Available Online
Journal of Economic Impact
ISSN: 2664-9764 (Online), 2664-9756 (Print)
https://www.scienceimpactpub.com/jei

TOWARDS SENSORY MARKETING: IMPACT OF MULTI-SENSORY CUES ON CONSUMER BUYING BEHAVIOR MEDIATED BY EMOTIONAL RESPONSE AND MODERATED BY STORE ENVIRONMENT ATTRIBUTES

Mubashra Saman, Abdul Ghafoor *, Shanza Shafique, Khadija Yasen

Institute of Business Management Sciences, University of Agriculture Faisalabad, Pakistan

ARTICLE INFO

Article history
Received: April 18, 2025
Revised: August 24, 2025
Accepted: October 10, 2025

Keywords
Consumer buying behaviour
Sensory cues
Emotional state
Store environmental attributes

ABSTRACT

The idea of how sensory cues impact consumers' buying behavior towards bakery products has received little consideration in the past. However, there is little research related to how emotional state mediates the relationship between sensory cues and consumer buying behavior. This study aims to find out the impact of sensory cues on the buying behavior of consumers in retail settings. This study will help retail store managers make effective decisions related to choosing and applying sensory cues and selecting appropriate retail store attributes to create a unique shopping experience. To explain the relationship between the sensory cues and the buying behavior of consumers, the mediating variable Emotional State is used, and Store Environment Attributes is used as a moderating variable. Data is collected through a questionnaire from 200 bakery store customers using a convenience sampling technique from 2 cities: Faisalabad and Jhang, Punjab, Pakistan. For the analysis of the collected data, Partial Least Squares Structural Equation Modeling (PLS-SEM) is applied as the research is exploratory. Our findings provide a new understanding that both sensory cues and retail store attributes are necessary for positive buying behaviour of the customers. The study provides evidence to the retailers that to lead the customers toward positive buying behavior through sensory cues, they must put focus on their emotional state.

* *Email: ghafoor@uaf.edu.pk*
https://doi.org/10.52223/econimpact.2025.7303

INTRODUCTION

The senses, sensory experiences, and emotions of customers are becoming an important marketing paradigm as well as a supplementary phenomenon (Pramudya and Seo, 2019). Marketing companies all over the globe are developing human emotion-based promotional and advertising methods to embrace and collaborate with the aforementioned shifts (Kampfer et al., 2017). Many consumers make purchases based on emotions, sensations, and imaginations evoked by the goods. The contribution of sensory experience in evaluating and making a decision has been characterized as sensory marketing in the latest wave of marketing (Achrol and Kotler, 2012). Sensory marketing is a technique of marketing in which the customers are attracted by using their senses to create an effect on their feelings, consciousness, and behavior (Conway and Lance, 2010). It is a way of communicating with the customers through the 5 human senses. Sensory marketing's objective is to deliver messages to the right side of the brain, enhance the consumer's sensations, and finally establish a connection between the customer and the good, ultimately leading to the purchase of the product (Van Kerrebroeck et al., 2017).

In the present era, all of the characteristics and advantages of the products, brand names, and other accessories to entice the attention of customers are simply not enough (Hultén, 2015). Businesses that interact well with buyers provide them with a noteworthy sensory experience, which aids in creating a positive perception of the company, its products, and services in the minds of target consumers (Biswas et al., 2019). A core objective for any retail outlet (offline or online) is to provide the buyers with a favorable and memorable experience. Whereas many types of sensory input contribute to a favorable and memorable experience, sensory inputs can be extremely potent (Krishna et al., 2017). Sensory inputs, in other words, are components or cues linked to the sense organs of vision (Sense of sight) and audition (Sense of hearing), olfaction (Sense of smell), haptics (Sense of touch), and gustation (sense of taste) (Biswas et al., 2019). In addition to offering customers one-of-a-kind experiences, sensory cues can also subliminally impact customer choice and behavior patterns, such as consumer buying behavior (Biswas et al., 2019). Earlier, consumers mostly focused on attributes and functions of products when choosing a place to shop. Today, consumers need beneficial factors to choose retail stores for making their purchases. A refreshing environment is one of the factors that is extremely desired by consumers. The retail store atmosphere is defined as "the layout and design of the retail outlet that creates an emotional impact on the customers and reinforces the probability of purchasing (Krishna et al., 2017).

An impressive environment of the retail store creates a memorable experience among the customers, which directly creates an impact on the purchase intention and decision-making process of the customers (Silva and Giraldi, 2010). Retail store atmosphere influences customers' emotional and cognitive responses, creating an impact on buying behavior (Shafiee et al., 2021). For retailers, sensory cues are very useful in creating an impact on the emotions and buying behavior of consumers through the atmosphere of the retail outlet (Krishna and Schwarz, 2014). However, there is a lack of research on how store environmental attributes moderate the connection between

sensory cues and the buying behavior of consumers. The present research focuses on how store environmental attributes affect the connection between sensory cues and consumer buying behavior. Nowadays, by activating all the senses and triggering emotions, sensory marketing has been recognized as a critical tool to reinforce customer experience. Sensory marketing influences all five human senses to affect mechanisms of perception, memory, and learning, which control the emotions, preferences, and actions of customers to build positive buying behavior (Debenedetti, 2021). Further, Individuals find it challenging to make decisions when they are not affected by emotions because customers cannot taste a product before they purchase it, the visual element of packaging can evoke impact and add value (Schifferstein et al., 2013), and thus impact consumption behavior (Husain et al., 2022).

In the retailing context, sensory cues might create an impact on the emotional state of the customers that will ultimately affect the buying behavior of the customers, but the area is still unclear (Mingione et al., 2020). Resultantly, the relationship between sensory cues, emotional state, store environmental attributes, and consumer buying behavior should be proven more intuitive than the conventional approaches focusing on sensory cues and consumer buying behavior. The current study aims to investigate 1) the impact of sensory cues on consumer buying behavior, 2) the impact of sensory cues on consumer buying behavior mediated by the emotional state, and 3) analyze the moderating role of Store environmental attributes on the relationship between sensory cues and consumer buying behavior.

This study contributes to 2 streams of the literature: 1) Retailing, 2) Sensory marketing. Marketers are increasingly using sensory cues as a marketing tool to make customers' experiences more memorable (Shafiee et al., 2021). Even though there are several sensory cues for goods and services, it is unclear whether and how distinct sensory cues influence the buying behavior of customers (Zha et al., 2022). Previous research in sensory marketing has frequently investigated the impact of the five senses independently on consumer judgment and behavior. In contrast, little research has been conducted to investigate the interaction of the various senses and their overall impact on consumer emotions and behavior (Furst et al., 2021).

This study combines 4 sensory cues and examines the effect of these multisensory cues on the buying behavior through the emotional state of the customers. Thus, investigating how the combination of sensory cues influences consumer emotions (arousal and pleasure) ultimately has both academic and practical significance. This study will help retail store managers make effective decisions related to choosing and applying sensory cues and selecting appropriate retail store attributes to create a unique shopping experience. It will also assist the retail store managers (Bakery stores) in understanding how multi-sensory cues will positively influence customers' emotions that will lead to buying behavior. Furthermore, our findings contribute to studies on the impact of multisensory interactions on customer emotions and behavior.

