

Sensory experiences in heritage contexts: A qualitative approach

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Abstract

This study explores the sensory experience at heritage sites from the visitors' perspective. A qualitative and exploratory approach was used, considering two data collection methods: semi-structured interviews and in situ focus groups. This empirical study was conducted in the Algarve region, a southern Portugal's sea and sun destination. The data was compiled and analyzed through a thematic content with QSR NVivo 12. The findings suggest that managers should explore and understand tangible, intangible (or immaterial) elements that influence visitors' experiences, attitudes, and behaviours toward the physical environment. In this sense, managers must converge efforts to highlight the sensory cues intrinsic to each site.

Furthermore, considering the scarce research addressing sensory experiences in heritage contexts, this study contributes to the literature by exploring the role of the sensory dimension of experiencing a monument that is one of the main attractions in a seasonal mass tourism destination. A framework is presented, which can help managers to design sensory experiences in a built heritage context and assist researchers in future studies. In addition to that, this research also provides some practical implications for management and depicts several leads to future research.

Keywords: heritage attractions, sensory experience, tourist experiences, consumer experience, visitor perspective

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1. Introduction

As complex combination of elements, the tourist experience results in a holistic and personal perception (Chang & Hung, 2021; Godovykh & Tasci, 2020; Ritchie & Hudson, 2009; Tung & Ritchie, 2011). The literature describes a heritage site's experience as a process "determined by the cognitive and emotional connections between the individual and the place visited, where the meaning of a monument or historical site is very personal" (Bender *et al.*, 2022, p. 138). Visitors' perceptions, motivations and expectations are relevant inputs to the experience visitors live once at the heritage site (Bender, 2020). Schorch (2014) explains that "heritage (...) is not an inherited essence but an experienced process; a process in which our emotions and feelings are enmeshed with our thoughts" (p.22). Sensory perceptions are the main signals that can capture from a place based on which the human being experiences, understands the environment, creates lasting memories, and models future behavioural intentions (Campelo, 2017). When individuals explore a place, they do it through the senses, continually influenced by their thoughts, the surrounding environment, and previously lived experiences.

Current research in tourism studies, specifically those focused on the on-site experience (Agapito & Chan, 2019; Lv *et al.*, 2020; Rahman *et al.*, 2018; Yang *et al.*, 2021), claims a five senses (vision, touch, smell, hearing, and taste) holistic approach, stressing the relevant comprehension of the sensory relationship between tourists and destinations, visitors and attractions. The literature indicates that sensory marketing provides the means to design and enhance "meaningful touristic experiences" (Kim & Fesenmaier, 2015, p.1). Applying the multisensory approach also enables the conditions for arousing the visitors' emotions, increasing engagement, satisfaction, and long-term memories (Elvekrok & Gulbrandsøy, 2021; Jelinčić & Senkić, 2017; Kim *et al.*, 2022). Expanding opportunities to understand the past through a broader sensorium is an important step in the direction of delivering a more in-depth and engaging visit experience, awakening a sense of belonging in each individual (Kastenholz *et al.*, 2012; Miles, 2017).

In recent years, the sensory dimension of tourist experiences has fostered growing interest from researchers and decision-makers (Agapito, 2020). The literature is consensual about the fact that the experience is grounded in its embodied dimensions (Miles, 2017) and that the tourist experience "is corporeal and multisensory" (Pan & Ryan, 2009, p. 625). A gradual number of researchers have recently begun to draw attention to the contribution of the multiple senses in tourist experiences (Cohen & Cohen, 2017), and "the complexity of multi-sensuous experiences to assess heritage places" (Agapito, 2022, p. 1) is recognized. Studies that follow a multisensory approach are still scarce (Elvekrok & Gulbrandsøy, 2021). There are calls for further investigation that goes beyond visual awareness and that enables the analysis of various contexts, such as heritage attractions (Marto *et al.*, 2019; Rahman *et al.*, 2016, 2018). Therefore, this research is built on the scarcity of research addressing sensory experiences in heritage contexts and the still poor management approaches that consider aesthetic perspectives other than visuals (Agapito, 2022). The primary goal of this study is to explore a holistic, multisensory, and embodied experience in the context of heritage attractions. A comprehensive framework will bring light into the role of human senses in shaping experiences, which to the best of the author's knowledge, has not yet been presented in the proposed context.

In order to address the primary goal of this study, the objectives are threefold: 1) to examine how the environment and the monument's physical components influence the heritage visit experience; 2) to identify the visitors' sensory impressions triggered by the attraction beyond the visual outlook, and 3) to classify the dimensions of sensory experiences in heritage contexts. The paucity of studies on the subject and the relevant role of the senses in long-term memory formation and tourists' behaviour (Agapito *et al.*, 2017; Marto *et al.*, 2019; Rahman *et al.*, 2018), this study introduces a specific framework in the context of heritage that can benefit the design of sensory experiences in built heritage contexts and assist future studies.

2. Literature review

2.1 *The Sensory Dimension and the Consumer Experience*

Human sensations result from the stimulation of the five senses. Sensations have an essential role in the construction of experiences, serving as triggers for perceptions to be shaped (Larsen, 2007). This dynamic establishes a connection between the environment and the brain, providing communication with the outside world. These senses' interactions can significantly affect our understanding of a given domain (Chalmers, 2017; Krishna, 2012). The role of sensations in experiences has attracted the attention of academics, as it can deliver relevant context-specific details (Kim & Fesenmaier, 2015; Krishna, 2012).

