

EXPLORING TOURISTS' SENSORY EXPERIENCES IN ISTANBUL'S SPICE BAZAAR ATMOSPHERE

 Ceyda Altiparmakogullari^{1,2*},  Deniz Hasirci³

¹Design Studies Program, Graduate School, Izmir University of Economics, Turkiye

²Department of Industrial Design, Faculty of Architecture, Halic University İstanbul, Turkiye

³Department of Interior Architecture and Environmental Design, Faculty of Fine Arts and Design, İzmir University of Economics İzmir, Turkiye

Abstract. Previous research on tourists' sensory experiences has focused on the multi-sensory stimuli that had significant impacts. Such studies show the importance of the five senses for tourism, and thus various strategies can be implemented to design the most effective environments, develop rich sensory experiences, and implement touristic strategies. Given the importance of tourism for Turkey's economy, this study aims to analyze the sensory experience of Istanbul's Spice Bazaar. The method involves dividing the bazaar into seven different zones to analyze the sensory stimuli experienced by the participants in each zone. Through the sense-walking method, the participants gave verbal feedback about their experiences as they walked through the bazaar providing continuous feedback. By investigating the perception of the touristic atmosphere through the five senses, it was able to gain a deeper understanding of tourist sensory experiences within the bazaar. The results show that this method can be applied to new or similar touristic atmospheres to create sensory experience maps. It is envisaged that the methodology of this study will be applied to similar tourist atmospheres in the future, as it allows for sensory experience research in a variety of cultural and heritage sites to examine the tourist experience in depth.

Keywords: *Sensory Experience, Sensory Walk, Spice Bazaar, Tourist Experience, Bazaar Atmosphere, Multisensory Experience.*

***Corresponding Author:** Ceyda, Altiparmakogullari, Department of Industrial Design, Faculty of Architecture, Halic University, İstanbul, Turkiye, Tel: +90 5352095695,
e-mail: ceydaaparmakogullari@halic.edu.tr

Received: 12 April 2023;

Accepted: 12 June 2023;

Published: 4 August 2023.

1. Introduction

The aim of this study to convert the verbal expressions of participants in the multisensory experience of the Spice Bazaar, which has a rich cultural heritage and is among the most popular tourist attractions in Turkey, into a documentation and to contribute to the heritage of Turkey. As it has been determined that participants' expressions through the multi-sensory modalities of the Spice Bazaar cannot only be categorized as intangible or only tangible, different methodologies have been used together by categorizing all the expressions of the participants involved in the multi-sensory experience under two main headings, intangible and tangible, in order to ensure authenticity. A sensory modality of sensory experience contributes to cultural identity

How to cite (APA):

Altiparmakogullari, C., Hasirci, D. (2023). Exploring tourists' sensory experiences in Istanbul's Spice Bazaar atmosphere. *New Design Ideas*, 7(2), 265-285.

and provides important findings about that culture and heritage. In light of this, it is foreseen that this study, highlighting experience, could be applied to multi-sensory environments and provide a richer description of sensory experiences.

As a traditional method of documenting a place or space, walking around practices has become an integral part of many academic researchers' approach, including urban scientists, anthropologists, and heritage scholars, in order to observe spatial behavior, cultural activities, and heritage studies (Pink 2007, Goh 2014, Wunderlich 2008). Furthermore, the objective of walking with sensory experience is to make it sensory-oriented, and if this is the case, then people who visit the area will be guided on a sensory-oriented walk by focusing on one or all of their senses (Svensson, 2021). Henshaw (2013) studied local people taking a sensory walk in Amsterdam while recording different odors and their locations. From this, a scent walk on Amsterdam's city map was created by adding scent descriptors in terms of expectation, intensity, personal relationship, and hedonic scale. Davis and Senocak (2017) led participants on a blindfolded scent walk through Istanbul's Spice Bazaar while videotaping the sources of the scents that were recognized. Thus, active participant data was collected and observations made from traders, tourists, and other stakeholders. Similar studies show that it is important to examine destinations and trips in terms of tourists' experiences, particularly the complex experience structures that include cognitive and sensory stimuli and emotional responses (Gretzel & Fesenmaier 2003). Given that sensory cues have a multifaceted influence on behavior, it is also important to consider multi-sensory approaches (Spence *et al.*, 2014). A number of studies have investigated such experiences. For instance, drawing on sensory impression theory, Agapito, Valle and Mendes, (2014) showed that individuals perceive the world through the senses, which are also directly affected by long-term memories of physical experiences. The authors showed that individuals perceive the world through the senses, which are also directly affected by long-term memories of physical experiences. Knowledge of a place is also based on bodily experience, which produces multiple sensory experiences. Given that sensory cues have a multifaceted influence on behavior, it is important to consider multi-sensory approaches (Spence *et al.*, 2014).

Studies show the significance of the sensory dimension of the touristic experience. However, more research is necessary in terms of the investigation of tourists' experiences and perceptions in the touristic environment using both qualitative and quantitative methodologies (Agapito *et al.*, 2014). Cultural elements play an influential role in forming sensory perceptions, but there is a lack in research in terms of understanding this relationship. Therefore, one way to develop this field would be to develop strategies based on human senses by creating sensory synergies with users. Sensory design tools can be based on active user participation, as well as designers' intuition and ability to empathize with the users (Malbasic & Choi, 2019). Sense organs mediate information to facilitate the assessment of the environment, but they also provide channels through which the imagination is stimulated. The senses, which trigger the body, stimulate thought and experience and, when inside a building, they shape the space with its architecture in concert with the mind (Croome, 2006). The issues addressed in this paper regarding the role of the senses in designing place or exploring the tourist experience may be helpful in understanding the sensory dimension of the tourist experience. In light of the information provided, also Turkey, with its many historical tourist sites, has a lack of studies on the five senses, making this field of study increasingly important. Analyzing the behavioral responses to sensory stimuli, which serve as the first input in the formation of the experience, reveals the positive and negative factors that affect the experience. A well

designed environment can have a positive psychological impact, while a poorly designed space can have the opposite effect (Ricci, 2021).

2. Sensory Experience and Tourist Experience

Sensory experience is processed by the limbic system, beginning with the first sensory interaction before being associated with earlier experiences to enable memory and recall (Henshaw *et al.*, 2016). In studies examining the integration of multisensory modalities with temporal and spatial factors, it has been shown that multisensory integration is more likely to occur when stimuli from different modalities are presented simultaneously. According to Spence (2011), it has been observed in multisensory laboratory studies that perception, semantic coherence effects typically have coherence effects in matching or matching with objects and the environment (Spence, 2011)

One of the main purposes of sensory experience appears is to send a message of interest directly to the customer's brain, encouraging them to buy a product, and creating a link between them and the product (Dissabandara, 2019). There is also a strong relationship between the five senses and user experience (Soars, 2009). *Our sense organs are constantly stimulated by sensory stimuli, which requires us to integrate multisensory information from the environment appropriately, and these multisensory perceptual representations influence our behavior* (Frings & Spence 2010). To predict and better understand the success of sensory strategies, it is necessary to examine and evaluate user's sensory cues and perceptions (Klaus & Wiedmann, 2018). A user's experience is characterized by many experiences and perception attempts during, before, and after the experience. There are several factors that contribute to the multidimensionality of this process (Paul *et al.*, 2016). It is clear from this that multi-sensory perception plays an essential role in the development of cognition. For example, olfactory experiences can encourage customers to shop or prefer one product over another (Soars, 2009) while scents are remembered more strongly and for longer than visual stimuli (Henshaw *et al.* 2016). In recent years, it has become increasingly clear that the human body has different types of tactile receptors. However, there are also brain regions which seem to respond to particularly pleasant tactile sensations in particular. The sensations associated with stroking velvet on the skin, for instance, indicate that tactile contact is associated with the release of oxytocin in the human body and is thought to be associated with bonding behavior, but it is also known to have a lower bandwidth than other senses (Gallace & Spence, 2014). An example of this is Helm Bank's dessert experience in Colombia, which was successfully marketed as a part of a sensory marketing strategy (Spence *et al.*, 2014). On the other hand, Agapito (2020) claims that all senses are involved and important regarding the intensity of the overall experience. That is, all sensory modalities must be available to fully perceive the environment and complete the experience. Similarly, Pine and Gilmore (1998) show that the senses are an instruments, suggesting that the more senses an experience engages, the more effective and memorable it will be. A momentary sensory stimulus can connect with the memory of the current experience and therefore have a more significant effect. Sensory experiences also play a critical role in marketing strategy to bring tourists to the market by understanding, managing, and planning tourism experiences (Agapito *et al.*, 2014). Also, the experience can be shaped by the environment, such as the experience of stimuli can vary according to the way in which they are associated with personal, social, and cultural signification processes, including the transmission of experiences, and that experience can change instantly across space

