The role of sensory design in creating memorable event experiences

Johanna Bolter and Raphaela Stadler
Department of Tourism and Leisure Business, MCI Management Center Innsbruck, Internationale Hochschule GmbH, Innsbruck, Austria

International Journal of Event and Festival Management

45

Received 13 January 2025
Revised 9 May 2025
Accepted 9 July 2025

Abstract

Purpose – The aim of this paper is to explore the influence of sensory design elements upon attendees' perceptions of events, focusing on all five senses and adopting a multisensory approach.

Design/methodology/approach – This study utilises a qualitative research approach, employing semi-structured photo elicitation interviews. The inclusion of photographs within the interview process aids in memory recall and enables participants to articulate their sensory experiences in greater depth.

Findings – The study highlights the predominance of sight and sound in shaping event experiences. Sound, particularly in concert settings, has a significant effect on mood. Scents, though often processed subconsciously, have the capacity to evoke strong emotional responses and memories. Taste, especially at events focused on food, plays a crucial role, with variety enhancing emotional connections. Touch is the most interactive of the senses. A key overarching finding is the importance of sensory congruence: when sensory elements are harmoniously aligned with the overall event theme, attendees perceive the experience as more authentic and impactful.

Practical implications – The findings provide actionable insights for event planners. By recognising the significant role of sensory design in shaping attendee perceptions, event organisers can create more engaging and memorable experiences.

Originality/value – This paper makes a novel contribution by addressing all five senses in the context of event experiences. It also employs photo elicitation interviews, a relatively underutilised methodology in event research.

Keywords Five senses, Sensory congruence, Multisensory integration, Perception, Memorable event experiences, Photo elicitation

Paper type Research article

Introduction

Crafting an exceptional customer experience is a critical objective for event planners. Achieving this requires meticulous planning and is shaped by multiple influencing factors. A memorable event experience (MEE) is central to this endeavour, as it fosters high levels of satisfaction and loyalty among attendees. Jepson *et al.* (2019, p. 40) define a MEE as "a festival/event experience positively remembered and recollected after the event has taken place." While memory formation is inherently individual, the process of recalling these memories is influenced by social and collective contexts. Personal memories are deeply intertwined with and shaped by the broader social environment in which individuals exist (Jepson *et al.*, 2019).

The human senses play a pivotal role in framing and enhancing these experiences. Sensory engagement forms the foundation of how individuals interact with their surroundings, mediating the process of meaning-making (Agapito, 2020). As Lv *et al.* (2020) emphasise, understanding human behaviour—and by extension, the experiences of event attendees—necessitates an acknowledgement that sensory engagement is fundamental to how individuals

International Journal of Event and Festival Management
Vol. 17 No. 1, 2026
pp. 45-64
Emerald Publishing Limited
e-ISSN: 1758-2962
p-ISSN: 1758-2954
DOI 10.1108/IJEFM-01-2025-0004

connect with the world. Environmental perceptions are shaped by stimuli received through the senses, with the resulting interpretations being uniquely personal (Agapito *et al.*, 2013). Moreover, sensory experiences have a profound capacity to influence attitudes, emotional states, and behaviours (Gómez-Suárez and Yagüe, 2021). Thus, creating impactful sensory stimuli is a vital strategy for fostering memorable and meaningful event experiences, and this should be a primary consideration for event planners when incorporating the five senses into event design (Antchak and Ramsbottom, 2020).

Designing a memorable event necessitates deliberate planning and an understanding of how attendees respond to specific design elements (Adema and Roehl, 2010). In recent years, the academic focus has increasingly shifted from event management to the nuances of event design (Orefice, 2018; Toraldo, 2013). Despite this shift, event organisers continue to face challenges in assessing the impact of event experience design (Biaett and Richards, 2020). Currently, there is no standardised methodology for analysing attendee experiences, with diverse approaches employed across the academic literature (Biaett and Richards, 2020; Liu *et al.*, 2017; Richards, 2017).

Recent studies suggest that examining the effects of sensory cues—such as scent, music, and colour—can yield valuable insights into the visitor experience. This perspective highlights the importance of both service quality and perceived value in shaping visitor responses to an experience (Armbrecht, 2021; Scott and Uncles, 2018). Nevertheless, the existing literature offers limited exploration of the specific ways in which sensory stimuli influence event attendees and their perceptions (Agapito, 2020; Agapito *et al.*, 2013; Chung, 2020).

Addressing this research gap, this paper investigates the research question: *"How do sensory design elements affect attendees' perceptions of events?"* The primary objective is to examine the impact of sensory design elements on event attendees, considering all five senses—sight, sound, touch, scent, and taste—to explore their influence and the nature of their effects on attendee perceptions.

Sensory perception and sensory design

The senses form the foundation of human interaction with the environment (Agapito, 2020), influencing consumer behaviour, participation, and engagement (Agapito *et al.*, 2013; Sagha *et al.*, 2022). By fostering emotional connections between consumers and services, sensory experiences contribute to creating lasting memories (Rathee and Rajain, 2017). Agapito (2020, p. 2) describes the senses as "the foundation of how individuals interact with their surroundings, mediating the process of deriving meaning from these interactions." Perception, defined as the interpretation of external stimuli through sensory input (Albright, 2015), aligns with Rathee and Rajain's (2017, p. 125) assertion that "people perceive the world through their senses." This topic has intrigued scholars from early philosophy to modern neuroscience, however, research on the impact of sensory stimuli on visitor perception remains limited (Agapito, 2020; Agapito *et al.*, 2013; Chung, 2020).

The five senses

Although there is no universal consensus on the classification of human senses, the five primary categories—sight, sound, smell, taste, and touch—are widely recognised (Agapito, 2020; Fong *et al.*, 2023; Lv *et al.*, 2020; Mehraliyev *et al.*, 2020; Wei *et al.*, 2022). Neuroscientists have in recent years pointed out several inconsistencies in our understanding of the five senses. They have started to critique a mere focus on the five, and have debated the possible existence of additional senses (see, e.g. Brandt *et al.*, 2024; Wade, 2003). Nonetheless, the original five senses are still commonly used in marketing, tourism and events research. Consumer research has traditionally prioritised vision due to its significant role in perception, particularly in identifying and differentiating elements such as colours and shapes

(Ali and Ahmed, 2019; Sihvonen and Turunen, 2022). Vision, an ambient sense, requires no active effort to experience, and it influences consumer preferences, often emphasising aesthetics over functionality (Balaji *et al.*, 2011; Rathee and Rajain, 2017).

Similar to vision, audition is an ambient sense that allows individuals to process auditory stimuli without conscious effort, though selective attention is possible. Discrepancies in sound—such as mismatched music in retail or dining environments—can disrupt the consumer experience (Rathee and Rajain, 2017). Sound also significantly influences mood and emotions, with its perception depending heavily on contextual factors (Reybrouck *et al.*, 2021; Warrenburg, 2020), and music in particular can bring back memories from special occasions from years ago (Antchak and Ramsbottom, 2020).

The role of scent in consumer behaviour is well-established, with research demonstrating its profound emotional impact and its superior memory retention compared to other senses (Ali and Ahmed, 2019; Pawaskar and Goel, 2014). Smell, processed through the limbic system, has a strong influence on emotions, yet individual scent associations vary widely, making universal applications challenging (Zha *et al.*, 2022).

Taste, essential for survival, also elicits strong emotional responses. The five basic tastes—sweet, sour, salty, bitter, and savoury—interact with other senses, particularly smell, to enhance flavour perception (Morrin and Tepper, 2021). Multisensory stimulation has been shown to improve taste experiences, emphasising its potential in marketing strategies (Rathee and Rajain, 2017).

Lastly, touch, a tactile sense requiring active engagement, remains underexplored in marketing (Balaji *et al.*, 2011). As the first sensory modality to develop and the last to decline, touch plays a critical role in identifying objects and enhancing consumer experiences, particularly through haptic interactions (Ranaweera *et al.*, 2021; Zha *et al.*, 2022). The expanded definition of touch includes sensations such as texture, weight, and temperature, highlighting its potential for sensory marketing (Spence, 2022b).