The role of the senses and sensory stimulation within the experience paradigm emerges in the marketing literature (Gentile *et al.*, 2007; Holbrook & Hirschman, 1982; Pine & Gilmore, 1998; Schmitt, 1999). In this stream of research, an increasing focus has been put on how sensory stimulation acts in consumer behaviour formation, emphasizing multisensory stimuli' to enhance the consumption experience (Agapito *et al.*, 2014; Krishna, 2012). Information that is added by the senses can evoke images, trigger emotions and feelings (sensory symbolism) and become memorable (Classen, 1997; Solomon *et al.*, 2014).

Tourism studies acknowledge the positive effects of tourists' sensory experiences on emotions, memories, and destination loyalty (Elvekrok & Gulbrandsøy, 2021; Yang *et al.*, 2021). Applying the elicitation technique to capture implicit, effective, and embedded knowledge and uncover feelings, beliefs, and attitudes, Gretzel and Fesenmaier (2010) used a semi-structured questionnaire. In particular, the authors sought to capture the sensory attributes of imaginary tourist experiences in a rural destination. The same technique has been applied in different settings (Agapito *et al.*, 2014; Mateiro *et al.*, 2017; Zainol, 2014). Recently, Elvekrokd and Gulbrandsøy (2021) evaluated the effects of sensory tools in a museum context.

For Kim *et al.* (2022), sensory details can be recognized as "a core feature of tourism experiences" (p. 7) collaborating with long-term memory and tourists' future behaviour. Findings revealed that the sensory details are related to bodily sensations during retrieval events that require sensory cues. It goes beyond a trivial interplay between the visitor and the environment or its surroundings since post-travel multisensory impressions can be imprinted on the memory.

Visiting heritage sites is a core element of travel (Bender *et al.*, 2022; Packer & Ballantyne, 2016; Timothy, 2018), and visitors' experiences have become the focus of tourist attractions (Packer & Ballantyne, 2016). Consumers are increasingly seeking a greater connection with the destinations they visit, revealing a deeper interest in the intrinsic meaning of places and their local identities. (Timothy, 2018). The literature recognizes the tourist fascination with historical attractions, where opportunities to relive the past have become critical to understanding tourist experiences (Bonn *et al.*, 2009).

The rise of sensory approaches in academic disciplines, especially in the tourism field, has fostered several exciting research opportunities for visitor experience at heritage attractions (Davis & Thys-Şenocak, 2017; Rahman *et al.*, 2016). It focuses on comprehending the embodiment paradigm over the cognitive paradigm, with a particular interest in specific sensescapes or a holistic, multisensory approach (Cohen & Cohen, 2017). To Timothy (2018), heritage tourism experiences are defined by people's affinity and relation with the setting they visit instead of its intrinsic and physical historical attributes. Even if this view can be considered unusual, it demonstrates a singular perspective on heritage tourism, shedding light on a critical up-to-date path of conceiving the connection chain between supply, demand, and the visitor experience.

2.2 The Physical Environment

Bonn *et al.* (2009) point out that "the physical environment affects how consumers perceive an attraction" (p. 351) and can make their approach (wish to stay longer and explore the environment more deeply) or avoid (reduce their time visiting and exploring the environment) a visit to a given historical attraction. According to the authors, creating a high-quality interior design, proper layout and signage is a worthwhile investment of resources. Factors such as interior design (traffic flow), available open spaces, lighting, and colour scheme were relevant in evaluating visitors' experiences (Bonn *et al.*, 2009). The physical environment sets the stage for co-creation of unique and memorable experiences (Gentile *et al.*, 2007; Pine & Gilmore, 1998).

Visitors begin their evaluation in the pre-experience phase and can be influenced by perceptions and expectations, search for information about the site before the visit, and the provision of information about the location, parking, site accessibility, and signage (Kempiak *et al.*, 2017). Rojas and Camarero (2008) found that cognitive and emotional or pleasurable experiences influence the visitors' expectations, which, in turn, can result in satisfaction.

According to Zsuzsanna (2013), the experiences lived in the place result from a mental process of changing impressions, which feeds the meaning-making journey. In this process of meaning-making, "the tourist goes on a certain kind of mental, psychological journey that consists of transformation, absorption and thus, value creation. Tourists create stories during their experiences and present them to others as memories of their trip" (Zsuzsanna, 2013, p. 377). Storytelling, which, in tourism research, has been used to analyze stories and themes in an interpretive environment (Moscardo, 2020), has started to be recognized as crucial in designing experiences. In heritage contexts, stories furnish a memorable and compelling way of transmitting information and breakthroughs. Thus, the process of exploiting the interplay between experience design and storytelling is a relevant "design tool for memorable, engaging, and interactive heritage tourism experiences" (Beevor *et al.*, 2022, p. 2).

A heritage visit is formed by the involvement of a complex web of interconnected elements, including the personal (an individual's internal features, emotions, motivations, and interests) and their "state of mind" (Calver & Page, 2013), the social (variation in different behaviours according to the other actors involved), and the physical environment (the ambience, atmosphere, and exhibits) (Kempiak *et al.*, 2017). These elements cannot be identified and analyzed individually. They act together and simultaneously with other factors that interfere with the psychological and emotional state of the visitor (Zsuzsanna, 2013).

For Bonn *et al.* (2009), a significant part of shaping the ideal experience in a cultural context is creating the proper atmosphere and physical environment to explore the displayed object and the attraction itself. For the authors, "the exterior and interior designs of an attraction's space become fundamental in shaping the attraction's identity as well as its patronage" (Bonn *et al.*, 2009, p. 347). From the visitor's perspective, the site's identity and image creation are achieved by directly managing environmental stimuli inside and outside the heritage attraction. However, Packer and Ballantyne (2016) consider that the physical and social environments offered can be managed and enriched by the attraction providers, yet the visitor's experience cannot be controlled.

