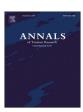
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Sustainable tourism and social value at World Heritage Sites: Towards a conservation plan for Altamira, Spain



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ABSTRACT

This study aims to identify the factors that constitute the social value of heritage in relation to sustainable tourism. To do so, this paper provides a theoretical contribution by unifying the fields of heritage management and sustainable tourism through a mixed-method approach. It showcases the social dimension of the World Heritage Site of Altamira, Spain, combining qualitative and quantitative techniques. Research findings provide information about the multiple factors determining the social value of heritage, namely: existential, aesthetic, economic, and legacy values and the risks associated with underestimating the contemporary social value. Ultimately, this research paves the way for improving normative approaches toward sustainable tourism and, offers practical solutions to the challenges faced by the Altamira and other World Heritage Sites.

Introduction

The social dimension of value has become a cornerstone of the debate on conservation, management, and tourism sustainability with regard to cultural heritage (Ross, Saxena, Correia, & Deutz, 2017). The first recently published Special Eurobarometer on Cultural Heritage (European Commission, 2017) reveals the contemporary relevance of cultural heritage for the European economy and society. In fact, 27,881 interviews show that 80% of European citizens think cultural heritage is important to them personally, and also that it is important for the European Union. The same proportion agrees that Europe's cultural heritage creates jobs in the EU. Moreover, the European Commission has declared 2018 as "The European Year of Cultural Heritage" (European Parliament, 2017). Under the slogan "Our heritage: where the past meets the future," cultural heritage conservation takes on special relevance for the European policy agenda and research debate.

Considering the need for detailed case studies exploring the relationship between cultural heritage management and its social perception, this article will propose some new possible theoretical explanations, showing a recent case study applied to the UNESCO World Heritage Site (WHS) of Altamira, Spain. In particular, it will showcase the social dimension of this place, regarding on preservation and sustainability concerns in the face of tourism pressure. The social sciences have largely explored the complex relationship between heritage conservation, tourism management, and local communities, documenting conflicts and experiences that have led to the destruction of heritage sites. This academic debate ultimately calls attention to the problem of mid-term and long-term tourism sustainability in heritage sites (Drost, 1996).

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In terms of framing this research problem, previous literature recommends overcoming epistemological differences between disciplines in order to determine sustainable tourism scenarios for regions and to meet economic, sociocultural, and environmental needs of stakeholders (McGehee et al., 2013). In parallel, the social dimension of UNESCO's WHS's has acquired analytical relevance in the area of tourism management (Conway, 2014), an issue with a long-standing scholarly tradition within the field of cultural heritage studies (De la Torre, 2002; Smith, 2009).

The theoretical contribution of this manuscript is to link sustainable tourism and heritage management studies considering the social-value dimension of cultural heritage. A conceptual connection between both research fields contributes to establishing a fruitful theoretical dialogue as well as contributing in practice to WHS management. The conceptualization of social value as an analytical category allows for the discussion of the seminal issues explored by Greffe (2004), who highlights the need to move beyond the objective state of heritage conservation (as established by expert-driven assessments) in order to incorporate the subjective appreciation of other actors such as local communities and visitors. The latter are also predisposed to conserve and pay for heritage services and experiences, ensuring the sustainability of those sites and values (McCabe & Johnson, 2013; Poria, Butler, & Airey, 2003).

However, the complexity involved in attempting to consider social value and measure its effectiveness has involved a shift in the academic debate on cultural heritage from a focus on theory to attempts to put it into practice (Díaz-Andreu, 2017). Despite the emergence of studies addressing the social value of heritage sites, the relevance of this research derives from the fact that, to date, no studies bringing together theoretical developments with practical implementation, nor investigations connecting these practices with the extensively developed field of sustainable tourism (Woosnam et al., 2018).

Given this research gap in the fields of cultural heritage management and sustainable tourism, the specific aim of this paper is to explore the following research question: how can the social value dimension be included in WHSs management plans to ensure sustainable tourism? And, from an empirical point of view, what are the multiple factors determining the social value dimension in the case of Altamira WHS? The case study presented here rests on a large-scale research project aimed at developing *The Research Program for the Preventive Conservation and Access Regime for the Altamira Cave, 2012–2014*, or PROALT, commissioned by the Spanish Ministry of Education and supported by the Culture Program of the European Commission (2013–2018).

The originality of the project lies in the fact that, for the first time in Spain and in such a relevant site, the study incorporated a social value dimension for the diagnosis of the state of conservation of the Altamira WHS as a basis for developing sustainable tourism and management plans. Beyond the particulars of this case, it contributes to the identification of social values in heritage conservation (Low, 2002), as well as to the contemporary appreciations that might contribute to sustainable tourism (Loulanski & Loulanski, 2011). A mixed method approach combining qualitative (literature review, archival material, and an expert panel) and quantitative techniques (two surveys involving 3095 questionnaires to visitors and the Spanish population) was implemented to understand the social value of Altamira WHS through contemporary and historical lenses, taking into account the perspective of different stakeholders. The results of this study include a series of strategic measures aimed at incorporating the conclusions and understandings for the preservation, management, and sustainable tourism of Altamira.

Theoretical framework

The controversy regarding WHS protection and tourism management

Cultural heritage is recognized as one of the most significant and fastest growing components of tourism in the twenty-first century (Timothy & Boyd, 2006). It is characterized as the valued traditions, immaterial or material (in the form of objects or places) to be managed to balance commercial pressures and heritage conservation. Some of these places are recognized as WHSs by UNESCO due to its outstanding universal value (Tucker & Carnegie, 2014). When a site is listed a WHS, its international visibility is heightened, becoming a determining factor for the increased number of visitors and a greater touristic appeal of the area (Drost, 1996). The WHS designation also involves transformations in conservation plans as well as being a source of conflict between the multiplicity of stakeholders that interact in these places, such as local communities, public authorities, or the tourism industry (Hampton, 2005). The socioeconomic relevance and the conservation dilemmas related to WHSs contributes to the development of the theoretical corpus of heritage tourism (Poria et al., 2003).