and time as well (McCarthy & Ciolfi, 2008). Briefly, the five senses enable us to gather data about the external world. The existence of the five senses is rooted in culture. In some cultures, more senses are recognized, while in others, fewer senses are recognized (Classen, 2023). Sensory interaction research in the context of cultural heritage and the touristic environment is one of the most important fields of research in this regard. The atmosphere is perceived and can affect an experience in both a positive and a negative way, and atmospheres are often associated with familiar sensations that can be sensibly perceived as well, such as smell, the city's climate, which may influence a positive or negative outcome in a particular situation. It is leading to the creation of a broad range of backgrounds in the fields of interior architecture, urban planning, advertising, the arts, design, as well as interaction design (Böhme, 2013). Additionally, how the senses interact is the lack of a focus on this area has allowed researchers to focus on the area (Gretzel *et al.*, 2006). Moreover, the results from preliminary research of tourist experiences focusing on the design of tourist sites has made clear the importance of addressing multi-sensory aspects (Agapito, 2020). Sensory shifts in the perception of different places are mainly caused by spatial changes. Researchers can reveal different routes and senses in these areas and within different tourist profiles (Small *et al.*, 2012). Depending on the individual's state of hunger, taste can become an important sense in motivational experience (Stevenson & Boakes, 2004). Therefore, tourist motivations should be taken into account and evaluated in terms of the criteria that affect the experience.

3. Istanbul Spice Bazaar

Istanbul's Spice Bazaar, built in 1664, is located in Eminönü, surrounded by historical inns, tombs, and mosques (Gharipour, 2012). Eminönü has been an active trade and port area since the Byzantine period. Established as an herb and spice bazaar, the market mainly sold medicinal products, herbs, and spices, and preserved its originality until the middle of the twentieth century. It was named the Spice Bazaar because its shops sold products brought to Istanbul from Arabia and India via Egypt. Some European travelers also described it as a pharmacy (Özgüven & Durhan, 2010).



Figure 1. Views of the Spice Bazaar (Authors' archive, 2022)

The Spice Bazaar has rich cultural and ethnic values, rich spices, and other gastronomic flavors. The presentation of these different cultural flavors has taken a unique and important form, as shown in Figure 1. The bazaar has also become a frequent destination for most tourists visiting Istanbul from different demographics or cultures. The bazaar's atmosphere appeals to the senses through vibrantly colored spices blended with the sounds, and the delicious taste of sweets and other flavors. Accordingly, the Spice Bazaar was chosen for the present study due to its ethnic and cultural and heritage history, and its position as one of the spice trade's central points throughout history.

4. Method

The subject of the study is the experience of tourists, and this has been examined in previous studies using the phenomenological research approach (Hierl, 2019). As a result, the findings of the study can be used to the benefit of both design and cultural studies that can take place in tourist environments. A phenomenological approach was adopted in order to gain an in-depth understanding of the sensory experiences of tourists in the spice bazaar atmosphere so that new multidisciplinary studies can be made connecting the sensory interaction of tourists and their phenomenological approach.

A methodological approach that clarifies the purpose of the study is essential to studies as such (Venkatesh & Brown, 2016). In attempting to define sensory experience, Pink (2006) found that users conceptualize experience as an atmosphere involving emotions rather than just a physical and visual environment (Pink, 2006). In the light of this argument, it is necessary to analyse and examine the sensory experiences of tourists in the atmosphere in which they spend time during their travels. Adams and Askins (2009) define "sensewalking" as a method to explore and analyze how tourists understand and experience space, and usually involves a researcher with one or more participants walking in a touristic environment. Sensory walks have generally been developed as a qualitative method for exploring aspects of the physical and/or cognitive experience in a particular environment or atmosphere (Henshaw *et al.*, 2009).

The Think Aloud Protocol (TAP) is commonly used to gather experiences by asking users to voice their thoughts, feelings, and opinions while interacting with a particular system (Chandrashekar *et al.*, 2006). Verbal protocol analysis involves participants performing a task or set of tasks and verbally expressing their thoughts in the meantime ("talking out loud"). Researchers interested in understanding sensory experience have emphasized the importance of sensory awareness in various contexts (Strang, 2005). As part of the study's objective, the participants were asked to participate in a sensory walk in order to reach the stimuli sensory experience in order to guide this process correctly based on the objective of the study and to record and note their stimuli thoughts using the think aloud protocol. Meanwhile, the researchers observed and recorded the whole process. Tangible and intangible experiences were sought in the analysis of the protocols. The term "intangible" was introduced by UNESCO at a meeting organized in Paris in late 2001 with the "Convention for the Safeguarding of the Intangible Cultural Heritage" ratified in 2003. It is recommended to use this term instead of its equivalents such as, invisible. Many authors have suggested that verbal expressions can be used to experience values such as language, which is seen as an intangible tool (Esfehiani, 2019). Cultural heritage refers to the processes that take place to define and demarcate the area of our focus, rather than just objects, and should be thought of as a cultural identity, not just a place, space or an intangible, intangible performance or event (Swensen *et al.*, 2013). As

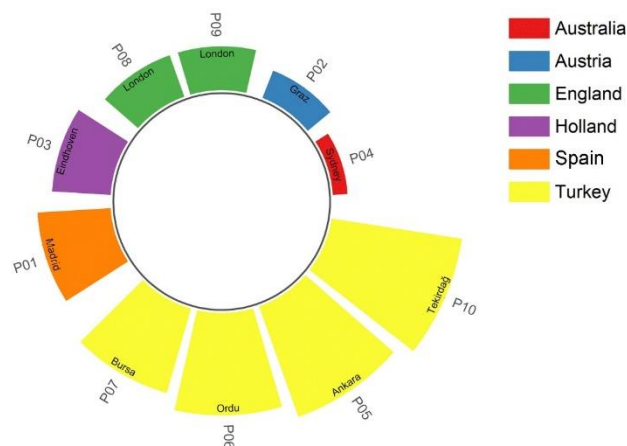
a means of understanding the intangible and tangible meanings and effects of a place, it is necessary to study the sensory interactions tourists experience during their visit to a bazaar in order to analyse the intangible and tangible meanings and effects that would contribute to a holistic understanding of the findings.

5. Instruments and Procedures

It was determined that the participants would be selected on a voluntary basis and that they would have to be first-time attendees of the bazaar in order to be considered for participation. Since the research has qualitative content, it is desired to perform a detailed analysis of the data, and the sample size is foreseen and limited with ten participants. It is important to note that an aim of qualitative research is to present information obtained in a simple and easy-to-understand manner (Creswell, 2002). There is much more value in two or three method studies with five users per study when it comes to user experience research than there is in a single study with 15 participants. It has been found that even three users can be enough to get an idea of the variation in user behavior in order to know what is unique and what can be generalized (Nielsen & Landauer, 1993). Neuman (2014), stated that as pointed out that it is necessary to be meticulous and careful in the sample's selection. At the end of the study, when it is desired to use content analysis to study representation, for example, it is decisive for the creation of themes through the results (Robson, McCartan 2016). Since a case for sensory experience and exploratory purposes was determined in the field study, it was requested to select a heterogeneous population sample group for this purpose.