Literature Review and Hypothesis

Sensory Cues in the context of a retail store

The firm must know the importance of stimuli as cues, positive effects, and affective attributes on consumer buying behavior in the retail atmosphere, as highlighted by the contemporary multi-sensory perspective of atmospherics (Silva and Giraldi, 2010). Sensory stimuli in the atmosphere don't work in segregation; these stimuli interplay with other factors in the retail environment (Morrison et al., 2011). Environments and our perception of them are multi-sensory by nature; thus, store atmospherics can't really be understood on a sense-by-sense basis. Nevertheless, it is advantageous to segregate cues and analyze their impacts on consumers independently (Jang et al., 2018). An exceptional sensory experience through sensory cues (Haase et al., 2020) can build an emotional commitment to the product or service and influence the customer's attitude and buying behavior. As the number of interactions is increasing, experiments are becoming difficult to conduct rationally. In light of the aforementioned challenges, a slew of studies have focused on the role of isolated cues and their impact on shoppers in retail contexts.

Visual cues

Sight is the strongest and most dominant sense in marketing. Colors, designs, and packaging, shapes, and product varieties are a few examples of visual cues that create an impact on customer buying behavior (Kivioja, 2017). It is also worth noting that customers who have no access to other information are affected by visual cues, both positively and adversely. The visual cues include simple physical cues, for instance, light and color, as well as more complicated variants like aesthetic appeal and shape (Jang et al., 2018). Even though visual elements are the most prepotent sense, most retailers pay attention to them, and so the sensory-rich products have been shown to affect the consciousness, emotional responses, and a variety of customer behaviors such as time being spent, usage, decision-making process, and buying process positively (Sagha et al., 2022).

On the basis of the above discussion, the first hypothesis was developed

H1: Sensory cue sight has a significant positive impact on consumer buying behavior.

Olfactory cues

You can cover your ears, close your eyes, and refuse to taste, but the smell is the proportion of air that we breathe. The sense of smell is closely related to customers' behavior and emotions, and creates a huge impact on the behavior of the shoppers (Krishna et al., 2017). According to Shabgou and Daryani (2014), the long-term effect of fragrance creates more redolent memory, and an aromatic object is more appealing than a non-aromatic one. Another study conducted at a retail store by Herrmann et al. (2013) found that smell had a direct effect on buyers' impressions and had a great influence on customer behavior. Olfactory cues, smell, have an effect on consumers in a variety of ways. Scents in retail settings influence the buyer's motivation level and also the customer's emotions and buying behavior positively (Kivioja, 2017). According to Chebat and Michon (2003), the olfactory cue, scent, that is congruent with the retail environment, creates the greatest impact on the buying behavior of the customers. On the basis of the above discussion, the second hypothesis was developed

H2: Sensory cue aroma has a significant positive impact on consumer buying behavior.

Gustatory cues

Intuitive representation of good taste is a very efficient method for influencing the buying behavior of customers where there is intense rivalry among the food items (Asioli et al., 2018). As per Prabhavathi and Prakash (2017), food consumption is decided by both flavors and taste. If the customers are allowed to taste the product before purchasing, it leads the customers toward positive purchase behavior (Kampfer et al., 2017). Taste is also an intrinsic

element that impacts consumers' buying intentions for foods and drinks (Asioli et al., 2018). Based on the above discussion, the third hypothesis was developed

H3: Taste has a significant positive impact on consumer buying behavior.

Tactile cues

In marketing, tactile means "engaged seeking and consciousness by the hands" (Krishna et al., 2017). Through the sense of touch, the customer creates a direct experience with the product (De Canio; Fuentes-Blasco, 2021). Ranaweera et al. (2021) unearthed that a customer's touch-based knowledge can positively impact their perception of the personality of the product and the brand. Furthermore, tactile information that encircles customers while they visit the store impacts their buying decisions positively (Ringler et al., 2019). In a service environment, heavily loaded tactile cues create an impact on purchasing behavior (Jha et al., 2020). Based on the above discussion, the fourth hypothesis was developed.

H4: Touch has a significant positive impact on consumer buying behavior.

Emotional state

Emotion, according to Batra and Stayman (1990), is an interpretive mental state that impacts a person's choice of efficacious messages. Emotions are a crucial component that has a solid influence on consumer buying behavior. Customers' emotional responses are not only concise but also persistent within their consciousness (Solomon et al., 2013). Moreover, the retail store atmosphere creates an impact on customers' emotions, and in many studies, customers' emotions are defined as pleasure and arousal (Liu and Jang, 2009). Pleasure, Arousal, and Dominance have been proposed by Mehrabian and Russell (1974). Dominance alone has not shown a large impact on consumer emotions (Andreu et al., 2006).

Mehrabian & Russell (1974) proposed the SRM process, which is known as the Stimulus Organism Response Model. The MRM model proposes that consumer behavioral response towards any place can be defined by primary emotional responses. These emotional responses have 3 dimensions: Pleasure, Arousal, and Dominance. These 3 dimensions act as mediating variables between store environmental stimuli and behavioral response (Mehrabian and Russell, 1974).

Consumer emotions are greatly influenced by sensory cues. 98 percent of companies interact with customers through visuals and auditory cues, but highlight that all five senses must be focused in order to properly link consumer emotions with the company (Solomon et al., 2013). According to Husain et al. (2022), enticing emotions efficaciously boost revenue, and the best and quickest method to reinforce consumers' emotions is via their sense of smell. As a consequence, smell (olfactory cue) is a dominant cue in influencing emotions, and it leads to positive customer behavior.

Besides that, taste (gustatory cue) is noticed to be the least effective of all 5 senses. Taste and smell work together to create an impact on consumer emotions. According to Grohmann et al. (2007), customers perceive an item based on how it feels to touch, affecting the emotional response of the customer. Ranaweera et al. (2021) found that effective visual, auditory, gustatory, and tactile cues affect the emotions of the customers positively and make them stay at the restaurant for a long time. In this regard, it is hypothesized that emotional state mediates the relationship between sensory cues and consumer buying behavior.

H5: Sight has a significant indirect impact on consumer buying behavior mediated by Emotional state.

H6: Aroma has a significant indirect impact on consumer buying behavior mediated by Emotional state.

H7: Taste has a significant indirect impact on consumer buying behavior mediated by Emotional state.

H8: Touch has a significant indirect impact on consumer buying behavior mediated by Emotional state.

Store environment attributes

Buying Behavior is affected by the physical environment, and the physical environment can influence buying behavior. Aspects of the retail atmosphere play a vital role in defining a retail environment. Overall, there is a lot of affirmation that shoppers do react to different types of cues in a retail environment (Ballantine et al., 2015). Sensory cues are used in retail settings for a variety of purposes, including positively influencing consumer perceptions, preferences, and consumption habits (Simha, 2020). Signals, spatial arrangement, functionality, and atmospheric conditions, exterior, interior, decoration, design, and POPs are used to classify stimuli proposed for use in a retail environment (Ballantine et al., 2015).

Many of the studies on sensory marketing have concentrated on the impact of a single sensory stimulus or a combination of more than two sensory cues. Purchasing, on the other hand, is a comprehensive experience in which a purchaser is exposed to a wide range of sensory cues at the very same time (Kampfer et al., 2017). The interplay of specific sensory stimuli with other atmospheric cues improves the consequences, i.e., the buying behavior of the customer. According to a study by Imschloss and Kuehnl (2019) on multisensory interplay impacts between atmospheric cues, a favorable impact happens when sensory cues and the store's atmospheric cues are congruent to a certain degree

In this regard, it is hypothesized that store environmental attributes moderate the relationship between sensory cues and consumer buying behavior.

H9: Store Environmental Attributes moderate the relationship between Sight and consumer buying behavior

H10: Store Environment Attributes moderate the relationship between Aroma and consumer buying behavior

H11: Store Environment Attributes moderate the relationship between Taste and consumer buying behavior.

