

# **Unveiling children's perceptions of World Heritage Sites: A visual and qualitative approach**

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This paper investigates World Heritage (WH) perception from the perspective of children, both as physical representations in space and as experiences and understandings of place. The Little Artists Exhibition serves as a case study. This exhibition was a global call initiated by UNESCO inviting children between 6 and 12 years old to draw a WH site that matters to them. More than 500 children participated in the online exhibition and posted their artwork on Instagram. By proposing a mixed visual and qualitative text analysis method for the assessment of children's drawings and narratives, this paper captures both children's perceived image and values of WH. Results show that children express a holistic perception of heritage combining built, natural, and intangible assets. Correspondingly, findings from the qualitative text analysis highlight: (1) children's historic and aesthetic appreciation of WH; (2) children's emotional and experiential association with built heritage and natural landscape; (3) children's inspirational and imaginative stories; and (4) heritage as a social construct in the minds of children. We discuss our findings by reflecting on their conceptual contributions as they speak to broader debates on WH and associated values.

Keywords: cultural heritage; perceived value; visual perception; intangible heritage; children's artwork

## **1. Introduction**

Children are often under-represented in discussions of heritage sites and tangible cultures, particularly in terms of their own perspectives (Darian-Smith and Pascoe 2013; Roche and Quinn 2017). Tourism and heritage studies mostly address children as visitors to cultural heritage sites with discussions primarily focused on children's education and informal learning (Ritchie, Carr, and Cooper 2003; Ballantyne, Packer, and Falk 2011; Sutcliffe and Kim 2014; Yang and Lau 2019). This body of research is centered on the factors affecting learning outcomes in addition to activities and strategies that encourage and support children's learning (Andre, Durksen, and Volman 2017). Other researchers emphasize the socio-cultural dimension inherent to the experience of heritage sites, such as perceived benefits, on-site interpretation, and social interaction (Lehto et al. 2017; Zhou et al. 2019). In most cases, however, these topics were addressed without direct access to children, but rather through the perspective of the parents. While an extended body of research has documented cultural heritage values – that emerge from people's perception, subjective experience, personal knowledge, and practices – to expand the definition of

World Heritage (WH) beyond the concept of Outstanding Universal Value (OUV) (Bianchi 2002; Harrison 2004; Labadi 2013; Tucker and Carnegie 2014; Amat 2018; Xu, Taylor, and Han 2021), little direct research has been conducted into children's experience or perception of cultural heritage (Smith 2013).

The aim of this paper is to investigate children's WH perception as stated by the children themselves, both as physical representations in space and as experiences of place. Our investigation contributes to the sparse literature on children as agents in the creation of perceived image and values of cultural heritage as they engage with it and shape their own perceptions (Darian-Smith and Pascoe 2013; Puolamäki 2017). As users of heritage, children attach value to exceptional historic and everyday landscapes and have their own personal narratives of heritage places even when the heritage discourse is dominated by authorised formal agents (Chang and Mah 2020). These narratives are integral to the socio-cultural construct of heritage that is subject to different value systems and associations of meanings, among different generations and stakeholders, that constantly change in space and across time (Mason and Avrami 2002; Konsa 2013; Taylor 2016).

Soliciting children's voices on heritage requires the use of tools they are already familiar with (Haddad 2016). As stated by the UN Convention on the Right of the Child, children have 'the right to freedom of expression; this right shall include freedom to seek, receive and impart information [...] either orally, in writing or in print, in the form of art, or through any other media of the child's choice' (United Nations, 1990, Article. 13). To allow a productive engagement of children with research, the Convention recommends the application of research strategies that are designed on the capacities and mediums children are skilled and confident to use (Puolamäki 2017). An effective tool for the evaluation of children's perception is drawing, since it is one of the fundamental forms of children's expression, which provides insights into their feelings and thoughts about the environment (Crook 1985; Jovana and Olivera 2010), crosses cultural contexts, and removes language barriers, giving children the opportunity to freely express themselves (Rontani 2012). In this context, drawing provides prospects for children to actively participate in knowledge construction and research (Kampeza and Delsérieys 2020).

To achieve our aim, we explore how cultural heritage – in such forms as built heritage, natural landscape, and intangible heritage – is represented through children's own artistic

expression. We take the Little Artists Exhibition as a case study. The exhibition is a global call initiated by UNESCO as part of the #ShareOurHeritage campaign inviting children between 6 and 12 years old to draw a WH site that matters to them – it could be a site in their community or a memory from a family vacation (UNESCO 2020a). The #ShareOurHeritage hashtag targeted all social media users and invited them to ‘share’ their heritage with the aim of promoting and boosting access to cultural heritage during global lockdown due to the COVID-19 pandemic; whereas the Little Artists Exhibition invited children to ‘share’ their drawings of WH allowing them to express their creativity and their connection to heritage (UNESCO 2020a). All the works were publicly posted by the participants on Instagram between 8 April and 17 May 2020. We carry a mixed visual and qualitative method that first applies a classification model for clustering the drawings by scenes to elucidate heritage attributes, and then develop a data-driven codebook for analysing children’s narratives relative to their drawings posted in the form of tags. The combination of these analyses enables an in-depth framing of children’s perception and provides insights into their own expressions allowing their voices to be heard directly. The empirical findings are then assessed in two sections. The first discusses children’s *perceived image* of WH associated with tangible and intangible heritage attributes. The second section explores the *perceived values* capturing the way children convey heritage meanings and significance. In the conclusion, we reflect on the conceptual contributions of this study as it speaks to broader debates on WH and cultural heritage scholarship.