Willson and McIntosh (2007) found that, for some individuals, the core element in visiting historic buildings is the pleasure of seeing agreeable to the eyes. However, visiting heritage provides visitors with more than aesthetic experiences. For many, the architecture, physical environment, and atmosphere of these places (composed of multisensory stimuli) enable the use of the imagination (Bender *et al.*, 2022). These elements trigger a great variety of experiences that can be "complex, emotionally engaging, and potentially rich in narrative and personal meaning" (Willson & McIntosh,

2007, p. 77). As Agapito (2022) emphasizes, sensory qualities of places are elementary to heritage appraisal and management regarding the dynamic synergy between people and environments.

2.3 *The Sensory Experience at Heritage Attractions*

In her holistic view of the visitor experience, McIntosh (1999) advocates that heritage attractions are "experiential products" that elicit visitors' feelings, emotions, and knowledge and that these heritage sites should manage their symbolic meaning since it is from this symbolism that visitors frame their awareness, a sense of place, and purpose regarding the heritage attractions. Masoud & Gharipour (2022) uphold that a conservation and appreciation foundation must prevail in the redesign and reuse of built heritage sites, guaranteeing the preservation of their genuine values and meaning while offering symbolic and functional values suitable for living a memorable experience. According to the authors, the sensory component bears a greater weight in this redesign process, where the setting's visual aesthetics and atmosphere play a significant role (Masoud & Gharipour, 2022). Following a "visitor-centered" approach, in their study on hedonic consumption in heritage attractions, Calver and Page (2013) recognize an evolution towards the offer of facilitating peripheral services in heritage attractions contexts, where it is possible to find more creative and inspired initiatives to build relationships with the visitors.

Authors noticed a paradigm shift from an information-centric approach (Marshall *et al.*, 2016) to a hedonic approach focused on the experience design (Calver & Page, 2013), where the senses play a crucial role by offering new avenues for interpretation. Meaning-making and narratives of historical places and heritage sites became richer (Davis & Thys-Şenocak, 2017), facilitating the chance to raise an own connection with the heritage and a "sensory experience of feeling the past" (Marshall *et al.*, 2016, p.36). Multisensory impressions and emotional responses are noteworthy dimensions of hedonic experiences that stand out. On-site stimuli like colours, sounds, sightseeing, artefacts, images, past experiences, and fantasy imagery, may enhance the visitors' experience in this context (Bender *et al.*, 2022).

Sensory stimuli are of utmost importance in designing heritage sites as stages where visitors live their experiences. Therefore, the setting's visual aesthetics and atmosphere play a significant role (Masoud & Gharipour, 2022). The physical environment projects a set of stimuli influencing its visitors' behaviour (Bonn *et al.*, 2007), and the atmosphere of the monument or other heritage attractions results from this interaction. Visual communication is still dominant in today's museums and other historical and cultural sites. The supremacy of vision, or "visuocentric exhibition paradigm" (Miotto, 2016, p. 1), often a result of the care for the preservation of fragile and potentially irreplaceable collections, has relegated to the background the value of other senses in the process of heritage interpretation, limiting the understanding of its narrative (Miles, 2017). This issue has been taboo, especially regarding touch (Bembibre & Strlič, 2017). However, the haptic sense and the implications that the ability to touch objects provides for visitors have drawn increasing attention in studies focused on understanding the museology experience (Allen *et al.*, 2013; Comes, 2016; Jelinčić & Senkić, 2017; Wilson *et al.*, 2018).

Research on the use of interactive technologies and artificial intelligence techniques as tools to intensify visitors' experience and their engagement with history has been growing and enriching, with remarkable contributions, both for understanding consumer behaviour and the adoption of new management practices (Bec *et al.*, 2019; Bembibre & Strlič, 2022; Buonincontri & Marasco, 2017; Cantoni *et al.*, 2018; Castilla *et al.*, 2021; Chalmers, 2017; Marto *et al.*, 2019; Pettoello, 2016; Timothy, 2018). These technological tools enable navigating historical attractions, cities (Meschini & Ippoliti, 2015), monuments, archaeological sites, and museums (Pettoello, 2016). The use of these devices represents the evolution of the relationship between visitors and heritage, with a more interactive and

multisensory connection, providing a complete experience, triggering perceptions and memories (Bonn *et al.*, 2007; Cantoni *et al.*, 2018; Timothy, 2018), assisting the heritage preservation (Bec *et al.*, 2019). This approach aids the design of blended strategies for managing cultural assets, preparing the experiential paths to be enjoyed by the users (Agapito, 2022; Sepe, 2015).

The role of the senses in the experience of visiting heritage attractions has deserved growing interest in the literature. However, research in the multisensory field is scarce, which highlights the challenge of exploring the theme in different contexts (Bender *et al.*, 2019; Marto *et al.*, 2019; Rahman *et al.*, 2018). The generality of research still seems to focus on the consumer experience mediated using technology in museums and exhibitions and intangible heritage (Bembibre & Strlič, 2017; Davis & Thys-Şenocak, 2017; Jalis *et al.*, 2014; Matteucci, 2013; Walter, 2017). There is a knowledge gap that addresses the role and relevance of the five senses in shaping the experience in other heritage contexts, such as historic cities, archaeological sites, and historic buildings, such as monuments) (Bender *et al.*, 2019; Rahman *et al.*, 2016, 2018). The process of focusing on visitor experience research can elucidate how visitors engage with different heritage attractions, which may have implications for managing these heritage structures (Willson & McIntosh, 2007).