Research about heritage tourism has predominantly focused on scientific, historical, or cultural criteria established by expert-driven assessments (Parkinson, Scott, & Redmond, 2016). Accordingly, places are designated as WHSs based on a series of factors established by the World Heritage Convention (UNESCO, 1972), which are related to the degree of deterioration, physical integrity, and authenticity of the sites (Poria, Reichel, & Cohen, 2013). However, these expert-driven criteria, that prioritize heritage conservation and protection, may not be interpreted in the same way by other interested parties, such as visitors or residents, generating disagreements over site management and leading to controversies over what is recognized or not as a WHS (Alonso González, 2016). The monopoly over cultural heritage management by a class of professionals and experts, such as politicians or public heritage authorities, has led to the development of an Authorized Heritage Discourse (AHD) (Smith, 2006). The AHD developed in the field of Heritage Studies represents a critical approach to explaining why and how some stakeholders within heritagization processes take power, trying to maintain a disciplinary niche and excluding other voices. The exclusion of other voices in the process of making heritage calls into question the authenticity of heritage sites for local communities or visitors (Park & Santos, 2017), as well as the mid- and long-term sustainability of WHSs (Yi, Fu, Yu, & Jiang, 2018).

Empirical evidence reveals the strategic importance of non-expert positions, such as those of visitors, in the planning and management of WHSs (Bourdeau & Gravari-Barbas, 2016). Fully grasping different stakeholders' positions allows for a deeper

understanding of the strategic role of heritage tourism in a postmodern cultural economy (Throsby, 2003; Timothy, 2017). Therefore, it is fundamental to incorporate multiple perspectives in order to reduce conflicts and develop sustainable heritage-management programs, overcoming technical paradigms associated with conservation policies or the development of an economy for tourism (Bianchi, 2017).

Sustainable tourism and social value for WHS

The concept of sustainable tourism has gained widespread theoretical acceptance as a way of reconciling tensions and balancing various aspects of heritage conservation, tourism management, social pressures, and economic development (Buckley, 2012). Since the 1990s, sustainable tourism has come to represent an overarching paradigm that incorporates a range of approaches to the tourism/environmental system within destination areas (Hunter, 1997). However, this paradigm has been criticized as representing a tourism-centered discourse both in academic and policy planning, failing to account for specific circumstances, its application, and effectiveness (Bramwell, 2015).

A holistic perspective regarding the question of sustainable tourism was introduced by Briassoulis (2002) as a way of managing

the natural, built, and sociocultural resources in destination areas of host communities in order to meet fundamental criteria of promoting their economic well-being, preserving their natural and socio-cultural capital, achieving intra- and intergenerational equity in the distribution of costs and benefits, securing their self-sufficiency, and satisfying the needs of tourists (p. 1065).

This description highlights the complexity of defining the applicability of the concept of sustainable tourism and the need to screen indicators for particular territories and case studies. Along this line, studies such as Torres-Delgado and Saarinen (2014), or Blancas, Lozano-Oyola, González, and Caballero (2016), introduced composite indicators in order to measure and quantify socioeconomic dimensions of sustainable tourism as instruments for decision-making. However, the robustness of these indicators is affected by the availability of quantitative information in each destination as well as the difficulty of reconciling and measuring various stakeholders' visions regarding heritage resources (Chi, Cai, & Li, 2017).

Another stream of research points out that WHSs' sustainability depends on engaging these theoretical debates in wider social sciences' controversies (Bramwell & Lane, 2014), making feasible new areas of inquiry for sustainable tourism (Liu, 2003). In turn, cultural heritage management research integrates the social value dimension as a determining factor in the protection of heritage. Social value has been defined by (Jones, 2017, p. 22) "as a collective attachment to place that embodies meanings and values that are important to a community". From this perspective, the collective attachment to heritage is understood as a dynamic and changing dimension across time and space, or as a process that incorporates a multiple stakeholder perspective rather than a fixed value category. But the question addressed here is precisely the variability of the social value of heritage as an analytic category, which involves not only understanding it but also making it effective for heritage management in practice (Díaz-Andreu, 2017).

While the reach of the social value of heritage is being debated conceptually even within institutions (Araoz, 2011; Council of Europe, 2005; Torre, 2002), to date there are no studies that analyze the practical implications of considering social value in the management of heritage sites or strategic historical settings such as WHSs. A conceptual connection between sustainable tourism and heritage management studies through the lens of social value might contribute to WHS management and its long-term sustainability. The case of the Altamira WHS allows for the illustration of how the social value dimension can be included in the implementation of a plan for conservation and tourism management, connecting, on a theoretical level, conservation, sustainable tourism, and the notion of social value.

Study methods

Research settings and methodology

The Cave of Altamira has been historically recognized as the *Sistine Chapel of Paleolithic Art* or the *Pinnacle of Paleolithic Work Art* because it preserves one of the oldest and more realist collections of prehistoric paintings (Saiz-Jimenez et al., 2011). It currently preserves an Upper Paleolithic rock paintings collection from 18,500 BCE and UNESCO declared this site a WHS in 1985. The Altamira Complex, located in the Cantabria region of northern Spain, is made up of a museum, the Cave, and a to-scale reproduction of the cave, the so-called Neo-Cave.