For this study, a heterogeneous adult (aged 18+) participant group was interviewed selected through random sampling from first time visitors of the Spice Bazaar. Five women and five men participated in this study, with ages ranging from 34 to 62. Table 1 provides their countries belong to the participants.

Table 1. Demographic overview of participants by country



Prior to visiting the Spice Bazaar, participants were informed about the stages of the research as well as provided with a copy of the ethical report and permission documents signed by the bazaar's management. Considering this information, participants' signatures were obtained for consent to record their voices within the thinking aloud protocol, and the fieldwork started from the same starting point with each participant. As shown in Table 2, the study had two stages. In the first stage, after gaining

the participants' informed consent, a structured questionnaire was used to collect demographic information from the participants. The participants were then informed about the next stage – the sensory walk – and informed that they could stop at whichever points they preferred. They were also informed that the observer would photograph these moments of experience during the walk. In the second stage, a sensory walk was conducted with the participants to reveal their sensory experiences (Figure 2).



Figure 2. Scenes from the Sensory Walk

During this walk, the think-aloud protocol was used to reveal the participants' sensory experiences. Their verbal expressions were recorded with a recorder. The observer also photographed the participants' sensory experience reactions, and particular moments and places that attracted attention. The observer also took notes regarding important points.

Table 2. Structure of the field study

Field Study Stages	Method	Instruments	Where to Apply	Duration
STAGE 1	Interview Questions (15 questions)	<ul style="list-style-type: none"> A4 paper Pen 	At the entrance of the Spice Bazaar	Approximately 5 Minutes
STAGE 2	Sensory Oriented Sensory Experience Walk Observation Think Aloud Protocol	<ul style="list-style-type: none"> Sound Recording Device Taking Photo 	In the Spice Bazaar	Approximately 20 Minutes

For stage two, it was considered appropriate to divide the Spice Bazaar into seven distinct zones, based on its topography and architectural form, since the bazaar is divided into two branches from the L corner (see Figure 3). The distance from the corner to the exit gate (Haseki Gate) is 144 meters and the distance to the entrance gate (Balık Pazarı Gate) is 114 meters. These distances are equally divided between the exit gate (Haseki Gate) and the entrance gate (Balık Pazarı Gate). In order to apply this in the study, reference stores were determined at the beginning of each zone and information was recorded accordingly.

Aside from the sensory richness of the Spice Bazaar's interior area, which is the study area; the bazaar's exterior frame defined by an L form, also appeals to many senses. The exterior part of the bazaar houses bird and plant vendors, which have a great visual and auditory impact. Spice Bazaars have become an exterior part of this area, creating a rich sensory environment. However, one of the important points to consider is that the study was conducted solely within the interior of the Spice bazaar, not its exterior. The interior part of the bazaar was considered due to the fact that it was intended to examine the area over seven zones and to create a map of these seven zones. Nevertheless, since the exterior part covers a vast area and is unrestricted, it was also thought that since there is a lot of input as a sensory experience modality, it could complicate the data.

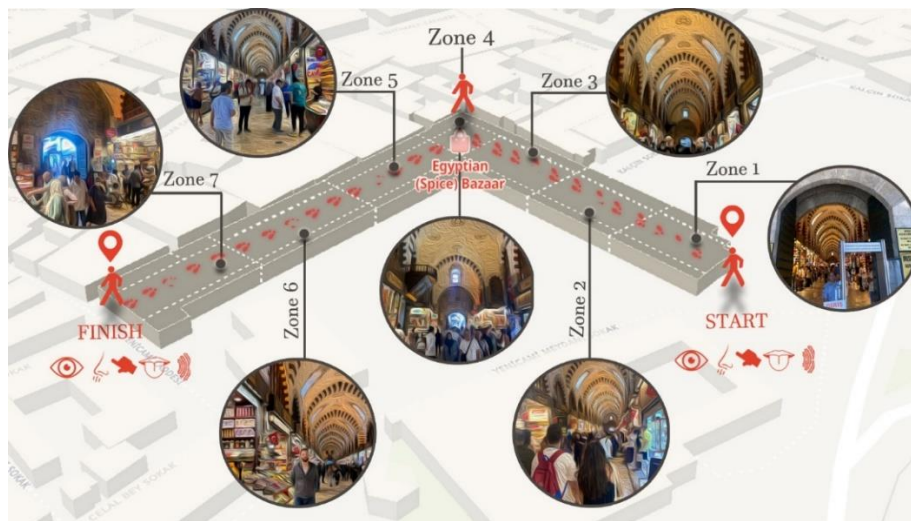


Figure 3. Spice Bazaar zone map

6. Data Analysis

Regarding the construction of meaning, an analytical coding method was used to gain a deeper theoretical meaning (Williams & Moser, 2019). For a close analysis and appraisal of meaningful and accurate data, thematic analysis was performed on the transcribed interview data from the participants' think aloud protocols. A systematic review of the data showed that the participants used some word groups frequently. The data were described using a sensory wheel. To analyse the sensory attributes, cluster characterisation is fundamentally used as one of the fundamental methods of analyzing sensory perception (Silvello *et al.*, 2020). More specifically, the first Geneva Emotion Wheel contributed to categorizing and understanding the dimensional order of emotional attributes (Scherer, 2005). Sensory wheels help to reveal qualitative relationships between words (Lawless *et al.*, 2012). For the present study, this was adapted from focusing on just one sense to all five senses.

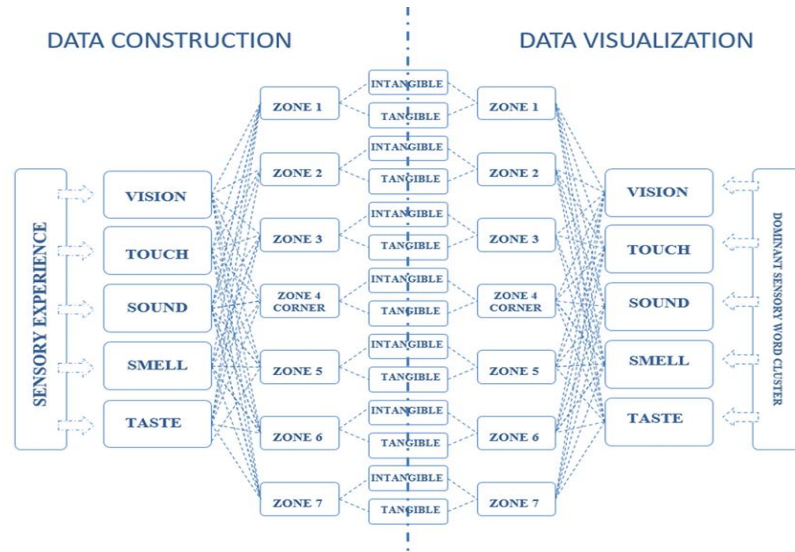


Figure 4. Spice Bazaar zone model

As Figure 4 shows, the sensory experience data were categorized under the five sensory experiences and the bazaar's seven zones. As of this graphic, all the transcriptions of the participants were analyzed and the five sensory experiences, which constitute the main component of the study, were synthesized together. The first theme was the creation of categories and themes based on the five senses. For clarification purposes, the data was analyzed into two subsets, tangible and intangible, for each sensory experience in each region. Although each participant's sensory experience was expressed verbally during the sensory walk, it was observed that participants expressed their sensory experiences in tangible and intangible ways. For instance, while the participants saw the sensory stimuli as tangible, they described the spices as "colorful, vivid and impressive". Here, while the participants expressed the objects belonging to the sense of sight concretely, they also reinforced that experience with intangible expressions such as feeling, adjective, animation, and it was observed that they expressed the intangible and tangible sensory intensities of that sensory experience. Finally, by comparing these intangible and tangible expressions, dominant intangible and tangible expressions were created and dominant sensory experience codes were developed in seven different regions for five senses. Therefore, the data was reduced to the lowest set in order to establish a meaningful and consistent relationship.