## **2. Theoretical Framework**

In this section, we frame our investigation, first by acknowledging children as agents of cultural heritage, then by providing an overview of relevant concepts and theories related to the perception of and values associated with cultural heritage. Afterwards, we highlight the use of children’s drawings and narratives as a tool to evaluate children’s cultural heritage perception.

### ***2.1 Children as agents of cultural heritage***

Since the mid-twentieth century, the application of participatory approaches involving different stakeholders and local community groups has become a constant theme in cultural heritage conservation and management (UNESCO 1972, 2011; ICOMOS 1975; Council of Europe 2005). Children’s participation was specifically acknowledged in Principle 15 of the *Charter for the Conservation of Historic Towns and Urban Areas* and the *Valetta Principles* among others

(ICOMOS 1987, 2011). Within a living heritage approach, the local community, including children, is given a primary role in the conservation and management processes (Poulios, 2014). In parallel, many theorists of community participation advocate for the inclusion of young people and children in decision-making because they enable an understanding of the future generations' knowledge, personal experiences, and the values that they attribute to heritage (Arnstein 1969; Chambers 1984; Burns, Hambleton, and Hoggett 1994). Within this context, Logan (2013) argues that if the world's cultural heritage and diversity are to survive beyond the current generation of decision-makers and professionals, it is critically important to incorporate the new generation's perception of heritage into processes of participation to ensure future awareness and contributions to heritage conservation in its various tangible and intangible forms.

Having a deep sense of their own culture, children can help build a positive cultural identity for themselves, for other cultures, and for the generations which follow (Çiftçi 2020) contributing to young people's effective action in safeguarding cultural heritage (UNESCO 1994). When visiting a heritage site, children are not only members of a family unit but also decision-makers within that unit (K.-L. Wu, Holmes, and Tribe 2010; Sutcliffe and Kim 2014). In heritage and tourism studies, many scholars have documented that children's joyful experiences and activities within heritage contexts positively influence the experience of other members of the group and also have an impact on whether children choose to continue these activities later in their life (Piscitelli and Anderson 2001; Davidson and Black 2007; Fanning 2007; Smith 2013). Moreover, studies that have examined children's experience and perception of the environment, whether it is a natural or historic one, have acknowledged children's indigenous knowledge and agency in ecologically responsible behaviour and commitment to environmental conservation within local communities (Wals 1994; Wells and Lekies 2006; Zaradic and Pergams 2007; Adams and Savahl 2015). Furthermore, Alexander, Cocks, and Shackleton (2015) showed that children's cultural environmental narratives, perceptions, and uses have an impact on their sense of place and belonging that play a central role in their formation as adults in terms of memory and environmental values.

Cultural heritage is a complex phenomenon that constantly evolves over time, depends largely on values embodied in it, and encompasses the range of perceptions of its meanings for community groups of which children are a part (Harvey 2001; Apaydin 2018). Asking children to

illustrate cultural heritage is a visual communication that involves children in an artistic dialogue with heritage through its interpretation or reinterpretation allowing a ‘new’ representation of heritage in which they are co-creators (Goodarzarparvari and Bueno Camejo 2018). This process allows children to transmit the cultural values of a community as collective memory (McAnany and Parks 2012) and provides new possibilities for experiencing and interpreting perceptions contained in children’s artwork and the original visual examples of cultural heritage (Goodarzarparvari and Bueno Camejo 2018). In the following, we will address the different dimensions of visual perception and heritage values. Then we will present drawings and their associated narratives as representations of children’s perception of heritage.

## ***2.2 Heritage visual perception and associated values***

Visual perception is about individuals making sense of the world through a complex interplay between various physical, contextual, emotional, and cognitive aspects (Gibson 2013; Lueg 2014; Yttredal and Homlong 2020). The research field of visual perception of landscape – including natural, cultural, historic, and urban landscape – developed within various disciplines, including but not limited to heritage studies, leisure sciences, urban planning and design, landscape architecture, environmental psychology, and sociology (Nijhuis, Lammeren, and Hoeven 2011; Antrop and Eetvelde 2017). Despite the disciplinary differences, all approaches share two core assumptions: (1) visual perception is influenced by both the physical landscape and the mental landscape, and (2) various factors can exercise influence on the mental process of perception, divided into biological, cultural, and individual factors (Jacobs, 2006, 2011).

Visual representations of heritage are often presumed to frame the experience of heritage or prefigure values associated with heritage (Crouch 2010). As heritage is a socio-cultural construct, the visual representation of heritage is also a social and cultural process. In this context, encounters with heritage generate their own ‘visual culture’ from taking photographs and sending postcards to drawing and assimilating texts that add meaning to the encounter (Watson and Waterton 2010). Photographs are a common way to communicate personal experiences and perceived images of a place (Schmallegger, Carson, and Jacobsen 2010). Photographs, and in our case children’s drawings of a place, are a medium through which people, including children, relate to visual images and make them their own (Stepchenkova and Zhan 2013). In the twenty-first century, the increased use of digital technologies and social media has been accompanied by a

growing research interest in addressing landscape perceptions and cultural values through the analysis of photos posted on social media platforms (Frias-Martinez et al. 2012; Dunkel 2015; Zanten et al. 2016; Ginzarly, Pereira Roders, and Teller 2019). Online photos, and similarly drawings, posted by users provide information about practices, human relationships with landscapes, and the range of cultural values associated with the landscape (Oteros-Rozas et al. 2018). Moreover, asking people to draw images depicting heritage components has been identified as an effective methodological approach to research in cultural heritage studies (Keitumetse 2009). This argument is based on the premise that drawings emphasize the physical characteristics of a heritage asset as well as its cultural meaning as presented by the drawer (Keitumetse 2009).