Since 1902, when the authenticity of the prehistoric origin of the Altamira paintings was scientifically confirmed, Altamira has become an archeological, historical, and cultural touchstone for understanding the origins of humanity (see Fig. 1).

The historical and archaeological uniqueness of this emblematic place manages to attract an average of 250,000 visitors per year, being the second most-visited Spanish public museum and a global touristic attraction (Parga Dans & Alonso González, 2017). However, the controversy regarding preventive conservation and the tourism management for the Cave of Altamira has never been solved. In fact, official closures and reopening periods of the Cave have endured until the present. The effects that the presence of humans could have on the conservation of the paintings has generated a great deal of concern among different stakeholders for years, pitting the local community and tourism industry against scientists and public authorities.

With the aim of managing and responding to this controversy, the Spanish government approved the project PROALT (2012–2014). Its aim was to establish the scientific basis for the Cave's conservation, as well as to define a visiting system that would guarantee the tourism sustainability of this site. Understanding that different social actors (and not only politicians or scientists) should play a key role in the management plan, the project included a study of the social value. This meant that an interdisciplinary

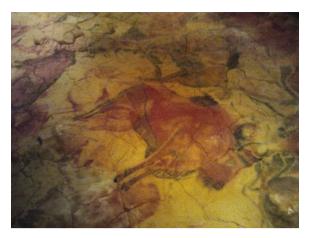


Fig. 1. Altamira bison artwork. Source: The authors.

team comprised of different specialists in heritage conservation (microbiological, ecological, physiological, or geological studies) as well as, for the first time, social scientists and humanists was included in the project.

Using a mixed method approach (McGehee et al., 2013), the resulting study aims to identify the factors that constitute the social value of Altamira, and how this contributes to the conservation management and tourism sustainability of this WHS. The mixed method approach consisted of the use of qualitative and quantitative techniques to study empirically, for the first time, the social value phenomenon through the Altamira case, lending consistency and convergence to the resulting analytic categories from the study and contributing to the academic debate about heritage conservation and tourism sustainability.

Qualitative phase

The qualitative phase consisted of the collection of information through literature review and archival material. The analysis and processing of the data collected sheds light on the social value of Altamira throughout history, based on the following benchmarks: 1) the definition of key milestones in the history of Altamira; 2) the setting up of a timeline from its discovery to the present; and 3) the identification of the range of social actors, or stakeholders (the local community, visitors, museum personnel, scientists and experts, politicians, entrepreneurs, etc.), who, on various geographic levels (local, regional, state, and international), participated in the construction of Altamira's social value.

In parallel, an expert panel was established, made up of 14 people with experience in heritage management and particularly within the Altamira WHS. It comprised two members of the board of directors of the Altamira Complex, four scientists from the Institute of Heritage Sciences (Incipit-CSIC), two specialists from two research centers affiliated with PROALT, four individuals from private companies specializing in heritage and social research, and two civil servants belonging to the Permanent Laboratory of Museum Audiences, Ministry of Culture of the Spanish Government.

The commitment of this expert panel to collaborating over the course of a two-year period allowed for a consistent framework for interpreting the information collected in the qualitative phase. It also functioned as a mechanism for validating the research techniques implemented in the quantitative phase. The specific tasks of the expert panel during the quantitative phase consisted of: 1) Participating in the design and validation of the face-to-face survey technique through the selection of target groups of specific stakeholders that should be included; 2) providing an interpretative framework for the results obtained through the interview technique, validating the resulting categories through the lens of the social value concept applied to Altamira; and 3) defining risks and opportunities associated with the conservation and tourism sustainability of Altamira, taking into account the global research results of the social value research carried out. This involved validating the resulting categories and integrating them with the quantitative and qualitative data collected. The working method of the expert panel consisted of face-to-face and network-based group meetings in order to facilitate the availability of the participants involved (Miller, 2001).

Quantitative phase

This phase involved the collection of firsthand data via the design and the implementation of face-to-face surveys to establish the social value of Altamira through a contemporary lens. In order to obtain a representative sample with the aim of inferring statistically representative and valid results, the survey design was limited to two groups of stakeholders: Altamira's visiting public and the Spanish population. Taking into account the economic and temporal limitations of the project, the methodological criterion agreed upon with the expert panel consisted of selecting the group of most representative actors in terms of population volume from the whole range of potential social actors identified during the qualitative phase. The delimitation of two groups of social actors (visitors and the Spanish population) is justified by the opportunity and statistical significance offered by sampling methods to infer results and establish generalizations through data collection and analysis in a series of representative cases on a larger population or universe

(Brannen, 2017).

Visitor survey at the museum. Altamira's visitors were surveyed through two different and complementary questionnaires: one aimed at determining the economic impact of visitors to Altamira in the Cantabria region and the other aimed at exploring the social value of the site through the different opinions, attitudes, and behaviors of visitors. In order to obtain a representative and random sample, visitors' data registered by the museum during 2012–239,829 visitors—disaggregated by month were considered³. Assuming that all of the visitors had the same probability of being selected for the survey, quotas for gender and age groups were incorporated. Moreover, some specific selection criteria were included in order to avoid bias in the representativeness of the sample: 1) one representative member of each group of visitors should participate; 2) three representative weeks from the visitor attendance cycles were taken into account for data collection, disaggregated by high, medium, and low tourism seasons; and 3) daily quotas, considering different time slots both in the morning and in the afternoon. In total, 2095 surveys were collected, 1067 to assess economic impact and 1028 to determine the social value of Altamira (see Table 1).