7. Sensory Experiences in the Seven Zones

Zone 1: In this zone, three of the participants mentioned the "very intense jewellery" at the first entrance and also reported orange, brown, red dominant, blue dominant, and yellow colors (Figure 5). The participants described the bazaar using intangible adjectives, such as "exotic", "enthusiastic", "beautiful", "incredible", or "very authentic". One participant used the expression "like a picture" to describe the atmosphere. Three participants stated that other people bumped into them: "everyone colliding". Two participants stated that they were uncomfortable with the intensity of the shopkeepers' voices; one saying that they shouted intensely. Eight participants found the variety of teas at the bazaar's entrance remarkable while six participants described the spice colors as

“so colorful”. Finally, one participant said that the bazaar was in “spice colors”, which they found interesting.

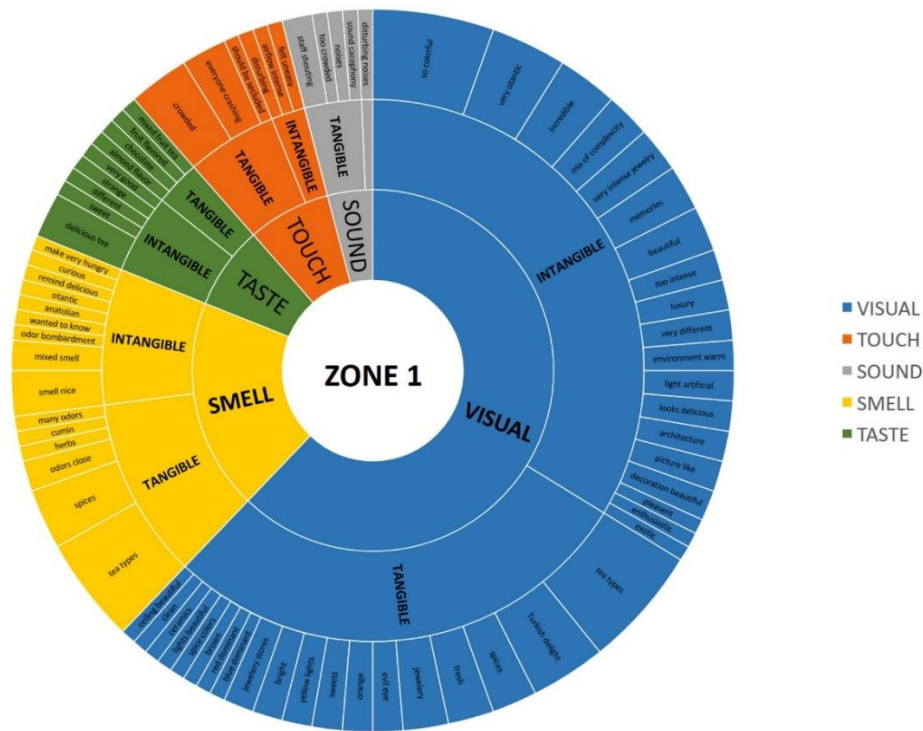


Figure 5. Zone 1 Sensory experience circular word cluster

Zone 2: Two participants stated that they were impressed by the vivid colors of the soaps they encountered (Figure 6). While one participant described the bazaar as “living Ottomans”, two other participants used the phrase “historical bazaar”. Over half of the participants used the phrases “so colorful” and “vibrant colors” while seven participants noted that the smell of spices was very intense and dominant. Two participants particularly smelled cumin while one participant smelled curry. One participant tasted an orange and vanilla flavored Turkish delight. One participant touched an “evil-eye”, which they said got rid of negative energy when they touched it. Three participants found this zone crowded and said that the crowd disturbed them. One participant stated that there were “a lot of noises” but that he was “not disturbed”.

Zone 3: Figure 7 shows that nearly half of participants used the expression “colorful” while two participants used the expression “color festival”. Four participants liked the glass products very much and found them colorful while one said, “I dreamed of drinking Turkish tea with these special glasses in my country”, and another participant liked the rosaries. One participant drew attention to the bazaar’s architecture and noticed the restoration. Another participant said that the “exposed spice colors give a very attractive feeling of cooking” while another wished to “taste or drink them all”. One participant saw dried aubergine peppers dangling while walking in this section. Another stated that the intense noise was disturbing in this zone: “I am aware of noisy and loud speaking; the sounds are intense”. Another participant stated that intense smells were everywhere, and four participants stated that they predominantly smelled spices.