In event and tourism marketing, sensory strategies often begin with visual elements, such as destination imagery, to attract visitors (Lv and Wu, 2021). Edensor (2018) specifically highlights that vision continues to be considered the most important sense among tourists, and that "the visual apprehension of sites, landscapes and people is merely supplemented by other sensory experience" (p. 913). He argues for a more multi-sensual consideration of tourism experiences. Other senses, including olfactory cues (e.g. signature fragrances in hotels), auditory modifications (e.g. music tempo in restaurants), and tactile elements (e.g. encouraging hands-on exploration), are indeed increasingly employed to enrich consumer experiences and strengthen brand identity (Pawaskar and Goel, 2014; Spence, 2022c). Taste remains a challenging sense to integrate but can be leveraged through unique culinary experiences to enhance destination appeal (Pawaskar and Goel, 2014), with food festivals often specifically contributing to this.

Sensory congruence and multisensory integration

Sensory marketing is widely employed to enhance consumer experiences and drive sales by carefully selecting and arranging sensory design elements, such as product colour, texture, and ambient hues, to align with the product's attributes and benefits. Spence (2022a) emphasises that sensory cues carry context-dependent associations, with research highlighting the importance of semantic congruence for effective multisensory marketing (Fürst *et al.*, 2021; Stach, 2015). Semantic congruence refers to the alignment of semantic associations across sensory attributes (Fürst *et al.*, 2021; Krishna, 2012). For instance, congruent combinations of scent and music in retail environments have been shown to enhance customer engagement and improve attitudes toward the store (Doucé, 2022; Spence, 2021).

According to Agapito (2020), congruity theory suggests that positive consumer attitudes are more likely when all sensory elements consistently align with the consumption context. Sagha *et al.* (2022) further highlight that sensory interactions significantly impact consumer

emotions and purchasing behaviour. Their findings indicate that congruent sensory cues enhance emotional engagement and product appeal, while incongruence can diminish emotional responses and reduce purchase intent.

Krishna (2012; 333) defines sensory marketing as "marketing that engages the consumers' senses and affects their perception, judgment and behavior." This approach integrates multiple senses to create cohesive and immersive consumer experiences, recognising that sensory inputs are processed holistically by the brain (Wiedmann *et al.*, 2018). Neuroscientific studies reveal that certain brain regions are multisensory, meaning they process inputs from multiple senses simultaneously, a phenomenon known as sensory interplay or cross-activation (Balaji *et al.*, 2011; Sagha *et al.*, 2022; Yu and Zhao, 2024). This interplay enhances emotional connections to brands, making experiences more memorable when multiple senses—such as sight, sound, smell, taste, and touch—are engaged simultaneously (Kim and Kerstetter, 2016; Kumar, 2014; Risso *et al.*, 2015). This is also highly relevant to event experiences and memories in that event experiences by their nature engage several, if not all, senses. Saldanha (2002) provides a specific example of this where the sound of the music at a Goan beach rave was the main element of festival attendees' sensory experience. But this was complemented by the smell of hash fumes as well as other people's sweat, the sight of the moon and coconut trees, and the tactile experience of dancing barefoot on the sand squeezed in between other moving bodies. This created a mixture of sensations that together shaped the festival attendees' experience.

Event experience

The creation of memorable and impactful experiences is fundamental to event management. However, effectively assessing and comprehending these experiences remains a considerable challenge (Biaett and Richards, 2020; Richards, 2017). Experiences can be characterised as "the sensation of interaction with a product, service, or event, through all our senses, over time, and on both physical and cognitive levels" (Shedroff, 2007, p. 11). These experiences encompass expansive dimensions, including the sensorial, symbolic, temporal, and meaningful.

Event experiences are inherently dynamic, evolving throughout the event's duration, and are shaped by a variety of factors both within and beyond the control of event organisers (Dashper and Buchmann, 2020; Fernandes and Krolikowska, 2023). They thus extend beyond isolated moments, forming a complex, dynamic tapestry woven from every direct and indirect interaction between the attendee and the event, transcending the traditional boundaries of the purchase journey (Berridge, 2014). Sensory design, however, is often overlooked in event management, even though design can be crucial to the success - or indeed, failure - of an event (Richards *et al.*, 2015). Event attendees are looking for immersive experiences that engage and stimulate their senses, and that excite them. Such experiences can, and should be designed (Beard, 2014; Sobitan and Vlachos, 2020).

Agapito *et al.* (2013) conceptualise event experiences through five interrelated dimensions: sensory, affective, cognitive, behavioural, and social. While these dimensions are distinct, they interact to influence and shape attendees' perceptions. Their framework emphasises the critical role of sensory engagement in shaping consumer experiences, underscoring how the five senses can contribute to the formation of meaningful and impactful event experiences. In the context of event and festival experiences the five senses have been explored more specifically by Toraldo (2013), who focused on visual and textual elements that contribute to festival attendees' sensory consumption and aim to create anticipation. Duffy and Mair (2018), on the other hand, found that sound and vision, as well as the overall festival ambience, affect participants' embodied festival experience, and can even lead to feelings of inclusion within a community.

It should be noted that the senses are also important to consider in scenography and atmospherics where creating the visual and spatial environment for a performance is

significantly shaped by, for example, light and darkness, sound, set design, or costumes. Edensor (2015) specifically investigated light installations and light festivals to explore how light and darkness can contribute to the experience of the atmosphere. He found, for example, that the flashing lights at a fair in combination with the music that is synchronised to match the rhythm of the lights, produce a certain swirling and bright atmosphere. Other sounds commonly heard at a fair, such as the laughter of people, clanking of the rides, and shouts of the stallholders, further complement this fun and giddy atmosphere.

Finally, event managers also have a responsibility to consider different groups of people when designing experiences for the five senses, and to acknowledge that some might experience the senses differently (e.g. neurodivergent populations or people with sensory impairments). Research by Edensor (2015) shows how a concert performed by a blind couple was deliberately designed in complete darkness in order to allow the audience to experience the music without any distractions. Light shows are usually part of a concert atmosphere, and are intended to "accentuate particular beats and melodic tones and generally enhance the depth of the experience of the event for the audience as illumination envelops them and delineates the performance on the stage" (Edensor, 2015, p. 345). In the absence of these distractions of sight, the audience experienced the music much more intensely. Bossey *et al*. (2024), on the other hand, investigated the use of haptic vests that convert bass sound waves into vibrations, and can thus augment musical performances. They tested these vests with audience members at a Deaf Rave concert, and found that they enabled the audience to "feel" the music, but with little variance between findings from participants who identified as being deaf, disabled or neurodiverse, and those who are not.

Methods

To gain deeper insights into event attendees' perceptions of sensory stimuli, this study employed the photo elicitation method, a visual research technique that incorporates photographs, in conjunction with semi-structured interviews. As Shaw (2013, p. 785) articulates, "a picture is worth a thousand words", underscoring the rich insights that can be derived through the integration of images. The use of photographs facilitates communication during interviews, enhancing the quality of the data gathered. This method can be executed through various approaches, with either the researcher or the participant generating or collecting the photographs used. Contrary to the assumption that image-based research predominantly relies on researcher-collected secondary data, there is growing evidence of the widespread use of participant-generated photographs. This is particularly prevalent in studies exploring tourism experiences, where participants' self-selected or self-captured images are favoured (Matteucci, 2013). Unlike traditional etic approaches that impose the researcher's perspective, an emic approach prioritises the participants' own understandings, free from preconceived notions. In this context, photo elicitation serves as a powerful emic tool in event experience research, enabling participants to capture images that resonate with their experiences, which subsequently elicit deeper reflection and analysis through interviews or other research methods (Azungah, 2018; Liu *et al.*, 2017; Shaw, 2013).