Questionnaires were structured with multiple-choice questions distributed in six thematic blocks regarding visit motivation, expectations, level of satisfaction; trip information, visitor expenditure; and visitor's profile⁴. Multiple-choice closed questions were complemented by some Likert-type questions with the aim of introducing assessments and response levels on scales (1 means "totally disagree" and 7 means "totally agree"). A final section to add open comments was included to allow stakeholders to ask any relevant question overlooked in the survey. The survey was administered from mid-June 2013 to mid-February 2014 and from Friday to Sunday in representative weeks of tourism seasons. With the assistance of a survey team, questionnaires were administered face-to-face to visitors above the age of 18 at the exit of the museum and in three possible languages, Spanish, English, and French, thus encouraging the participation of most visitor profiles (see Fig. 2).

A *telephone survey* was directed at a representative sample of the Spanish population over 18 years of age. The questionnaire was structured with multiple-choice questions regarding three thematic blocks aimed at unveiling the social value of Altamira: 1) knowledge, visibility, and relevance of Altamira, 2) evaluations and opinions regarding the debate over opening/closing of the Cave, and 3) the socioeconomic profile of the interviewees.⁵ As in the face-to-face interviews, multiple-choice closed questions were complemented by some Likert-type questions with the aim of introducing assessments and response levels on a scale (1 means "totally disagree" and 7 "totally agree"). Again, a final section for open comments was included. To calculate a representative sample of the Spanish population, a nonprobability sampling method was applied through the definition of territorial quotas for a total of 1000 questionnaires. The territorial demarcations follow the Classification of Territorial Units for Statistics (NUTS regions) established by the European Union for statistical purposes. It consists of seven NUTS in Spain and a specific category for the region of Cantabria, which allow for the exploration of the proximity factor based on the results obtained. This paved the way for assessing whether proximity affects the average and standard deviation of the general results obtained in the survey. The survey was administered from mid-May to mid-September 2014 and from Friday to Sunday. The procedure for selecting people to be surveyed contained the following criteria: 1) a quota of proportionality based on the total population of regions belonging to each NUTS; 2) a random-digit dialing following a proportionality in the numeric prefixes of the regions; 3) age and gender quotas; and 4) time slot quotas to avoid bias in socioeconomic profiles (see Table 2).

Data analysis

Data analysis was based on the definition of factors or categories about social value. First, consistent patterns in content through bibliographic review, the collection of archival material, and the examination of extant indicators were analyzed (Brannen, 2017). The content analysis served to trace a timeline of milestones or critical events in the course of Altamira's history and to establish an open codification of the main historic concepts. Second, the panel of experts examined the open codified categories initially proposed and carried out a more concrete codification. Then, a second codification was proposed during the design of the questionnaires through the definition and validation of thematic blocks. Third, making use of the descriptive statistics obtained from the surveys, various discussion sessions with the expert panel were conducted, developing an interactive process to establish key categories making up social value. Finally, the categories were employed to frame the discussion and conclusions of the research.

Findings and discussion

The historic controversy about the conservation and tourism development of Altamira

Bibliographic review and collection of archival material was fundamental to understanding how and why Altamira became an emblem of Spanish national identity and a global cultural touchstone, as well as to developing a timeline of Altamira's history.

The history of archeology in Spain started with the fortuitous discovery of the Altamira Cave in 1868 when an anonymous farmer called Modesto Cubillas entered the Cave while hunting. Modesto immediately reported his findings to the owner of the agricultural holding where he worked, the archaeologist and scientist Marcelino Sanz de Sautuola. However, the paintings within the Cave were

³ Simple Random Sampling was calculated considering the sample size (n) for finite populations (f less than 0.05), taking into account a 95% confidence level (z), the population size (N), maximum population variability (p = q = 0.5), and assuming a 3% sampling error (E).

⁴ See Annex 1 for more information on the questionnaire contents.

⁵ See Annex 1 for more information on the questionnaire.

Table 1Distribution of the number of surveys completed by wave. Source: The authors.

| Socioeconomic Impact | | | Assessment of Altamira | | | Total |
|----------------------|--------|------------|------------------------|--------|------------|-------|
| Wave | Number | Percentage | Wave | Number | Percentage | |
| 1st | 482 | 45.2 | 1st | 482 | 46.9 | 964 |
| 2nd | 397 | 37.2 | 2nd | 358 | 34.8 | 755 |
| 3rd | 188 | 17.6 | 3rd | 188 | 18.3 | 376 |
| Total | 1067 | 100 | Total | 1028 | 100 | 2095 |



Fig. 2. Survey at the museum. Source: Authors.

Table 2
Distribution of the number of telephone surveys. Source: The authors, based on the NUTS territorial classification for statistics (European Parliament, 2003).

| Completed quotas | | | | | | | | |
|------------------|--------|---------|---------|---------|-------|-------------|--|--|
| REGIONS | Number | Sex (n) | | Age (n) | | | | |
| | | n Men | n Women | 18–39 | 40–64 | 65 or above | | |
| CANT | 31 | 15 | 16 | 8 | 16 | 7 | | |
| ES1 | 81 | 37 | 44 | 25 | 34 | 22 | | |
| ES2 | 97 | 47 | 50 | 32 | 43 | 22 | | |
| ES3 | 138 | 66 | 72 | 51 | 63 | 24 | | |
| ES4 | 121 | 58 | 63 | 44 | 53 | 24 | | |
| ES5 | 291 | 142 | 149 | 97 | 132 | 62 | | |
| ES6 | 215 | 105 | 110 | 77 | 92 | 46 | | |
| ES7 | 26 | 12 | 14 | 9 | 13 | 4 | | |
| Total | 1000 | 482 | 518 | 343 | 446 | 211 | | |

not spotted until 1879. According to oral tradition, it was Marcelino Sanz de Sautuola's daughter who discovered the paintings. Sautuola presented the paintings at the Lisbon International Congress (1880) in a report entitled *Brief Notes on Some Prehistoric Objects from the Province of Santander*. This publication had a widespread impact among Spanish and European archaeologists and paleontologists, who rejected the prehistoric dating of the paintings and their authenticity. Scientific societies such as the Spanish Society of Natural History expressed their belief that neither the technique nor the color of the paintings could have been preserved in such a perfect condition for more than 18,500 years.