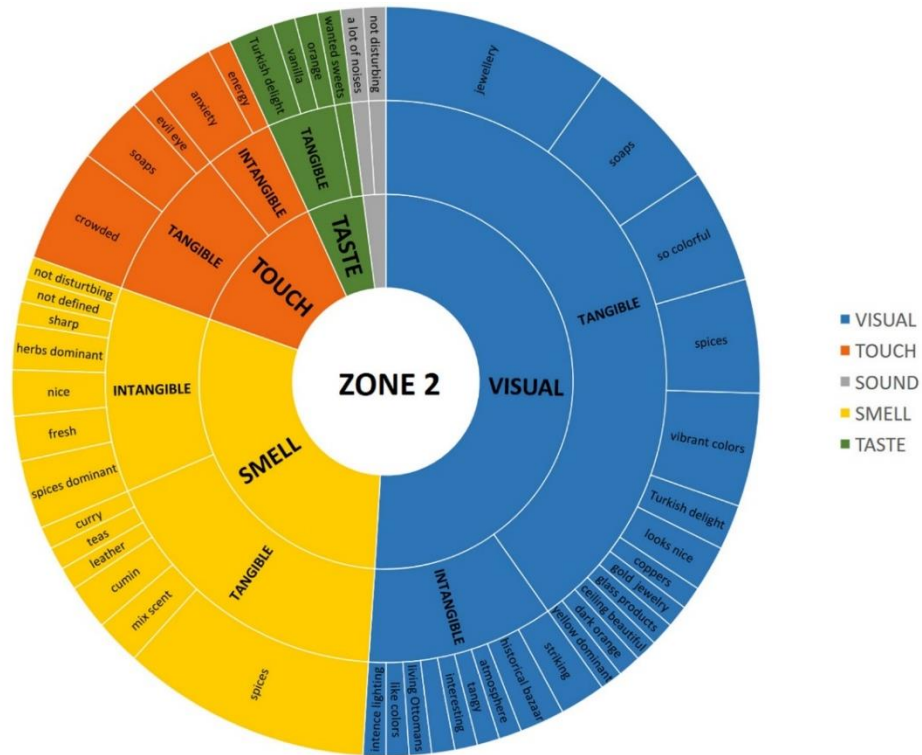


Figure 6. Zone 2 Sensory experience circular word cluster

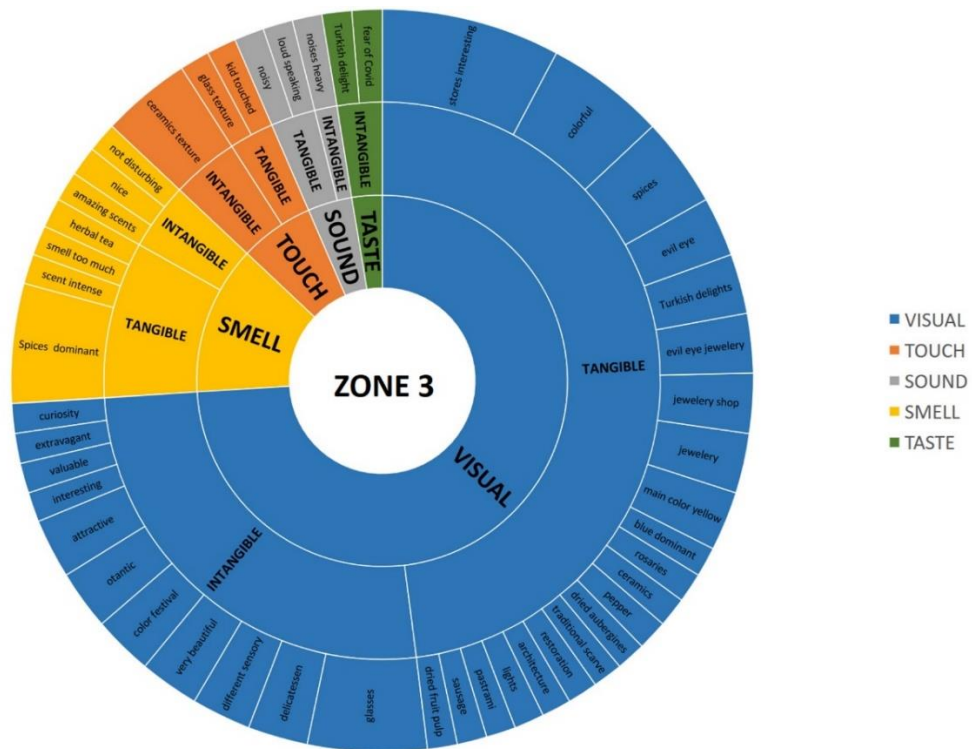


Figure 7. Zone 3 Sensory experience circular word cluster

Zone 4 (Corner): One participant described the corner of the bazaar as follows: “At this point, the visual intensity is high, because I can see both sides of the bazaar at the same time; it has a nice depth; I have a good view of everywhere”, adding that he could see the “long corridor” clearly (Figure 8). One participant reported that she felt as if she was in the Ottoman [times], while two participants said it “recalled history” and “Turkish history”. These are two participants mentioned seeing the “Atatürk flag” while one participant repeatedly described the bazaar as “well designed” and “so in line”. One participant was disturbed by the noise. Several participants said that they smelled spice scents, especially hot pepper and cumin, and tea flavors and scents mixing. However, because spice smells were dominant, they could not smell some teas. One participant noted a very clear smell of freshly ground coffee right at the bazaar’s center although none of the participants chose to have any coffee, which might be from over stimulation.

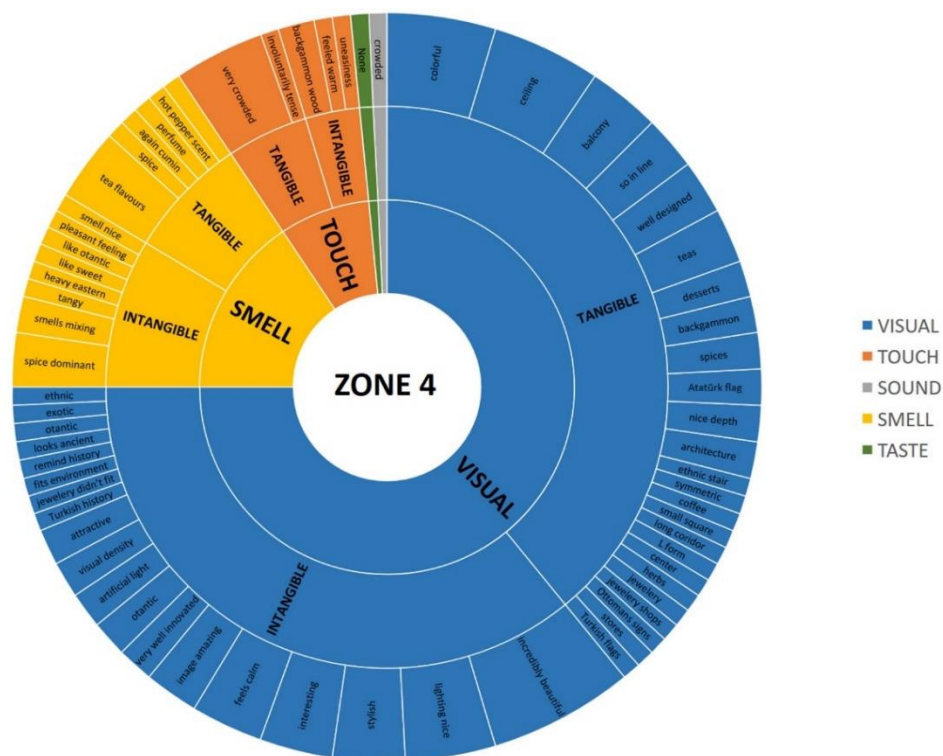


Figure 8. Zone 4 Sensory experience circular word cluster

Zone 5: Three participants described Zone 5 as “colorful”, while six participants specifically said the “colors are amazing”, particularly purples, spice colors, yellows, oranges, and greens (Figure 9). Five participants were interested by the “evil-eye” while one participant noted the “blue color” of the “evil eye jewellery”. In this zone, the participants liked the variety of tea the most and found it remarkable. They were also interested by “Turkish delights” in different colors, which three participants found “appealing”. Six participants used the term “unique” for the bazaar’s shops, although one participant, noted that all the store signs followed the same pattern. One participant said they “touched the evil eye; has as interesting surface texture on it” while three participants noted the “intense spice scent”. On the other hand, one participant said the “smell lost its intensity” in this zone while another participant said they “get used to the smell”. Three

participants declared that they heard “many kinds of voices” “disturbing sounds”, “children’s voices”, and “acoustic problems”. One participant said, “I tried one of the baklavas, and it was very sweet, with the outside sweeter than the inside”. Another participant said, “I tasted peanuts, some cream, and chocolate”.

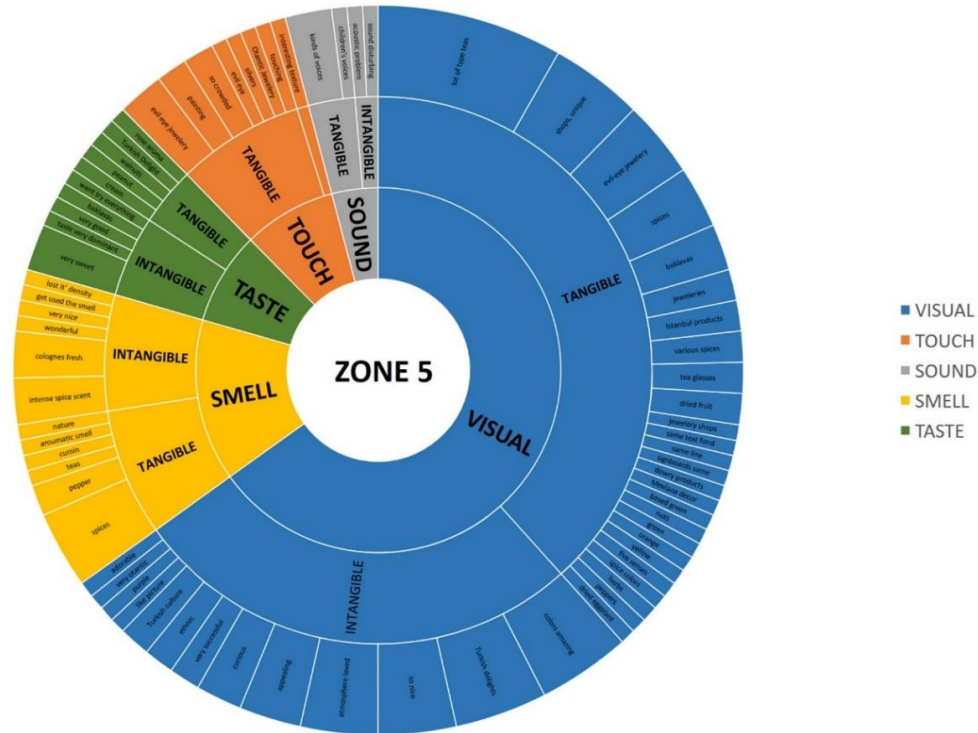


Figure 9. Zone 5 Sensory experience circular word cluster

Zone 6: Ten participants noticed “different types of teas” (Figure 10). Two participants stated that the “Trabzonspor flag” did not fit the bazaar’s design. Nine participants said, “baklavas are attractive and look very delicious”. Four participants touched on “local clothes” and “cotton products”, using the expressions “silk” and “very nice”. Two participants tried bracelets from a shop selling “evil eye jewellery”.