H12: Store Environment Attributes moderate the relationship between Touch and consumer buying behavior

Consumer buying behavior

Buying behavior of consumers is not only the procedure of buying a service or product, but it also consists of pre- and post-purchasing behavior and response. Researchers have proved that sensory cues create a significant impact on consumer emotions (Boateng et al., 2020). In this study, we will find out how sensory cues, Emotional state, and Store Environmental Attributes will affect the buying behavior of consumers at bakery stores.

METHODOLOGY

Data Collection and Sampling

For the analysis of the collected data, Partial Least Squares Structural Equation Modeling (PLS-SEM) was applied as the research is exploratory. The literature proposes that PLS-SEM is suitable for both exploratory and confirmatory studies (Hair et al., 2017), especially when the research model is complex (Reinartz et al., 2009). The present research sought to find out the varieties of

direct and indirect effects of sensory cues on consumer buying behavior. For the calculation of the required sample size, the author conducted a power analysis using the free statistics calculator G-power, for the study based on power analysis (Cohen et al., 2013). As per Hair et al. (2017), the probability level was set to 0.05 and the effect size was set to 0.15 to calculate the minimum required sample size. The results of the power analysis showed the lowest sample size of 138 respondents to achieve a power of 0.95 (See Appendix A). Krishna et al. (2014) proposed a sample size of 100-400 respondents to perform PLS-SEM. Thus, a sample size of 200 respondents offers enough statistical power to test the proposed hypothesis. Data were collected from 200 bakery store customers using a convenience sampling technique from 2 cities: Faisalabad and Jhang, Punjab, Pakistan. In literature, convenience sampling is commonly employed in various research studies, especially in exploratory studies where the primary goal is to gather initial insights or generate hypotheses (Rasoolimanesh et al., 2019). The demographic features of the respondents are shown in Table 1.

Measurement Development

In the current study, to increase the reliability, each construct is operationalized with multiple items. Based on the availability, items of the constructs were adopted from the literature and were modified in the context of retailing. However, for the constructs (Touch, Taste, and Smell), the authors developed new measurement items following the procedure of Churchill Jr (1979) for more suitable measurement items. Each item was rated through a 5-point Likert scale from 1- strongly disagree to 5- strongly agree. The author adapted 3 constructs to measure sensory cue sight. These three constructs were product packaging, product color, product variety, and shape. These 3 constructs were adapted from Wadhera and Capaldi Phillips (2014).

The measurement of sensory cue smell (aroma) consisted of 3 items following De Luca and Botelho (2019). 3 items were developed to measure the sensory cue Taste, following Clark (1998); the sensory cue Touch was assessed using 3 items that were derived from Pramudya and Seo (2019). Items regarding Emotional State and consumer buying behavior were derived from (Bohl, 2012). Finally, 3 constructs were developed to measure Store Environmental Attributes. These 3 constructs were Environmental Cleanliness, Environmental Display and Layout, and Environmental Decoration. The 3 constructs were adapted from Hussain and Ali (2015). Figure 1 shows the conceptual framework of the research.

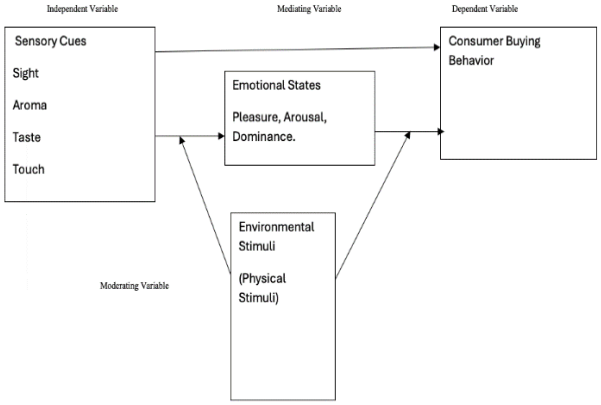

Figure 1. Conceptual framework.

Data Analysis

Smart PLS 3.2.9 software was used for the assessment of the developed model (Ringle et al., 2015). The reason to use Smart PLS was the nature of the research, as it is exploratory. Another reason to use Smart PLS was that the structural model was complex and included many constructs and indicators. The literature suggested that when the research is exploratory and when the structural model is complex and includes many constructs, indicators, and model relationships, Smart PLS is the most preferred choice (Müller et al., 2018).

In Smart PLS first, the path model was developed (Hair et al., 2017). The path model consists of 2 parts: the measurement model and the structural model. Evaluation matrices for the reflective measurement model consist of construct reliability, convergent validity, and discriminant validity (Figures 2 and 3). It was then followed by analyzing the structural model and testing the hypothesis of the research (Figure 4) (Hair et al., 2017).

Table 1. Demographic characteristics of the respondents.

Gender	Frequency	Percent	Educational Level	Frequency	Percent
Male	85	42.5%	No formal Education	18	9%
Female	115	57.5%	Primary level	5	2.5%
Age			Secondary level	10	5%
Less than 20 years	15	7.5%	Intermediate level	23	11.5
21-30 years	134	67.3%	Graduate level	66	33%
31-40 years	31	15.9%	Post-graduate level	78	39%
41-50 years	18	9.0%	Marital Status		
51-60 years	2	1%	Single	109	54.8%
Occupation			Married	85	42.7%
Govt. servant	34	17.1%	Other	6	3%
Private employee	75	37.7%	Family Income		
Self-employed	12	6.0%	Up to 25000	58	29.1%
Student	61	30.7%%	25001-50,000	50	25.1%
Housewife	9	4.5%	50,001-75000	49	24.6%
Retired	9	4.5%	75001-100,000	10	5%%
			Above 100,000	33	16.6%

RESULTS AND DISCUSSION

1st order Measurement Model

The authors confirmed the reliability and the validity of the measurement model by following the methods of Ab Hamid et al. (2017). Individual indicator reliability, internal consistency, convergent, and discriminant validity were assessed to verify the reliability and validity of the measurement model. Firstly, individual indicator reliability was assessed as it shows how well a particular indicator represents an underlying construct. The value between 0.40 and 0.708 is valid (Hair et al., 2017). Indicator loadings are presented in Table 2. None of the indicators in the study had factor loadings less than the threshold value.

The internal consistency was tested through Cronbach's alpha (Cronbach, 1951) and composite reliability (CR) (Fornell and Larcker, 1981). The threshold value for both matrices is above 0.70 (Hair et al., 2019). The results of both Cronbach's alpha and composite reliability are presented in Table 3. The values of both evaluation matrices were according to the threshold value. Hence, construct reliability is established. Third, convergent validity was measured through Average Variance Extracted (AVE). The threshold value for AVE must be equal to or more than 0.50 (Hair et al., 2019). In the current study, Table 4 shows the results of convergent validity based on the statistics of AVE. The AVE value of all the constructs was greater than 0.50. Hence, Convergent Validity is established. Fourth, discriminant validity was evaluated, and the evaluation matrices are Forner–Lacker criterion (Fornell and Larcker, 1981) and heterotrait-monotrait ratio (HTMT) (Hair et al., 2017). In the Forner-Larcker criterion, the square root of the Average Variance Extracted from each latent variable should be more than its relation with other latent variables. Table 5 showed that the square root of AVE (in bold and italic) for a construct was more than its relations with other constructs. Hence, Discriminant Validity is established. HTMT threshold value must be 0.85 or less (Clark and Watson, 1995). Table 6 shows the results of HTMT. The HTMT ratio is according to the threshold value.

Table 2. Indicator loadings.