As the visual qualities of space are hard to verbalise, children's perceptions of the environment and its visual qualities both as preferred and experienced are better captured through their artistic expressions (Gharahbeiglu 2007). 'Perceptions, aesthetics and artistic expressions have a holistic nature' (Antrop and Van Eetvelde 2017, 5). Perception extends beyond descriptive processes and the sensing of visual information, as it manifests more fundamentally as other senses are invoked by it along with memories, affections, motivations, values, and personal preferences (Antrop and Van Eetvelde 2017; Fulkerson 2020).

Perceived values are the construct of different dimensions depending on the context to which they are applied, and they could contain functional, historical, emotional, and social value among others (Yao et al. 2020; Zhang et al. 2020). For instance, Heredia-Carroza, Palma Martos, and Aguado (2020) documented that feelings appear as a key element in the assessment of intangible cultural heritage's perceived value. The concept of perceived value is an approximation of cultural value. The latter has been dealt with extensively in anthropology, sociology, and heritage studies. Scholars, as well as intergovernmental organizations, have developed different typologies of cultural values to cover aesthetic, historical, social, spiritual, and economic values (ICOMOS Australia 1999, 2013; Mason 2002; Tarrafa Silva and Pereira Roders 2012). To understand how cultural heritage is valued, recent studies advocate the application of context-driven cultural evaluations instead of pre-defined restricting typologies (Fredheim and Khalaf 2016; Duval et al. 2019). Following this approach, in our study we do not apply a pre-defined typology of cultural values; instead, we build on children's narratives to induce their perceived values of WH.

### ***2.3 Drawings and narratives as a tool to evaluate Children's WH perception***

Children's drawings provide insights into their cognitive, affective and social development (Bowker 2007). Children's drawings provide a window into their thoughts and feelings, mainly because they reflect an image of their own mind (Thomas and Silk 1990). From the age of two and a half years, children use their drawings to explain concepts or thoughts; in this context, drawing has been identified as an inclusive research activity for children given that it is an unstructured familiar activity and a popular means of communication (Barker and Weller 2003; Einarsdottir, Dockett, and Perry 2009).

The discourse of drawing as meaning-making is evident in the number of studies involving young children (Einarsdottir, Dockett, and Perry 2009). The use of drawing to understand children's perceptions and thoughts about the environment has been identified as a powerful evaluation tool (Barraza 1999; Alerby 2000). Van Manen, (1997) points out that art can be seen as text with its own form of grammar, and the experiences of the children are expressed equally well through art as they are through words. It is the inherent fluidity and creativity involved in the art process that is likely to give valuable insights into the child's perceptions which may be less available through more structured research activities (Wright 2010). According to Schirmacher (2001), for children, expressing their feelings and ideas through drawing can be easier than speaking. Moreover, in visually appealing contexts like tropical rainforests or WH sites, children's perceptions are often best captured through a visual medium rather than an oral or written one (Bowker 2007), mainly because children's drawings are products of their 'pure' sensitivity towards the environment and direct expressions of their feelings (Tansuğ, 1998). In this context, drawing gives children the opportunity to express themselves (Samurçay, 2006). Historically, psychotherapists and clinical counsellors have analysed children's drawings as projections of personality traits and have used art as a powerful tool in communication (Malchiodi 2003). However, using the analysis of drawings to evaluate children's perceptions, knowledge, and understanding of WH is still in its infancy (Kress and Van Leeuwen 2020).

Experiential narratives are an alternative way to conceptualise an emotional connection to a place (Rontani 2012). Community narratives, including children's narratives, support the meaning-making of place as well as the creative meeting between users and other stakeholders, including experts and decision-makers (Foth, Klæbe, and Hearn 2008). For some children,

drawing could encourage the verbalization of their personal experiences facilitating the production of a rich detailed description composed of emotions and facts from a personal perspective (Veale 2005). Visual narratives can act as a framework as they communicate attractions and values associated with a place in a comprehensive way (Mossberg et al. 2011). Correspondingly, narratives and the storytelling processes shed light on the way meaning is constructed and the ways people, including children, experience the world (Lucius-Hoene and Deppermann 2000). Since cultural heritage is subject to diverse interpretations and associations of meanings related to personal perceptions, experiential values, and knowledge (Graham & Howard, 2012; Taylor, 2016), children's narratives of WH provide a window to non-expert perceptions and an alternative to the official narratives. A common tension within WH sites is controversy over official heritage narratives that, most of the time, exclude interpretative narratives from vulnerable groups that are marginalized by class, gender, or race (De Cesari and Herzfeld 2015). This leads, in the literature, to a debate on whether WH narratives should focus on OUV and what these sites have in common on the global scale or local values and communitarian identity representative of local contexts (Beck 2006; De Cesari and Herzfeld 2015; Herzfeld 2015; Ginzarly, Farah, and Teller 2019).

In this study, we focus on the ways children perceive WH through both drawings and narratives. The use of an integrated approach including both visual and text analysis serves to capture the multiplicity and complexity of children's perceptions adding a valuable voice to the WH discourse.

### **3. Materials and Method**

To conduct the empirical study, data with the #ShareOurHeritage hashtag were collected for the time period between 8 April and 17 May 2020 yielding a dataset of 1,479 photos of children's artwork from Instagram. Two distinct stages of data processing were required: (1) data collection and pre-processing and (2) data processing comprising two further steps — the visual analysis of photos and the qualitative analysis of narratives posted in the form of tags.