One participant said that smells were very dominant, especially “honey”, “tea”, and “baklava” smells. All three participants thought that there were “fewer odours compared to the entrance” in zone 6, which may be because they had become accustomed to the rich sensory input. While two participants said that the baklava was “very nice”, one participant preferred the “chocolate taste”. Three participants tried the Turkish delight.

Zone 7: One participant identified dry fruits, describing them as “so colorful” and “extraordinary” (Figure 11). One participant described the bazaar as “ancient” and “so historical” while another mentioned the big “Atatürk flag”, adding that “the atmosphere reflects the internationality of the bazaar, which is nice”. One participant said that the “jewellery shop” at the end of the bazaar was disturbing: “We enter the spice market with spices, and I might want to go out by seeing spice products again”. Four participants saw and handled “loincloths” and reported that their textures were “rich and of high quality”, “very soft”, “smooth, like “bamboo, silk, cotton”. Four participants said this zone was “too crowded” while four participants described it as “noisy” with “echoing sounds”, and one participant said it was “the noisiest part”. Two participants smelled “incense” near

8. Findings

It can be seen from the responses of the participants; the jewellery shops were particularly striking in zone 1 at the entrance of the bazaar. They find the entrance area busy, noisy, and crowded, leading to people bumping into each other. In addition, because of this crowd, zone 1 provides the most intense auditory sensory experience. Participants reported that soap, spice, and tea scents intensify as they move towards Zone 2, which offers the most intense olfactory sensory experience of the bazaar. Especially Zone 2, the participants report a wide variety of spice and tea scents and sometimes soap scents, using more tangible expressions to describe this experience. The visual sensory experience becomes quite intense when passing through Zone 3, with the participants' feedback focused on visual tangible expressions. Zone 4 was still quite crowded, but also quite rich in terms of relative sensory experience dominating the entire market. In Zone 5, the scents of spices continued to intensify. One participant was even bothered by different scents mixing together because spices and teas were side by side in a shop. On the other hand, another participant liked this blend of tea and spice scents. Shop owners in this central part of the bazaar were more insistent on offerings than those located near the entrance, with participants tasting the Turkish delight and baklava offered to them.

This is supported by the findings shown in the figures above that the most intense taste sensory experience was in Zone 6. The participants described the colors of the spices, Turkish delight, and baklava in Zone 6 as very colorful and eye-catching. This shows that especially textile products are more concentrated from Zone 6 towards Zone 7. Female participants were particularly attracted by the cotton fabrics and interacted with these products by touching them. One of the most important findings is that the most intense touch sensory experience occurred in zone 7, starting from zone 6. Figure 12 summarizes the variations in the level of different sensory expressions in each zone.

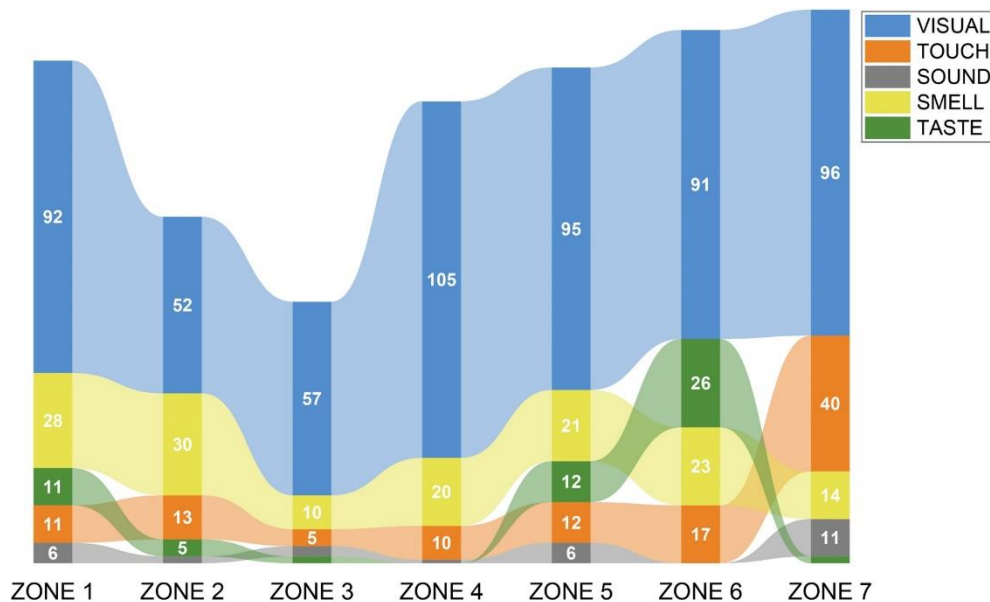


Figure 12. Spice Bazar sensory experience density chart

9. Discussion

The majority of participants felt that the jewellery shops did not fit in with the bazaar's overall atmosphere since they expected to see spice or food-based products in the Spice Bazaar. Most found the colors of the spices and teas so vivid that the jewellery stores were not as striking.

There were several concerns expressed by participants regarding the way the products were displayed, which affected their sensory perceptions; "some food products were covered with glass or plastic, but spices and Turkish delight were displayed open to enhance cleanliness of the products." Another participant had doubts about the expiration dates of open spices and teas, and could not understand the ingredients in some mixed teas. They also expressed concerns about substances that could cause allergic reactions, and also could not understand whether products were fresh although they looked exquisite visually. Hence, they hesitated to buy them. In fact, in 2010, under European Union (EU) standards, some changes were made in the Spice Bazaar, with many of the open spice stalls being closed with plastic or glass covers in order to provide more hygienic food conditions for tourists (Davis & Şenocak, 2017). Recently, however, most food products are being displayed uncovered. A few participants saw a few shops using plastic or glass covers. Thus, opinions and practices differ. A considerable number of participants prefer these products to be kept covered but other participants like these products to be presented uncovered with their vivid colors. The Spice Bazaar provides a rich sensory experience, especially in terms of olfactory sensory experience. Therefore, hygiene measures need to be considered carefully in that extreme hygienic efforts may undermine the olfactory sensory experience. These differences in opinion create the need for new design solutions. For example, representative spices and spices sold may be in different areas, or product customizations or new display designs may be considered.

As a result of analyzing the stimuli sensory experiences of the participants, it was frequently observed that they used intangible expressions while using tangible expressions and also often reinforced these intangible expressions. As an example, participants described the spices as "colorful, vivid, and impressive," while interpreting the sensory stimuli as "tangible". As participants expressed the objects of sight as tangible, they reinforced this experience with intangible expressions such as feeling, adjective, and vitalization, and observed that these expressions also conveyed the sensory intensity of that sensory experience in both intangible and tangible ways. In the given expressions, for example: "The smell coming from the spices, all colors, air, lights, crowds, and the loud noises, it is a very colourful atmosphere, resembling a fairytale" and that it is like a wonderful synthesis of European and Asian synthesis, as if it were a fairy tale like an Aladdin cartoon" which is again an example where tangible and intangible expressions are reinforced from each other.