Empirical and holistic studies on the topic are scarce, especially regarding the comprehension of visitors' sensory experiences with heritage attractions, in the context of historical monuments. Research on visitors' experiences can elucidate how individuals engage in different heritage attraction typologies and shed light on the management of monuments and other heritage structures (Willson & McIntosh, 2007).

3. Methodology

3.1 Empirical context

Located in the south of continental Portugal, the Algarve is the most relevant tourist region of the country. It has sun and beach products as the foundation of tourist activity. Awarded by The World Travel Awards, in 2021, for the seventh consecutive time with the title of "Best Beach Destination in Europe" (WTA, 2021), the Algarve reinforces its international recognition and vocation as a tourist destination. However, the local cultural offers, such as natural and rural landscapes, gastronomy, city visits, and monuments, are recognized as the region's main tourist attractions and influence tourists' decision-making once at the destination for their vacations (Valle *et al.*, 2011). Inserted in this context is Silves Castle. This monument is a military fortification that dates to the Muslim period, between the 8th and 9th centuries. Classified as a National Monument, the monument is the second most visited tourist attraction in the Algarve, south of Portugal, and has been experiencing a significant increase in visitors (TP - Algarve, 2019). Managed as a visitor attraction located in the country's most relevant tourism destination, the Silves Castle offers facilities that aim to increase its attractiveness.

3.2 Study design and data collection instrument

To ensure proximity to reality and depth in the analysis of the topic, a qualitative method through exploratory research was adopted (Babbie, 2016; Creswell, 2002; Czernek-Marszałek & McCabe, 2022). Data were collected using semi-structured interviews (Babbie, 2016) and in situ focus groups (or site-specific focus groups) (Bender *et al.*, 2022; Duarte *et al.*, 2014). This study explores the sensory experience at heritage sites from the visitors' perspective, using semi-structured interviews as an appropriate methodological option (Blumenthal & Jensen, 2019; Chen *et al.*, 2020; Kastenholz *et al.*, 2012). This methodology allows the interviewee to reveal perceptions of experiences in an open way (Creswell, 2002; Pardo & Lopes, 2011). The focus group technique helps capture collective reflections on the relation between individuals (the visitors) and space (the Castle). It explains the in situ application (Chang *et al.*, 2010; Duarte *et al.*, 2014; Pabel & Pearce, 2015).

Data collection occurred in 2019 during the high season (June and July). To get familiar with the visitor attractions and the visitors' profiles, researchers visited the site several times and met with professionals in the field. This practice was relevant to designing the sample profile, which included visitors at the end of their stay at the monument at different times of the day. Based on the literature review (Davis & Thys-Şenocak, 2017; Gentile *et al.*, 2007; Gretzel & Fesenmaier, 2010; Holbrook & Hirschman, 1982; Krishna, 2012; Marto *et al.*, 2019; Miles, 2017; Schmitt, 1999), a checklist and related protocol for semi-structured interviews and focus groups were designed. Even though the same checklist and protocol were used for both data collection methods, their course and pace were adjusted accordingly.

With the participants' agreement, interviews and focus groups were recorded, following the non-probabilistic sample for convenience and the data saturation criterion (Babbie, 2016; Blumenthal & Jensen, 2019; Bryman, 2016), 21 semi-structured interviews and three focus groups of 13 participants were conducted with visitors. Families were chosen to participate in the focus groups as "interactions between family members constitute an important element of engagement with tourism sites, leading to enhanced value creation" (Melvin *et al.*, 2020, p. 1). Having the experience with family members tends to provide long-lasting memories, richer learning, and more entertaining moments (Melvin *et al.*, 2020).

3.3 Data Analysis

Transcribed interviews were imported into the QSR NVivo 12 to support the data analysis. A thematic content analysis was performed to organize and classify the data into conceptual categories underpinning the research objectives (Bryman, 2016). Following Vala (1997), the thematic content analysis process included the (1) the transcription of interviews and focus group data which are the corpus for analysis. The transcript data (or context units) were imported into the software and were identified by letters and numbers; (2) since a pre-coding based on the theoretical research framework was used as a guide, categories were created deductively and inductively (since new categories and subcategories emerged from the empirical data) - (Creswell & Poth, 2018); and (3) the coding process was based on the fragmentation of units of context (interviews and focus groups) into units of register with a total of 197 coding references (Table 1).

The thematic content analysis generated a structure composed of three major themes that emerged from the literature on the topics of consumer experience and sensory experiences in heritage contexts (Elicited Senses, Sensory Details, and Triggers of Sensory Experiences). The major themes and the categories related to the senses (Elicited Senses and Sensory Details) emerged deductively (Table 1). The categories associated with the main theme "Triggers of Sensory Experiences", and the remaining subcategories, have emerged inductively from respondents' answers. A descriptive and interpretative analysis was conducted, triangulating the results (Decrop, 1999).

4. Results

4.1 Samples profile

The study sample comprises eight women and thirteen men, aged between 25 and 79 years old (mean= 48 years old). The interviewees, all foreigners, were on vacation in the Algarve. The average length of stay was seven days (except for three region residents). The interviewees hold a higher education degree, except one whose highest level of education was a secondary school. Except for one, all participants visited Silves Castle accompanied by friends, spouses, and/or family. The focus group sample included participants between 13 and 77 years old (mean= 44 years old). Six interviewees were women, and seven were men. All foreigners spent holidays in the Algarve, with the length of stay being seven days. One participant holds a secondary school level, eleven a university degree, while holds a postgraduate degree. Family members accompanied all respondents during this visit. The visitors' sensory

impressions of Silves Caltes were analyzed based on three main themes: Elicited Senses, Sensory Details, and Triggers of Sensory Experiences (Figure 1).