Indicator	A	BB	EC	ED	EDE	ES	SC	SP	SVS	TA	TO
A1	0.753										
A4						0.815					
A6						0.819					
A7	0.798										
A8						0.801					
A9	0.732										
B1		0.618									
B2		0.878									
B3		0.579									
B6		0.860									
EC1			0.877								
EC2			0.725								
ED1				0.775							
ED3				0.714							
EDE2					0.822						
EDE3					0.605						
EDE4					0.764						
SC1							0.467				
SC3							0.958				
SP2						0.425					
SP3								0.897			
SP5								0.645			
SVS1									0.643		
SVS2									0.740		
SVS3									0.837		
SVS4						0.406					
SVS5						0.915					
SVS6						0.724					
T1											0.592
T3											0.886
T8											0.884
T9						0.832					
TA1										0.520	
TA3										0.782	
TA4										0.807	

Table 3. Reliability analysis: Cronbach's Alpha and Composite Reliability.

Reliability analysis	Cronbach's Alpha	Composite Reliability	Reliability analysis	Cronbach's Alpha	Composite Reliability
Aroma (A)	0.761	0.803	Sight Color (SC)	0.723	0.746
Buying Behavior(BB)	0.718	0.829	Sight packaging (SP)	0.789	0.766
Environment Cleanliness (EC)	0.767	0.784	Sight Variety and Shapes(SVS)	0.804	0.779
Environment Decoration (ED)	0.721	0.714	Taste (TA)	0.726	0.756
Environment Display and layout(EDE)	0.842	0.812	Touch (TO)	0.766	0.826
Emotional State(ES)	0.907	0.926			

Table 4. Convergent validity of the latent variables (AVE).

Average Variance Extracted (AVE)		Average Variance Extracted (AVE)	
Aroma (A)	0.576	Sight Color(SC)	0.595
Buying Behavior(BB)	0.556	Sight packaging (SP)	0.622
Store Environment Cleanliness (EC)	0.647	Sight Variety and Shapes(SVS)	0.546
Store Environment Decoration (ED)	0.555	Taste (TA)	0.513
Store Environment Display and layout(EDE)	0.684	Touch (TO)	0.621
Emotional State(ES)	0.527		

Table 5. Discriminant validity - Fornell and Larcker criterion.

	S	BB	EC	ED	EDE	ES	SC	SP	SVS	TA	TO
A*	0.759										
BB*	0.229	0.745									
EC*	0.221	0.289	0.805								
ED*	0.169	0.283	0.172	0.745							
EDE*	0.225	0.378	0.211	0.310	0.827						
ES*	0.317	0.345	0.183	0.296	0.145	0.726					
SC*	0.198	0.182	0.085	0.074	0.164	0.108	0.772				
SP*	0.242	0.287	0.130	0.154	0.240	0.332	0.147	0.788			
SVS*	0.336	0.380	0.327	0.256	0.238	0.413	0.158	0.273	0.739		
TA*	0.230	0.238	0.305	0.305	0.357	0.238	0.205	0.136	0.337	0.716	
TO*	0.354	0.251	0.282	0.114	0.254	0.337	0.046	0.284	0.280	0.244	0.788

Table 6. Discriminant validity Heterotrait- Monotrait ratio.

	A	BB	EC	ED	EDE	ES	SC	SP	SVS	TA	TO
A*											
BB*	0.318										
EC*	0.363	0.485									
ED*	0.427	0.73	0.599								
EDE*	0.358	0.586	0.414	0.835							
ES*	0.375	0.426	0.318	0.677	0.211						
SC*	0.403	0.397	0.349	0.315	0.446	0.234					
SP*	0.467	0.53	0.34	0.538	0.511	0.556	0.551				
SVS*	0.548	0.561	0.552	0.766	0.425	0.512	0.328	0.544			
TA*	0.386	0.372	0.567	1.096	0.649	0.348	0.46	0.305	0.594		
TO*	0.533	0.36	0.524	0.319	0.422	0.434	0.193	0.571	0.435	0.415	

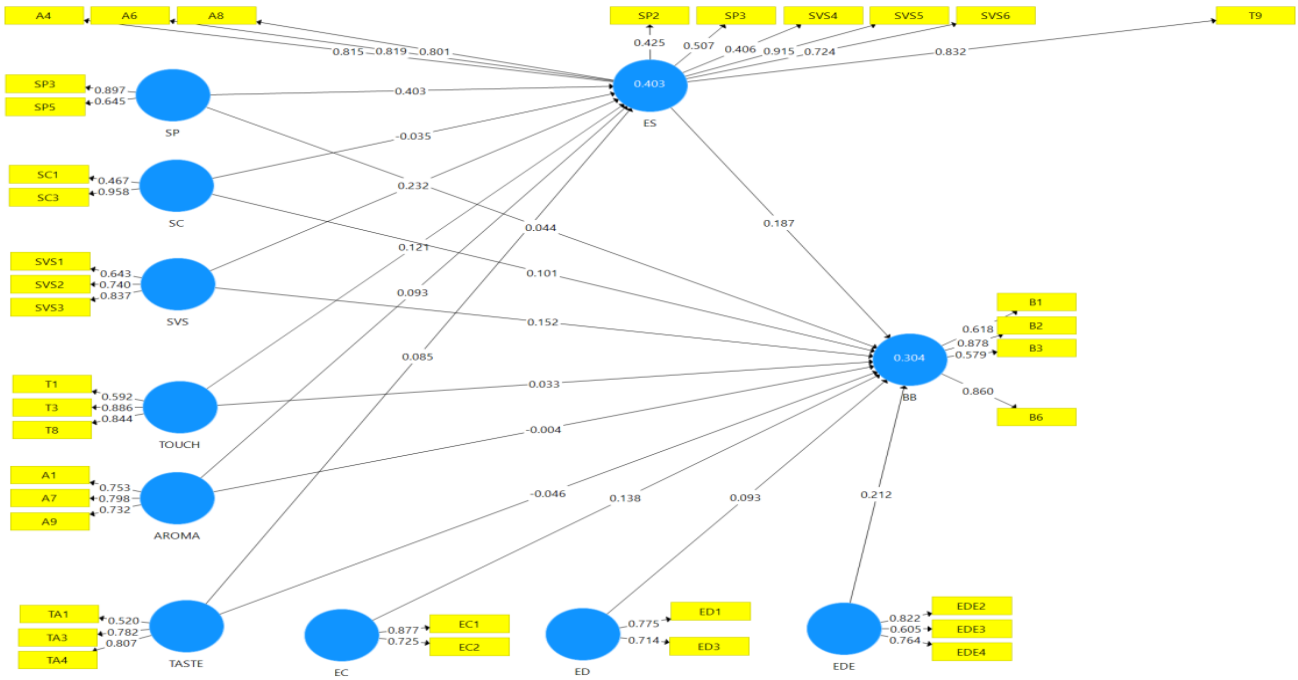

Figure 2. 1st order measurement model; Source: authors (Software: Smart PLS 3.2.9).

2nd Order Measurement Model

From the perspective of PLS-SEM, higher-order constructs (also recognized as hierarchical component models) give a structure for investigators to design a construct on a more conceptual proportion (which are known as higher-order components, HOC) and its more concrete sub-part (which are known as lower-order components, LOCs). HCM is a much more general concept that is evaluated at a higher abstract level while instantaneously evaluating several sub-components (dimensions of HOCs). As a consequence, by defining LOCs, HCM encapsulates concrete properties of a more general theoretical variable of interest (Hair et al., 2017). Higher-order constructs are also substantiated as a part of assessing the measurement model (Hair et al., 2019).

In the current study, there are 2 higher-order constructs: Sight and Store Environmental Attributes. Since to measure these 2 constructs, the authors created sub-components (LOCs) of these constructs. The LOCs of the first higher-order construct ''Sight" were Product Packaging, Product Color, Product Variety, and Shapes. The LOCs of the second higher-order construct were "Store Environmental Attributes," which were Cleanliness, Environmental Display and Layout, and Environmental Decoration.