As discussed in the literature section, Croome (2006), states that sensory processes not only mediate information to evaluate the environment, but also have channels that inspire imagination. Data from this study confirms this source, as most participants imagined themselves in a situation and sensory stimuli encouraged this situation, and the sensory inputs experienced by the participants created some triggering situations and feelings for them. *According to Spence (2011) and the literature section, object pictures and the environment can be harmoniously perceived within themselves when we perceive multisensory stimuli and semantic coherence effects, and some statements confirm that this is the case with studies that indicate that noticed and matched scents better when they*

were given the spice's name. This suggests that the participants' visual and olfactory sensory experiences strongly support each other. Hence, when products are arranged in this way, a more effective sensory interaction process can be created. Similarly, Agapito, Valle and Mendes (2014) report that a single sense is not dominant in sensory experience as different senses come together to create and shape the tourist experience (Agapito *et al.*, 2014)

In zones where the spice effect is dominant, products that are actually very impressive in terms of visual perception, such as gold, may be pacified and supporting this; "the jewellery shop's colours, which are normally sparkling diamond and gold, were pale compared to the wide range of other colours, in the bazaar." This suggests that spices and other colored products can create more impressive sensory experiences despite jewellery being bright and illuminated. One of the striking findings concerned the smell of coffee. The corner section of the Spice Bazaar is Turkey's most famous Turkish coffee factory sales point at the exit door. Yet only one participant smelled freshly ground coffee there. The participant's olfactory sensory experience was reset with coffee at this point and was dominated by the scent of spices in later zones. Verbeek and Hempenius conducted one of the studies that could prove the sense of smell by giving each visitor fresh coffee beans to smell in order to reset the sense of smell (Nieuwhof, 2015). Verbeek and Hempenius revitalized the sense of smell by giving fresh coffee beans to each visitor to smell in order to reset their sense of smell (Nieuwhof, 2015). One reason that nine of the participants could not smell the coffee was that the airflow strengthened the already strong aroma of spice, tea, and soap smells while suppressing coffee smells. A minority of participants indicated that the intense spice scents, especially at the entrance, were replaced by visual stimuli in later zones. That is, there was a shift in the participants' sensory experiences in the bazaar zones.

Towards the end of the bazaar, there were more textile products, such as t-shirts, bags, and bathrobes, and especially heavy fabric products. Male participants had fewer tactile sensory experiences than female participants. However, 70% of participants reported that collisions in the crowd were a negative tactile sensory experience.

10. Conclusion

This study of tourists' sensory experiences conducted in Istanbul Spice Bazaar produced results that corroborate a great deal of the previous work in this field. By categorizing the collecting data in terms of sensory modalities and specific zones in the location, the data were transformed into meaningful information.

Using data from participants interpreted within the framework of sensory experience, a basic sensory diagram of Istanbul Spice Bazaar was created. The sensory diagram indicates various improvements that can be made regarding dominant and weak sensory stimuli. The findings also suggest that the same method can be used to create sensory experience graphics of different spaces. Research has shown a strong correlation between literature reviews and fieldwork. Spice Bazaar's sensory stimuli experience was assessed in two stages for the purpose of gaining a comprehensive understanding of it. In conclusion, vision is the most effective sensory experience for participants, followed by smell, touch, and taste. Sound ranked the lowest in terms of sensory experiences.

Upon returning their country, tourists will store their short-term and long-term memories of their sensory experiences and experiences, as illustrated in Figure 13. By transferring these experiences to their hometowns or environments, they will form

expectations and intuitions about a particular region, which may result in tourists experiencing stimuli that differ from what is expected in the future. Consequently, it will be possible to form such a model describing the potential experience flow of the tourist and may sustain the culture of the Spice Bazaar.

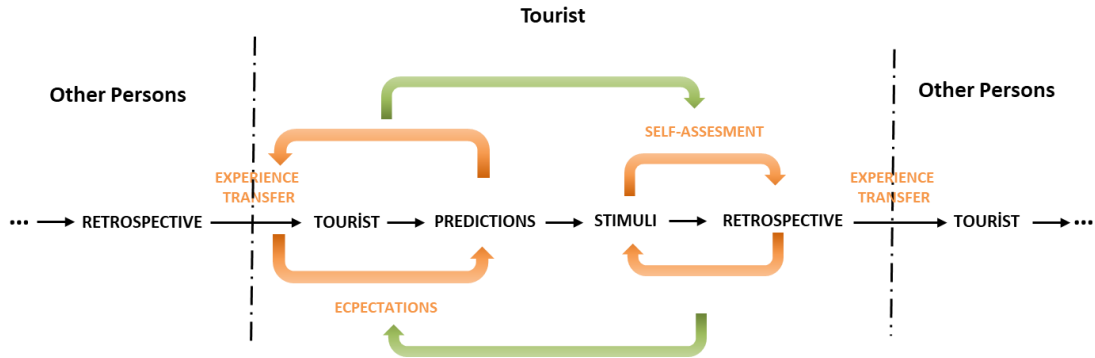


Figure 13. Tourist's potential experience flow model

As one of key findings of the study, one participant took notes after the bazaar visit, saying that they found this research experience unforgettable and that this study would guide their future travel experiences. Thus, this kind of research can enable the participants to have a different sensory experience on their next trip. Feelings and the elements that triggered these feelings of the participants in the bazaar, which were examined by product or product groups, make the participants think about these intangible expressions. One of the issues that also needs investigation is whether tangible or intangible expressions affect the participant more and by which product or product groups. As a result, the scent code in Spice Bazaar can be analyzed in relation to feeling triggering elements and sensory states. Furthermore, the tangible and intangible aspects of visual experiences can be analyzed more thoroughly in order to determine which sensory state is triggered or the emotional state caused by a combination of olfactory and visual sensory experiences. Moreover, as stated in the conclusion of the study, the bazaar was examined over seven different zones, but it would be extremely useful to conduct this study with a much larger number of participants in different periods of tourism density in order to maintain and update the graphic created. It is also believed that this experience graphic can be updated according to ethnic, cultural, and tourist regions within the study and may provide insight into future studies.

Studies have shown that the most effective psychological experience, smell, has a much longer-term accuracy in memories and previous experiences than visual memory (Henshaw *et al.*, 2016). In the present study, however, visual stimuli provided the most effective sensory experience, followed by olfactory stimuli. Future studies could also investigate retrospective sensory experiences and identify the most memorable sensory experience. The contribution of sensory experience to heritage contributes to the understanding and development of all the experiences of the bazaar atmosphere by documenting the experiences of tourists visiting the bazaar or tourists planning to visit the bazaar, contributing to urban culture and identity. On the basis of the results of the study, it is possible to evaluate this sensory experience, in which participants were able to experience in-depth sensory experience, particularly regarding smell and vision, in many different ways. In order to preserve the heritage of the Spice Bazaar, urban planning

studies on multifaceted sensory experiences are important, such as smelling, seeing and feeling. There are different types of regional statistics that are used by the member states of the European Union to develop policies to deal with economic and social problems at regional levels (Zehir *et al.*, 2022). This interaction in the Spice Bazaar needs to be protected by the state and the ministry of tourism.

Architectural characteristics of the building design have been reviewed, and units such as furniture, display units, and showcases that influence tourist behavior have also been considered for improvement. The study is therefore expected to inspire and guide future multisensory research, heritage studies, and design. According to the findings of this study, participants experienced a variety of stimuli sensory experiences. The reinforcement of their intangible and tangible expressions during the in-depth examination provided a detailed understanding of their sensory experiences and opened up a new area for developing strategies to improve their negative experiences.

It is important to note that seasonal changes may impact the frequency and reasons for touristic trip visits. Additionally, the temporal change aspects related to temperature change, such as the use of heaters on cold days or the use of air conditioners in the summer may effects sensory changes. As a result, it is important to recognize how seasonal changes affect sensory experiences or how regional sensory experiences differ. Moreover, within the scope of seasonal tourist activities, the intensity of bazaar visits, daily rhythmic intensities, seasonal product changes, and temporal changes also need consideration.

Neither a specific timeframe or period of time was selected as part of this study in order to conduct this analysis however, it is imperative to note that seasonal changes may impact the frequency and reasons for touristic trip visits. The duration of the change is also may affect by the temporal aspects of the change to the temperature, such as the use of heaters during the cold days or the use of air conditioners during the summer, which may affect the sensory experience. Due to the fact that sensory experiences are affected by seasonal changes, it is also highly important to recognize the differences between sensory experiences between regions. Within the scope of seasonal tourist activities, it is also necessary to examine the intensity of bazaar visits, rhythmic intensities on a daily basis, seasonal changes in product characteristics, and temporal changes within the context of seasonal tourism activities. The total number of participants was limited to ten for this study, and the results were analysed in detail as a result. Increasing the number of participants may support the generalizability of the study findings and the preferences of users from different cultures and regions may be included. The recurring experiences of participants can also be useful for enriching the data in the study. This is an area that necessitates further rigorous studies that are designed in an interdisciplinary way in order to effectively contribute to existing literature.

