

## **Sense of Place in Child-Centered Museums: Charting Children's Place Meanings**

**Despina Kalessopoulou**

*Museum Education and Research Laboratory, Department of Early Childhood Education,  
University of Thessaly, Volos, Greece*

Citation: Kalessopoulou, D. (2019). Sense of place in child-centered museums: Charting children's place meanings. *Children, Youth and Environments*, 29(2), 51-76. Retrieved from <http://www.jstor.org/action/showPublication?journalCode=chilyoutenvi>

---

### **Abstract**

*This qualitative study is based on interviews about children's sense of place that were conducted with 4–12-year-olds (N=60) in child-centered museum settings. Since sense of place has not been systematically investigated in child-oriented museums, the purpose of the present study was exploratory, aiming to chart place meanings and compare them with previous theoretical and empirical research on children's place preferences. Responses showed that place meanings were rich in experience-based attributes and place features. The final discussion on the emergent underlying dimensions and on conditions that facilitate place bonding contributes to furthering conceptualizations of sense of place in child-centered museums.*

**Keywords:** sense of place, place meanings, child-centered museums, children's museums, children's perspectives

## Sensing Place in Museums

*Sense of place* is a term coined to express personal and social meanings and emotions attributed to a space and the development of more intimate relations with it. It is a field of study that has been explored through several decades mainly by geographers, urban designers, anthropologists, environmental psychologists, sociologists, and lately neuroscientists; however, it has been only marginally investigated in the field of museum pedagogy.

Research from this large interdisciplinary array of scientific fields has shown that sense of place is strongly linked to other related concepts, such as place attachment or place identity. However, the multiple research traditions that are employed in the field of place research often have incompatible epistemological foundations, which has resulted in a lack of systematic theory (Patterson & Williams, 2005). Scholars note that the concept of sense of place is associated with inconsistent and sometimes imprecise use of terms, not always anchored in sound theoretical bases (Kudryavtsev, Stedman, & Krasny, 2012; Lewicka, 2011). Patterson and Williams (2005) suggest that the lack of systematic theory may be due to the multiple research traditions that are employed in the field of place research which often have incompatible epistemological foundations.

Research in recent years has been shifting to a multidimensional model of sense of place (Jorgensen & Stedman, 2006) that considers a diverse array of factors (i.e., social, cultural, psychological, biophysical, etc.) that lead to multiple dimensions of place meanings. There are two principal concepts that many researchers, using a psychological approach, accept as facets of sense of place. The first is *place meaning*, which refers to the symbolic meaning ascribed to settings. The other concept is *place attachment*, which refers to the bond between people and places as well as the significance of a place to an individual (Kudryavtsev et al., 2012; Smaldone, Harris, & Sanyal, 2008; Trentelman, 2009). Above all, sense of place is relational and transactional: we create our own place depending on what we bring to a setting and how we interact with its features, forming a mutual relationship that may bring changes to both entities (Steele, 1981). Thus, place attachment is strongly linked to personal identity (Twigger-Ross & Uzzell, 1996).

Among the various models that attempt to explain or describe sense of place, the one developed by Sixsmith (1986) and further elaborated upon by Gustafson (2001) to categorize place meanings is useful not only for its clarity and simplicity, but also for its easy transferability to the museum world. The model groups place meanings under three experiential modes (as well as between them, if imagined as a three-pole triangular model): personal (self)—e.g., sense of belonging; social (others)—e.g., networking; and physical (environment)—e.g., available services. This kind of grouping is relevant to the contextual model of learning, which is well-tested and prevalent in museum theory and which has brought new understanding to the museum experience by focusing on the interplay of the personal, social and physical context (Falk & Dierking, 2013).

A different model that tries to explain place attachment from a developmental perspective is Morgan's tri-partite pattern of "arousal-interaction-pleasure" (2010).

The model stems from attachment theory and was developed by analyzing adult remembrance of childhood place experiences. According to the model, interest in a place will lead to active exploration and play. The place will then be remembered as a pleasurable experience due to the sensory stimulation, adventure and sense of mastery involved. The emergence of pleasure is seen as a necessary condition for the development of strong, long-term affective bonds, resulting from repeated enactments of the arousal-interaction-pleasure pattern in the child's relationship with a particular environment. Repeated use of a place during childhood, as well as role of the quality and intensity of experiences in the development of life-long place attachments has been confirmed in other studies (Jack, 2010; Matthews, 1992; Proshansky & Fabian, 1987).

Chawla's review on children's place preferences and place attachment (1992) stressed that children need to use a place frequently and at will in order to develop physical and emotional proximity. In addition, she identified three prerequisites for place attachment from preschool age to adolescence: safety, social bonding, and creative expression and exploration. A safe environment that allows control, mastery, self-discovery, cooperation and the trial of different social roles supports social and creative self-development, and offers the kind of experience that makes a place truly worth remembering.

Bartos (2013) elaborated on what interactions with a place might include by using photo-elicitation to examine children's embodied and emotional connectedness with places they consider to be special. Bartos focused on children's intermingling of emotions and bodily sensations in the formation of place attachment, including the roles of voicing and movement in addition to the well-known five senses as conceptual tools to explore the meaning-making process of the self and place relationship.

Friendship with place is an innovative concept introduced by Chatterjee (2005) that adopts a socio-physical perspective of place. Friendship is a process of mutual selection based on reciprocity and commitment. When applied to place, Chatterjee identifies six conditions as a framework for envisioning child-friendly places: 1) mutual affection and personal regard; 2) shared interests and activities; 3) commitment (allowing the continuous actualization or creation of new affordances related to learning and competence that sustain children's interest); 4) loyalty (creation and control over personal territories); 5) self-disclosure and mutual understanding (secret places that allow self-regulation); and 6) horizontality (freedom of expression, based on an equal power relation).

The application of Chatterjee's (2005) friendship with place framework in a mixed-method study of the spatial preferences of children living in Beijing's *hutongs* (Wang, Liu, Pan, Zhao, & Zhang, 2012) revealed that children connected museums primarily with the dimension of commitment because museums offer new stimuli and provide children with knowledge by combining playing and studying. The three latter dimensions of place-friendliness were not connected with museums, as these require, according to children, familiarity and frequent use of a place, no adult

supervision, privacy, sufficient space, and freedom to engage in a variety of activities.

In museum literature, sense of place usually emerges as a secondary finding in research regarding the formation of personal identity in museums (Falk, 2006; Rounds, 2006; Wood & Latham, 2014) or in research that focuses on the motives, museum experiences and perceptions of visitors (Kaplan, Bardwell, & Slakter, 1993; Packer, 2008; Packer & Ballantyne, 2002; Packer & Bond, 2010; Prentice, 1998; Pekarik, Doering, & Karns, 1999). Personal identity is enriched by the wealth of experiences and cultural views museums provide, either by helping visitors explore new dimensions or by confirming what they consider pivotal (Rounds, 2006). People come to museums for a variety of personal, social or cultural reasons (Falk, 2006) that influence the emotional or intellectual associations they make with museum objects and the bonds they might develop with the overall setting, thus providing indirect information for the sense of place museums create.