These two HOCs were assessed for reliability, convergent, and discriminant validity with the lower-order constructs as suggested by Hair et al. (2019). Results of reliability and validity of the higher-order constructs showed that reliability and validity were established. Cronbach's Alpha and Composite Reliability of Sight and Store Environment Attributes were 0.818, 0.774, and 0.793, 0.739, respectively > than the threshold value 0.70 (Table 7). AVE of Sight and Store Environmental Attributes was 0.553 and 0.528, respectively > than the threshold value 0.50 (Table 7). Results of the Fornell and Larcker criterion showed that the square root of the Average Variance Extracted (in bold and italics) of the construct was more than its relation with other constructs (Table 8). In addition to this, the results of HTMT were according to the threshold value (0.85 or less than 0.85) (Table 9).

Table 7. Higher order constructs reliability and convergent validity.

Higher order constructs reliability and convergent validity	Cronbach's Alpha	Composite Reliability	AVE
Sight	0.818	0.793	0.553
Store Environment Attribute	0.774	0.739	0.528

Table 8. Fornell and Larcker Criterion- higher order discriminant validity.

Fornell and Larcker Criterion	A*	BB*	ES*	S*	SEA*	TA*	TO*
Smell (Aroma)	*0.759*						
Buying Behavior	0.230	*0.745*					
Emotional state	0.317	0.346	*0.726*				
Sight	0.384	0.435	0.467	*0.673*			
Store Environment Attribute	0.294	0.459	0.287	0.417	*0.698*		
Taste	0.230	0.239	0.238	0.330	0.462	*0.716*	
Touch	0.354	0.252	0.337	0.343	0.314	0.244	*0.788*

Table 9. HTMT- Higher order discriminant validity.

HTMT- Higher order discriminant validity.	A*	BB*	ES*	S*	SEA*	TA*	TO*
Smell (aroma)							
Buying behavior	*0.318*						
Emotional state	0.375	*0.426*					
Sight	0.705	0.750	*0.683*				
Store environment attribute	0.483	0.764	0.459	*0.757*			
Taste	0.386	0.372	0.348	0.679	*0.737*		
Touch	0.533	0.36	0.434	0.604	0.56	*0.415*	

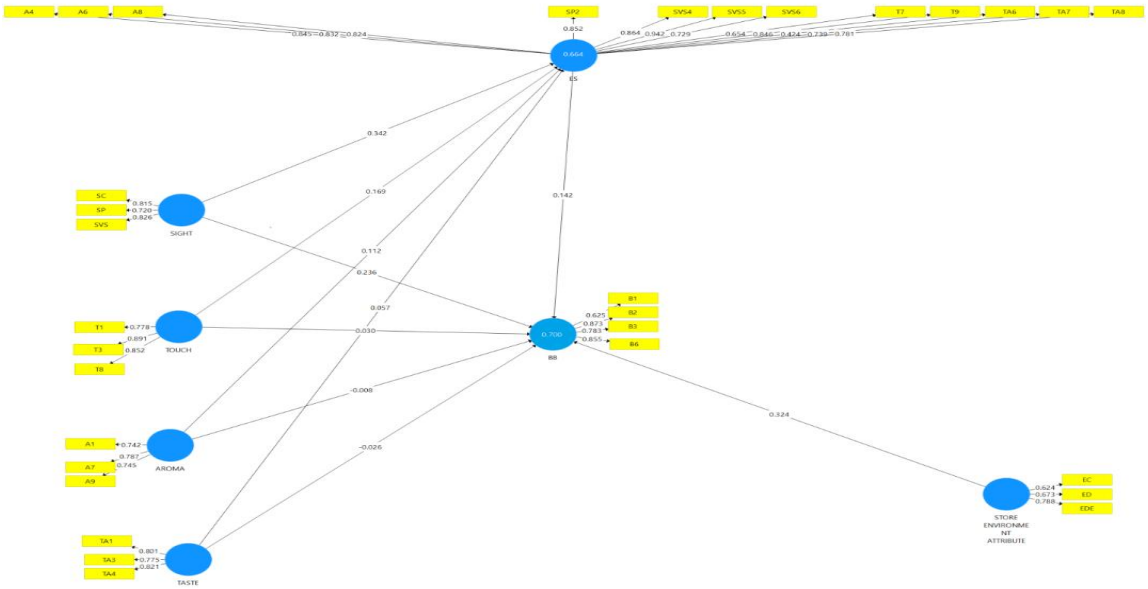

Figure 3. 2nd order measurement model; Source: Authors (Software: Smart PLS 3.2.9).

Structural Model

Before testing the hypothesized relationship, the authors assessed the multicollinearity issue. The multi-collinearity issue was tested through the Variance Inflation Factors (VIF). A VIF value less than 5 indicates no multi-collinearity issue (Hair et al., 2017). Table 10 shows that all VIF values less than 5 indicate no collinearity problem.

Figure 4 shows the hypothesized relationships between the constructs and the evaluated path coefficient. Table 11 shows the direct effect of exogenous variables (Sight, Smell, Taste, and Touch) on the endogenous variable (consumer buying behavior). Table 11 shows that 4 out of 3 effects are significant. Table 12 shows the mediating effect between the independent variables (Sight, Smell, Taste, and Touch) and the dependent variable (consumer buying behavior). The mediating variable is the Emotional state. 4 out of 2 effects are significant. Table 13 shows the moderating effect between the independent variables (Sight, Smell, Taste, and Touch) and the dependent variable (consumer buying behavior where the moderating variable is the Store Environmental Attributes. Here again, 4 out of 2 effects are significant.

Table 10. Variance inflation factors.

Indicators	Variance Inflation Factors (VIF)	Indicators	Variance Inflation Factors (VIF)
A1	2.436	SC3	1.038
A4	4.163	SP2	3.697
A6	3.420	SP3	1.062
A7	2.468	SP5	1.062
A8	3.258	SVS1	1.169
A9	1.053	SVS2	1.218
B1	1.102	SVS3	1.243
B2	1.978	SVS4	1.129
B3	1.156	SVS5	4.834
B6	4.774	SVS6	2.093
EC1	1.102	T1	1.047
EC2	1.102	T3	3.251
ED1	1.013	T8	1.847
ED3	1.013	T9	3.759
EDE2	1.161	TA1	1.086
EDE3	1.164	TA3	1.204
EDE4	1.660	TA4	1.162
SC1	1.038		