Research context

For this study, a convenience sample was deemed appropriate when selecting four different events to investigate. The sample was based on specific criteria, including event type, target audience, and location. To ensure a diverse representation of event settings, various types of events were chosen. The final selection comprised one exhibition, one sporting competition, and two concerts. The sporting competition and one of the concerts were organised by small regional associations and attracted fewer than 1,000 attendees. In contrast, the other concert and the exhibition were larger in scale and professionally managed by event organisers. All of

the selected events took place in a German-speaking country. The table (Table 1) below categorises the four events based on several defining characteristics:

Data collection

As outlined previously, this study employed a qualitative research design, utilising semi-structured interviews in conjunction with participant-generated photographs. The interviews were guided by predefined questions but remained flexible, allowing for the exploration of participants' unique experiences in greater depth. The interview guide was developed following the five-step approach proposed by Kallio *et al.* (2016). After confirming that a semi-structured guide aligned with the research question and conducting a thorough review of relevant theoretical knowledge, the guide's development proceeded to phase three. In this phase, key thematic questions were derived from the literature review and supplemented by follow-up questions to ensure comprehensive coverage of the topic. The finalised interview guide was organised into three main sections: (1) Overall Event Experience: This section sought to capture participants' general impressions and memories of the event, including their emotional responses, the people who accompanied them, and their pre- and post-event experiences. (2) Photographs: Participants were asked to bring photographs they had taken at the event. These visual materials served as prompts to stimulate memory recall and facilitate discussion during the interview. (3) Sensory Stimuli: This section focused on participants' perceptions of sensory elements—such as sight, sound, touch, taste, and smell—at the event, and explored how these sensory experiences shaped their overall perceptions of the event. Using the photographs as prompts during these discussions about sensory stimuli was particularly enriching in two ways: first, the photographs showed visual representations of the event experience, and thus provide highly relevant data in themselves. Second, they helped participants recall specific sensory experiences. For example, a photograph of a food stall at the exhibition triggered specific taste and smell related memories for one of the interview participants. In turn, the interviewer then asked them to reflect more deeply and more critically on these sensory experiences.

Ethical approval for this study was obtained from the university with which both authors are affiliated. A convenience sampling strategy was employed to recruit participants who were

Table 1. Overview and categorization of events used for empirical research

Event/ Features	ITB (Internationale Tourismus Börse)	James Blunt Concert (JB)	Bezirksturnfest Hofsteig (HTF)	Frühjahrskonzert des Musikerverein Müselbach (MVM)
Date	05–07 March 2024	08 March 2024	17 March 2024	23 March 2024
Location	Exhibition Center Berlin	Olympia Halle Innsbruck	Gymnastics hall Wolfurt	Gymnastics hall Alberschwende
Event type	Exhibition	Concert	Sports Competition	Concert
Audience	Mainly tourism professionals, some media representatives and students	Music fans, mostly females and couples	Child athletes and families of athletes	Local community
Estimated size	~ 100,000 attendees; over 5,500 exhibitors from 170 countries	~ 6,000 people	~ 500 attendees + ~400 athletes	~ 400 attendees
Organiser	Messe Berlin	Arcadia Live in cooperation with Olympia Halle Innsbruck	Gymnastics club Wolfurt	Music club Müselbach

Source(s): Authors' own work (2025; data retrieved from event websites)

readily available and accessible to the researchers. To be eligible for participation, individuals had to be at least 18 years of age. Recruitment efforts included social media posts, targeted email invitations, and personal outreach. In total, 24 participants were recruited who attended the four different events: ITB (7 participants), James Blunt Concert in Innsbruck (6 participants), Bezirksturnfest Hofsteig (4 participants), and Frühjahrskonzert des Musikverein Müselbach (7 participants). Data collection ceased upon reaching data saturation, the point at which no new insights emerged from the interviews (Marshall *et al.*, 2013). The final participant pool consisted of 14 women and 10 men, with ages ranging from 18 to 60 years. All participants were citizens of either Austria or Germany.

Participants were asked to bring three to five photographs to the interview or to submit them in advance. Each participant provided at least one visual, with some exceeding the requirement by contributing up to eleven images. In total, 116 photographs were collected. All interviews were conducted after the respective events, with a maximum interval of three weeks between the event and the interview. The interviews were held in various settings based on participants' preferences, including public university spaces and a local sports hall, with some conducted online via Microsoft Teams. To mitigate potential bias, the interviewer (first author) did not attend any of the selected events herself. The interviews were audio recorded using the researcher's mobile phone, and their durations ranged from 15 to 59 min, resulting in a total of 673 min of recorded material. All interviews were conducted in German and subsequently transcribed verbatim. The transcripts were then translated into English for the purpose of data analysis.

Data analysis

In accordance with the procedures outlined for thematic analysis (Clarke and Braun, 2017), the transcribed interviews were uploaded into MAXQDA software to facilitate the systematic coding process. An initial coding framework was deductively developed based on the literature reviewed, focusing on themes such as overall event experience, including related emotions, success factors, and challenges. Particular emphasis was placed on coding experiences in relation to the five senses. However, the coding framework remained flexible, allowing for the identification of new themes that emerged from the data, consistent with an inductive approach (Azungah, 2018). Each interview transcript was systematically reviewed independently by both authors, with relevant segments of text assigned codes that represented key concepts, experiences, or emotional responses related to sensory stimuli and their impact on event memories, and later compared. Throughout the coding process, the initial coding framework was iteratively refined, with additional codes introduced to encapsulate the full spectrum of experiences described by participants (Clarke and Braun, 2017). To categorise the codes, coding rules were added to each category. Table 2 below shows sample codes with the selected keywords:

Upon completing the coding process, the identified codes were reviewed and organised into higher-order themes. This stage of thematic analysis involved examining patterns and relationships across the codes to identify overarching concepts that encapsulated the core of participants' experiences. The two authors regularly met to discuss this key stage of data analysis. Through the use of visualisation techniques, such as co-occurrence mapping, hierarchical structuring, and frequency analysis, distinct patterns emerged, providing deeper insights into the data. The following illustration (Figure 1) presents a visual representation of the process, outlining the progression from initial coding to the development of broader themes.

This visual analysis revealed, for instance, that colour is frequently perceived in conjunction with light, particularly in the context of stage set-ups. These two elements were closely intertwined, illustrating a subtheme within the broader theme that emphasises the prominence of visual elements in the findings. Throughout the thematic analysis, careful attention was paid to ensuring that the identified themes faithfully represented the participants' voices and experiences (Braun and Clarke, 2006; Wiltshire and Ronkainen, 2021). Given the very different typologies and scales of the investigated events, careful consideration of the

Table 2. Example code rules

Code category	Keywords
Colours	Purple, colour, white, pink, black, dark, bright, light, blue, orange, yellow, red, warm mood, green, grey, colourful
Windows; natural light	Windows, skylights, natural light
Floor and wall materials	Wooden elements, ceiling, floor, lines/markings on the floor
Light	Light, bright light, LED, warm light, cold light, fluorescent tubes, laser show, spotlights, lamps, dimmed, lanterns
Smell of food	Fishy smell, smell herbs, restaurant smell, smell food, spices, intense cuisine, smell of curry, Asian smells
Unpleasant smells	Gym/sports hall smell, smell of many people, smell of changing room, sweat, unpleasant, stuffy air
Instrumental	Instruments, guitar, drums, drummer, music, bands, traditional music, ukulele, playing (an instrument)
Quiet	Quiet, without a lot of noise, noise level is within limits, didn't understand well, too quiet

Source(s): Authors' own work (2025)

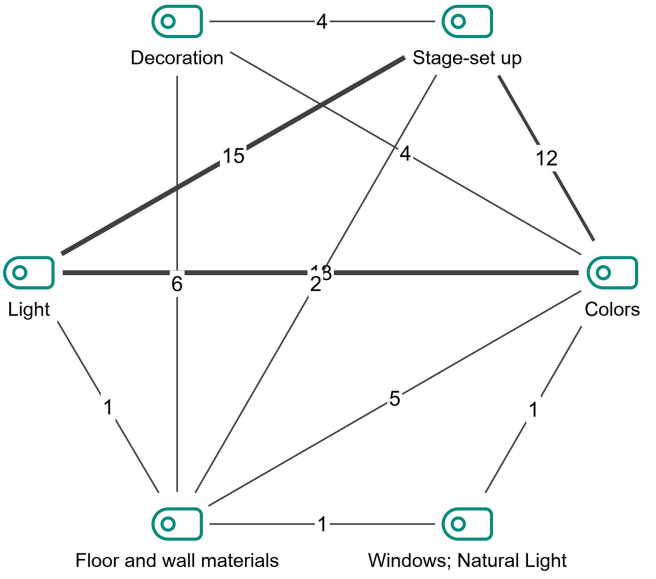

Figure 1. Co-occurrences visual elements. Source: Authors' own work

specifics of each event was also deemed important. These will be highlighted in the presentation of findings below as and when appropriate.