In regard to children and museums, the challenge of unpacking their sense of place is bigger and more complex. Many children are first-time visitors who may not have a clear view of what a museum is or how it might relate to their interests and their gradually emerging self-identity. Furthermore, museums are usually in central, non-residential areas and children need to be transported to them, or at least accompanied by an adult. This could inhibit further bonding, since research has shown that independent mobility encourages direct and repeated experiences that influence the "feel" of a place (Byungho, Hyuntae, & Hyunjung, 2006; Chawla, 2002; Jack, 2010; Jansson, 2008; Kyttä, 2004).

Museum environments designed with children in mind are an interesting area for research on what children might think or feel while frequenting them. In what sense are these places different from other types of exhibition spaces and what kind of affiliations are they capable of promoting? After all, they are developed to address children's needs and become important places for their enculturation, personal and social growth. Therefore, researching the sense of place museums create would advance understanding of these special places for children. Yet, research so far has focused mainly on: learning issues (Haas, 1997; Moussouri, 1997; Puchner, Rapoport, & Gaskins, 2001), the role of adults in fostering learning and play (Downey, Krantz, & Skidmore, 2010; Gallagher & Snow Dockser, 1987; Letourneau, Meisner, Neuwirth, & Sobel, 2017; Shine & Acosta, 2000; Wolf & Wood, 2012), and the influence of exhibition traits on the behavior of children and their families (Dockett, Main, & Kelly, 2011; Kanhadilok & Watts, 2017; Schauble & Bartlett, 1997; Studart, 2000; Wood & Wolf, 2008).

Three of the aforementioned studies explored children's perceptions on their experience in hands-on and child-oriented museums. Studart's research (2000) documented very positive feelings (enthusiasm, joy, pleasure, surprise, curiosity, challenge) and the value of independent mobility for reducing negative associations. Empathy ("I felt as if...") and fun, mainly because of the interactive nature of the settings, were the stronger connotations, while learning was also mentioned. Moussouri (1997) also documented an appreciation for the kinesthetic

aspect of the museum experience, along with fun, learning, and the freedom to move around and explore without restrictions. Finally, Dockett et al. (2011) acknowledged the importance of real objects—especially when seen up close and in context, funny exhibits, layout that enables rather than constrains movement, connections with children's lives, and shared experience with loved ones.

According to research conducted with children on other kinds of museums, museums are appreciated for their objects, especially the old, big and surprising ones; for the opportunity to wonder, learn something new and have fun, particularly if this is done in an experiential, embodied, interactive and immersive way or involving story-telling; for the opportunity to explore freely and with the companionship of friends and family; and when children have the opportunity to personalize their museum experience through their own creations or by buying a souvenir (Harris Qualitative, 1997; Kindler & Darras, 1997; Morris Hargreaves McIntyre, 2002; Piscitelli & Anderson, 2001; Wallis, 2018).

An interesting body of research focuses on children's multiple modes of communicating and constructing meaning, and implements methodologies that explore children's embodied and sensory ways of meaning-making in museums (Hackett, 2016; Hackett, Procter, & Kummerfeld, 2018; Kirk & Buckingham, 2018; MacRae, Hackett, Holmes, & Jones, 2018). In particular, Hackett's work (2016) with very young children was based on the notion of sensory entanglements (Ingold, 2008; Pink, 2009), to identify patterns of wayfinding (Ingold, 2007) as a method of making sense in museums. Through analysis of video transcripts and field notes, children's behavior patterns emerged, including getting a sense of the place by walking around, increasing familiarity by learning routes, and creating rituals by repeating certain actions.

Taking into account this widely ranging interdisciplinary literature and the scarce data on the concept of sense of place or place attachment in the museum field, the current exploratory study was designed in an attempt to chart place meanings associated with child-centered museum environments, and the level of affect and satisfaction they are able to provoke in children. Research findings were expected to serve as a basis for the determination of the different dimensions of sense of place in this special type of museum environments.

### **Research Approach**

The research was part of a larger project aimed to identify important psychopedagogical qualities of child-centered museums. By adopting an ecological psychology approach, and mainly a Gibsonian perspective to studying children's interaction with places (Gibson, 2015), the research implemented a variety of methodological tools to identify affordances and compare promoted and actual use of the exhibition environment (Kalessopoulou, 2015). As previous research has shown, activities and the functional significance of environmental features are the usual way children describe and assess the environments they use (Heft, 1988); hence, children's sense of place is experiential and strongly linked with the activities a place enables (Derr, 2002; Hackett, 2016).

This study included observation of interactions with the museum environment, photography by children and photo elicitation, interviews with museum personnel and with participating children, as well as questionnaires filled by accompanying parents that collected socio-cultural characteristics and the view of "significant others" on children's experience (Bronfenbrenner, 1995). These were inspired by the Mosaic Approach (Clark & Moss, 2001) and produced a wealth of data, which had as a starting point the embodied activity of the child. The researcher used observation data, photographs and interviews in a complementary way to better understand what seemed significant to each child and reduce adult misinterpretation.

The study selected children of 4-12 years old to participate using purposive stratified sampling during family visits at the children's wing of the Natural History Museum of Crete and the Hellenic Children's Museum in Athens ( $N=60$ , 30 in each museum). Twenty-four children 4-6 years old, 20 7-9 years old, and 16 10-12 years old participated in the study, with equal numbers of boys and girls.

The Natural History Museum of Crete is a university museum located in a building on the seafront. It is the only Greek museum that incorporates a discovery center designed for children up to the age of 15. Real-life environments that imitate the natural environment of the east Mediterranean Sea invite children to explore with whole-body movements and hands-on activities and discover what environmental scientists do. Stuffed animals are available to touch and observe up close.

The Hellenic Children's Museum is an independent multi-thematic museum at the center of Athens, designed for children up to 12 years old. Bubbles, Maths, How Do I Move, The Market, I Build and I Create, and The Attic, are among its exhibits, inviting children through hands-on collections, activities and free play to discover physical sciences and elements of our society.

Analysis of observation field notes and photo elicitation revealed important experiences that had an impact on emerging place meanings. After subsequent coding that generated taxonomies of physical, social and cultural affordances and categorical aggregation based on the content of the photographs and children's selection criteria, the following set of exhibition qualities appeared to be especially valued: 1) embodied experiences, 2) objects with interesting attributes and symbolic meanings, 3) empowerment of personal identity and personal narrations, 4) inquiry-based learning, 5) facilitation (scaffolding) of interpretation skills, 6) play, and 7) social interaction (Kalessopoulou, 2017).

In order to further investigate the emotional appeal and perception of each museum, interviews prompted children to elaborate on nuances of sense of place, providing data unavailable from other sources. The overarching research questions that informed the design of the interview were:

- a) What is the children's general disposition towards the museum?
- b) How do children identify the place in relation to various aspects of their museum experience?

- c) What kinds of meaning do children assign to their place experience?

Interviews were semi-structured and followed observation of the child's interactions with the exhibition environment and photo-elicitation, allowing time for the children to feel more familiar with the researcher. Parents were asked for their written consent prior to observation, and children were orally asked to confirm their willingness to participate in the research, making clear that they could opt to withdraw at any point of the research procedure. Sometimes puppets were used for the interview in order to engage the attention of younger children (less than 6).