Table 1. Coding References from Data Analysis

Main Themes	CR	Categories	CR	Subcategories	CR	Subcategories	CR
Elicited Senses <i>Agapito et al., (2014); Gretzel & Fesenmaier (2010); Mateiro et al., (2017); Zainol (2014).</i>	25	Vision	20	View of the Landscape	11	---	---
				Visual Impact	9	---	---
		Touch	2	Sandstone	1	---	---
				Sun & Wind	1	---	---
		Hearing	3	Music	2	---	---
				Peaceful	1	---	---
Sensory Details <i>Chalmers (2017); Gentile et al., (2007); Holbrook & Hirschman (1982); Kim & Fesenmaier (2015); Krishna, (2012); Pine & Gilmore (1998); Schmitt (1999).</i>	109	Vision	33	Colour	20	Red & Brown	16
				Green & Pink	4	---	---
				Design Attributes	13	---	---
		Smell	18	Garden	11	Flowers	9
				Nature	7	Herbs & Trees	2
		Touch	23	Texture	23	Hard & Rockish	---
				Hearing	30	Sounds of Nature	13
		People	7			---	---
		Environment	6			---	---
		Stillness of the place	4			---	---
		Taste	5	Gastronomic Experiences	2	---	---
				Lack of Water	2	---	---
Previous Experience	1			---	---		
Triggers of Sensory Experiences <i>Bonn et al., (2009); Buonincontri & Marasco (2017); Cantoni et al., (2018); Chalmers (2017); Classen (1997); Davis & Thys-Şenocak (2017); Larsen (2007); Kempniak et al., (2017); Marto et al., (2019); Marshall et al., (2016); Meschini & Ippoliti (2015); Packer and Ballantyne (2016); Rahman et al., (2016); Solomon et al., (2014).</i>	63	Storytelling	3	---	---	---	
		Visual Solutions	12	---	---	---	
		Sound Solutions	15	---	---	---	
		Olfactive Solutions	6	---	---	---	
		Multisensorial Solutions	6	---	---	---	
		New Technologies	6	---	---	---	
		Other Sensorial Experiences	15	---	---	---	

Note: the deductive categories are in grey; CR = Coding References.

4.2 Elicited Senses

Considering the five senses, the respondents pointed to vision as the sense that prompts the most outstanding and memorable experience regarding the Castle. This outcome, in a broader view, is associated with two main perspectives: the visual strike from the top of the hill (where the Castle is located) and the landscape that surrounds the fortification, which can be observed from its walls, as it is highlighted by respondent E2: *"Visual, probably. I think when you're approaching, it's quite like a visual statement in the landscape"*. The red sandstone from Silves, used in the construction of the monument, also stands out in the eyes of respondent E18: *"The vision... The colour, the red of the material. Yes... because it stands out, the colour of it, when you think about the walls, all this red does attract people... you see it from the outside, you see it all red, and it is impressive because of its colour and everything"*.

Touch was mentioned by individuals who also addressed two different perspectives, the contact with the Castle itself (the rough texture of the sandstone) and the contact with nature (the sun and the wind): *"The touch is because of the environment, the rocks.... the touching the rocks, the wall itself, and being able to feel that something historical is still standing"* (E20) and, *"[...] I also think the feeling of, you know, the sun and the wind"* (E11).

Together with touch, hearing was reported, showing a particular contrast in the respondents' perception: *"Music... sound... When I walk around, there is a kind of music from this time"* (E1) and (E13) *"Hearing, because it is really peaceful and calm... this is what I would remember"*. The respondents stated that it is not possible to make sensory associations with the Castle, as it is possible to observe, for example, in the speech of individual E8: *"I don't see a focus, that's the problem, there is no focus for all of the senses, and I think that is why it is difficult to relate with all of the senses..."*.

4.3 Sensory Details

Respondents were asked to reflect on their associations with Silves Castle through the five senses. Once again, visual stimuli have the most references, while associations to taste were the least mentioned. The reddish colour of Silves Castle is what most draws the respondents' attention when directed to vision: *"This stone colour, red stone"* (E5) and *"The dark brown and red of the walls..."* (E17). In addition, the colours of the Castle's internal garden were referenced by four respondents: *"There is a lot of green from the trees in the garden..."* (E11) and *"The pink flowers"* (E13). Again, the Castle's construction material is highlighted when visitors were asked about the texture they associate with the place. Touch was widely linked to the rough characteristics of the stone: *"The porous stone"* (E10), *"Like rockish texture"* (E14), and *"Stone, hard..."* (E18). The hearing was the sense that had a more comprehensive range of references. The sounds of nature, especially birds and wind, are the most mentioned by the individuals: *"You hear the birds"* (E19) and *"Sound of wind..."* (E3). The individuals also mentioned the sounds produced by the presence of other visitors: *"Just the other people"* (E9), and the quietness of the place was noted as well. It was still possible to observe two references related to the place's past: *"[...] in general it is a good sound, that now reminds of peace... I think it is different from a few hundred years ago..."* (E21) and, also:

FG2C: I think back in the day it would be people more around...

FG2B: And very noisy and very crowded...

FG2C: Yes, it could be... "

The garden emerges as the most significant stimulus for the sense of smell: *"I could smell some herbs and... like the trees, they have a strong smell..."* (E11) and *"The gardens have wonderful smells, the flowers..."* (E19). This sense was reasonably related to nature more broadly *"Neutral... fresh air..."* (E5), and *"I can smell a smell of the air, of nature.... this is a very big area, so the smell is good, it's not bad"* (E21). Eight respondents stated that it was not possible to make references to smell.