#### ***3.1 Data collection and pre-processing***

We used Webharvy, a web data crawling software, to retrieve Instagram photos of children's artwork along with all embedded metadata, including the geographical location, date, and hashtags. The researchers obtained permission from UNESCO to publish the findings of this investigation. It is worth stressing that (1) participation in the call required parental or guardian

consent; (2) participants were asked to make public Instagram accounts through which children's artwork are published (UNESCO WHC 2020), and (3) all the photos are now publicly available on UNESCO's cultural sector webpage.

The first step of data pre-processing consisted of eliminating posts that are not part of the Little Artists Exhibition reducing the number of relevant photos to 936. Then repeated posts were combined into one. As a result, the number of analysed posts was reduced to 565. To maintain the anonymity of the children, their names were replaced with a number prefixed by K. Afterwards, in R-Studio (R Core Team 2020), we used the textcat package (Hornik et al. 2013) to specify the language of posts and the maps package (Deckmyn 2018) to identify the location of posts that were missing geographical reference. The maps package extracts the location from the tags, for instance in this tag: 'I am from Cambodia ... I drew Angkor Wat in Cambodia for the UNESCO's Art Exhibition. I became interested in Angkor Wat when I spent my last trip there with family in 2019' (K546), the package identifies Cambodia as the location of the post. Overall, 47 countries were identified along with 12 different languages. The frequency of languages ranges from 1 to 424 with English being the most recurrent in the dataset. An Excel translation tool was employed to translate all the posts into English.

### ***3.2 Data processing***

Different data processing strategies were taken to handle the artwork and the associated text-based tags. Each strategy is addressed in turn in the following subsections.

#### ***3.2.1 Visual analysis***

Since we are analysing children's artworks – which are fundamentally images – a first attempt for extracting features from scenes employed the widely used Keras application for deep learning image classification using the VGG16 model (Simonyan and Zisserman 2015; Falbel et al. 2021). This strategy, however, only reached high accuracy in illustrations depicting (1) monuments — including castles, monasteries, palaces and churches, and mosques and (2) natural scenes — including cliffs, mountains, and valleys, whereas, drawings that represent both natural and built elements or people, practices, and animals showed low accuracy. For instance, drawings depicting a traditional dance, a festival, or a traditional New Year outdoor celebration are sequentially classified by the model as `jigsaw_puzzle`, `comic_book`, and `envelope`. Even though machine learning models for scene recognition are already a mature field in computer vision with many

frontier papers about the structure and code details of the model (M. Wu and Chen 2015; Cheng et al. 2018), it is not currently a useful strategy for the recognition of artwork.

Accordingly, to reach a nuanced visual analysis that is domain-specific and depicts different elements of visual perception, we applied a manual classification to describe the drawings' content. First, we identified 12 scenes (Fig.2), then we classified them into five hierarchically inclusive categories of children's perception of WH (Table 1), including (1) heritage as a built tangible asset; (2) heritage as a natural landscape; (3) heritage as a built and natural landscape; (4) heritage as a practice; and (5) heritage as a built, natural, and social environment.

### 3.2.2 Qualitative analysis of tags

For a more in-depth analysis of children's heritage perception, we used the RQDA package for qualitative data analysis (Huang 2016). Among the 565 drawings, 281 were complemented with personal narratives. Before developing a codebook, we first identified whether children are depicting in their drawing a WH site in their country or another country. Afterwards, the tags were assessed by applying thematic analysis following the phases outlined by Braun & Clarke (2006). To avoid bias, the principal researcher and two graduate research assistants coded the data independently. Phase one consisted of a close reading of the tags and an immersion in the data. In phase two, the codes were generated and 38 initial codes were identified by the researchers. The codes were thoroughly compared in terms of their similarities and differences, the similar codes were merged. Following this process, 9 general codes emerged from the dataset. In phase three, the themes were identified through grouping together the codes that share an underlying meaning. Then the themes were reviewed and refined. Finally, the data-driven codes were classified under 4 themes (Table 2).

## **4. Results and Discussion**

### ***4.1 Children's Perceived Image of WH***

Before deciphering the content of drawings, it is worth mentioning that 92% of the children depicted a WH property in their own country, 7% depicted WH from other countries, and 1% of the drawings are from expats representing a WH property in their native country. Thus, most of the drawings are representative of the children's national heritage. Children's most frequent perception is that of heritage as a built tangible asset (38%), followed by heritage as a natural

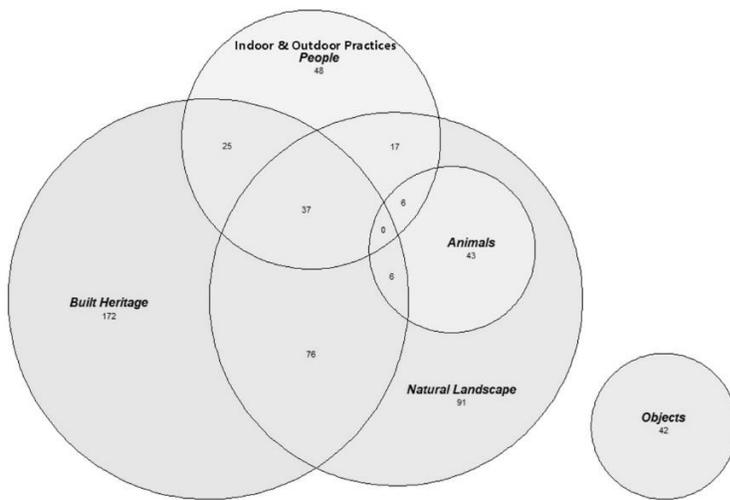
landscape (24%), heritage as a practice (17%), heritage as a built and natural landscape (14.5%), and heritage as a holistic built, natural, and social environment (6.5%). Table 1 presents the 12 scenes identified in the dataset and their corresponding categories of WH perception. In Table 1, under the ‘drawing scene’ section, we present examples of drawing titles as given by the children.