The interview was structured according to three main areas:

- a) *Children's perceptions and preferences from their current visit.* These questions aimed to understand the context of their museum experience through questions about previous visits and motives and expectations of the current visit. The researcher asked questions about favorite exhibits or objects, things they liked or disliked, and things they would like to do but did not have the time to do yet.
- b) *Children's notions of the concept and affordances of child-centered museums.* Children were asked to define the place by imagining talking to their best friend about it (or responding to the question, "What kind of place is this?" asked by the puppet for children younger than 6). In addition, children were asked to indicate "to their friend" places/activities that would be more appropriate for having fun, learning something interesting, co-operating with a friend or playing with parents, as these were found as important aspects of children's museum experiences in the literature review.
- c) *Emotional response to the overall museum experience and level of affect/satisfaction from the sense of place.* Children were asked to rate how the museum made them feel on a 5-point Likert scale, consisting of expression faces that correspond to emotional states from "very happy" to "very dissatisfied/angry." They were also asked whether they would like to come more often or would recommend a visit to a friend, and whether they had any suggestions that would improve their museum experience.

Questions from the second area (children's meanings) and some from other areas (expectations, motives or suggestions for improvement) were made to a limited number of preschool children (11 out of 24), that were more eloquent.

Analysis used a phenomenographical approach, as the relational and experiential nature of this qualitative method was appropriate for acquiring detailed descriptions of place meanings and their variations among different individuals (Åkerlind, 2005; Marton, 1986; Svensson, 1997). The researcher analyzed the data for distinctive characteristics and possible conceptions of sense of place, ending up with categories of description that, although based on personal perspectives, aim to reveal the diversity and multitude of experiences on a collective level (Marton, 1981).

The results below focus on interview data, as it was the main methodological tool to investigate sense of place. At certain points, findings from the observation and photo-elicitation data will be featured alongside for a more comprehensive interpretation.

## Results

Findings will be presented and discussed in relation to three broad categories that correspond to the research questions: a) general feelings about the museum; b) conceptions of child-centered museums as a special place, in relation to exhibition attributes and site-specific experiences; and c) place meanings.

### General Feelings about the Museum

Children had very positive feelings towards the child-oriented museum space they visited; in both museums the bulk of the responses were under the first two points of the Likert scale ("very happy" and "happy"). Preschoolers showed the greatest positive attitude by selecting the "very happy" face more often (16 out of 24 children). Most of them wanted to return for another visit.

Participants at the Natural History Museum of Crete (NHMC) were mostly first-time visitors (research was conducted during summertime, a fact that certainly had an impact on visitation frequency, as Crete is a popular vacation destination), while at the Hellenic Children's Museum (HCM) equal numbers of first-time and repeat visitors were recorded. In both museums, older children (10-12 years) were mostly first-time visitors, while preschoolers were the biggest segment of repeat visitors at the HCM. No significant differences were noted in the aforementioned ratings in relation to frequency of visitation. However, it seems that preschoolers feel happier and visit more frequently than older children.

When asked for the reasons that led to their ratings, children that selected the two most positive points of the scale across both museums said: because they had fun and a good time (23 out of a total of 25 comments), because they liked games and playing (10/25), and because they learned by exploring and discovering new things through hands-on experiences (6/25). At NHMC, children also said that they liked the aesthetics of the place (4/25), the fact that they could fulfill their personal interests (3/25), and because they were able to discover nature without disturbing the animals.

*I like it because there are things that I have never seen before, things that I like, that suit my character. I would like to sit more, and more, and more; to play, to see it again in more detail; and [the museum] it is in a place next to the sea and inside here, this space makes you travel.<sup>1</sup> I like this (Girl, 11 years old, NHMC).*

At HCM, children additionally referred to the beautiful things that could be found in the museum and the opportunities for social contacts with other kids, friends or relatives (3/25). Seven children had some negative comments. While explaining the

---

<sup>1</sup> The interview was conducted next to a big window with a view to the sea.

reasoning behind their rating, the majority of them mentioned the need for more interesting things and age-appropriate milieu.

*I don't like it that much in here, because there are many young children, it is crowded, I can't do things that I like* (Boy, 8 years old, HCM).

However, all of them wanted to return for another visit, even in cases where they were skeptical about some aspects of their visit, e.g., "as next time there may be something better that will be more enchanting to me" (Girl, 12 years old, HCM).

Most of the children did not have any suggestions for improvements as they were happy with what the museum had already offered. Two children at the NHMC wanted more animals in the museum, one suggested a new interactive activity and one recommended adding activities for older children. Suggestions at the HCM were related to creation of better contextual environments, new exhibits, addition of technology/new media and more constructions/games (11/13). Two children recommended a change in the museum operation (e.g., "not that many kids in the Market"—Girl, 8 years old).

Turning retrospectively to the agenda of their visit, elements of affective connections for repeat visitors and emerging conceptualizations of what a museum can offer appear in the motives and expectations mentioned by some children at the beginning of the interview. As expected, parents were the ones mostly initiating the visit. Ten children stated that it was their idea to visit the museum and the reasons they mentioned were related to a general desire (6 out of 10 comments, e.g., "I wanted it," "I have a great time here"), "interest in Natural History Museums" and the need "to remember," "to share experience with family members," and "to make games."

When asked for expectations, 15 repeat visitors were very specific, referring to activities they had done before, play and learning, and three of them had a general feeling of anticipation and enthusiasm. Eight first-time visitors at the NHMC who had previous museum experiences, had very different expectations in comparison with what they encountered; they were positively surprised and satisfied with the opportunities for action and play, and with seeing a lot of diverse things in outside showcases and in contextual environments. As for HCM, first-time visitors expected toys, interactive things and opportunities for learning and creative expression. Expectations were fulfilled in all cases, and sometimes surpassed, with only one disappointment regarding the rather small size of the HCM.

### **Conceptions of Child-Centered Museums as Special Places in Relation to Characteristics of the Museum Experience**

Children's definitions of the place visited were connected with several dimensions noted in the previous section. Sometimes they characterized the place in a broad way ("it is an extremely nice place"; "it is something that makes you smile"), and sometimes they provided a more or less detailed description of specific exhibits or a general overview:

*It is a museum with real and live animals, but also [animals] with bones only and dead ones. And it is a nice place because it has games, you have fun with your family, and if you are alone, it is OK, it's the same, it would be nice because it has the vibe of the child, play (Girl, 10 years old, NHMC).*

When analyzing specific descriptions, the most common characterization for NHMC concerned activities (13 out of 23 comments in total) and for HCM, play (12 out of 24). Verbs and phrases used in the "activities" definitions of NHMC were connected with bodily/sensory actions, observation, play, discovery, learning and creative expression, while in the case of HCM, verbs were mostly about being able to do things as a result of active participation, e.g.:

*It is a peculiar museum where you don't see exhibits; you create the exhibits (Boy, 10 years old, HCM).*

Around 15 children from both museums referred to the opportunity to see animals and play with real objects; at the NHMC many stressed the contextual installations where children could enter and explore in order to find animals and feel as if they were in nature, "like a real adventure." These were indeed among the most photographed exhibits where children spent plenty of time (Figure 1).

**Figure 1. A 7-year-old boy's photograph of the reconstructed micro-environment of a cave at the Natural History Museum of Crete**



Some children, mostly at the HCM, emphasized the fact that these places are made for children:

*It is a museum for children, with toys, to play, to learn (Boy, 5 years old, HCM).*

When asked to provide a reason why their “friends” should visit this museum, strong associations appeared with what they had already mentioned while attempting to define the place: the opportunity to feel good, to have fun, to learn and play, to observe, explore and engage in different activities. In addition, children added the opportunity to have new experiences and to play cooperatively:

*Because you do things that are perfect and you may never have done them before* (Boy, 10 years old, HCM).