During this period, Spain was going through a time of political upheaval that spread throughout the reigns of Isabel II (1833–1868) and Alfonso XII (1874–1885), leading to a lack of interest in archaeological research despite being one of the countries with the greatest and most varied archeological heritages worldwide. Spanish heritage management concerns began after French scientific archeology developed in the mid-nineteenth century with the discovery of La Mouthe engravings at Dordogne in 1894. These findings helped in the confirmation of the authenticity of the Altamira painting by their main detractors. During the congress of the Association Française pour l'Avancement des Sciences, the archaeologist Emile Cartailhac (1902) publicly recognized the authenticity of the Cave in the paper "La grotte d'Altamira, Espagne. 'Mea culpa' d'un sceptique."

Unfortunately, Sanz de Sautuola's (1831–1888) studies on cave art were not scientifically recognized until 14 years after his death. Even so, the international Cave's fame and the history regarding the scientific controversy it raised have endured until the present. In fact, in 2016, director Hugh Hudson and famous Spanish actor Antonio Banderas took its history to the cinemas. The questioning of the authenticity of Altamira and the history of its gradual acknowledgement exemplifies the relevance of specific stakeholders, in this case the scientific community, in developing an Authorized Heritage Discourse that grants legitimacy to a heritage site. This AHD objectivates the conservation needs for the protection of Altamira, as emphasized by critical strands of heritage studies (Smith, 2006) and, more recently, by sustainable tourism research (Baral, Hazen, & Thapa, 2017). The acknowledgement of Altamira's authenticity by the scientific community increased the sociocultural significance of this heritage site, which shifted from representing a "cultural imaginary" to becoming an "operant resource" for the commodification of this archaeological site with socioeconomic implications for the local community, following the terminology used by (Ross et al., 2017).

Figures such as Alfonso XIII, King of Spain (1886-1941), or Jacobo Fitz-James Stuart y Falcó, Duke of Alba (1878-1953) started to visit Altamira and spend their holidays nearby. The inhabitants of Santillana del Mar entered into relationships and networks of contact with influential political and social figures of the era. The cattle industry, the main economic activity for the local community, was relegated to a secondary role. The demand for services related to an aristocratic and elite tourism around Altamira became the main source of income for the inhabitants of the region, whose main interest became the need to ensure the Cave's conservation. After the end of the Spanish Civil War (1936-1939) and of the postwar economic depression in the 1960s, Altamira shifted from being a symbol of national identity to becoming a national and global tourist attraction. During the 1970s, Altamira attracted more than 170,000 visitors per year, sparking a dispute among scientists, the local community, and politicians regarding the effects that the presence of humans could have on the state of conservation of the paintings and raising great national and international public attention (Saiz-Jimenez et al., 2011). Following the precedent of the cave of Lascaux in Dordogne, France, Altamira was temporarily closed to the public in 1977, while in 1979 the Spanish Government inaugurated the Altamira National Museum and Research Center, a permanent exhibition on the history of humanity, in order to ensure the economic and touristic development of the site. However, the closing of the Cave provoked a series of demonstrations and protests among the local community, who saw this as a threat to its socioeconomic system. Social pressure and the national and international media coverage of the events triggered the reopening of the Cave to the public in 1982 under a limited-access plan, allowing 11,300 visitors per year and the declaration of Altamira as a WHS in 1985, increasing the site's touristic appeal. Indeed, a waitlist to enter the Cave exceeded three years during the 1990s.

With the aim of managing and responding to the high demand for visits, in 2001 a new infrastructure consisting of a to-scale reproduction of the Cave—"*The Neo-Cave*"—was inaugurated into the Altamira Complex. It managed to attract a significant number of visitors. In 2002, the Cave was again closed to the public due to the re-appearance of a bacterial colonization on the paintings. However, the Altamira Complex with the Neo-Cave was able to attract an average of 250,000 visitors per year, making it the second-most visited public museum in Spain and turning the replica into an international model of success from the standpoint of both conservation and tourism management needs (Parga Dans & Alonso González, 2017).

Despite all these measures, the dichotomy of opening-closing in Altamira was not resolved, keeping alive a permanent and public debate about who should make decisions about the management of Altamira WHS and how it should be done. Traditionally, studies on conservation and heritage management have been based on scientific expert knowledge. However, the technical or scientific preservation of heritage sites or their declaration as WHS by UNESCO does not guarantee their long-term touristic sustainability (Bourdeau & Gravari-Barbas, 2016). Technical assessment is not enough to guarantee the sustainable tourism of WHS in terms, for example, of authenticity and loyalty on the part of the visitor community (Yi et al., 2018). In the case of Altamira, the controversy shifted towards the question of the authenticity of the Neo-Cave, as a source of information and an outreach platform, and the Cave itself, as a representative of an experience, an emotion and a feeling, that is, what Cohen-Aharoni (2017) defines as the debate between object authenticity and experience authenticity.