The analysis also incorporated the photographs provided by participants during the interviews. These visual materials functioned as memory triggers, facilitating participants' recall and enabling them to articulate their experiences in greater detail. A thematic analysis of the visuals focused on the sensory elements captured in the images, examining how these aligned with participants' verbal descriptions of their event experiences. As Pink (2012,

p. 134) highlights, the "visible elements of experience(s) will be given different meanings as different people use their own subjective knowledge to interpret them." Rather than the researchers merely analysing the photographs based on their own background and understanding, it was deemed important to discuss them with participants in order to better understand their perspectives and the meanings they attached to these photographs. Furthermore, visual elements are inseparable from and interrelated with other sensory elements (Pink, 2020). Analysing the photographs in conjunction with the interview transcripts thus provided new insights into this interrelatedness of the five senses. In the example below (Figure 2), excerpts from the interviews are juxtaposed with the corresponding image, allowing for a direct comparison between the participants' verbal accounts and the coded elements observed in the visual data.

In addition to utilising the photos as prompts during the interviews, conducting a post-interview analysis of these visual materials offered further insights into the role of sensory stimuli in shaping event memories. This dual approach to data analysis sought to provide a more comprehensive understanding of how sensory elements contribute to the overall event experience, highlighting the interplay between visual stimuli and participants' recollections. By integrating both verbal and visual data, this method enhances the depth of analysis regarding the influence of sensory factors on memory formation and event perception.

Findings

The participants revealed noteworthy patterns in their perceptions of event experiences. As outlined in the literature review, visual perception is generally regarded as the dominant mode through which humans engage with the world. The findings from the interviews conducted in this study align with this established understanding. However, the results also offer new insights into the broader sensory experiences of event attendees, highlighting additional elements beyond the visual domain.

Music expresses emotions and influences attendees' mood

The sensory dimension of sound is not confined to music events but extends to a broader range of experiences, receiving significant attention in the context of event attendance. Participants in this study identified a wide array of sounds, including music, instrumental tones, voices, and

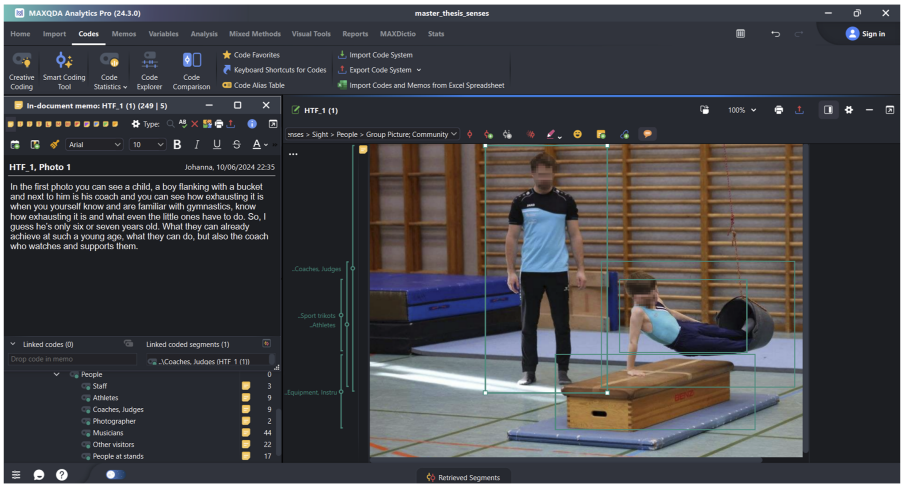

Figure 2. Visual analysis of participant-generated pictures. Source: Authors' own work; photo courtesy of participant HTF_1

human speech. The distinctive qualities of these sounds—such as tempo, intensity, and volume—play a crucial role in their emotional classification. For example, a cacophony of voices, often marked by elevated noise levels, is typically linked to feelings of noisiness and discomfort. Conversely, melodies and various soundscapes can evoke a diverse spectrum of emotional responses, ranging from joy to melancholy. The findings of this study underscore the profound impact that variations in sensory perception, particularly sound, can have on an individual's emotional state. As one participant at the James Blunt concert explained, the music had an emotionally moving effect on them.

> He [the artist] addresses feelings and once said that he sang it for his best friend who had died or something; that was just perhaps a bit emotionally moving, and then, yes, when he sings, and you hear it and feel it here or there. I had goosebumps (JB_6, Pos. 19).

Moreover, event attendees observed that organisers actively tailored various sensory elements to align with the emotional responses elicited by the event, particularly by manipulating visual components such as lighting and colour. One participant, reflecting on their experience at the James Blunt concert, remarked: *"With the lights for the quiet songs, gentle lights for the fast songs, and then with the whole laser show for the more upbeat songs"* (JB_1, Pos. 51). The participants predominantly used visual documentation—specifically photographs—to demonstrate the diverse lighting and colour schemes implemented throughout the event. Plate 1 shows the gentle lights they refer to, compared to the laser show and lighting during more upbeat songs shown in Plate 2. Analysing the photographs they took in combination with what was said in the interview thus allowed for a more in-depth description of their sensory experience. The concert atmosphere generated through the unique combination of music and lighting was very specific to this event, and an immersive experience for participants. The findings thus indicate that music is not only associated with emotions; it also fosters personal connections and evokes memories.

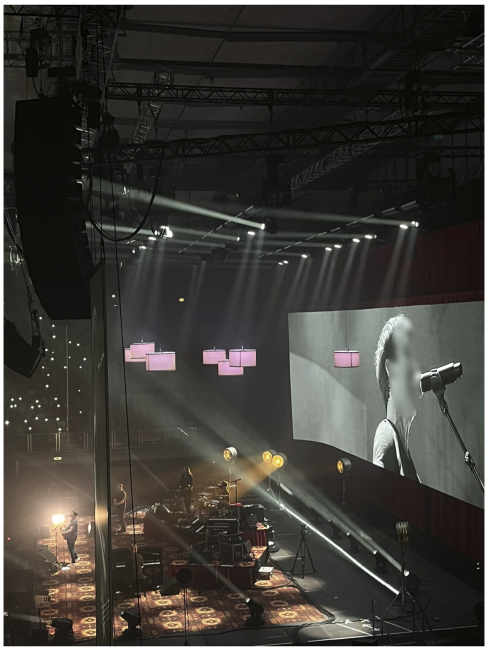

Plate 1. Lighting and colour example 1. Source: Photo courtesy of participant JB_1

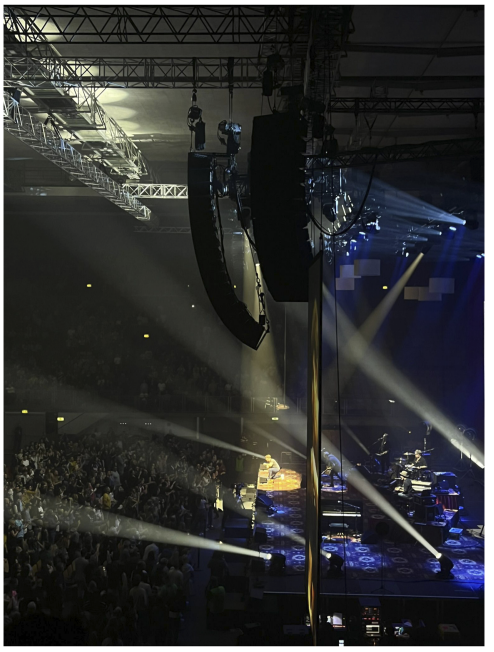

Plate 2. Lighting and colour example 2. Source: Photo courtesy of participant JB_1

Food is crucial for events, but taste is secondary

In the context of events, the availability of food is often considered a critical element, with many attendees expressing considerable appreciation for its presence. However, the findings from the interviews suggest that the specific nature of the food offered is not a central concern in many event environments. Rather, it appears that attendees are primarily focused on the fulfilment of basic satiety, with the absence of food leading to noticeable dissatisfaction. This pattern was observed across three of the four event types. A notable exception, however, was found at the ITB travel exhibition, where attendees frequently voiced particular preferences regarding the culinary experience. In fact, several interviewees at the ITB described the taste experience as a central feature of their visit, sometimes even ranking it above other sensory aspects of the event. Furthermore, a substantial number of attendees expressed a clear preference for stands offering regional cuisine, demonstrating a strong interest in exploring diverse culinary offerings.