The taste was the sense least stimulated during this visit. Sixteen visitors answered that it was impossible to link associations to taste, and six considered that this was because they had not frequented the café on the site: *"Not really, we didn't go to the bar"* (E17). Two visitors mentioned the gastronomic experiences inside the Castle: *"I had a drink of orange juice.... that was nice..."* (E11) and *"The ice cream that we had..."* (E19). One of the interviewees mentioned his meal before the visit: *"We had a nice Caprese salad, down at the restaurant... And I still have the taste of balsamic vinegar in my mouth..."* (E22). Two individuals referred to their thirst (due to the heat) E3: *"Well, it was hot, so we were trying to have some taste of water in our mind..."*. Respondent E8 also linked his thirst with the lack of water that would have existed in the past: *"[...] just thirsty...yes... is warm here, is all year warm, and I think people were thirsty when they were here, so the water cistern was very interesting for them because it was how they survived, so this combination... I think thirst would be the word..."*.

4.4 Triggers of Sensory Experiences

When asked about the importance of the five senses in building the experience of visiting Silves Castle, it was possible to observe a particular difficulty of visitors in elaborating an answer to this question. Only five individuals were clear in formulating their reaction to the challenge posed, as we can see in the speeches below:

"I think it is important to have a complete experience, being able to appreciate with all five senses at the same time makes the experience more meaningful..." (E4), *"I think it is essential... because you have to put everything together... it is global, you see everything with all five senses..."* (E10), *"How could you have an experience without one? Yes... It would be very difficult if you couldn't see here... touch things..."* (E11), *"I think it is very important because it is from the five senses that you can make the experience more remarkable, so the more senses the environment connects you with, I think the more remarkable the experience will be"* (E20), and *"It is important because this is what will be stick to you, not just, you know, looking at it from afar... but touching it, and actually experiencing it"* (FG1D).

Still, on this matter, the respondents were asked to present suggestions on ways that, in their view, would contribute to intensifying the sensory experience in the monument. Options related to sight and hearing were those with the highest mentions. Images, videos, projections, and exhibitions of the costumes used over the years were also suggested by the visitors, as is possible to observe in the speech of respondent E2: *"[...] you could show some projections, on how life was on the wall... something that could be continually running and we could see how it would have been and people in costume, without loads of words. But we could just see it... Then your imagination could go into it, you know... It creates impressions... like showing people in colourful costumes, I would like to see what people used to wear..."*. The use of audio guides, sounds, and music from the past were also pointed out as options that could help in the construction of the visitors' imaginary: *"Maybe you can play some music in there. Maybe you could have traditional Portuguese music and tells a story"* (E19) and *"A kind of soft music, something more to enrich the experience... My imagination goes better if I listen to something..."* (E7).

The application of items related to the smell, such as the recreation of references to the past through the use of herbs and plants and better use of the garden itself, was indicated by the respondents as a tool that would contribute to the preparation of the place to stimulate this sense: *"You could do something with the smells... It would be interesting also to recreate the smells of the place back in the time"* (E2), *"They could have some smells, more typical from the region to make the connection with the place... Was the garden like that in the old times? I'm curious about that..."* (E7) and also, *"I really liked the scent plants. I think it would be nice to have as many as possible. I really love that. The smell of the plants... If you could have herbs and flowers and trees... when it gets warm, the smell comes up... Maybe the ones they used to have would be nice"* (E11). Touch and taste had only one mention each, and the new

technologies application were seen as a possibility, although with some caution, as can be seen in the dialogue of the FG2 group:

FG2B: If you use the technology, you can have some sound effects, you can have like, battles sound effects... to get an idea how it was...

FG2D: Maybe like only in close spaces, because you don't want too much...

FG2B: Yes, you could do that...

FG2A: Well... I like to use my imagination; you know...

FG2B: We've been to places where you go into some rooms and get some projections...

FG2D: Yes... we used some of these...

FG2A: Yes, they are good with the children... but here they could use the audio guide because sometimes they have music in the background and could create some atmosphere... but not music on loudspeakers. That would be too much...

FG2D: Small amounts of technology, but not the whole place, not too much".

Stimulating more than one sense, or all the senses simultaneously, and making the experience of visiting the moment more accurate, were aspects highlighted by some respondents: *"Maybe with more elements that would refer to each sense"* (E20). When performing this exercise of thinking of alternatives that contribute to making this sensory experience more intense, the respondents also mentioned the need to reconstruct some aspects of history in order to assist in connecting the present with the past, alluding to the use of storytelling: *"Like costumes and sounds... a little bit of acting... make it a little bit more realistic"* (E12), as well as the used references from other previous experiences:

FG2B: We've been in this place in Italy [Toscany] with a medieval castle... and they had like a little museum where you could put some chain on, for children [to play with]... but we quite enjoyed it too so... [laughs]

FG2C: Played with some swords..." (FG2) and,

"FG1A: Go to Disneyworld..."

FG1D: Yes, they spent a lot of money on that...

FG1A: Because they put some odours in the air to affect the behaviours, to calm, to create a sense of satisfaction...

FG1C: To make you feel hungry... Yes, there is a lot of research about the relationship between emotions and cognition...

FG1B: Yes, it creates better memories, you remember it longer, make associations" (FG1).

Despite being interconnected, distinct main themes, categories, and subcategories arise from the data analysis, highlighting the importance of external stimuli, environmental associations, and memory in constructing the experience in heritage attractions settings. Figure 1 summarises the major results.