The timeline tracing the course of Altamira's history illustrates how scientific discourse had implications surrounding heritage designation, visitor and local communities' concerns, political decision-making and public opinion. Indeed, the declaration of Altamira as a WHS deepened the controversy among stakeholders and raised the question about how sustainable tourism research would benefit from engaging the concepts, ideas, and frameworks of heritage management in wider social science concerns (Hampton, 2005; Liu, 2003). This applies even more to places with translocal and transnational implications such as a WHS (Park & Santos, 2017). In Spain, there are precedents regarding the consequences of post-WHS designation (Santa-Cruz & López-Guzmán, 2017; Viu, Fernández, & Caralt, 2008). However, none of them connect sustainable tourism and social value in heritage management research.

In 2012, after 10 years of the Cave's preventive closure, and in the face of this controversy, the Spanish government approved the project PROALT (2012–2014), including a scientific evaluation of the Cave's conservation connected to a visiting system supported and developed, for the first time in Spain, by a social value study. As a result of PROALT, in 2014 the Cave was reopened to the public under a strict system of experimental visits that continues to this day. The system of experimental visits consists of groups of five visitors, selected randomly, who enter the Cave each week observing strict attire protocol, to continue to obtain data about the impact



Fig. 3. Experimental visits. Source: The authors.

of human presence in the Cave (Fig. 3).

The appreciation, significance, and socioeconomic impact of Altamira through a contemporary lens

The results of the survey lay the foundations for exploring the current significance of the Altamira WHS and for conceptualizing its social value. In order to do this, the questionnaires covered five different and interrelated sections regarding the appreciation, meanings, and values of Altamira. It covers sections 1 to 4 in the social value visitor survey regarding: 1) the experience of the visit, 2) expectations and previous knowledge, 3) satisfaction level of the visit, 4) opinion on the original Cave; and sections 1 to 2 in the economic impact visitor survey: 1) visit experience, 2) motivation and satisfaction level. It covers sections 1 to 3 in the Spanish population telephone survey: 1) knowledge and discussion on the original Cave status, 2) management and conservation of Altamira, 3) opening possibilities of the original Cave). Moreover, the socioeconomic impact of the Altamira visitors on the Cantabria region was included through Sections 3–5 in the economic impact visitor survey, focusing on 3) trip information, 4) spending parameters, and their 5) social profile. The questionnaires covered all of these dimensions with multiple questions (see Appendix). However, the most relevant inquiries were those related to questions such as "in which level did Altamira motivated your decision of making this trip?", "do you know the reasons why the original Cave is closed to the public?", "have you felt disappointed by not being able to visit the original Cave?", "what are the reasons why you consider Altamira to be relevant?" or "who should be the legitimate agents to make decisions about the opening/closuring of the original Cave?" In what follows, the most relevant results are discussed.

Visitor population attachment to Altamira

Museum records reveal that Altamira attracts a significant number of visitors to Cantabria. Since the opening of the Neo-Cave in 2001, the Altamira Complex has an average of 250,000 annual visits, surpassing the historical figure of 174,000 visits to the original Cave recorded in 1973 (see Fig. 4).

Regarding the visitor's profile resulting from the survey (see Table 3), it is remarkable that 86% of the visitors are residents in Spain and, from those, 15% are residents in the Spanish capital of Madrid; 61% of visitors are between 31 and 54 years old and 43.8% record university-level education. Specifically, 20.2% of those work in education, the arts, culture, or research. As to the economic profile of the visitors, 84% are actively employed, and 25.5% have an average income exceeding ϵ 1800 monthly (which is 2.75 times the minimum Spanish salary, established at ϵ 654 in 2013).

By analyzing questions regarding trip information and visitor expenditures, it is noteworthy that 60% of visitors declared that Altamira was the determining factor in organizing the trip. In turn, 88% of visitors were visiting Altamira for the first time, either with their partners (45.6%) or with more family members (32%). Overall, the profile of the visitor is Spanish, from higher socioeconomic strata, with a clear interest in arts and culture due to their educational level or profession, and they generally decide to visit Altamira once in their lifetimes with other family members.

The average length of stay is 4.6 days in the region of Cantabria. According to the Spanish Hotel Occupancy Survey (INE, 2013), these figures represent, on average, about 26% of travelers staying in lodging establishments in Cantabria. To further explore the

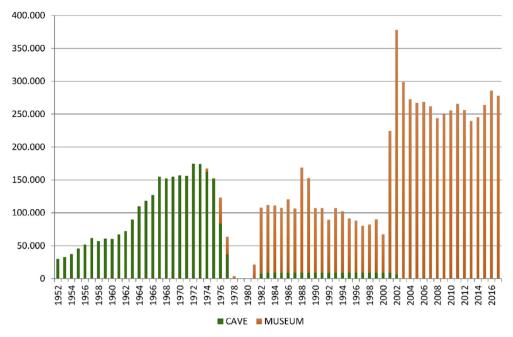


Fig. 4. Visitor data for the Altamira Complex WHS (1952–2016). Source: The authors from the visitor registry of the Altamira Complex.