> There were lots of samples in different countries. I ate in Ecuador, I ate in La Reunion and also had drinks. I ate Italian ice cream, ate ice cream in Oman, tried tea from an Arab country. So, they were very different. An African coffee, I think it was from Namibia. So, I ate very different and very typical things from different countries. (ITB_4, Pos. 65)

Smell can trigger memories and associations

Conversations with event attendees revealed that smell has the capacity to evoke memories and shape the overall event experience. While only a few participants provided detailed reflections on their olfactory experiences, some were able to articulate specific associations with particular smells and how these contributed to the atmosphere of the event. The ITB travel exhibition again provides interesting insights here regarding the smell of certain foods and how this was cleverly implemented at and around the countries' stands:

> What was also interesting in some countries was the smell. I mean, they were clever about it. Near Asia, for example, there was a food stand where they served Asian food. I mean, you could smell it, and it somehow seemed a bit more authentic. And even here in the Orient, they have lots of spices; you could smell them a bit, and the tea and the dates, so that was actually quite cool. (ITB_3, Pos. 37)

For a few participants, however, the perceived smell was notably intrusive and became a prominent aspect of their sensory experience. The small-scale sports competition was a particularly smelly experience for some participants:

> Especially the smell . . . Of course, with so many people in the sports hall who are all active, the air is rather stuffy. So not exactly the most pleasant air, the most pleasant smell, which is coupled with sweat and, yes, dust from the magnesium. (HTF_1, Pos. 43)

This particular odor was described as typical of the event location and frequently triggered emotional associations, such as memories of childhood sports classes. One participant even noted that the scent of the floor reminded him of his profession as a floor layer, while another explained that, due to the frequency of his visits, he could easily identify various sports halls by their distinctive smells. Interestingly, this participant discussed the photo presented in Figure 2 (visual analysis of participant generated picture), but initially did not refer to the smell in his description of the situation. The memories triggered by the smell only became apparent upon further probing by the interviewer. As such, this example shows how the photographs were not only used as visual data in themselves, but also to stimulate the discussion and reflection during the interviews.

Temperature is an important element of touch perception

The sense of touch is commonly associated with its haptic component, which requires active engagement from an individual. However, the findings of this study suggest that participants' sensory experiences were often not directly linked to the physical sensations they were touching. Instead, the perception of temperature emerged as a more prominent and salient factor in shaping their overall experience. Many participants reported deviations from their comfort temperature, experiencing either warmer or colder conditions than they were accustomed to. One concert participant, for example, reflected on their experience with temperature, stating: *"What struck me was that I felt very warm at some point. Moving and singing along and celebrating made me quite warm at some point"* (JB_2, Pos. 37). Interestingly, participants often commented on temperature spontaneously, even without being directly prompted to do so, suggesting its significance as a sensory dimension in event experiences, in contrast to the more haptic element of touch.

Congruent sensory experiences are perceived positively

While each sense is characterised by its distinct qualities, the integration of these sensory experiences emerged as a central theme in the study's findings. Throughout the interviews, many participants highlighted the alignment between the sensory stimuli they encountered and their preconceived expectations. For example, one participant at the ITB travel exhibition described the immersive nature of their experience, stating, *"I always found that the most special thing was when they picked you up like that; I just had the feeling that I was immersed in the world the moment I entered the stand"* (ITB_1, Pos. 13). This individual further emphasised the importance of consistency in sensory experience, noting, *"It has to create a consistent image, and it also has to match the stand"* (ITB_1, Pos. 47).

In the James Blunt concert event setting, participants observed how colour and lighting were carefully coordinated to complement the musical performance. One participant described the way lighting was tailored to fit the emotional tone of the songs:

> There were songs where there were a lot of color effects and lasers, and I don't know what it was called. But there were also songs that were in black and white, where there was really only white light and there were only spotlights. They were more like an old-fashioned spotlight that only provided white light and created a really interesting atmosphere that suited the song. So it was, especially with the sad songs, there were fewer colors used. (JB_4, Pos. 48)

In contrast, at the small-scale community concert, music and clothing provided a congruent sensory experience. Participants at this event specifically highlighted the traditional clothing that the group was wearing for the first time: *"You can see the new dirndl in the photo, which suits the ladies very well. They're brand new. The first time on"* (MVM_4, Pos. 36). This was also worn by the moderator who led the audience through the program, and further accentuated the visual atmosphere of the event (see Plates 3 and 4).

The findings indicate that when multiple sensory stimuli are integrated in a cohesive and congruent manner, they can enhance the overall event experience, producing a more immersive and memorable event. The alignment of sensory cues with attendees' expectations and associations appears to be a crucial factor in shaping positive event experiences, suggesting that sensory harmony plays a pivotal role in event design.

Discussion and conclusion

The findings of this study provide a comprehensive understanding of event attendees' perceptions of their sensory environment. While the visual sense has traditionally been emphasised in both academic research and practical applications (Edensor, 2018; Lv and Wu, 2021), emerging studies indicate that a carefully designed multisensory environment can yield more impactful and memorable experiences (Agapito, 2020; Fürst *et al*., 2021; Krishna, 2012). Beyond vision, the other senses—sound, smell, taste, and touch—each possess distinct characteristics that contribute to the overall event experience and should not be overlooked (Beard, 2014; Sobitan and Vlachos, 2020). Findings from this study confirm Richard *et al.*'s (2015) argument that event design can indeed be crucial to the success of an event.

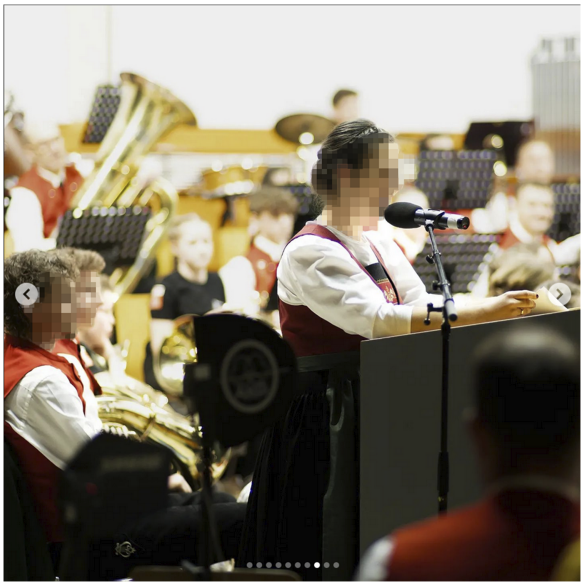

Plate 3. Music and clothing example 1. Source: Photo courtesy of participant MVM_4

Plate 4. Music and clothing example 2. Source: Photo courtesy of participant MVM_5

The influence of auditory stimuli, particularly music, on mood regulation is well-documented in the literature, with studies demonstrating its ability to evoke a range of emotions, from happiness to sadness (Rathee and Rajain, 2017). Additionally, the psychological effects of sound, including tempo and tonal variations, have been extensively explored, with scholars such as Ali and Ahmed (2019) and Zha *et al.* (2022) investigating the cognitive and emotional responses elicited by these auditory elements. Similarly, olfactory sensations have been shown to play a significant role in emotional and memory processes, as highlighted in the works of Ali and Ahmed (2019) and Zha *et al.* (2022), which explore the intricate relationship between smell and emotional recollection. This study yielded similar results in terms of sound and smell in the context of event experiences.

Regarding the sense of taste, Rathee and Rajain (2017) suggest that the enjoyment of food is often associated with positive emotional experiences. However, the findings of this study indicate that, in the context of events, the sensory qualities of food—such as taste—are of secondary importance compared to the mere availability of food. Participants were more concerned with the opportunity to satisfy hunger than with the specific characteristics of the food itself.