5. Discussion

Findings suggest that Silves Castle's visit enables a multisensory experience for its visitors. The heritage has symbolic meanings and sensory clues that enrich the construction of the visitor's experience through multisensory impressions triggered mainly by the place's physical stimuli (Bender et al., 2022). However, it was observed that the way the environment is currently structured reveals no intentional stimulation of all senses. From the visitor's perspective, through the elicited sensory experiences, it was possible to identify that the monument's physical component had the most significant impact on the visiting experience, mainly through visual stimuli. This result aligns with the studies presented by Pearce et al. (2013), also in the context of visiting monuments, and Mateiro et al. (2017) regarding natural parks. The visual component greatly impacted the analysed attraction's visiting experience in both

cases. This outcome meets Agapito's (2022) work, which recognizes that aesthetics, through the visual dimension, has played a predominant role in exploiting visitor encounters in distinct settings and destinations. In Silves Castle's context, this result stems from its physical characteristics, such as the reddish colour of Silves sandstone, its structural dimension, and its location, which allows contemplating the landscape of its surroundings.

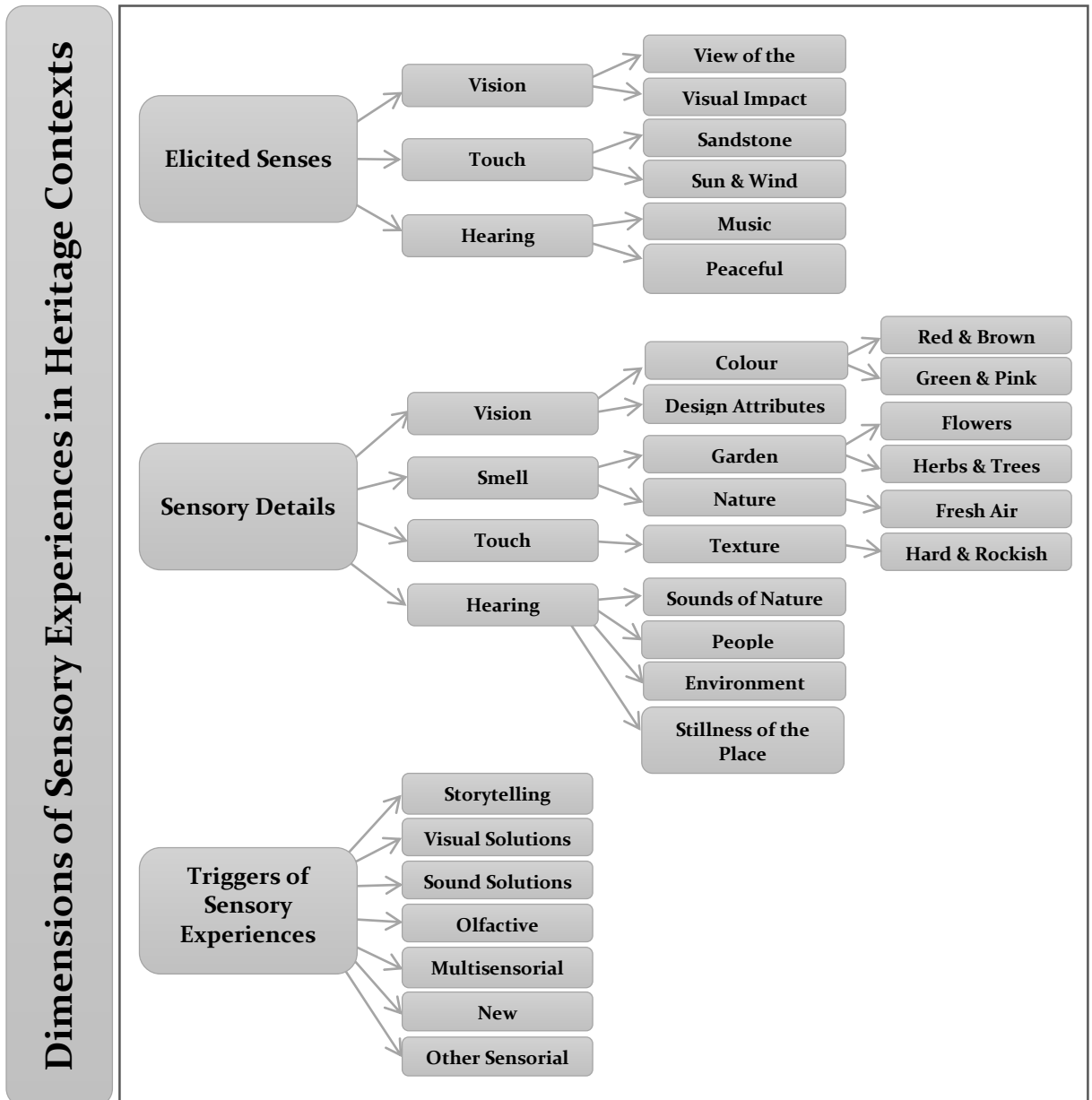


Figure 1. Dimension of Sensory Experiences in Heritage Context

Source: Literature Review, Interviews, and Focus Groups

The touch is also evidenced by the texture of the material used in the fortification construction. The sounds associated with this experience encompass various elements, such as the nature surrounding the monument, other visitors, and the stillness of the place. The garden's aroma emerges as the central

stimulus for the sense of smell, which also has nature as a reference. Taste, on the other hand, was the least stimulated sense. Some associations between the past of the place and its sensory stimuli can also be verified in the interviewee's speech.