Table 1. Heritage perceptual categories derived from the 12 identified scenes in the children’s drawings.

<i>Drawing content</i>	<i>Drawing Scene</i>	<i>Frequency</i>	<i>WH perception</i>
Built heritage	temple, monastery, cathedral, church, palace, statue, building, monument, mosque, Eiffel Tower, Taj Mahal	172	Heritage as a built tangible asset
Objects	stone sculpture, fresco on wall, painting, batik (textile), ceramic pot, ceramic tile, relief motifs	42	
Natural landscape	mountain, nature, river, flower, valley, park, rock, landscape, trees, rainforest	91	Heritage as a natural landscape
Natural landscape & animals	Park and komodo dragon, Lac and rhinoceros, forest and peacocks, trees and panda	43	
Built heritage & natural landscape	Mughal fort complex and the Buriganga River, Haghpat monastery and surrounding hills	76	Heritage as a built and natural landscape
Built heritage, natural landscape & animals	Machu Picchu, mountains, and llama	6	
Outdoor practices	Naqsh-e Jahan square and Chogan game, Gilan local wedding, local market, pottery workshop, Engklek traditional games	29	Heritage as a practice and intangible asset
Indoor practices	Yalda nights.	19	
Built heritage & people	Prambanan temple with Ramayana ballet, Borobodur temple and children playing	27	
Natural landscape & people	rice farming, people on the beach	17	
Natural landscape, animals & people	trees, lake, plants with rhinoceros and children playing	6	
Built heritage, natural landscape & people	temple with surrounding mountains in the background, trees and plants in the foreground, and people dancing and children playing	37	Heritage as a built, natural, and social environment

The outcome of the visual analysis presented in Table 1 is of high value because it shows the plurality and diversity of children’s visual perception and it highlights the heritage aspects that are the most attractive or meaningful to children. The analysis of the broader scenes depicted in the drawings provides insights not only into built and natural settings but also into practices and activities. These practices and activities represent children’s intangible heritage, including playing and participating in outdoor practices like picnicking, farming, and festivities such as weddings and New Year’s Eve celebrations (Figure 2). The Venn diagram (Figure 1) illustrates the existing relationship between built and natural landscape, people and their outdoor and indoor practices, and animals in the children’s drawings. It also shows that only drawings depicting objects do not overlap with the other different drawing scenes. They are visually represented as objective displays of artefacts and artwork – like pottery vessels, stone sculptures, fresco on walls, and paintings – apart from people and the landscape.

Figure 1. Venn diagram showing the relation between the 12 different drawing scenes.



Drawings that feature built heritage assets within their wider context displaying the surrounding natural environment show that, for children, a heritage site’s attractiveness involves landscape features that, as demonstrated by several heritage studies, are preferred for their scenic and recreational appeal and their socio-cultural vitality (Lai, Said, and Kubota 2013; Tu 2020). Drawings that depict people feature distinctive characteristics of heritage, including the use of public space, daily and spiritual practices, and social customs. For instance, there are drawings for food bazaars, baking, farming, fishing, pottery making, weaving, dancing, praying, children playing, and social gatherings. Local cultural expressions, for instance, people wearing a headscarf

or traditional costumes are also featured in many children's drawings. In order to highlight the characteristics of children's perceptions of heritage, samples of the different scenes are presented in Figure. 2. Vibrant bright colours dominate most of the drawings and a blue sky is present in almost every illustration depicting an outdoor scene. These depictions evidence the children's attraction to the physical appearance of WH and could also indicate a positive emotional perception of WH. To determine feelings, personal expressions, and meanings that are associated with the children's visual perceptions, the next section examines the written tags accompanying the drawings submitted to the call.

Figure 2. Sample of the 12 different scenes representing children's visual perception of WH.



## 4.2 Children's perceived value of WH

Table 2 presents the 9 general codes and 4 themes that emerged from the dataset of 281 tags. The different codes are not exclusive, meaning a narrative can express feelings and aesthetic appreciation at the same time, ex: 'I love nature, I care about animals, I like adventures. Ujung Kulon National Park is a beautiful place that inspires me a lot' (K58).

Table 2. Children's perceived value of WH.

<i>Codes</i>	<i>Quotes</i>	<i>Frequency</i>	<i>Themes</i>
<i>Historic value</i>	K134- I'm 7 years old and I drew Masuleh city in Gilan. This old city is beautiful, colorful and a historic place without cars.	28	Children's historic and aesthetic appreciation of WH
<i>Aesthetics associated with WH</i>	K345- The most exotic minarets of this monument will take your breath away.	103	
<i>Expressing feelings towards heritage, the country, animals, or nature</i>	K53- In this drawing, I have tried to show my love for my country and culture. K29- I love Pandas. They are SO CUTE! K58- I love nature... I care about animals... I like adventure... and I really love art. K370- [...] these emotions that I feel are indescribable.	75	Children's emotional and experiential association with built heritage and nature
<i>The site is inspiring or stimulating</i>	K104- What inspired me to draw this is the Makala that you can see on the temple. K248- When I was in the mountains last summer, I noticed that most of the forest is occupied by pines [...] I'm sure it's like a fairy tale in winter.	17	Children's inspirational and imaginative stories
<i>Imaginative stories</i>	K302- The work I have drawn is my fantasy. I imagined how I touch historical places.	15	
<i>Representing games and activities at heritage sites</i>	K11- A lot of traditional games we can play, be healthier and develop brotherhood. K86- Carriage rides in Naghsh Jahan Square for fun.	7	
<i>Enjoy drawing</i>	K210- [...] I really enjoyed drawing it, since I want to be an architect in the future. K307- Camels are amazing animals. I love to draw them.	24	