References

- Adams, M., Askins, K. (2009). Sensewalking: sensory walking methods for social scientists. In *Proceeding of the RGSIBG Annual Conference 2009*, 26–28 August 2009.
- Agapito, D., Valle, P., & Mendes, J. (2014). The sensory dimension of tourist experiences: Capturing meaningful sensory-informed themes in Southwest Portugal. *Tourism Management*, 42, 224-237.
- Agapito, D. (2020). The senses in tourism design: A bibliometric review. *Annals of Tourism Research*, 83, 102934.
- Böhme, G. (2013). The art of the stage set as a paradigm for an aesthetics of atmospheres. *Ambiances. Environnement sensible, architecture et espace urbain*.

- Chandrashekar, S., Stockman, T., Fels, D., & Benedyk, R. (2006). Using think aloud protocol with blind users: a case for inclusive usability evaluation methods. In *Proceedings of the 8th international ACM SIGACCESS conference on Computers and accessibility* (pp. 251-252).
- Classen, C. (2023). *Worlds of sense: Exploring the senses in history and across cultures*. Taylor & Francis.
- Creswell, J.W. (2002). *Educational research: Planning, conducting, and evaluating quantitative* (Vol. 7). Prentice Hall Upper Saddle River, NJ
- Croome, C., (2006). *Creating the productive workplace*. Taylor & Francis.
- Davis, L., Thys-Şenocak, L. (2017). Heritage and scent: research and exhibition of Istanbul's changing smellscape. *International Journal of Heritage Studies*, 23(8), 723-741.
- Dissabandara, D.R. (2019). Theoretical Overview on Sensory Marketing. *International Journal of Current Research*, 11(07), 5361-5364.
- Esfehani, M.H. (2019). Intangible Cultural Heritage in Tourism Strategy. In *Experiencing Persian Heritage*. Emerald Publishing Limited.
- Frings, C., Spence, C. (2010). Crossmodal congruency effects based on stimulus identity. *Brain Research*, 1354, 113-122.
- Gallace, A., Spence, C. (2014). *In Touch with the Future: The Sense of Touch From Cognitive Neuroscience to Virtual Reality*. OUP Oxford.
- Gharipour, M. (2012). *The Bazaar in the Islamic City: Design, Culture, and History*. Oxford University Press.
- Goh, D.P. (2014). Walking the global city: The politics of rhythm and memory in Singapore. *Space and Culture*, 17(1), 16-28.
- Gretzel, U., & Fesenmaier, D. R. (2003, January). Experience-based internet marketing: An exploratory study of sensory experiences associated with pleasure travel to the Midwest United States. In *ENTER* (pp. 49-57).
- Henshaw, V.A., Cox, T.J.M. (2009). *Researching Urban Olfactory Environments and Place Through Sensewalking*. The University of Westminster.
- Henshaw, V., Medway, D., Warnaby, G., & Perkins, C. (2016). Marketing the 'city of smells'. *Marketing Theory*, 16(2), 153-170.
- Henshaw, V. (2013). *Urban Smellscapes: Understanding and Designing City Smell Environments*. Routledge.
- Hierl, M. (2019). Urban Atmospheres: Multisensory Perception as the Linkage between Urban Environment and Social Interaction in Main Streets. KTH Royal Institute of Technology School of Architecture and the Built Environment.
- Klaus J.H., Wiedmann P. (2018). The sensory perception item set (SPI): An exploratory effort to develop a holistic scale for sensory marketing. *Psychol Mark*, 35, 727-739.
- Lawless, L.J., Hottenstein, A., Ellingsworth, J. (2012). The McCormick spice wheel: a systematic and visual approach to sensory lexicon development. *Journal of Sensory Studies*, 27(1), 37-47.
- Malbasic, M. Youngok Ch. (2019). Designing Branded Atmospheres. Nature-inspired, multisensory spatial brand experiences for consumer electronics retail stores. *The Design Journal*, 22, sup1, 1913-1927.
- Wunderlich, M.F. (2008). Walking and rhythmicity: Sensing urban space. *Journal of Urban Design*, 13(1), 125-139.
- McCarthy, J., Ciolfi, L. (2008). Place as dialogue: Understanding and supporting the museum experience. *International Journal of Heritage Studies*, 14(3), 247-267.
- Neuman, L.W. (2014). *Social Research Methods: Qualitative and Quantitative Approaches (Ed: Seventh)*. Essex.
- Nieuwhof, A. (2015). *Olfactory Experience in the Art Museum*. Leiden University, Leiden.
- Özgüven, Y., Durhan, S. (2012). The Inclusivity of the Ottoman Bazaar Area in Istanbul as an Urban Museum. *International Journal of the Inclusive Museum*, 4(3), 63-81.

- Paul, J., Sankaranarayanan, K.G. & Mekoth, N. (2016). Consumer satisfaction in retail stores: Theory and implications. *International Journal of Consumer Studies*, 40(6), 635-642.
- Pine, B. J., & Gilmore, J. H. (1998). *Welcome to the experience economy* (Vol. 76, No. 4, pp. 97-105). Cambridge, MA, USA: Harvard Business Review Press.
- Pink, S. (2006). *The future of visual anthropology: Engaging the senses*. Taylor & Francis.
- Pink, S. (2007). Walking with video. *Visual studies*, 22(3), 240-252.
- Ricci, N. M. (2021). The Interplay of Psychology, Physiology and Architectural Design: An Overview, *New Design Ideas*, 5(2), 95-113.
- Robson, C., McCartan, K. (2016). *Real world research: a resource for users of social research methods in applied settings*. Taylor & Francis.
- Scherer, K. R. (2005). "What are emotions? And how can they be measured? *Social science information*. 44(4), 695-729.
- Silvello, G.C., Bortoletto, A.M. & Alcarde, A.R. (2020). The barrel aged beer wheel: a tool for sensory assessment. *Journal of the Institute of Brewing*, 126(4), 382-393.
- Small, J., Darcy, S. & Packer, T. (2012). The embodied tourist experiences of people with vision impairment: Management implications beyond the visual gaze. *Tourism Management*, 33(4), 941-950.
- Soars, B. (2009). Driving sales through shoppers' sense of sound, sight, smell and touch. *International Journal of Retail & Distribution Management*, 37(3), 286-298.
- Spence, C. (2011). Crossmodal correspondences: A tutorial review. *Attention, Perception, & Psychophysics*, 73, 971-995.
- Spence, C., Puccinelli, N.M., Grewal, D. & Roggeveen, A.L. (2014). Store atmospherics: A multisensory perspective. *Psychology & Marketing*, 31(7), 472-488.
- Svensson, M. (2021). Walking in the historic neighbourhoods of Beijing: walking as an embodied encounter with heritage and urban developments. *International Journal of Heritage Studies*, 27(8), 792-805.
- Stevenson, R.J., Boakes, R.A. (2004). Sweet and sour smells: The acquisition of taste-like qualities by odours. *Handbook of multisensory processes*, ed. G. Calvert, C. Spence & BE Stein, 69-83.
- Strang, V. (2005). Common senses: Water, sensory experience and the generation of meaning. *Journal of Material Culture*, 10(1), 92-120.
- Venkatesh, V., Brown, S.A. & Sullivan, Y.W. (2016). Guidelines for conducting mixed-methods research: An extension and illustration. *Journal of the Association for Information Systems*, 17(7), 435-495.
- Williams, M., Moser, T. (2019). The art of coding and thematic exploration in qualitative research. *International Management Review*, 15(1), 45-55.
- Zehir, C., Çelikyay, H.H. & Mamedov, Z. (2022). New urban design in management: The case of Türkiye in the context of metropolitan law. *New Design Ideas*, 6(3), 335-355.