However, findings suggest the importance of promoting sensory details to intensify the sensory experience (Bender *et al.*, 2022). Furthermore, offering a profound interplay between the visitors and the environment or surroundings is also recommended (Kim *et al.*, 2022). Simultaneously, visual and auditory stimuli were the most cited for sensory enhancement and as alternatives to arouse the imagination of visitors. The smell also appears as an option to recreate references to the past by using herbs and plants. As Bembibre and Strlič (2022) emphasize, "textual and visual sources can offer (...) valuable clues to capturing and interpreting the smells of the past. Sometimes, these clues are supported by material evidence, such as historical artifacts" (p. 3). From the interviewees' perspective and their sensory associations, it is possible to identify that the best use of the physical environment of the Castle, in order to emphasize its sensory attributes, will provide a visit experience encompassing multiple sensory dimensions (Agapito & Chan, 2019; Gretzel & Fesenmaier, 2010; Rahman *et al.*, 2018).

In line with extant literature (Chalmers, 2017; Marto *et al.*, 2019; Meschini & Ippoliti, 2015; Pettoello, 2016), findings suggest using new and interactive technologies as a relevant alternative that allows a deeper connection between the visitors and the monument. As noted by Elvekrok and Gulbrandsøy (2021) in their research on creating positive memory in staged experiences through sensory tools, sensory arousal via sensory devices can contribute to drive visitors' attention to attractions' unique features that will most efficiently contribute to positive memories.

6. Conclusions and implications

This study provides relevant insights and guidance for further research and managing built historical monuments in tourism destinations opened to the public. This research considers the lack of studies addressing sensory experiences in heritage contexts and the still unfilled managerial approaches regarding the topic. The main objective was to explore a holistic, multisensory, and embodied experience in the context of heritage attractions. To achieve this goal, three specific objectives were outlined: (1) to examine how the environment and the physical characteristics of the monument influence visitor experience, 2) to identify the visitor's sensory impressions triggered by the attraction beyond the visual outlook, and 3) to classify the dimensions of sensory experiences in heritage contexts.

Concerning how the environment and the monument's physical components influence the heritage visit experience, the outcomes showed how Silves Castle's attributes (including sensory cues) significantly impacted the visiting experience. Even though the goal was to adopt a perspective beyond the visual lenses, the results show that there is still room for a managerial approach more focused on enhancing the place attributes and designing a richer multisensory experience, for example, centered on non-visual senses. Considering the visitors' sensory impressions, the aspects contributing to designing meaningful tourism experiences, such as external stimuli, environmental associations, and memory, were identified. Likewise, it was possible to classify the dimensions of sensory experiences in heritage contexts (Elicited Senses, Sensory Details, and Triggers of Sensory Experiences) included in the proposed framework (Figure 1). This approach highlights the potential to manage the sensory dimension in heritage sites.

6.1 Contributions to knowledge

Even though the sensory experience rises in consumer research, sensory experiences in heritage contexts, mainly on-site experiences, are still an under-research field (Agapito, 2020; Elvekrok & Gulbrandsøy, 2021). It is critical to elucidate how the senses are elicited and which environment sensory details influence visitors' experiences, attitudes, and behaviours toward heritage attractions (Bembibre

& Strlič, 2022; Bonn *et al.*, 2009; Chalmers, 2017; Gretzel & Fesenmaier, 2010; Kempiak *et al.*, 2017). Since sensory details are recognized by the literature as a pivotal aspect of tourism experiences and contribute to tourists' long-term memory and future behaviour (Kim *et al.*, 2022), better comprehension of visitors' sensory impressions triggered by the heritage attraction opens new paths for research and management of these tourism resources. By addressing the aforementioned research gaps, this study enlightens the value and the role of the sensory dimension in heritage sites, such as monuments. It also provides a theoretical framework that expands the knowledge around the management and design of sensory tourist experiences.

6.2 Implications for management

This study identified relevant sensory clues that connect the monument and its visitors and improve the heritage site's sensory experience. The conscious and articulated management of sensory stimuli can increase the perceived value and satisfaction with the experience, making it more memorable. The framework presented can be an asset to managers designing sensory experiences in a built heritage context and assist researchers in future research. Heritage attraction managers should devote themselves to understanding and exploring which physical and immaterial elements – ambient factors and design factors – affect the visitors' experience, attitudes, and behaviours. They should assign their efforts to highlight the sensory cues intrinsic to each site to provide engagement, attachment, and identification between the monument and its visitors. (Bender, 2020). Since artefacts are crucial to the interpretation process of these historic sites, their preservation should be a concern of managers, in conjunction with the implementation of user-friendly technologies encouraging dynamic and immersive interactions, connecting people, assets, sites, and environments (Cantoni *et al.*, 2018; Elvekrok & Gulbrandsøy, 2021).

6.3 Limitations and future research

This study is not free from limitations. However, despite data being limited to a specific setting, results provide relevant clues and a theoretical framework, which adds to a research agenda around the senses and heritage. Firstly, a qualitative study with an exploratory nature was carried out, which does not allow generalizing the results. Future studies can complement this research with quantitative or experimental approaches to consolidate the understanding of the connection among scapes, sensory impressions, and visitors' experience in the context of heritage sites. Since meaningful sensory experiences play a significant role in encouraging visitors' positive behaviour and forming long-term memories of these experiences, future research should employ longitudinal studies within larger samples at distinct periods of the year (for example, the low season) and/or at different heritage settings. Diverse stakeholders involved in the experience design, such as heritage managers and residents, should also be included in the research. All these distinctive and complementary approaches could capture a broader perspective of the sensory experiences in heritage contexts.

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