Touch, often conceptualised primarily in terms of its haptic properties (Agapito, 2020), was also an important component of the sensory experience in this study. However, the findings highlight that only temperature, as a sensory factor within the broader scope of touch, played a significant role in shaping participants' comfort levels. Variations in temperature were found to influence subjective comfort, demonstrating that environmental factors can substantially affect an individual's perception of an event.

The study also supports existing literature suggesting that the congruence between various sensory stimuli, such as music and visual elements, can significantly enhance attendee engagement and perception, and are particularly important to consider in scenography and atmospherics (Edensor, 2015). As noted by Krishna (2012), multisensory experiences that

exhibit a high degree of integration—where multiple sensory inputs align harmoniously with one another and with the associated product, service, or event context—are more likely to result in positive outcomes. Using photo elicitation interviews as a method to explore these sensory experiences yielded novel insights into participants' perceptions of the events they attended. The unique combination of photographs and in-depth interviews allowed for more in-depth discussions and reflections during the interviews, as well as provided deeper insights into how the visuals aligned - or did not align - with participants' verbal descriptions of their event experiences.

Theoretical implications

Research on sensory experiences within the events industry remains relatively limited (Chung, 2020; Liu *et al.*, 2017; Sihvonen and Turunen, 2022). Much of the existing knowledge is drawn from adjacent fields, particularly tourism studies, which examine the sensory impact on tourists in specific contexts such as hotels, restaurants, or destinations. This paper sought to broaden this understanding by focusing on the sensory perceptions of event attendees. While the academic literature often emphasises visual stimuli, this study underscores the importance of all five senses in shaping event experiences. Furthermore, by exploring the interaction between these senses, the research highlights the critical role of sensory congruity—an important and novel contribution to the existing body of knowledge in this area.

The findings further contribute to the development of a framework that illustrates the key factors influencing sensory experiences at events. The figure below (Figure 3) presents a visual representation of this framework, highlighting the interconnected nature of sensory inputs and their collective impact on the overall event experience. It also highlights how these are embedded within the wider event experience environment and servicescape, and how they might change dynamically pre-, during and post-event.

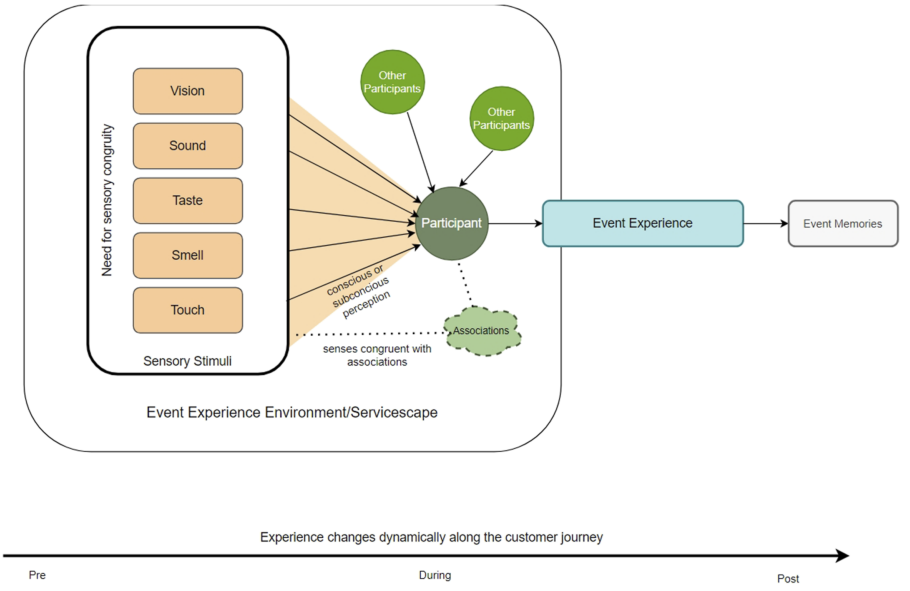

Figure 3. Theoretical framework - sensory perception of event experiences. Source: Authors' own work

Practical implications

The success of an event is profoundly shaped by the experiential design choices made by event planners (Richards *et al*., 2015). This paper highlighted the significant impact of sensory stimuli on attendee perceptions. While each of the five senses has a distinct and unique influence, it is essential for event planners to integrate all sensory elements harmoniously, rather than focusing exclusively on the visual sense, in order to create immersive experiences that stimulate attendees' senses. The findings underscore the critical importance of sensory congruity, emphasising the need to approach sensory stimuli holistically rather than in isolation.

Tailoring all sensory inputs to the specific context of the event is vital for crafting authentic and unique experiences that leave a lasting impression on attendees. Findings from four different events show how sensory elements should be both genuine and relevant to the event's theme and setting. For instance, lighting, colour schemes and decor should be thoughtfully aligned with the mood conveyed by the music at a concert or with a themed playlist for background music. Scents can further contribute to this by reflecting the distinctive characteristics of the event's location and by subtly influencing the mood of the event without overpowering it. These scents should go beyond the smell of food at an event. Taste can complement the visual, auditory, and olfactory elements for example through seasonal menus or unique food-drink pairings. Lastly, the textures of the decor and the temperature in the room can further enhance the tactile dimension of an event. Interactive and hands-on activities also contribute to attendees' physical engagement at the event. By intentionally designing the sensory environment, event planners can create meaningful, immersive experiences that extend beyond the immediate time frame of the event, fostering lasting emotional connections with attendees.

Limitations and future research

While this research provides valuable insights, it is not without limitations. One significant constraint arises from the selection of the four events investigated, which are very different in terms of typology and scale. Exploring sensory experiences at other events may have rendered different results, and as such, the findings should not be generalised. A further limitation regards the inherent subjectivity of the qualitative interview method. Relying on participants' conscious recall and interpretation of their experiences may introduce bias, as individuals may not be fully aware of or able to articulate all sensory stimuli encountered during an event. As Haase *et al.* (2018) note, subtle environmental cues or background stimuli can influence emotional responses and memory formation unconsciously. Furthermore, focusing on individual event experiences also limits the generalisability of the findings, as they may not fully capture the collective nature of event experiences. A more holistic understanding of event perceptions would require research that examines the shared event experience across a broader group.

Acknowledging these limitations highlights the need for further research. Future studies could explore the subconscious aspects of event perception, specifically how subtle or unnoticed sensory inputs impact emotions and memory. Methodologies such as mental imagery techniques and eye-tracking could offer valuable insights into these implicit processes. Additionally, as this study primarily relied on individual perceptions, future research could focus on the impact of sensory design upon collective event experience. This approach would help identify sensory design elements that resonate with a larger audience, taking into account the social and cultural contexts that shape perceptions of the event. Finally, future research should also test the above presented framework on a larger scale and in various cultural and different event contexts. A specific focus on the accessibility of sensory design in respect of neurodiversity and sensory impairments would also contribute to a more nuanced and critical understanding of the topic under study.

In conclusion, by strategically engaging all five senses and adopting a multisensory approach, event planners can foster impactful and lasting memories for attendees. This research goes beyond merely confirming the importance of individual senses; it emphasises the substantial influence of a thoughtfully curated multisensory environment. The findings provide empirical support for the theoretical assertion that consistent and harmonious sensory stimuli enhance the overall event experience, amplifying its emotional and cognitive impact.

References

Adema, K.L. and Roehl, W.S. (2010), "Environmental scanning the future of event design", *International Journal of Hospitality Management*, Vol. 29 No. 2, pp. 199-207, doi: 10.1016/j.ijhm.2009.10.017.

Agapito, D. (2020), "The senses in tourism design: a bibliometric review", *Annals of Tourism Research*, Vol. 83, 102934, doi: 10.1016/j.annals.2020.102934.

Agapito, D., Mendes, J.J. and Valle, P. (2013), "Exploring the conceptualization of the sensory dimension of tourist experiences", *Journal of Destination Marketing and Management*, Vol. 2 No. 2, pp. 62-73, doi: 10.1016/j.jdmm.2013.03.001.