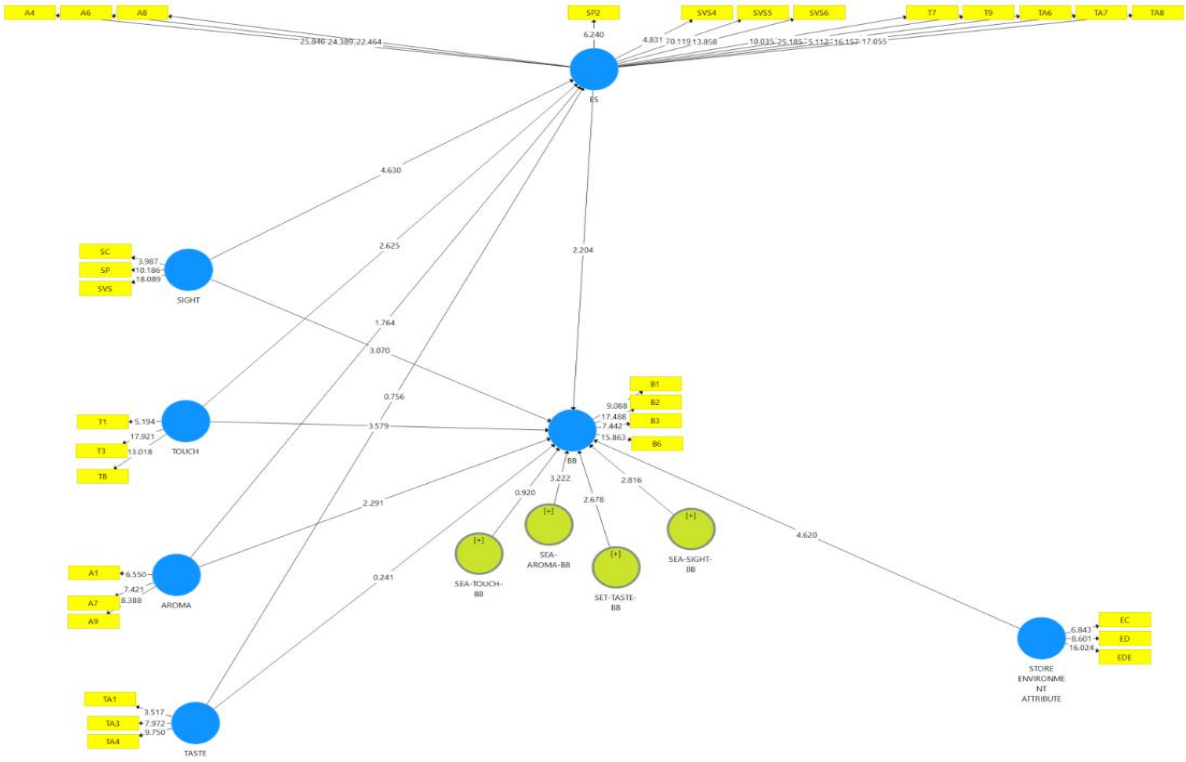

Figure 4. Structural model (Software: Smart PLS 3.2.9).

Table 11. Path coefficients in PLS-SEM (Direct effects).

	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Hypothesis
SIGHT -> BB*	0.217	0.071	3.070	0.002	Supported
Aroma ->BB*	0.210	0.070	2.291	0.001	Supported
TASTE -> BB*	-0.018	0.073	0.241	0.809	Not Supported
TOUCH ->BB*	0.220	0.056	3.579	0.001	Supported

Table 12. Mediating effect.

	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Hypothesis
SIGHT -> ES* -> BB*	0.050	0.020	2.500	0.002	Supported
Aroma -> ES* -> BB*	0.018	0.014	1.226	0.221	Not Supported
TASTE -> ES* -> BB*	0.009	0.014	0.658	0.511	Not Supported
TOUCH -> ES* -> BB*	0.045	0.021	2.142	0.003	Supported

Table 13. Moderating effect.

	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Hypothesis
SEA*-SIGHT-BB -> BB*	0.160	0.057	2.816	0.002	Supported
SEA*- Aroma-BB -> BB*	0.150	0.050	3.222	0.004	Supported
SEA*-TASTE-BB -> BB*	0.178	0.066	2.678	0.008	Not Supported
SEA*-TOUCH-BB -> BB*	-0.067	0.073	0.920	0.358	Not Supported

A*: Aroma BB*: Buying Behavior ES*: Emotional State EC*: Store Environment Cleanliness ED*: Store Environment Decoration EDE*: Store Environment Display and layout SC*: Sight Color SP*: Sight Packaging SVS*: Sight Shape and Varieties TA*: Taste TO*: Touch.

Main Findings and Discussion

The research provides evidence that 3 sensory cues, Sight, Aroma, and Touch, had a significant positive impact on the customer buying behavior in a retail setting. Literature has demonstrated that sensory cue sight has a positive impact on consumer buying behavior (Haase et al., 2020). Results of the current research are consistent with the previous research (β=0.217, t-value= 3.070 and p-value < 0.05) (Table 11). H1 is supported. The findings of the study showed that the attractive packaging of the bakery products, the color of the bakery products, and the large variety and shapes of the bakery products lead the customer towards positive buying behavior. Thus, confirming that sensory cue sight has a significant positive impact on consumer buying behavior.

Olfactory cues exert a positive impact on the buying behavior of consumers (Sandell, 2019). In the current study, β=0.210, t-value= 2.291, and p-value < 0.05, thus supporting H2 (Table 11). The research showed that the Aroma of the bakery products leads them towards buying behavior. Hence, olfactory cue has a positive impact on consumer buying behavior.

Literature has demonstrated a positive impact of taste on the buying behavior of consumers (Ab Hamid et al., 2017). However, the current research has shown that Gustatory sensory has an insignificant impact on consumer buying behavior (β=-0.018, t-value=0.241 and p-value > 0.05) (Table 11). Thus, H3 is not supported. The current study showed that if the customers at the bakery store are allowed to touch the product before purchasing, this will not lead them towards positive buying behavior.

The information that the customers receive from tactile cues (touching the product) while visiting the store creates a significant impact on their buying decisions (Jha et al., 2020). Results of the present research confirm the findings of the previous research by showing a positive impact of sensory cue touch on consumer buying behavior (β=0.220, t-value= 3.579 and p-value < 0.05) (Table 11). Thus, H4 is supported. This research has revealed that after touching the bakery products, the customers evaluate the quality of the products, which creates a positive impact on their buying behavior.

The current study, by assessing the mediating role of Emotional state on the relationship between sensory cues and consumer buying behavior, has gone further to identify the underlying mechanism. This study revealed the significant mediating effect of emotional state on the relationship between sensory cue sight and consumer buying behavior (β=0.050, t-value= 2.500 and p-value < 0.05) (Table 12). Hence, H5 is supported. Previously, the research has shown that if effective sight cues are used in a restaurant, it influences customer emotional state and leads them to stay in the restaurant for a long time (Chen and Lin, 2018). The current study supports the previous study by showing that attractive packaging, color shapes, and varieties of bakery products positively influence the emotional state of the customers, which leads them toward buying the products.

Research by Shafiee et al. (2021) has shown that the most dominant sensory cue in influencing the emotional state of customers is the sense of smell (Aroma of the product). However, this research has shown an insignificant impact of sensory cue aroma on the emotional state of the customers. This research has revealed that the aroma of the bakery products doesn't incite the emotional state of the customers, which ultimately doesn't create a significant impact on their buying behavior (β=0.018, t-value= 1.226 and p-value > 0.05) (Table 12). Hence, H6 is not supported.

In the present study, the impact of Emotional state on the relationship between Taste and consumer buying behavior is insignificant, as β=0.009, t-value= 0.658, and p-value > 0.05 (Table 12). H7 is also not supported. This means that Taste (Gustatory

Cue) doesn't influence the emotional state of the customer, and this ultimately doesn't have a significant impact on the buying behavior. Gustatory cue (Touch) alone cannot create an impact on the emotional state. Touch cue, along with the combination of olfactory cues (Aroma), positively impact the emotional state and lead the customer towards conducive buying behavior (Chen and Lin, 2018).

Findings provide evidence that the relationship between sensory cue touch and consumer buying behavior is mediated by Emotional state, as β=0.045, t-value=2.142, and p-value < 0.05. Thus, H8 is supported. The research reveals that if the customers are allowed to see the products, it stimulates the emotional response of the customers and directs them towards optimistic purchase behavior. This research holds up with the previous study (Grohmann et al., 2007), which divulges that customers build a perception of the product after touching it, and a positive perception of the product affects the emotional state of the customers positively. The present study has also assessed the moderating role of Store Environmental attributes on the relationship between sensory cues and consumer buying behavior.