Table 3 Respondents' profile (N = 1067). Source: The authors.

| Demographic characteristics | Frequency | Percentage (%) | |
|-----------------------------|-----------|----------------|--|
| Gender | | | |
| Male | 511 | 47.9 | |
| Female | 556 | 52.1 | |
| Age | | | |
| 18–30 | 214 | 20.1 | |
| 31–42 | 342 | 32.1 | |
| 43–54 | 308 | 28.9 | |
| 55–66 | 163 | 15.3 | |
| 67 and over | 40 | 3.7 | |
| Education level | | | |
| Primary | 127 | 11.9 | |
| Secondary | 294 | 27.6 | |
| University | 467 | 43.8 | |
| Postgraduate | 179 | 16.8 | |
| Occupation | | | |
| Student | 47 | 4.4 | |
| Housework | 30 | 2.8 | |
| Retired | 91 | 8.5 | |
| Salaried worker | 687 | 64.4 | |
| Self-employed | 134 | 12.6 | |
| Unemployed | 78 | 7.3 | |
| Income | | | |
| Less than 600€/month | 80 | 7.5 | |
| €601-1000/month | 133 | 12.5 | |
| €1001–1300/month | 206 | 19.3 | |
| €1301-1800/month | 212 | 19.9 | |
| More than €1800/month | 272 | 25.5 | |
| No answer/don't know | 164 | 15.4 | |
| Accompanied by | | | |
| Single | 96 | 9.0 | |
| Couple | 487 | 45.6 | |
| Family/relatives | 341 | 32.0 | |
| Friends | 107 | 10.0 | |
| Group | 36 | 3.4 | |
| Past experience | | | |
| First-time visit | 939 | 88.0 | |
| Repeated visit | 128 | 12.0 | |

economic issue, the survey included a question about the average per capita and per day expenditures by visitors, which resulted in an aggregate estimate of €104.50, 63% of which is spent on lodging and food. The overall economic impact of the Altamira WHS was eventually established in order to develop normative and technical recommendations geared to improving its tourism sustainability in the long run. Given that the Museum of Altamira registered 239,829 visitors in 2013, the direct economic impact of Altamira visitors on the Cantabria region is close to €113 million⁶. The statistics of the Government of Cantabria (IMPACTUR, 2014) establish that tourism as a whole represented 10.7% of the region's total GDP in 2013. Thus, the research results point to an estimate of Altamira' direct economic impact close to 8.5% of the overall tourism GDP for Cantabria, contributing to 0.9% of Cantabria's total GDP.

Moreover, the strand of the research addressing visitors' motivations and expectations lay the grounds for connecting these findings with the set of Altamira's contemporary values and meanings. For example, the question concerning the main motivation for visiting Altamira provides a basis for exploring the dilemma between WHS conservation and tourism: A majority of 83.3% of visitors responded that Altamira is a fundamental place for understanding or seeking information about the history of humanity, even without access to the Cave and the original paintings. In fact, 84.1% of the visitors affirmed having organized the trip without any expectation of entering the original Cave. Of those, 71.2% expected to encounter a good replica of the original Cave in the Neo-Cave. Visitors were also asked whether they were aware of the reasons behind the Cave's closure to the public; 93.6% provided a positive answer. Of those, 63.7% view very positively the Cave's closure for its future preservation. Finally, regarding the question of who the more legitimate stakeholders should be to take key decisions in the management of Altamira, 63.8% considered that political criteria should never prevail, while 54.6% declared the scientists were the most legitimate actors to take the main decisions.

The contemporary social value of Altamira is supported through the questions about the levels of visitor satisfaction. Indeed, 68% of visitors did not feel deceived by not entering the Cave, and 70% deemed the experience of visiting the Neo-Cave as very satisfactory, with an average of 5.91 on a scale of 1 to 7. Additionally, 78% of those surveyed declared an interest in visiting other caves after Altamira, and 68% would recommend visiting Altamira to friends and family.

Spanish population attachment to Altamira

The results of the nationwide telephone survey revealed similar tendencies regarding the contemporary assessment and the conservation awareness of the Altamira Cave, independent of the socioeconomic profile or geographic proximity to the site. In the questions about knowledge and visibility perception, the surveyed individuals were asked whether they knew about Altamira, and there was a positive response rate of 82.9%. Of those, 59.2% associated the relevance of Altamira with paintings, among a significant number of alternative responses, even though 69.4% had never visited Altamira. With the aim of establishing levels of interest in the debate about the opening/closing of the Cave, surveyed individuals were asked about the extent to which they followed the Altamira controversy in the media. Here, 45.3% affirmed having followed the debate on the conservation and management of the Altamira WHS during the last year through daily news.

Regarding the survey questions about the balance between heritage conservation and tourism development, 67.3% of the respondents supported the preservation of the Cave over opening it to tourists, arguing that it should remain closed to the public for its future conservation. Another option, with 57% of supporters, advocated for a partial opening restricted to a limited number of people, establishing an access plan or access quotas. For them, this would reconcile touristic and conservation interests regarding sustainable tourism. Finally, with regard to the most legitimate stakeholder to lead the management of Altamira, 72.1% again considered that scientists, specialists, or experts should take the main decisions regarding conservation and management, to the detriment of alternative actors including politicians, the local community, or even society as a whole.

Towards a social value conceptualization of sustainable tourism in the Altamira WHS

Research findings provide valuable information regarding the conceptualization of social value through multiple factors. This widens the spectrum of stakeholders that are often considered beyond the Authorized Heritage Discourse embodied by the scientific community and technical experts, which provides a more consistent understanding of the social value of Altamira. This perspective involves a conception of heritage that goes beyond the material object itself to instead define it as a relational entity whose value arises from the relationships between people who grant it value and/or relate to it in a certain moment and context, which is in line with the arguments put forward by Alonso González (2014) or Greffe (2004). Therefore, apart from the question of physical preservation and/or the political decision-making associated with the site's management, this research analyzes the Altamira WHS as a social and changing phenomenon. The research objective was to understand why Altamira is important, for whom, when, and how certain values could legitimize the current management for sustainable tourism.

In doing so, this work contributes theoretically to the debate over "heritage values", emphasizing the need to define and incorporate the social dimension so as to put into place suitable or optimized heritage management strategies, as demanded by the recent works of Díaz-Andreu (2017) and Jones (2017), and relating them to sustainable tourism as argued by Bramwell (2015) or Buckley (2012). This theoretical advance allows for the formulation of a series of social value factors and categories with practical policy implications.