*Because there is something that would make her very happy, as it needs two to be played: puppet theatre* (Girl, 5 years old, NHMC).

Some children elaborated further, by comparing the experience of a child-centered museum environment with experiences in other museums:

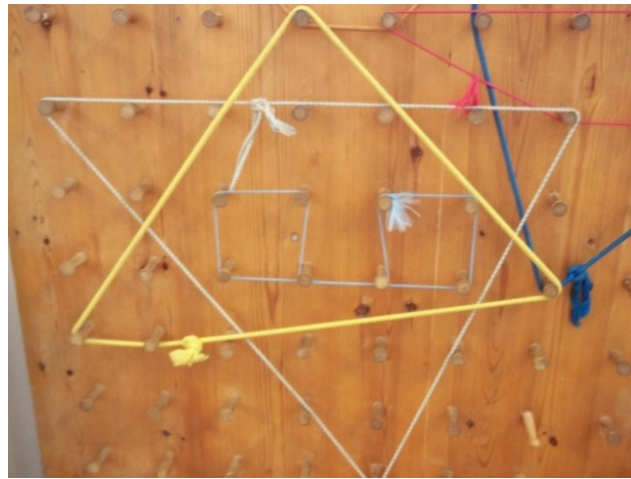
*A different experience. Here I played, I observed. There you just see and listen to the guide sometimes or to dad some other time* (Boy, 11 years old, NHMC).

*It's very noisy and I like it. It has a lot of things to do, it is not only see and so. I imagined that it would also have paintings, like in museums. But now I realize it's not simple. It's like a toy, like a big toy* (Boy, 11 years old, HCM).

The last comment is an example of the reservations that some children have on whether the children's museum is a real museum as it seems to lack very old objects, reserve collections, and does not exhibit the artifacts in the traditional way.

When asked to think again about their museum experience and indicate where their friend would have fun, children—especially younger ones—chose places that combine action and mystery (even if mysterious, dark spaces, such as the Cave at the NHMC, were a bit frightening for them). Not knowing what will happen when entering a thematic micro-environment as well as activities leading to unknown outcomes (as in the case of the simulated bones excavation at the NHMC, mentioned by older children) seem to be qualities that they combine with fun. Body action that involves discovery and play are also qualities cited in their other choices and characterize their most favorite exhibits. In the case of the HCM, construction activities and freedom in assembling things and creating something new are the reasons behind the choice of the first two “most fun” exhibits, which also happen to be the top preferences when children were asked for their favorite place in the museum (Figure 2). Sometimes fun was also associated with being able to see interesting things.

**Figure 2. A 7-year-old girl's photograph of her favorite activity, the Geoboard of the Maths exhibit "Hello Pythagoras" at the Hellenic Children's Museum**



Children commented on the learning potential of a variety of different exhibits. They were prone to combine learning with the micro-environments that incorporated audio-visual projections and enhanced theatricality (e.g., characters narrating and entering in dialogue), and in the exhibits where they could closely observe animals and objects, especially if optical instruments, such as stereoscopes and magnifying glasses, were available (see Figure 3). Discovery activities that had explicit cognitive goals were also among children's choices for learning opportunities. One child suggested that in order to learn, one could talk with the staff of the HCM, a quality that seems to be important for this museum, as children referred to and photographed museum educators a number of times in this study. Three children at the NHMC felt that they learned nothing new.

Discovery activities that could accommodate more than one person and exhibits that encouraged role-playing were among their first choices when considering the element of co-operation. Sometimes children suggested the invention of new discovery games that they could play with their friends:

*We could look at the turtles, because most of my friends adore animals, we would read for example the captions, maybe we could hide something from each other, some objects from the museum, and they could touch them to find out what it is (Girl, 10 years old, NHMC).*

**Figure 3. A 12-year-old boy's photograph of the stereoscope at "the Researcher's Lab" in the Natural History Museum of Crete. The lab was one of the top preferences for all ages and in all data types (observation, photography, interview) for the affordance of seeing animals up close and the sense of togetherness it permitted.**



Some kids also referred to the importance of companionship and experience-sharing during exploration of the thematic environments, observation of artifacts, during play or while watching a projection.

Finally, available discovery games, or invented ones, were among what children indicated as appropriate for play with parents. When considering interaction with parents at the museum, children suggested activities that required less physical movement and more mental engagement, while play and experience-sharing were also significant dimensions.

### **Place Meanings**

The descriptive categories formed by the researcher after sorting and categorizing all responses under emerging themes, give insights into how children find child-centered museums meaningful. Table 1 summarizes key findings.

**Table 1. Descriptive categories of place meanings in child-centered museums**

<b>Descriptive categories</b>	<b>Associated concepts</b>
<b>Fun and pleasure</b> "I have a great time here"	<ul style="list-style-type: none"> <li>▪ Play</li> <li>▪ Action/Exploration</li> <li>▪ Mystery/Not knowing what will be discovered</li> <li>▪ Experiencing roles</li> <li>▪ Discovery activities</li> <li>▪ Seeing things</li> <li>▪ General sense of beauty</li> <li>▪ Learning</li> <li>▪ Desire to come back</li> </ul>
<b>Action</b> "a museum where children participate"	<ul style="list-style-type: none"> <li>▪ Embodied and intellectual activities</li> <li>▪ Diversity and big number of activities</li> <li>▪ Discovery with unknown outcomes</li> <li>▪ Active participation</li> <li>▪ Creative expression</li> <li>▪ Significant difference from other museums</li> </ul>
<b>Contact with objects and animals</b> "with real machines"	<ul style="list-style-type: none"> <li>▪ Interesting/nice things</li> <li>▪ See animals out of glass cases</li> <li>▪ Great number and diversity of exhibits</li> <li>▪ Authentic objects, things that work</li> </ul>
<b>Learning</b> "activities that teach you things as you do them"	<ul style="list-style-type: none"> <li>▪ Learning with fun</li> <li>▪ Discovery learning/exploration</li> <li>▪ Audiovisuals in contextual exhibition environments</li> <li>▪ Observing things, especially with the use of an optical instrument</li> <li>▪ Educational personnel</li> <li>▪ Educational activities</li> </ul>
<b>Play</b> "the vibe of the child, play"	<ul style="list-style-type: none"> <li>▪ Organized or invented games of discovery</li> <li>▪ Types of play (role-play/fantasy, construction, object-toys, water play)</li> <li>▪ Cooperation</li> <li>▪ Significant difference from other museums</li> </ul>
<b>Contextual experiences</b> "feel like in nature"	<ul style="list-style-type: none"> <li>▪ Feel immersed in reconstructed real-life environments</li> <li>▪ Contextualization of exhibits</li> <li>▪ Mystery environments</li> <li>▪ Whole-body exploration and engagement</li> </ul>
<b>New experiences</b> "things I have never seen before"	<ul style="list-style-type: none"> <li>▪ Unprecedented experiences</li> <li>▪ Different modes of engagement</li> <li>▪ New knowledge</li> <li>▪ <i>Impressive things</i></li> </ul>
<b>Personal interest/familiar experience</b> "things that I like"	<ul style="list-style-type: none"> <li>▪ Favorite engagements</li> <li>▪ Recall of familiar experience</li> <li>▪ <i>A lot of things</i></li> </ul>
<b>Aesthetics</b> "I like the space"	<ul style="list-style-type: none"> <li>▪ General feel of the place in terms of beauty</li> <li>▪ Location (i.e. contact with a natural element: sea view)</li> </ul>
<b>Appropriate for children</b> "truly for children"	<ul style="list-style-type: none"> <li>▪ <i>Activities for all age groups</i></li> <li>▪ <i>Appropriate level of challenge/complexity</i></li> <li>▪ <i>Many children</i></li> </ul>
<b>Togetherness</b> "have fun with your family"	<ul style="list-style-type: none"> <li>▪ Sharing experience</li> <li>▪ Associative and cooperative play</li> <li>▪ Teamwork</li> </ul>

Note: Italics indicate concepts that had problematic elements for some children and created negative affect.