In the current study, the moderating impact of Store Environmental attributes on the relationship between sensory cue sight and consumer buying behavior is significant as β=0.160, t-value= 2.816, and p-value < 0.05 (Table 13). Hence, H9 is supported. This shows that the Store Environmental attributes (Environmental Cleanliness, Environmental Display and Layout, and Environmental Decoration) create an impact on the relationship between sight sensory cues of a product and the buying behavior of the customer.

Store Environmental attributes also moderate the relationship between aroma and consumer buying behavior as β=0.150, t-value=3.222, and p-value < 0.05 (Table 13). Hence, H10 is also supported. The findings are consistent with the research by Lata and Singh (2020) showing that Store Environmental Attributes have a positive effect on consumer buying behavior if the sensory cues are congruent with the store Environment.

The present research also assessed the moderating role of Store Environmental attributes on the relationship between sensory cue taste and consumer buying behavior. The results show that this impact is insignificant as β=0.178, t-value= 2.678, p-value < 0.05 (Table 13). So, in the light of the present study, the Environmental Attributes of the store don't create any effect on the relationship between the sensory cue taste of the product and the buying behavior of the customer.

Store Environmental Attributes also don't create any impact on the relationship between sensory cue touch and consumer buying behavior, showing the effect as insignificant (β=-0.067, t-value= 0.920 and p-value > 0.05, Table 13). Thus, H11 and H12 are not supported.

CONCLUSIONS AND IMPLICATIONS

The findings of the present research put forth the field of consumer behavior and sensory cues, showing how multi-sensory cues can influence the buying behavior of customers in a retail setting. Firstly, this research gives empirical support for the previous research (Jang et al., 2018) by proposing that multi-sensory cues (Except Gustatory cues) have positive effects on consumer buying behavior. However, this study doesn't confirm that the gustatory cue (Taste of the product) creates any impact on the buying behavior of the customers in a retail setting. Secondly, this research has contributed to the literature by providing evidence that the sensory cue sight of the product and the tactile sensory cue create a positive impact on the emotional state of the customer that ultimately leads to favorable buying behavior in the context of retailing. In disparity to the previous study (Hussain and Ali, 2015), which focused on the direct effect of the store's environmental attributes on the buying behavior of the customers. This study has examined the moderating impact of Store Environment Attributes on the relationship between sensory cues and consumer buying behavior.

For retailers, this study is very useful in increasing knowledge and understanding about consumer buying behavior, sensory cues, emotional state, and retail store attributes. In addition to this, the present study also offers several multi-sensory cues to be considered to increase the buying behavior of the customers. Further, the study provides evidence to retailers that to lead the customers toward positive buying behavior through sensory cues, they must focus on their emotional state. This research also helps retailers in designing the retail store, both in terms of sensory cues and retail store attributes, to increase the purchasing behavior of customers.

Limitations and Direction for Further Studies

Despite all efforts to adhere to strict standards in the questionnaire survey, some restrictions are unavoidable. This research is just limited to two cities in Pakistan (Faisalabad and Jhang) due to time and manpower constraints. Data have been collected through a convenience sampling method, which is less acceptable in a questionnaire survey. Random sampling is preferable to scientific studies. In addition to this, data have been collected through a self-administered questionnaire. Self-report measures acquired from the same sample can result in some biases (Podsakoff and Todor, 1985). To reduce these biases, this study does a CFA of all constructs to ensure reliability, construct validity, convergent and discriminant validity (Conway and Lance, 2010). In this study, 4 sensory cues (Visual, Gustatory, Tactile, and Olfactory) are used to find out the impact on consumer buying behavior. Further studies can be done on all five sensory cues and on a larger sample size. Although this study considers 4 sensory cues as independent variables, these sensory cues interact and influence each other as well. How these interactions create an impact on the buying behavior of consumers is further worth exploring. This research uses Emotional State as a mediating variable and Store Environment Attributes as a moderating variable. Further studies can explore the mediating effect of Store Environment Attributes on the relationship between sensory cues and consumer buying behavior.

REFERENCES

Ab Hamid, M.R., Sami, W., Sidek, M.H.M., 2017. Discriminant validity assessment: Use of Fornell & Larcker criterion versus HTMT criterion, in: Journal of Physics: Conference Series. IOP Publishing, p. 12163. https://core.ac.uk/download/pdf/159194486.pdf.

Achrol, R.S., Kotler, P., 2012. Frontiers of the marketing paradigm in the third millennium. J. Acad. Mark. Sci. 40, 35–52.

Andreu, L., Bigné, E., Chumpitaz, R., Swaen, V., 2006. How does the perceived retail environment influence consumers' emotional experience? Evidence from two retail settings. Int. Rev. Retail. Distrib. Consum. Res. 16, 559–578.

Asioli, D., Wongprawmas, R., Pignatti, E., Canavari, M., 2018. Can information affect sensory perceptions? Evidence from a survey on Italian organic food consumers. AIMS Agric. Food 3, 327–344.

Ballantine, P.W., Parsons, A., Comeskey, K., 2015. A conceptual model of the holistic effects of atmospheric cues in fashion retailing. Int. J. Retail Distrib. Manag. 43, 503–517.

Batra, R., Stayman, D.M., 1990. The role of mood in advertising effectiveness. J. Consum. Res. 17, 203–214.

Biswas, D., Szocs, C., 2019. The smell of healthy choices: Cross-modal sensory compensation effects of ambient scent on food purchases. J. Mark. Res. 56, 123–141.

Boateng, H., Kosiba, J.P., Adam, D.R., Ofori, K.S., Okoe, A.F., 2020. Examining brand loyalty from an attachment theory perspective. Mark. Intell. Plan. 38, 479–494.

Bohl, P., 2012. The effects of store atmosphere on shopping behaviour-A literature review. Corvinus Mark. Tanulmányok, 1.

Chebat, J.-C., Michon, R., 2003. Impact of ambient odors on mall shoppers' emotions, cognition, and spending: A test of competitive causal theories. J. Bus. Res. 56, 529–539.

Chen, H.-T., Lin, Y.T., 2018. A study of the relationships among sensory experience, emotion, and buying behavior in coffeehouse chains. Serv. Bus. 12, 551–573.

Churchill Jr, G.A., 1979. A paradigm for developing better measures of marketing constructs. J. Mark. Res. 16, 64–73.

Clark, J.E., 1998. Taste and flavour: their importance in food choice and acceptance. Proc. Nutr. Soc. 57, 639–643.

Clark, L.A., Watson, D., 1995. Constructing validity: basic issues in objective scale development. Psychol. Assess. 7, 309–319.

Cohen, J., Cohen, P., West, S.G., Aiken, L.S., 2013. Applied multiple regression/correlation analysis for the behavioral sciences. Routledge.

Conway, J.M., Lance, C.E., 2010. What reviewers should expect from authors regarding common method bias in organizational research. J. Bus. Psychol. 25, 325–334.

Cronbach, L.J., 1951. Coefficient alpha and the internal structure of tests. Psychometrika 16, 297–334.

De Canio, F., Fuentes-Blasco, M., 2021. I need to touch it to buy it! How haptic information influences consumer shopping behavior across channels. J. Retail. Consum. Serv. 61, 102569.

De Luca, R., Botelho, D., 2021. The unconscious perception of smells as a driver of consumer responses: A framework integrating the emotion-cognition approach to scent marketing. AMS Rev. 11, 145–161.

Debenedetti, A., 2021. Luxury stores as home-like places: How domestic meanings are staged and mobilized in luxury retail. J. Bus. Res. 129, 304–313.

Fornell, C., Larcker, D.F., 1981. Evaluating structural equation models with unobservable variables and measurement error. J. Mark. Res. 18, 39–50.