Table 2. Continued

<i>Codes</i>	<i>Quotes</i>	<i>Frequency</i>	<i>Themes</i>
<i>Sharing a personal story</i>	K34- [...] I personally think it is really beautiful. I went there, we took the train then the bus to get to the top of the mountain. My dad got licked by a llama! Hahahahaha.	48	Heritage as a social construct
<i>Expressions of intangible heritage</i>	K24- I painted this local tradition from keraton Surakarta... In my painting, there are people who are working together to prepare the festivities.	48	

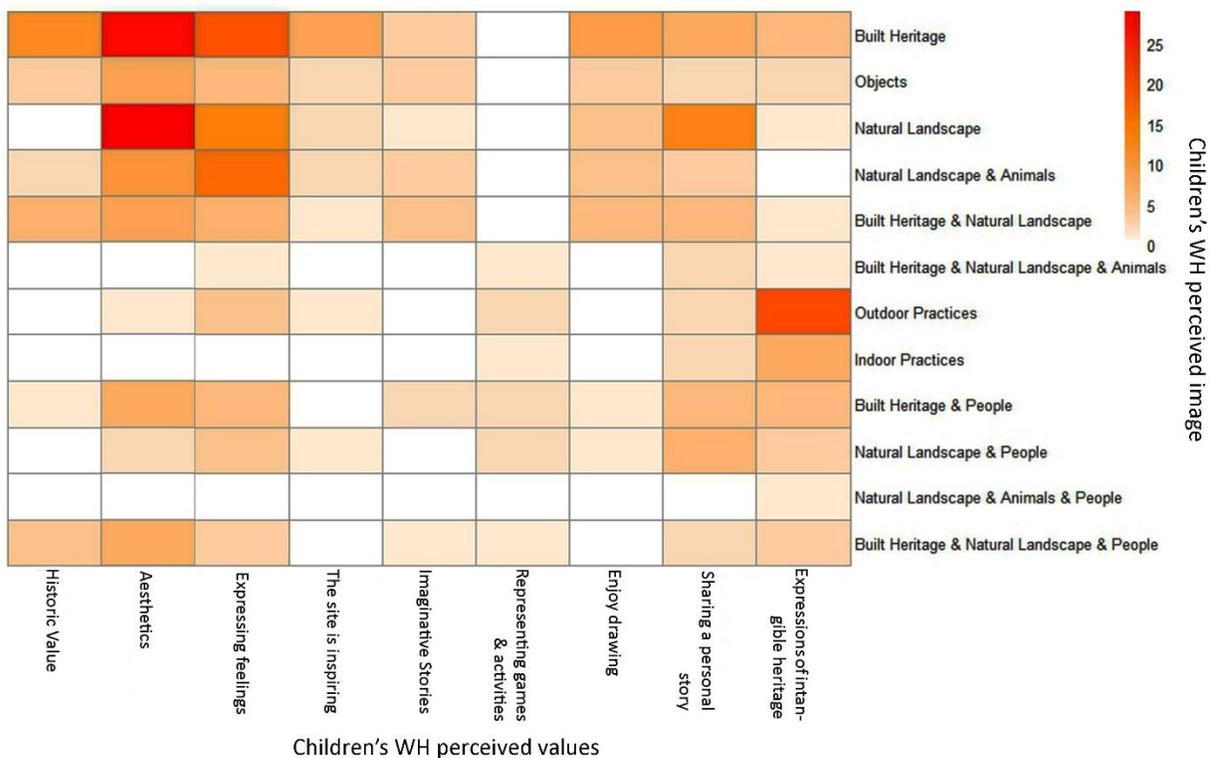
Results from the qualitative analysis reflect the complexity of visual perception and its subjective association with meaning. They show how children's perception is not only shaped by the features of the visible environment, but also by unique personal expressions, intangible attributes, and values. These narratives are a part of children's cultural identities as they express the interaction between children and the environment and the features that are influencing their perceptions. Within the children's perceptions, the WH setting extends beyond the physical and visual aspects to comprise personal meanings derived from children's encounters with heritage. The narratives include children's own vocabulary and reflect historic and aesthetic values attributed to heritage, emotional expressions, inspirations, and personal stories emphasizing children's social construction of heritage.

The association analysis between the depicted scenes (perceived image) and narratives (perceived values), visible in Figure 3, shows that built heritage, natural landscape, and natural landscape and animals scenes are primarily associated with aesthetic value and expressions of feelings as captured by the darkest coloured cells in the matrix. It also shows that the historic value is mainly attributed to the built heritage. Moreover, expressions of intangible heritage are mainly attributed to outdoor practices followed by indoor practices, whereas personal stories are highly associated with natural landscapes. Results show as well that objects are mainly associated with aesthetic value followed by expressions of feelings, historic value, and imaginative stories. So even though, as shown previously, objects are not depicted in the drawings in relation to the environment or people, children ascribe to them a variety of values that encompass aesthetics. While this outcome reveals children's preference for aesthetic quality and the 'beauty' of built and natural landscapes, it also highlights children's emotional and experiential association with the

latter. In this context, the visual representations of WH are not displays of the tangible heritage but are the product of experiencing that recalls emotions and memories.

Results discussed in the previous paragraph serve the broad definition of cultural heritage as at the turn of the twenty-first century, a holistic conceptualization of heritage was developed to include along with tangible assets, the practices and experiences of a place accompanied by personal perceptions that result from the human-environment relationship (Council of Europe 2000; UNESCO 2011). Central to this conceptualization is that the cultural landscape of heritage, besides being a physical entity, is a lived space, a socio-cultural construct, and a mental perception of the environment that changes in time and space (Tress et al. 2001; Stephenson 2008; Thompson 2013).