The social value of Altamira is associated with the value of existence. This assertion is supported by the significant visitor attendance at the Altamira Complex despite the closure of the Cave. Altamira continues to be an indisputable touchstone for heritage nationwide, as most of the Spanish population knew about the existence of the Altamira WHS, and most visitors are Spaniards who follow the

⁶ Altamira's Direct Economic Impact (2013): €104.5 average daily spending × 4.5 days × 239,829 visitors = €112,780,000.

current public debate about the opening/closing of Altamira. However, findings allow for hypothesizing that the main threat to the sustainable tourism of Altamira would be precisely associated with the contemporary value of existence, that is, Altamira's standing in earlier periods of Spanish history as a symbol of national identity which seems to have faded nowadays. Today, the site has been incorporated into a wider array of similar symbolic referents, among them other WHSs such as Atapuerca. These sites have attracted most of the emerging archaeological tourism in Spain, in what Ross et al. (2017) have defined as "the intangible archaeological heritage interest" (p. 37).

The social value of Altamira is associated with the aesthetic value. The recognition of Altamira as a WHS in 1985 by UNESCO, the conservation demands that arose as a result of that designation, and the creation of a real-to-scale reproduction in 2001 (the Neo-Cave) have strengthened its potential based-authenticity (Cohen-Aharoni, 2017). This can be seen as a form of aesthetic value, meaning the importance of the heritage site is associated with its paintings and the information derived for understanding the origins of humanity, despite the fact that visitors have no access to "experience authenticity" or the original Cave. Both visitors and the Spanish population at large mainly advocate for the need to implement a management plan for the conservation of the paintings, or to develop a limited access plan in order to preserve Altamira WHS's aesthetic value in the future.

The social value of Altamira is associated with the economic value. The Altamira Complex can attract a significant number of visitors and is a determining factor in visitors' decisions to choose this site as a tourist destination. Despite the Cave being closed to the public, the Altamira WHS generates a significant direct economic impact on the region of Cantabria (£113 million in 2013). These results highlight the economic value of the Altamira WHS (Parga Dans & Alonso González, 2017) through a situated economic indicator in line with the investigations of Torres-Delgado and Saarinen (2014). Regarding the current debate about the open-or-closed Cave dichotomy, this research hypothesizes that a reopening of the Cave to the public might not necessarily lead to an increased economic impact to the region. Following this argument, to increase the economic value and make the Altamira WHS a sustainable tourist destination, it would be necessary to guarantee the preservation of the paintings and increase the satisfaction levels of visits. The establishment of a management plan should include initiatives focusing on avoiding the saturation of visiting periods, such as peak visitors' seasons in the summer, attracting a more diverse array of sociodemographic visitor profiles or encouraging a population that acknowledges Altamira but has not yet visited to do so. These kinds of measures would involve an increase in the number of yearly visits, levels of satisfaction, and visitor loyalty, thus deriving an increased direct economic impact for Cantabria and the economic value of Altamira as a WHS that is in line with Buckley (2012) or Hampton (2005).

The social value of Altamira is associated with the legacy value. The need to ensure the Cave's conservation has been highlighted as an indispensable condition when considering the possibility of reopening it to public visits, both for visitors and the Spanish population. This underscores that the greatest conflict today over the open-or-closed dichotomy of the Cave is about who should have the authority to make decisions regarding conservation and heritage management (Smith, 2006). The social actors viewed as legitimately authorized to make decisions regarding the Cave have been clearly designated as scientists or experts, to the detriment of the politicians and even of the citizenship itself. However, the public debate on the conservation and management of Altamira is still ongoing in the media and is important for the Spanish population. Along these lines, it will be important to develop a communication strategy related to the current state of preventive conservation and the evolution of the experimental visits to the Cave, both to provide information about the paintings and to strengthen the social value of the Altamira Complex for the future, in line with the insights provided by the works of McCabe & Johnson (2013) or Bourdeau & Gravari-Barbas (2016).

Conclusion

This paper opens up new areas of inquiry, sparking a dialogue between heritage management studies and sustainable tourism. It contributes to the conceptualization of the social value of heritage as an emerging concept and analytic category, demonstrating its utility and advancing knowledge with practical policy implications in various ways. In doing so, it provides an innovative theoretical contribution by unifying both related fields of heritage studies and sustainable tourism, highlighting the need to provide more empirical evidence on the issues examined through specific case studies. This is accomplished by exploring the determinants of social value through a mixed method approach in the case of the Altamira WHS in Spain. The research has resulted in the definition of four kinds of value that together constitute and cement the social value of the Altamira WHS: existential, aesthetic, economic, and legacy value. The investigation has also defined the risks associated with underestimating the contemporary social appreciation of Altamira. These advances may contribute to the improvement of heritage management on regional and national scales, offering practical opportunities at the Altamira WHS in particular.

The main limitation of this study lies in the conceptualization of the social value through reference to the most representative group of stakeholders for the quantitative analysis, namely visitors and the Spanish population, which are not fully representative of the entire population of stakeholders in the Altamira WHS or in Spain. The consideration of other important categories of stakeholders, like residents, public authorities, or tourism companies, has been considered through a qualitative and historically situated approach. Moreover, the empirical investigation was biased by the use of a single case study, the project's time framework and budgetary limitations. A single case study could give some new ideas or theoretical propositions but may not be an effective basis for grounding general theory, which should be seen as a reason for carrying out more research in the future. Ultimately, this study reveals the controversial and unexplored, yet undeniably relevant, connection between social value and the long-term tourism sustainability of heritage sites.

Declarations of interest

None

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.annals.2018.10.011.

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