Albright, T.D. (2015), "Perceiving", *Dædalus*, Vol. 144 No. 1, pp. 22-41, doi: 10.1162/DAED_a_00315.

Ali, E.H.M. and Ahmed, M.O. (2019), "Sensory marketing and its effect on hotel market-share: perception of hotel customers", *Journal of Tourism and Hospitality Management*, Vol. 7 No. 1, pp. 116-126, doi: 10.15640/jthm.v7n1a12.

Antchak, V. and Ramsbottom, O. (2020), *The Fundamentals of Event Design*, Routledge, London.

Armbrecht, J. (2021), "Event quality, perceived value, satisfaction and behavioural intentions in an event context", *Scandinavian Journal of Hospitality and Tourism*, Vol. 21 No. 2, pp. 169-191, doi: 10.1080/15022250.2021.1877191.

Azungah, T. (2018), "Qualitative research: deductive and inductive approaches to data analysis", *Qualitative Research Journal*, Vol. 18 No. 4, pp. 383-400, doi: 10.1108/QRJ-D-18-00035.

Balaji, M.S., Raghavan, S. and Jha, S. (2011), "Role of tactile and visual inputs in product evaluation: a multisensory perspective", *Asia Pacific Journal of Marketing and Logistics*, Vol. 23 No. 4, pp. 513-530, doi: 10.1108/13555851111165066.

Beard, C. (2014), "Designing and mapping event experiences", in Sharples, L., Crowther, P., May, D. and Orefice, C. (Eds), *Strategic Event Creation*, Goodfellow Publishers, Wolvercote, Oxford, pp. 123-140.

Berridge, G. (2014), "The Gran Fondo and sportive experience: an exploratory look at cyclists' experiences and professional event staging", *Event Management*, Vol. 18 No. 1, pp. 75-88, doi: 10.3727/152599514X13883555341977.

Biaett, V. and Richards, G. (2020), "Event experiences: measurement and meaning", *Journal of Policy Research in Tourism, Leisure and Events*, Vol. 12 No. 3, pp. 277-292, doi: 10.1080/19407963.2020.1820146.

Bossey, A., Curtis, M. and Jones, A. (2024), "Audience perceptions of Deaf Rave DJ performances augmented with haptic vests at tho UK music festivals", *paper presented at AEME Event Educators Forum 2024*, 3-4 July 2024, Sheffield Hallam University, available at: https://repository.falmouth.ac.uk/5555/2/AEME%20Forum%203-4%20July%202024%20Programme%20and%20Abstracts.pdf

Brandt, T., Dieterich, M. and Huppert, D. (2024), "Human senses and sensors from Aristotle to the present", *Frontiers in Neurology*, Vol. 15, 1404720, doi: 10.3389/fneur.2024.1404720.

Braun, V. and Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative Research in Psychology*, Vol. 3 No. 2, pp. 77-101, doi: 10.1191/1478088706qp063oa.

Chung, K. (2020), "Spectators' sensory experience and sociability at the American racetrack", *Managing Sport and Leisure*, Vol. 25 No. 5, pp. 344-357, doi: 10.1080/23750472.2020.1723431.

Clarke, V. and Braun, V. (2017), "Thematic analysis", *The Journal of Positive Psychology*, Vol. 12 No. 3, pp. 297-298, doi: 10.1080/17439760.2016.1262613.

Dashper, K. and Buchmann, A. (2020), "Multispecies event experiences: introducing more-than-human perspectives to event studies", *Journal of Policy Research in Tourism, Leisure and Events*, Vol. 12 No. 3, pp. 293-309, doi: 10.1080/19407963.2019.1701791.

Doucé, L. (2022), "The effect of high, partial, and low multisensory congruity between light and scent on consumer evaluations and approach behavior", *Sustainability*, Vol. 14 No. 9, p. 5495, doi: 10.3390/su14095495.

Duffy, M. and Mair, J. (2018), "Engaging the senses to explore community events", *Event Management*, Vol. 22 No. 1, pp. 49-63, doi: 10.3727/152599517X15111988553991.

Edensor, T. (2015), "Light design and atmosphere", *Visual Communication*, Vol. 14 No. 3, pp. 331-350, doi: 10.1177/1470357215579975.

Edensor, T. (2018), "The more-than-visual experiences of tourism", *Tourism Geographies*, Vol. 20 No. 5, pp. 913-915, doi: 10.1080/14616688.2018.1477172.

Fernandes, J.V. and Krolikowska, E. (2023), "The festival customer experience: a conceptual framework", *International Journal of Event and Festival Management*, Vol. 14 No. 1, pp. 23-40, doi: 10.1108/IJEFM-11-2021-0083.

Fong, L.H.N., Lei, S.S.I., Chow, C.W. and Lam, L.W. (2023), "Sensory marketing in hospitality: a critical synthesis and reflection", *International Journal of Contemporary Hospitality Management*, Vol. 35 No. 8, pp. 2916-2928, doi: 10.1108/IJCHM-06-2022-0764.

Fürst, A., Pečornik, N. and Binder, C. (2021), "All or nothing in sensory marketing: must all or only some sensory attributes Be congruent with a product's primary function?", *Journal of Retailing*, Vol. 97 No. 3, pp. 439-458, doi: 10.1016/j.jretai.2020.09.006.

Gómez-Suárez, M. and Yagüe, M.J. (2021), "Making sense from experience: how a sustainable multi-sensory event spurs word-of-mouth recommendation of a destination brand", *Sustainability*, Vol. 13 No. 11, p. 5873, doi: 10.3390/su13115873.

Haase, J., Wiedmann, K.P. and Labenz, F. (2018), "Effects of consumer sensory perception on brand performance", *Journal of Consumer Marketing*, Vol. 35 No. 6, pp. 565-576, doi: 10.1108/JCM-10-2017-2404.

Jepson, A., Stadler, R. and Spencer, N. (2019), "Making positive family memories together and improving quality-of-life through thick sociality and bonding at local community festivals and events", *Tourism Management*, Vol. 75, pp. 34-50, doi: 10.1016/j.tourman.2019.05.001.

Kallio, H., Pietilä, A.M., Johnson, M. and Kangasniemi, M. (2016), "Systematic methodological review: developing a framework for a qualitative semi-structured interview guide", *Journal of Advanced Nursing*, Vol. 72 No. 12, pp. 2954-2965, doi: 10.1111/jan.13031.

Kim, J. and Kerstetter, D.L. (2016), "Multisensory processing impacts on destination image and willingness to visit", *International Journal of Tourism Research*, Vol. 18 No. 1, pp. 52-61, doi: 10.1002/jtr.2032.

Krishna, A. (2012), "An integrative review of sensory marketing: engaging the senses to affect perception, judgment and behavior", *Journal of Consumer Psychology*, Vol. 22 No. 3, pp. 332-351, doi: 10.1016/j.jcps.2011.08.003.

Kumar, P. (2014), "Multisensory marketing: creating sustainability perspective in various sectors", *Asia-Pacific Journal of Management Research and Innovation*, Vol. 10 No. 1, pp. 89-95, doi: 10.1177/2319510X14529489.

Liu, W., Sparks, B. and Coghlan, A. (2017), "Event experiences through the lens of attendees", *Event Management*, Vol. 21 No. 4, pp. 463-479, doi: 10.3727/152599517X15015178156222.

Lv, X. and Wu, A. (2021), "The role of extraordinary sensory experiences in shaping destination brand love: an empirical study", *Journal of Travel and Tourism Marketing*, Vol. 38 No. 2, pp. 179-193, doi: 10.1080/10548408.2021.1889447.

Lv, X., Li, C. and McCabe, S. (2020), "Expanding theory of tourists' destination loyalty: the role of sensory impressions", *Tourism Management*, Vol. 77, 104026, doi: 10.1016/j.tourman.2019.104026.

Marshall, B., Cardon, P., Poddar, A. and Fontenot, R. (2013), "Does sample size matter in qualitative research? A review of qualitative interviews in is research", *Journal of Computer Information Systems*, Vol. 54 No. 1, pp. 11-22, doi: 10.1080/08874417.2013.11645667.