Findings will be discussed in the light of earlier empirical and theoretical research to see how they respond to existing theoretical frameworks, identify underlying dimensions and appreciate whether emerging place meanings have the potential of supporting a more cherished and sustained relationship with this type of museums.

The place meanings identified in this study can be surely grouped under the three experiential modes identified by Sixsmith (1986) and Gustafson (2001): personal (self), social (others), physical (environment) and the space between them. Place meanings connecting with the personal realm and agenda of the child-visitor are those associated with fun and pleasure elements; opportunities for active participation, exploration, play and discovery learning; age-appropriate cognitive and sensory challenges; new experiences; and pursuit of personal interests. The social mode is related to the opportunity for togetherness and the fact that it is a place made for children, where they can work along and have fun with peers. Social interactions with other children, family and personnel, and the frequently mentioned and observed preference for experiencing different social roles through role-play or discovery activities, constitute important features in children's place preferences, confirming previous research (Chawla, 1992; Derr, 2002; Jansson, 2008; Malinowski & Thurber, 1996; van Andel, 1990).

Finally, regarding the physical mode, children's place meanings are associated with the wealth of objects that are available and the diverse, unexpected and experiential way of getting to know them, commenting especially on the importance of contextual environments and the absence of showcases as a stimulating method of exhibition. The overall aesthetics of place also contributes to positive associations (Figure 4).

**Figure 4. An 8-year-old girl photographed the butterfly sticker on one of the windows of the Natural History Museum of Crete children's wing because she likes butterflies and nature**



When considering Morgan's developmental model of place attachment (2010), the tri-partite pattern of "arousal-interaction-pleasure" is implied in most of the participating children's recounts of their current museum experience. Children often refer to impressive things that capture attention and arouse their interest or mysterious places that intrigue them, leading to active interaction and play. As a result, feelings of sheer pleasure arise, associated with the activities of unrestricted place-exploration, place-play, and trying out different roles, as well as the sense of mastery, learning and adventure that unprecedented outcomes and discovery activities provoke. The emotion of pleasure is the most frequently expressed throughout the interviews and it is strongly associated with the desire to come back or recommend a visit to their friends.

Yet, this model is only partially able to explain the process of place bonding that takes place in a museum. Apart from a range of socio-cultural reasons that influence visitation and impact on place attachment that will be discussed in the following section, other elements are also important for developing affect and sustained relationships. Chatterjee's (2005) framework on the six conditions for child-friendly places seems more comprehensive and considers child-place interaction on a mutual and constructive, rather than mechanistic, basis.

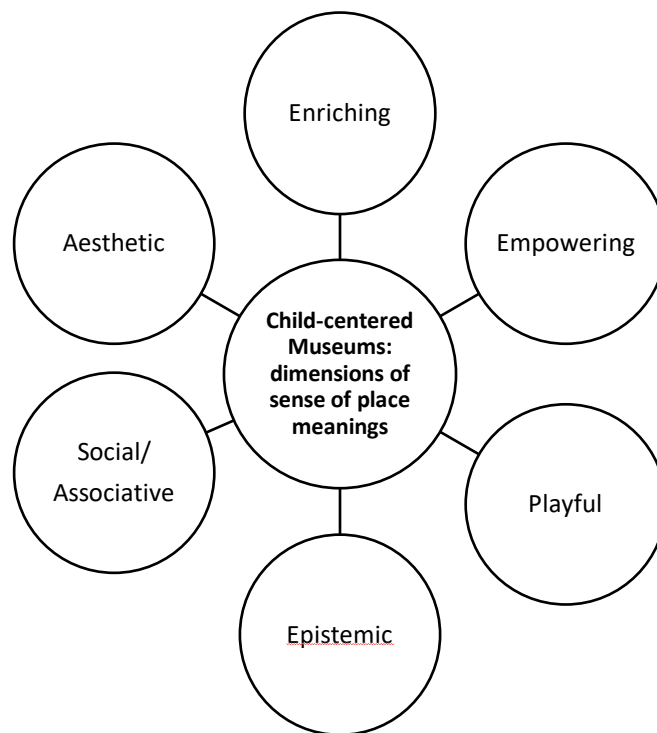
Thus, place meanings assigned to child-centered museums reveal that children find several conditions for place friendship fulfilled: they are places that share with children a wide range of activities and interests, leading to a place-child exchange. Either through things connected to established interests or by provoking new ones, child-centered museums assert what children like and form parts of their identity, enabling self-development. They are also places that manage to hold the interests and activities of the child, leading to increased learning and competence through continuous, reciprocal interaction and creation of new affordances, as the example of the invented discovery games revealed. Finally, children feel free to express themselves (including being noisy) and actualize perceived affordances at will, fostering an equal power relation with the place. Data from observations reveal that children moved freely, engaging in activities on their own initiative (43 out of 60 children) or after a joint decision with their family and/or peers (9/60).

However, there are things missing from museums. Child-centered museums, as all museums, are designed for occasional use and do not cultivate a culture of personal regard and care, nor do they give opportunities to create secret places and controlled territories that allow self-regulation and/or support the sense of self in a more intimate way, like other child-friendly spaces. As a consequence, children do not develop strong feelings of appropriation and privacy/control over personal spaces, something also evident from the fact that they are not able to narrate personal stories related with the use of the place, as it is commonly documented in research in child care centers, kindergartens and playgrounds. Most children, even if they are repeat visitors, are still in an exploratory stage of finding out what such places could afford and share with them.

To help enrich our understandings on the different qualities that are involved in place meanings related to the museum environment, the researcher revisited the

data in order to distinguish patterns and look for correspondence between two or more descriptive categories. A set of underlying dimensions emerged that could be used as a framework for mapping the attribution of meaning to child-centered museums and combining empirical data with larger theoretical concepts associated with sense of place (Figure 5).

**Figure 5. Dimensions of sense of place meanings in child-centered museums**



The dimensions illustrated in Figure 5 were formed from the children's perspective and have strong correlations with the exhibition environment's qualities that were found to be of value to them by means of other methodological tools used in the overall project. In particular:

- a) The *enriching dimension* relates to the opportunities the place offers to acquire new knowledge and experience. The great diversity of sensual and spiritual stimuli is recognized by children as a principal factor that contributes to this much-needed sense of gaining new insights and helps them connect to the physical and human world museums present, as well as identify new interests. In addition, the bedazzlement from the exhibits, the exhibition mode and the innovative context of getting in touch with artifacts (i.e. out of showcases or in contextual environments) seems to be a much-appreciated element of the enriching dimension.
- b) The *empowering dimension* corresponds with making children feel knowledgeable and in control of their museum experience. Children appreciate the freedom to move around and involve all their senses and

their body. They feel empowered when they recognize familiar experiences and are able to assert their interests and develop their skills. They acknowledge that this kind of museum is especially and effectively designed for children and view this as an important attribute. The opportunity to modify elements of the environment, express themselves creatively and have fun are also among the place qualities mentioned that enhance children's sense of competence.