Figure 3. Heat map showing the association between children’s WH perceived image and perceived values.

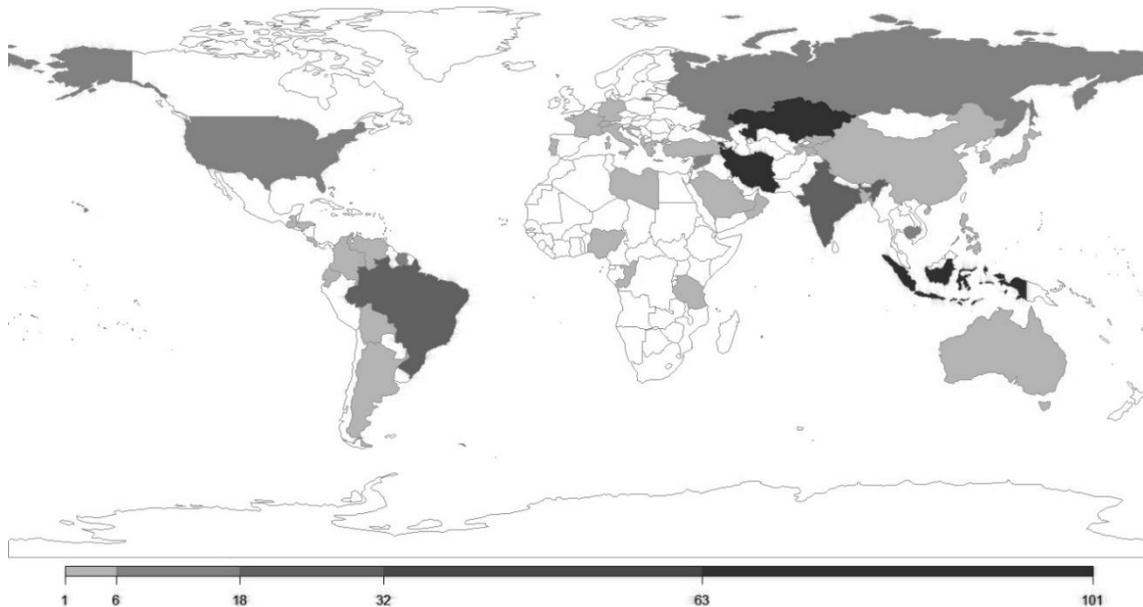


### 4.3 Geographical distribution of Children’s drawings.

The geographical distribution of drawings shows that the number of posts per country ranges from 1 to 101. The total number of drawings from countries in North America, Oceania, and Africa is too small, compared to countries in Asia, Europe, and South America. There is a disparity in the

geographical distribution of Children’s contributions with only 6 countries whose drawings have exceeded 20, including Indonesia, Kazakhstan, Iran, Armenia, Brazil, and India with a total number of 418 drawings (Fig. 4). Within the most contributing countries, the comparison of the percentage of drawings in each perceptual category reveals similarities and differences among the children’s perceptions of WH.

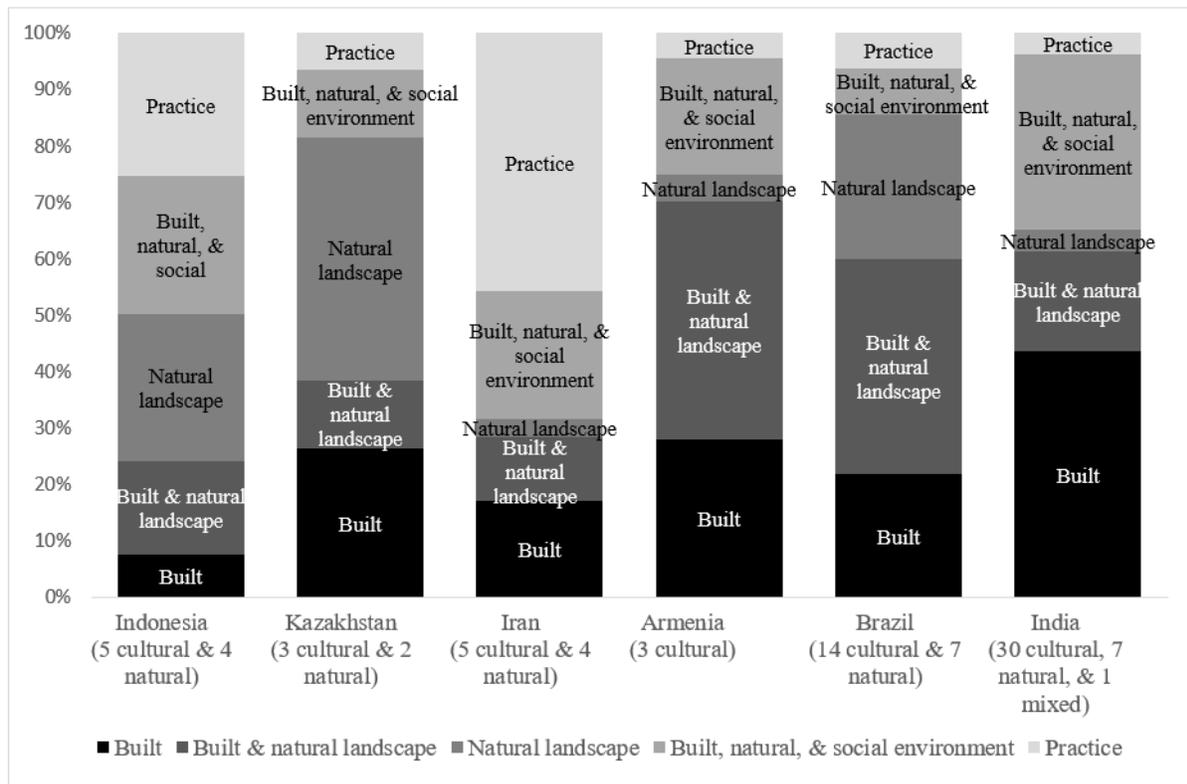
Figure 4. Geographical distribution of drawings.



