mall, I do not shop in another | Adapted from Brakus et al. (2009); Yoo and Donthu (2001) | BL_AT3 |
| 5 | I can't imagine living without this shopping mall | Adapted from Brocato et al. (2015) | BA_BP5 | 4 | If this shopping mall was not available, it would make little difference to me | Adapted from Cho et al. (2018) | BL_AT4 |
| Customer love-marks | | | | | | | |
| Brand love | | | | | | | |
| 1 | I have neutral feelings about this shopping mall | Adapted from Carroll and Ahuvia (2006) | LM_BL1 | 5 | Compared to other shipping malls that have similar features, I am willing to pay a higher price at this shopping mall | Adapted from Back and Park (2003) | BL_AT5 |
| 2 | I love this shopping mall | Adapted from Carroll and Ahuvia (2006) | LM_BL2 | 6 | I believe, this shopping mall is contemporary | Adapted from Melewar et al. (2017) | BL_AT6 |
| 3 | This shopping mall makes me very happy | Adapted from Carroll and Ahuvia (2006) | LM_BL3 | 7 | I believe, this shopping mall is innovative | Adapted from stock et al. (2013) | BL_AT7 |
| 4 | I am passionate about this shopping mall | Adapted from Carroll and Ahuvia (2006) | LM_BL4 | 8 | I would not switch to a competitor, even if I had a problem with the products/ services of the owner of shopping mall I am evaluating | Adapted from | BL_AT8 |
| Brand respect | | | | | | | |
| 1 | I respect this shopping mall | Adapted from Cho et al. (2015) | LM_BR1 | Behavioural loyalty | | | |
| 2 | This shopping mall seems honest to me | Adapted from Cho et al. (2015) | LM_BR2 | | | | |
| 3 | I approve of this shopping mall's performance | Adapted from Cho et al. (2015) | LM_BR3 | | | | |
| 4 | This shopping mall leads fashion trends season to season | Adapted from Cho et al. (2015) | LM_BR4 | | | | |
| 5 | I trust this shopping mall | The qualitative study | LM_BR5 | | | | |
| Brand Loyalty | | | | | | | |
| Attitudinal loyalty | | | | | | | |
| 1 | I consider myself to be loyal to this shopping mall | Adapted from Brakus et al. (2009); Yoo and Donthu (2001) | BL_AT1 | 1 | I will recommend this shopping mall to others | Adapted from Parasuraman et al. (2015) and Zeithaml et al. (1996) | BL_BH1 |
| 2 | This shopping mall would be my first choice | Adapted from Brakus et al. (2009); Yoo and Donthu (2001) | BL_AT2 | 2 | I will speak positively about this shopping mall | Adapted from Manthiou et al. (2016) | BL_BH2 |
| | | | | 3 | I intend to keep buying at this shopping mall | Adapted from Manthiou et al. (2016) | BL_BH3 |
| | | | | Employee empathy | | | |
| | | | | 1 | The employees of this shopping mall give customers individual attention | Adapted from Parasuraman et al. (1994) | EM_1 |



| Construct | Item wording | Codes | Item code |
|-----------|--|--|-----------|
| 2 | The employees of this shopping mall deal with customers in a caring fashion | Adapted from Parasuraman et al. (1994) | EM_2 |
| 3 | The employees of this shopping mall have the customers' best interests at heart | Adapted from Parasuraman et al. (1994) | EM_3 |
| 4 | The employees of this shopping mall understand the needs of their customers | Adapted from Parasuraman et al. (1994) | EM_4 |
| 5 | The employees of this shopping mall employees give personal space to customers | The qualitative study | EM_5 |
| 6 | The employees of this shopping mall are willing to deal with customer complaints | The qualitative study | EM_6 |
| 7 | The employees of this shopping mall are friendly | The qualitative study | EM_7 |

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