Furst, A., Pečornik, N., Binder, C., 2021. All or nothing in sensory marketing: must all or only some sensory attributes be congruent with a product's primary function? J. Retail. 97, 439–458.

Grohmann, B., Spangenberg, E.R., Sprott, D.E., 2007. The influence of tactile input on the evaluation of retail product offerings. J. Retail. 83, 237–245.

Haase, J., Wiedmann, K.-P., Bettels, J., 2020. Sensory imagery in advertising: How the senses affect perceived product design and consumer attitude. J. Mark. Commun. 26, 475–487.

Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., Thiele, K.O., 2017. Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. J. Acad. Mark. Sci. 45, 616–632.

Hair, J.F., Risher, J.J., Sarstedt, M., Ringle, C.M., 2019. When to use and how to report the results of PLS-SEM. Eur. Bus. Rev. 31, 2–24.

Hair, J.F., Sarstedt, M., Ringle, C.M., Mena, J.A., 2012. An assessment of the use of partial least squares structural equation modeling in marketing research. J. Acad. Mark. Sci. 40, 414–433.

Herrmann, A., Zidansek, M., Sprott, D.E., Spangenberg, E.R., 2013. The power of simplicity: Processing fluency and the effects of olfactory cues on retail sales. J. Retail. 89, 30–43.

Hultén, B., 2015. Sensory marketing: Theoretical and empirical grounds. Routledge.

Husain, R., Paul, J., Koles, B., 2022. The role of brand experience, brand resonance and brand trust in luxury consumption. J. Retail. Consum. Serv. 66, 102895.

Hussain, R., Ali, M., 2015. Effect of store atmosphere on consumer purchase intention. Int. J. Mark. Stud. 7, 2.

Imschloss, M., Kuehnl, C., 2019. Feel the music! Exploring the cross-modal correspondence between music and haptic perceptions of softness. J. Retail. 95, 158–169.

Jang, J.Y., Baek, E., Choo, H.J., 2018. Managing the visual environment of a fashion store: Effects of visual complexity and order on sensation-seeking consumers. Int. J. Retail Distrib. Manag. 46, 210–226.

Jha, S., Balaji, M.S., Peck, J., Oakley, J., Deitz, G.D., 2020. The effects of environmental haptic cues on consumer perceptions of retailer warmth and competence. J. Retail. 96, 590–605.

Kampfer, K., Leischnig, A., Ivens, B.S., Spence, C., 2017. Touch-flavor transference: Assessing the effect of packaging weight on gustatory evaluations, desire for food and beverages, and willingness to pay. PLoS One 12, e0186121.

Kivioja, K., 2017. Impact of point-of-purchase olfactory cues on purchase behavior. J. Consum. Mark. 34, 119–131.

Krishna, A., Cian, L., Aydınoğlu, N.Z., 2017. Sensory aspects of package design. J. Retail. 93, 43–54.

Krishna, A., Schwarz, N., 2014. Sensory marketing, embodiment, and grounded cognition: A review and introduction. J. Consum. Psychol. 24, 159–168.

Lata, A., Singh, A., 2020. Impact of retail store environmental marketing cues on consumer buying physiology. Int. J. Manag. 11.

Liu, Y., Jang, S.S., 2009. The effects of dining atmospherics: An extended Mehrabian–Russell model. Int. J. Hosp. Manag. 28, 494–503.

Mehrabian, A., Russell, J.A., 1974. An approach to environmental psychology. The MIT Press.

Mingione, M., Cristofaro, M., Mondi, D., 2020. 'If I give you my emotion, what do I get?'Conceptualizing and measuring the co-created emotional value of the brand. J. Bus. Res. 109, 310–320.

Morrison, M., Gan, S., Dubelaar, C., Oppewal, H., 2011. In-store music and aroma influences on shopper behavior and satisfaction. J. Bus. Res. 64, 558–564.

Müller, T., Schuberth, F., Henseler, J., 2018. PLS path modeling–a confirmatory approach to study tourism technology and tourist behavior. J. Hosp. Tour. Technol. 9, 249–266.

Podsakoff, P.M., Todor, W.D., 1985. Relationships between leader reward and punishment behavior and group processes and productivity. J. Manage. 11, 55–73.

Prabhavathi, S.N., Prakash, J., 2017. Sensory attributes of fresh herb chutneys prepared using a flavor enhancer. EC Nutr. 10, 26–36.

Pramudya, R.C., Seo, H.-S., 2019. Hand-feel touch cues and their influences on consumer perception and behavior with respect to food products: A review. Foods 8, 259.

Ranaweera, A.T., Martin, B.A.S., Jin, H.S., 2021. What you touch, touches you: The influence of haptic attributes on consumer product impressions. Psychol. Mark. 38, 183–195.

Rasoolimanesh, S.M., Taheri, B., Gannon, M., Vafaei-Zadeh, A., Hanifah, H., 2019. Does living in the vicinity of heritage tourism sites influence residents' perceptions and attitudes? J. Sustain. Tour. 27, 1295-1317.

Reinartz, W., Haenlein, M., Henseler, J., 2009. An empirical comparison of the efficacy of covariance-based and variance-based SEM. Int. J. Res. Mark. 26, 332–344.

Ringle, C.M., Wende, S., Becker, J.M., 2015. SmartPLS 3. SmartPLS GmbH, Boenningstedt. http://www.smartpls.com.

Ringler, C., Sirianni, N.J., Gustafsson, A., Peck, J., 2019. Look but don't touch! The impact of active interpersonal haptic blocking on compensatory touch and purchase behavior. J. Retail. 95, 186–203.

Sagha, M., Seyyedamiri, N., Foroudi, P., Akbari, M., 2022. The one thing you need to change is emotions: The effect of multi-sensory marketing on consumer behavior. Sustainability 14, 2334.

Sandell, K., 2019. Olfactory cues and purchase behavior: consumer characteristics as moderators. Eur. J. Mark. 53, 1378–1399.

Schifferstein, H.N.J., Fenko, A., Desmet, P.M.A., Labbe, D., Martin, N., 2013. Influence of package design on the dynamics of multisensory and emotional food experience. Food Qual. Prefer. 27, 18–25.

Shabgou, M., Daryani, S.M., 2014. Towards the sensory marketing: stimulating the five senses (sight, hearing, smell, touch and taste) and its impact on consumer behavior. Indian J. Fundam. Appl. Life Sci. 4, 573–581.

Shafiee, M., Foroudi, P., Tabaeeian, R.A., 2021. Memorable experience, tourist-destination identification and destination love. Int. J. Tour. Cities 7, 799–817.

Silva, T.S., Giraldi, J. de M.E., 2010. The influence of store image on customer satisfaction: a case study of a shoe store. Brazilian Bus. Rev. 7, 60–77.

Simha, S., 2020. Study of sensory marketing strategies in retailing business, in: 3rd Asia Pacific Management Research Conference (APMRC 2019). Atlantis Press, pp. 34–38.

Solomon, M., Russell-Bennett, R., Previte, J., 2013. Consumer behaviour. Pearson Higher Education AU.

Van Kerrebroeck, H., Willems, K., Brengman, M., 2017. Touching the void: Exploring consumer perspectives on touch-enabling technologies in online retailing. Int. J. Retail Distrib. Manag. 45, 892–909.

Wadhera, D., Capaldi-Phillips, E.D., 2014. A review of visual cues associated with food on food acceptance and consumption. Eat. Behav. 15, 132–143.

Zha, D., Foroudi, P., Jin, Z., Melewar, T.C., 2022. Making sense of sensory brand experience: Constructing an integrative framework for future research. Int. J. Manag. Rev. 24, 130–167.

Appendix A. Results of Calculation of minimum sample size using G*power