- c) The *playful dimension* covers all different types of play that children can develop in the exhibition environment and contribute to their sense of pleasure. Opportunities for inventing new games, apart from those already offered, was an interesting affordance mentioned by some children. As we have seen, play is a core differentiating factor of child-centered museums from other museums. Some place meanings even associated the whole museum with play ("it's like a big toy"), while other children stressed that "the vibe of the child is play," rendering the playful dimension a central element in children's place meanings.
- d) The *epistemic dimension* is strongly linked with discovery activities. Children appreciate museums for the opportunities they offer to learn new things, however they expect to find a different, more intriguing learning environment in comparison to that of formal education. According to their comments, exploration in reconstructed real-life environments that promote immersion and create a sense of adventure constitute optimal learning conditions as they combine learning with fun. In fact, it seems that the stronger the links between the epistemic and playful dimensions, the more intense the sense of pleasure for children. Contextualization of exhibits and the affordance of observing things up close, either with hands-on activities or with optical instruments, are also exhibition qualities associated with the epistemic dimension of place meaning.
- e) The *social/associative dimension* concerns opportunities for social interactions with family and peers that give a sense of togetherness, ranging from shared experience and joint exploration to cooperative play and teamwork. Children mention this dimension in relation to various others, rendering it a valuable horizontal attribute for place meanings.
- f) Finally, the *aesthetic dimension* relates to elements of the exhibition environment, as well as the overall building and its location, which create aesthetic delight for children and contribute to stimulation of interest, restorative experiences, and a general feeling of pleasure from the place.

Problematic place features indicated by a small number of children refer to the enriching dimension (desire for more things and more impressive ones, doubts about characterizing child-centered museums as museums due mainly to the non-traditional way of exhibiting as well as the type of the collections); the empowering dimension (feeling that it is not appropriate for older children, scarcity of activities that have the right level of challenge and complexity for their age); and the social/associative dimension (overcrowded exhibits that inhibit children from doing what they want; predominance of very young children in some exhibits that made some older children withdraw, even if they wanted to get involved and play).

In summary, data from this study reveal that children's sense of place in child-oriented museums is strongly linked with the idea of the competent child and the way the exhibition environment treats them as such and helps them develop further their skills and creativity. Children can find enrichment and new knowledge in various places, yet what makes museums distinct is the ability to follow one's interests at one's own pace and with active participation, and to have contact with real things in rich, contextual environments. In child-oriented museums, play is not relegated to the margins but is identified as a core element in the development of exhibits and related activities and a much-appreciated attribute. Place aesthetics is a dimension little acknowledged in relevant research, due to the usual emphasis on learning outcomes in museums, yet children notice its significance for a pleasurable and memorable place experience. Finally, in correspondence with the fact that museum visiting is a social experience, children seem to enjoy the opportunity to learn and have fun among peers and family members.

### **Discussion and Conclusions**

Exploratory in nature, this study attempted to chart place meanings associated with child-centered museums, concluding with a set of underlying dimensions. These could serve as a mapping tool for children's place meanings, thus providing a theoretical approach with which to analyze and discuss the implications of each dimension in children's understanding of sense of place in child-oriented museums.

The proposed conceptual framework follows a psycho-pedagogical perspective that could inform theory in various distinctive ways in relation to other models and frameworks already discussed in the literature. Its unique contribution stems from the fact that it is the first framework on the concept of sense of place that is developed from data originating directly from the museum environment and with the active participation of children. Therefore, associated concepts and dimensions could find a strong fit when used to examine and interpret emerging place meanings in various museum settings. The framework is also experience-based, thus more sensitive to the different nuances of children's place meanings than other, more theoretically driven models.

The place meanings and underlying dimensions identified in this research highlight the psychologically important qualities that children pursue in a museum environment created especially for them. This fact makes the suggested framework useful for exhibit design and program development. The attempt to accommodate in a variety of ways all six dimensions could enrich museum offerings to foster more meaningful and valuable relationships. In addition, the framework could help museums identify the strengths of their offerings while simultaneously diagnosing the dimensions that need to be enhanced. It is also a theoretical tool that supports the documentation of decisions.

Children's place meanings have qualities and associated concepts that correspond with various dimensions, and it is the unique combination and interplay of these dimensions that form the overall sense of place. However, further investigation is needed in order to determine additional place meanings that make up each dimension or validate the existing ones. Whether certain dimensions have pre-

eminence over others is a supplementary theme to be clarified in future research, recognizing that every museum hosts a distinctive and dynamic combination of place features and meanings. Furthermore, investigation of the six dimensions would benefit by a variety of methodological tools that produce data based on a balanced combination of verbal and non-verbal methods, as in the case presented, and take into account the embodied and sensory ways that children use to explore the museum environment.

Affect and place bonding seem to have positive connotations for sense of place in child-centered museums. Comparison with earlier theoretical and empirical conceptualizations has shown that prerequisites for further bonding exist, however place attachment is conditioned not only by the psychological reasons examined in this paper, but also by socio-cultural factors. Visiting a child-centered museum forms part of a family's life cycle, strongly linked to the developmental stages of children; as they grow older, children (and their families) no longer find these places attractive or appropriate for their age and interests and stop visiting. Family cultural habits and the proximity of the museum to children's residency can also influence the number of visits and the development of positive affectivity. In addition, museums' strategy and pedagogical underpinnings could trigger closer relationships with children. For example, what bonding changes occur when museums create opportunities for active participation in day-to-day operation through children's advisory committees, volunteering schemes or other innovative projects? Research that reflects these issues in a systematic manner would be a great advancement for the field. Finally, a longitudinal study with repeat visitors and their changing perceptions on sense of place with the aid of the presented framework would provide supplementary information on the process and conditions for place attachment and on the ways museums for children become much-appreciated children's places.

**Despina Kalessopoulou** (BA in Archaeology and History of Art, MA in Museum Studies, PhD in Museum Pedagogy), has worked for 20 years in different types of cultural organizations, including contemporary art, archaeology, history and children's museums, and has lectured widely on museum education and the social role of museums. She currently teaches museum and arts education at the University of West Attica and the National and Kapodistrian University of Athens. She also works at the National Archaeological Museum (Athens) where she is involved in museum exhibitions, education and communication activities. Her published work covers critical pedagogy in museums, the design of child-friendly exhibitions, museum interpretation, public archaeology and the social responsibility of museums.

## References

- Åkerlind, G. (2005). Variation and commonality in phenomenographic research methods. *Higher Education Research & Development*, 24(4), 321-334, <https://doi.org/10.1080/07294360500284672>.