In general, children hold similar perceptions of heritage. In the different countries, children have expressed a holistic perception combining built, natural, and intangible assets. Among the differences, in Iran, children have a stronger perception of heritage as a socio-cultural practice, while in Kazakhstan heritage is perceived more frequently as a natural landscape, in India as a built asset, and in Armenia and Brazil as a built and natural landscape. In Indonesia, the perception of heritage mainly combines heritage as a practice, as a natural landscape, and as a mix of tangible and intangible attributes (Fig. 5). The results are interesting because they do not reflect the distribution of UNESCO’s WH sites. For instance, Indonesia has only 9 WH sites of which 5 are cultural and 4 are natural, whereas Kazakhstan has only 5 WH sites among which 3 are cultural and 2 are natural (UNESCO, 2020b). However, these two countries have more than 60 contributions, whereas Italy with 51 WH sites – the highest number in the world – has only 5 contributions. In general, at the continent level, only 23 contributions are from Europe despite that Europe has around 400 listed WH sites. Most probably the geographical distribution of drawings

is reflective of the way that the Little Artist Exhibition campaign was promoted and prioritized by UNESCO and heritage officers in countries around the World. The outcome from this investigation could provide useful information to experts as it allows them to derive from children’s visual perception diverse preferences among the different countries. The inclusion of children’s perspectives in discussions about collective memory, values, and personal preferences contributes to the protection of cultural heritage assets and their associated values and the development of sustainable societies (UNESCO 2017).

Figure 5. Bar chart of children’s visual depictions as percentages within 5 categories across the most frequent countries in the dataset. The text in parenthesis indicates the number of designated WH sites in each country.



## 5. Conclusion

This paper contributes to a comprehensive understanding of children’s perception of WH. It investigated children’s perceived image and values of WH through a mixed visual and qualitative method. The first assessment was more objective and relied on a classification model based on the content of children’s drawings. The second evaluated children’s narratives focusing on their characterization language to identify the personal interaction between children and the WH

depicted in the drawing. This second assessment allowed extending the definition of heritage beyond the binary of tangible and intangible or built and natural to unveil other aspects that arise from children's personal experiences. This allows for the capture of less salient but important aspects in the understanding of heritage, such as feelings, personal stories, and activities among others. Both analyses complement each other to give a robust window into children's interpretations of heritage based on their personal perception. In this way, this article contributes to the existing literature on children as agents and co-creators of cultural heritage.

As socio-cultural relationships are intertwined with spatial perception, the study of heritage representations in this article serves to capture these complex relationships among an underrepresented population. When the focus is on children, we should acknowledge the inevitable direct and indirect influence of teachers and parents on children's perception and use of heritage. Needless to say, children's heritage extends beyond the designated and authorised heritage. While this study focused on the perception of WH, results showed that some of the children included playing as an activity in WH sites and others have represented practices that reflect children's everyday heritage and value systems within the context of the everyday landscape. This outcome could be complemented with an investigation on children's perception of cultural heritage beyond the heritage by designation and WH sites. Despite growing calls to include diverse voices in heritage narratives, investigations on children's narratives and definitions of heritage are still scarce, and future research could elaborate on this.

Furthermore, the findings have implications for the broader debate on WH and associated values. The outcome of this paper highlighted the significance of heritage beyond the definition of OUV within the context of WH. By doing so, it elaborated on the diversity of values associated with WH from the perspective of children contributing to the debate over OUV and advocating the inclusion of vulnerable groups, including the youth, in cross-cultural dialogues. Children's perception of WH could also inform decision-making processes in heritage management and conservation on the diverse interests and interpretations of WH allowing an appropriation of WH values that arise from below. For instance, our results showed that, from the perspective of children, in addition to the historic and aesthetic values, WH is associated as well with emotional and experiential expressions as well as personal, inspirational, and imaginative stories.

While safeguarding ‘past’ heritage for future generations is at the heart of sustainable heritage conservation, the empowerment and inclusion of the youth in decision-making processes remain important, especially since recent recommendations on the conservation and management of cultural heritage recommend the application of a value-based approach that incorporates associative values and multiple perspectives from different stakeholders (Van Oers and Pereira Roders 2012; UNESCO 2016). In that sense, the collaboration with communities associated with cultural heritage is emphasized to grasp the different cultural values that could support cross-cultural dialogue between the different stakeholders about what to preserve and how (Mason and Avrami 2002; de La Torre 2013).

Finally, it has to be stressed that the outcome of this investigation is limited to the UNESCO call, which is a strength and a weakness at the same time. While the call is global and open to everyone, the dataset showed that contributions do not exhibit global representation. Moreover, the virtual contribution of children’s artwork could raise questions regarding the extent to which their contribution was influenced by adults’ supervision or opinion. In-situ, face-to-face, or supervised online surveys could complement the findings from this investigation. As heritage values are by some means the product of a collective co-construction, eliciting children’s socio-cultural interaction processes would typically require developing cultural heritage mapping workshops in complement with heritage perception surveys.

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