Matteucci, X. (2013), "Photo elicitation: exploring tourist experiences with researcher-found images", *Tourism Management*, Vol. 35, pp. 190-197, doi: 10.1016/j.tourman.2012.07.002.

Mehraliyev, F., Kirilenko, A.P. and Choi, Y. (2020), "From measurement scale to sentiment scale: examining the effect of sensory experiences on online review rating behavior", *Tourism Management*, Vol. 79, 104096, doi: 10.1016/j.tourman.2020.104096.

Morrin, M. and Tepper, B.J. (2021), "Multisensory marketing: effects of environmental aroma cues on perception, appetite, and consumption of foods and drinks", *Current Opinion in Food Science*, Vol. 40, pp. 204-210, doi: 10.1016/j.cofs.2021.04.008.

Orefice, C. (2018), "Designing for events - a new perspective on event design", *International Journal of Event and Festival Management*, Vol. 9 No. 1, pp. 20-33, doi: 10.1108/IJEFM-09-2017-0051.

Pawaskar, P. and Goel, M. (2014), "A conceptual model: multisensory marketing and destination branding", *Procedia Economics and Finance*, Vol. 11, pp. 255-267, doi: 10.1016/S2212-5671(14)00194-4.

Pink, S. (2012), "The visual in ethnography: photography, video, cultures and individuals", in Hughes, J. (Ed.), *SAGE Visual Methods - Volume 1: Principles, Issues, Debates and Controversies in Visual Research*, SAGE, Los Angeles, pp. 123-144.

Pink, S. (2020), *Doing Visual Ethnography*, 4th ed., SAGE, London.

Ranaweera, A.T., Martin, B.A.S. and Jin, H.S. (2021), "What you touch, touches you: the influence of haptic attributes on consumer product impressions", *Psychology and Marketing*, Vol. 38 No. 1, pp. 183-195, doi: 10.1002/mar.21433.

Rathee, R. and Rajain, P. (2017), "Sensory marketing-investigating the use of five senses", *International Journal of Research in Finance and Marketing*, Vol. 7 No. 5, pp. 124-133.

Reybrouck, M., Vuust, P. and Brattico, E. (2021), "Neural correlates of music listening: does the music matter?", *Brain Sciences*, Vol. 11 No. 12, p. 1553, doi: 10.3390/brainsci11121553.

Richards, G. (2017), "Measuring event experiences: an international view", in Richards, G. and Ruíz, A. (Eds), *Experiencias turísticas de festivales y eventos*, PASOS, RTPC, La Laguna (Tenerife), pp. 11-27.

Richards, G., Marques, L. and Mein, K. (2015), "Introduction: designing events, events as a design strategy", in Richards, G., Marques, L. and Mein, K. (Eds), *Event Design - Social Perspectives and Practices*, Routledge, Abingond and New York, pp. 1-13.

Risso, P., Maggioni, E., Olivero, N. and Gallace, A. (2015), "The association between the colour of a container and the liquid inside: an experimental study on consumers' perception, expectations and choices regarding mineral water", *Food Quality and Preference*, Vol. 44, pp. 17-25, doi: 10.1016/j.foodqual.2015.03.010.

Sagha, M.A., Seyyedamiri, N., Foroudi, P. and Akbari, M. (2022), "The one thing you need to change is emotions: the effect of multi-sensory marketing on consumer behavior", *Sustainability*, Vol. 14 No. 4, p. 2334, doi: 10.3390/su14042334.

Saldanha, A. (2002), "Music tourism and factions of bodies in Goa", *Tourist Studies*, Vol. 2 No. 1, pp. 43-62, doi: 10.1177/1468797602002001096.

Scott, R.O. and Uncles, M.D. (2018), "Bringing sensory anthropology to consumer research", *European Journal of Marketing*, Vol. 52 Nos 1/2, pp. 302-327, doi: 10.1108/EJM-05-2016-0274.

Shaw, D. (2013), "A new look at an old research method: photo-elicitation", *TESOL Journal*, Vol. 4 No. 4, pp. 785-799, doi: 10.1002/tesj.108.

Shedroff, N. (2007), *Experience Design*, New Riders, University of Michigan.

Sihvonen, J. and Turunen, L.L.M. (2022), "Multisensory experiences at travel fairs: what evokes feelings of pleasure, arousal and dominance among visitors?", *Journal of Convention and Event Tourism*, Vol. 23 No. 1, pp. 63-85, doi: 10.1080/15470148.2021.1949417.

Sobitan, A. and Vlachos, P. (2020), "Immersive event experience and attendee motivation: a quantitative analysis using sensory, localisation, and participatory factors", *Journal of Policy Research in Tourism, Leisure and Events*, Vol. 12 No. 3, pp. 437-456, doi: 10.1080/19407963.2020.1721638.

Spence, C. (2021), "Musical scents: on the surprising absence of scented musical/auditory events, entertainments, and experiences", *I-Perception*, Vol. 12 No. 5, 20416695211038747, doi: 10.1177/20416695211038747.

Spence, C. (2022a), "Experimental atmospherics: a multi-sensory perspective", *Qualitative Market Research: An International Journal*, Vol. 25 No. 5, pp. 662-673, doi: 10.1108/QMR-04-2022-0070.

Spence, C. (2022b), "Multisensory contributions to affective touch", *Current Opinion in Behavioral Sciences*, Vol. 43, pp. 40-45, doi: 10.1016/j.cobeha.2021.08.003.

Spence, C. (2022c), "Sensehacking the guest's multisensory hotel experience", *Frontiers in Psychology*, Vol. 13, 1014818, doi: 10.3389/fpsyg.2022.1014818.

Stach, J. (2015), "A conceptual framework for the assessment of brand congruent sensory modalities", *Journal of Brand Management*, Vol. 22 No. 8, pp. 673-694, doi: 10.1057/bm.2015.35.

Toraldo, M.L. (2013), "Mobilising the cultural consumer through the senses: festivals as sensory experiences", *International Journal of Work Organisation and Emotion*, Vol. 5 No. 4, pp. 384-400, doi: 10.1504/IJWOE.2013.057403.

Wade, N.J. (2003), "The search for a sixth sense: the cases for vestibular, muscle, and temperature senses", *Journal of the History of the Neurosciences*, Vol. 12 No. 2, pp. 175-202, doi: 10.1076/jhin.12.2.175.15539.

Warrenburg, L.A. (2020), "Choosing the right tune", *Music Perception*, Vol. 37 No. 3, pp. 240-258, doi: 10.1525/mp.2020.37.3.240.

Wei, M., Liu, M., Xu, J., Li, S. and Cao, J. (2022), "Understanding the influence of sensory advertising of tourism destinations on visit intention with a modified AIDA model", *Asia Pacific Journal of Tourism Research*, Vol. 27 No. 3, pp. 259-273, doi: 10.1080/10941665.2022.2061367.

Wiedmann, K.P., Labenz, F., Haase, J. and Hennigs, N. (2018), "The power of experiential marketing: exploring the causal relationships among multisensory marketing, brand experience, customer perceived value and brand strength", *Journal of Brand Management*, Vol. 25 No. 2, pp. 101-118, doi: 10.1057/s41262-017-0061-5.

Wiltshire, G. and Ronkainen, N. (2021), "A realist approach to thematic analysis: making sense of qualitative data through experiential, inferential and dispositional themes", *Journal of Critical Realism*, Vol. 20 No. 2, pp. 159-180, doi: 10.1080/14767430.2021.1894909.

Yu, H. and Zhao, Q. (2024), "Brain-inspired multisensory integration neural network for cross-modal recognition through spatiotemporal dynamics and deep learning", *Cognitive Neurodynamics*, Vol. 18 No. 6, pp. 3615-3628, doi: 10.1007/s11571-023-09932-4.

Zha, D., Foroudi, P., Melewar, T.C. and Jin, Z. (2022), "Experiencing the sense of the brand: the mining, processing and application of brand data through sensory brand experiences", *Qualitative Market Research: An International Journal*, Vol. 25 No. 2, pp. 205-232, doi: 10.1108/QMR-09-2021-0118.

Corresponding author
Raphaela Stadler can be contacted at: raphaela.stadler@mci.edu