- Bartos, A. E. (2013). Children sensing place. *Emotion, Space and Society*, 9, 89–98. <https://doi.org/10.1016/j.emospa.2013.02.008>
- Bronfenbrenner, U. (1995). Developmental ecology through space and time: A future perspective. In P. Moen, G. H. Elder Jr., & K. Lüscher (Eds.), *Examining lives in context: Perspectives on the ecology of human development* (pp. 619–647). Washington, D.C.: American Psychological Association.
- Byungho, M., Hyuntae, H., & Hyunjung, L. (2006). Children's behavioral and conceived domains in neighborhood environment. *Journal of Asian Architecture and Building Engineering*, 5(1), 83-90. <https://doi.org/10.3130/jaabe.5.83>.
- Chawla, L. (1992). Childhood place attachments. In I. Altman & S. Low (Eds.), *Place attachment* (pp. 63–86). New York: Plenum Press.
- Chawla, L. (2002). *Growing up in an urbanising world*. London/Paris: Earthscan Publications/UNESCO.
- Chatterjee, S. (2005). Children's friendship with place: A conceptual inquiry. *Children, Youth and Environments*, 15(1), 1-26. <https://www.jstor.org/stable/10.7721/chilyoutenvi.15.1.0001>.
- Clark, A., & Moss, P. (2001). *Listening to young children: The mosaic approach*. London: National Children's Bureau and Joseph Rowntree Foundation.
- Derr, V. (2002). Children's sense of place in northern New Mexico. *Journal of Environmental Psychology*, 22(1-2), 125-137. <https://doi.org/10.1006/jevp.2002.0252>.
- Dockett, S., Main, S., & Kelly, L. (2011). Consulting young children: Experiences from a museum. *Visitor Studies*, 14(1), 13-33. doi: 10.1080/10645578.2011.557626.
- Downey, S., Krantz, A., & Skidmore, E. (2010). The parental role in children's museums, *Museums and Social Issues*, 5(1), 15–34. <https://doi.org/10.1179/msi.2010.5.1.15>.
- Falk, J. (2006). An identity-centered approach to understanding museum learning. *Curator: The Museum Journal*, 49(2), 151-166. <https://doi.org/10.1111/j.2151-6952.2006.tb00209.x>.
- Falk, J. H., & Dierking, L. D. (2013). *The museum experience revisited*. Walnut Creek, CA: Left Coast Press.

- Gallagher, J. M., & Snow Dockser, L. (1987). Parent-child interaction in a museum for preschool children. *Children's Environment Quarterly*, 4(1), 41-45. <https://www.jstor.org/stable/41514616>.
- Gibson, J. J. (2015). *The ecological approach to visual perception*. New York and London: Psychology Press.
- Gustafson, P. (2001). Meanings of place: Everyday experience and theoretical conceptualizations. *Journal of Environmental Psychology*, 21(1), 5-16. <https://doi.org/10.1006/jevp.2000.0185>.
- Haas, N. T. (1997). Project explore: How children are really learning in children's museums. *The Visitor Studies Association*, 9, 63-69. Retrieved from [http://www.informalscience.org/sites/default/files/VSA-a0a0y3-a\\_5730.pdf](http://www.informalscience.org/sites/default/files/VSA-a0a0y3-a_5730.pdf).
- Hackett, A. (2016). Young children as wayfarers: Learning about place by moving through it. *Children and Society*, 30(3), 169-179. doi:10.1111/chso.12130.
- Hackett, A., Procter, L. & Kummerfeld, R. (2018). Exploring abstract, physical, social and embodied space: developing an approach for analyzing museum spaces for young children. *Children's Geographies*, 16(5), 489-502. [doi.org/10.1080/14733285.2018.1425372](https://doi.org/10.1080/14733285.2018.1425372).
- Harris Qualitative (1997). *Children as an audience for museums and galleries: Report prepared for The Arts Council and the Museums and Galleries Commission*. Surrey: Harris Qualitative.
- Heft, H. (1988). Affordances of children's environments: A functional approach to environmental description. *Children, Youth and Environments*, 5(3), 29-37. <https://www.jstor.org/stable/41514683>.
- Ingold, T. (2007). *Lines: A brief history*. Routledge: London.
- Ingold, T. (2008). Bindings against boundaries: Entanglement of life in an open world. *Environment and Planning*, 40(8), 1796-1810. <https://doi.org/10.1068/a40156>.
- Jack, G. (2010). Place matters: The significance of place attachments for children's well-being. *British Journal of Social Work*, 40(3), 755-771. <https://doi.org/10.1093/bjsw/bcn142>.
- Jansson, M. (2008). Children's perspectives on public playgrounds in two Swedish communities. *Children, Youth and Environments*, 18(2), 88-109. <http://www.jstor.org/stable/10.7721/chilyoutenvi.18.2.0088>.

- Jorgensen, B. S., & Stedman, R. C. (2006). A comparative analysis of predictors of sense of place dimensions: Attachment to, dependence on, and identification with lakeshore properties. *Journal of Environmental Management*, 79(3), 316-327. doi: 10.1016/j.jenvman.2005.08.003.
- Kalessopoulou, D. (2015). Μουσειακά περιβάλλοντα για παιδιά: η συμβολή της οικολογικής ψυχολογίας στην ανάλυση της οργάνωσης και χρήσης τους [Museum environments for children: The contribution of ecological psychology to the analysis of their organization and use]. *Museumedu*, 1, 161-185. Retrieved from <http://museumedulab.ece.uth.gr/main/sites/default/files/7.%20MUSEUM%20ENVIRONMENTS%202.pdf>.
- Kalessopoulou, D. (2017). Capturing the untold: Photography as a tool for empowering children to interpret their embodied experiences in museums. *Journal of Visual Literacy*, 36(3-4), 164-183. <https://doi.org/10.1080/1051144X.2017.1408206>.
- Kanhadilok, P., & Watts, M. (2017). Youth at play: Some observations from a science museum. *International Journal of Adolescence and Youth*, 22(2), 179-194. <https://doi.org/10.1080/02673843.2014.881298>.
- Kaplan, S., Bardwell, L. V., & Slakter, D. B. (1993). The restorative experience as a museum benefit. *Journal of Museum Education*, 18(3), 15-18. <https://www.jstor.org/stable/40478963>.
- Kindler, A. M., & Darras, B. (1997). Young children and museums: The role of cultural context in early development of attitudes, beliefs, and behaviors. *Visual Arts Research*, 23(1), 125-141. <https://www.jstor.org/stable/20715899>.
- Kirk, E. & Buckingham, W. (2018). *Snapshots of museum experience: Understanding child visitors through photography*. London: Routledge Research in Museum Studies.
- Kudryavtsev, A., Stedman, R. C., & Krasny, M. E. (2012). Sense of place in environmental education. *Environmental Education Research*, 18(2), 229-250. <https://doi.org/10.1080/13504622.2011.609615>.
- Kyttä, M. (2004). The extent of children's independent mobility and the number of actualized affordances as criteria for child-friendly environments. *Journal of Environmental Psychology*, 24(2), 179-198. [https://doi.org/10.1016/S0272-4944\(03\)00073-2](https://doi.org/10.1016/S0272-4944(03)00073-2).
- Letourneau, S. M., Meisner, R., Neuwirth, J. L., & Sobel, D. M. (2017). What do caregivers notice and value about how children learn through play in a children's museum? *Journal of Museum Education*, 42(1), 87-98. <https://doi.org/10.1080/10598650.2016.1260436>.

- Lewicka, M. (2011). Place attachment: How far have we come in the last 40 years? *Journal of Environmental Psychology, 31*(3), 207-230. <https://doi.org/10.1016/j.jenvp.2010.10.001>.
- MacRae, C., Hackett, A., Holmes, R., & Jones, L. (2018). Vibrancy, repetition and movement: posthuman theories for reconceptualising young children in museums. *Children's Geographies, 16*(5), 503-515. <https://doi.org/10.1080/14733285.2017.1409884>.
- Malinowski, J. C., & Thurber, C.A. (1996). Developmental shifts in the place preferences of boys aged 8–16 years. *Journal of Environmental Psychology, 16*(1), 45-54. <https://doi.org/10.1006/jevp.1996.0004>.
- Marton, F. (1981). Phenomenography: Describing conceptions of the world around us. *Instructional Science, 10*(2), 177-200. <http://dx.doi.org/10.1007/BF00132516>.
- Marton, F. (1986). Phenomenography: A research approach to investigating different understandings of reality. *Journal of Thought, 21*(3), 28-49. <https://www.jstor.org/stable/42589189>.
- Matthews, M. H. (1992). *Making sense of place: Children's understanding of large-scale environments*. Hemel Hempstead: Harvester Wheatsheaf.
- Morgan, P. (2010). Towards a developmental theory of place attachment. *Journal of Environmental Psychology, 30*(1), 11-22. <https://doi.org/10.1016/j.jenvp.2009.07.001>.
- Morris Hargreaves McIntyre (2002). *Start with the child: The needs and motivations of young people. A report commissioned by Resource & the Chartered Institute of Library and Information Professionals*. Manchester: Morris Hargreaves McIntyre. Retrieved from: [http://www.umiacs.umd.edu/~allisond/child\\_info\\_tech/Start-with-the-child.pdf](http://www.umiacs.umd.edu/~allisond/child_info_tech/Start-with-the-child.pdf).
- Moussouri, T. (1997). *Family agendas and family learning in hands-on museums* (Unpublished doctoral dissertation). University of Leicester, Leicester.
- Packer, J. (2008). Beyond learning: Exploring visitors' perceptions of the value and benefits of museum experiences. *Curator: The Museum Journal, 51*(1), 33-54. <https://doi.org/10.1111/j.2151-6952.2008.tb00293.x>.
- Packer, J., & Ballantyne, R. (2002). Motivational factors and the visitor experience: A comparison of three sites. *Curator: The Museum Journal, 45*(3), 183-198. <https://doi.org/10.1111/j.2151-6952.2002.tb00055.x>.

- Packer, J., & Bond, N. (2010). Museums as restorative environments. *Curator: The Museum Journal*, 53(4), 421-436. <https://doi.org/10.1111/j.2151-6952.2010.00044.x>.
- Patterson, M. E., & Williams, D. R. (2005). Maintaining research traditions on place: Diversity of thought and scientific progress. *Journal of Environmental Psychology*, 25(4), 361–380. <https://doi.org/10.1016/j.jenvp.2005.10.001>.
- Pekarik, A. J., Doering, Z. D., & Karns, D. A. (1999). Exploring satisfying experiences in museums. *Curator: The Museum Journal*, 42(2), 152-173. <https://doi.org/10.1111/j.2151-6952.1999.tb01137.x>.
- Pink, S. (2009). *Doing sensory ethnography*. Sage: London.
- Piscitelli, B., & Anderson, D. (2001). Young children's perspectives of museum settings and experiences. *Museum Management and Curatorship*, 19(3), 269-282. doi: 10.1016/S0260-4779(01)00018-8.
- Prentice, R. (1998). Recollections of museum visits: A case study of remembered cultural attraction visiting on the Isle of Man. *Museum Management and Curatorship*, 17(1), 41–64. <https://doi.org/10.1080/09647779800401701>.
- Proshansky, H. M., & Fabian, A. K. (1987). The development of place identity in the child. In C. S. Weinstein, & T. G. David (Eds.), *The built environment and child development* (pp. 21–40). New York: Plenum Press.
- Puchner, L., Raporort, R., & Gaskins, S. (2001). Learning in children's museums: Is it really happening? *Curator: The Museum Journal*, 44(3), 237-259. <https://doi.org/10.1111/j.2151-6952.2001.tb01164.x>.
- Rounds, J. (2006). Doing identity work in museums. *Curator: The Museum Journal*, 49(2), 133-150. <https://doi.org/10.1111/j.2151-6952.2006.tb00208.x>.
- Schauble, L., & Bartlett, K. (1997). Constructing a science gallery for children and families: The role of research in an innovative design process. *Science Education*, 81(6), 781-793. [https://doi.org/10.1002/\(SICI\)1098-237X\(199711\)81:6<781::AID-SCE12>3.0.CO;2-Q](https://doi.org/10.1002/(SICI)1098-237X(199711)81:6<781::AID-SCE12>3.0.CO;2-Q).
- Shine, S. & Acosta, T. Y. (2000). Parent-child social play in a children's museum. *Family Relations*, 49(1), 45-52. <https://doi.org/10.1111/j.1741-3729.2000.00045.x>.
- Sixsmith, J. (1986). The meaning of home: An exploratory study of environmental experience. *Journal of Environmental Psychology*, 6(4), 281-298. [https://doi.org/10.1016/S0272-4944\(86\)80002-0](https://doi.org/10.1016/S0272-4944(86)80002-0).

- Smaldone, D., Harris, C., & Sanyal, N. (2008). The role of time in developing place meanings. *Journal of Leisure Research*, 40(4), 479–504.  
<https://doi.org/10.1080/00222216.2008.11950149>.
- Steele, F. (1981). *The sense of place*. Boston: CBI Publishing Company, Inc.
- Studart, C. D. (2000). *The perceptions and behaviour of children and their families in child-orientated museum exhibitions* (Unpublished doctoral dissertation). University College London, University of London.
- Svensson, L. (1997). Theoretical foundations of phenomenography. *Higher Education Research & Development*, 16(2), 159-171.  
<https://doi.org/10.1080/0729436970160204>.
- Trentelman, C. K. (2009). Place attachment and community attachment: A primer grounded in the lived experience of a community sociologist. *Society & Natural Resources*, 22(3), 191–210.  
<https://doi.org/10.1080/08941920802191712>.
- Twigger-Ross, C. L. & Uzzell, D. (1996). Place and identity process. *Journal of Environmental Psychology*, 16(3), 205-220.  
<https://doi.org/10.1006/jevp.1996.0017>.
- Van Andel, J. (1990). Places children like, dislike, and fear. *Children's Environments Quarterly*, 7(4), 24-31. <https://www.jstor.org/stable/41514756>.
- Wallis, N. (2018). Titian, tapestries and toilets; what do preschoolers and their families value in a museum visit? *Museum & Society*, 16(3), 352-368.  
<https://doi.org/10.29311/mas.v16i3.2794>
- Wang, F., Liu, J., Pan, B., Zhao, L. & Zhang, M. (2012). Stuck between the historic and modern China: A case study of children's space in a hutong community. *Journal of Environmental Psychology*, 32(1), 59-68.  
<https://doi.org/10.1016/j.jenvp.2011.10.001>.
- Wolf, B., & Wood, E. (2012). Integrating scaffolding experiences for the youngest visitors in museums. *Journal of Museum Education*, 37(1), 29-38.  
<https://doi.org/10.1080/10598650.2012.11510715>.
- Wood, E., & Latham, K. F. (2014). *The objects of experience: Transforming visitor-object encounters in museums*. Walnut Creek, CA: Left Coast Press, Inc.
- Wood, E., & Wolf, B. (2008). Between the lines of engagement in museums: Indiana University and the Children's Museum of Indianapolis. *Journal of Museum Education*, 33, 121-130. doi: 10.2307/40479637.