



(Re)discovering the values of nature in cities: Faro as case study

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Abstract. The value of nature for creating healthier environments in cities have been growing in attention. Even if there is research focused on the relation between nature, city, and communities, there is little research in the cultural significance of urban greenery, where people like to spend time, and how it positively impacts their well-being.

This paper focuses on the neighborhood Estação in Faro, Algarve, Portugal, which nowadays contains only a few green areas and lacks connection with the Ria Formosa National Park. Assumably, nature would primarily convey, e.g., aesthetical and ecological values, but it may also convey a broader cultural value by the community of Faro.

Participatory methods, in particular gaming, are used in this research to reveal the values of nature in cities, by the community. Gaming is a participatory method that enables co-creation in representing, visualizing, and redesigning architecture and the urban landscape. Four participatory methods were developed to better engage with four different age groups (86 participants).

The results of each method were coded using the values framework of Pereira Roders [8] and the attributes typologies of Veldpaus [9]. By comparing the results of the four different age groups, the ecological (including well-being), social (including emotional attachment), and economic values are the most important values for all age groups. However, when triangulating with the attributes, a significant difference is noted between younger and older generations.

Keywords: Heritage Values, Public Participation, Healthy Cities, Nature

1 Introduction

In economic and health crises, where stress and depression increase, society pays more attention to mental and physical health. Earlier research has proven that community well-being is influenced by nature in cities, because of a stronger emotional attachment [1]. This paper aims to research the values of nature in the city of Faro in Portugal, to understand the relationship between nature and people.

The neighborhood of Estação has been chosen as case study due to its relation with nature. The area directly borders the Ria Formosa Natural Park, however it has a sparsity of urban greenery. Local communities convey social, aesthetic, and ecological values to green areas in cities. Though, it is believed that these areas convey much broader cultural values, and that they may differ per generation. The main aim of this research

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is to reveal the relation between nature in cities, and the values conveyed by people. Therefore, this cultural significance survey will investigate and explore local communities' values on nature in cities. As different generations have preferences of communication, the community in Faro was divided into four age groups and varied methods were developed to best match their preferences.

1.1 Theoretical frameworks

Intergenerational research involves people of different generations, researching their perspectives and relation between them. [2] For the purpose of this research, the different generations are clustered into four “age groups”, based on Laslett’s theory (see Fig. 1). [3] The “age groups” are not separated due to a specific age, but by a period characterized by lifestyle and needs. Accordingly, first age concerns the period of childhood dependency and socialization. Second age, the period off responsibility and work life. Third age, the period of fulfillment. Fourth age, the period off dependency and frailty. Based upon the theoretical framework of the intergenerational division, this research uses this same division to create different methods to engage with stakeholders.



Fig. 1. Intergenerational division of stakeholders (adapted from [3])

Furthermore, this research used two theoretical frameworks to code the cultural significance of nature in cities by communities in Faro. [4] Cultural significance is defined by two concepts: values and attributes. The values refer to why something is important. It is “the importance or worth of something for someone.” [5] Attributes are “a quality or characteristic that someone or something has.” [6] Values can be “Aesthetic, historical, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place, its fabric, setting, use, associations, meanings, records, related places, and objects. Places may have a range of values for different individuals or groups.” [7] The values framework used in the research includes eight fundamental values (see Fig. 2). [8] According to the attributes taxonomy made by Veldpauw, varied categories of attributes are divided into tangible attributes, asset, area and all; and intangible attributes, product, societal, process (see Fig. 3). [9] The theoretical frameworks of both the values and attributes are in this research combined in one method for analyzing the engagements with stakeholders.



Fig. 2. Values framework [8]

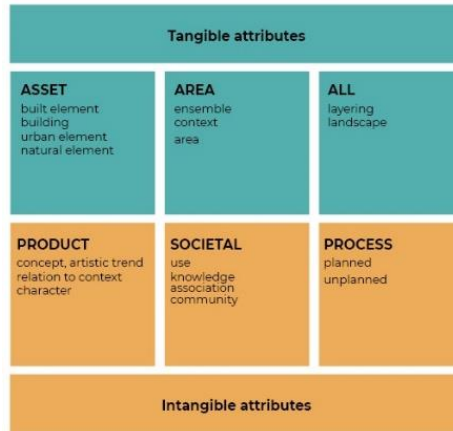


Fig. 3. Attributes framework. [9]

1.2 Research question

This research aims to reveal the values on nature in cities of the different stakeholders in the context of emotional attachment. The research question is: How can the values on nature by different generations influence the emotional attachment to the neighborhood of Estação, in Faro - Portugal?

The municipality of Faro funded this research to underline the importance of the Faro Convention for society. This framework aims to put people and their values at the center of cultural heritage management and highlight the potential of urban heritage as a source for sustainable development and community's well-being.

2 Methodology

The research sets out to gather information about all age groups with the most suitable participatory gaming methods. Figure 4 illustrates the matrix of age groups and methods, indicating how the chosen methods and collected data have contributed to our understanding on the cultural significance (values and attributes) of nature in cities. There is still a gap in using participatory methods during the design process in architecture and heritage research. Avrami [10] stated that it is generally agreed that bottom-up participation by the community will lead to better choices for values-based conservation. However, the applications still need to be further studied. This values-based approach has revealed the interests and perspectives of different stakeholders regarding the cultural significance of places, by assessing the values held by different generations.

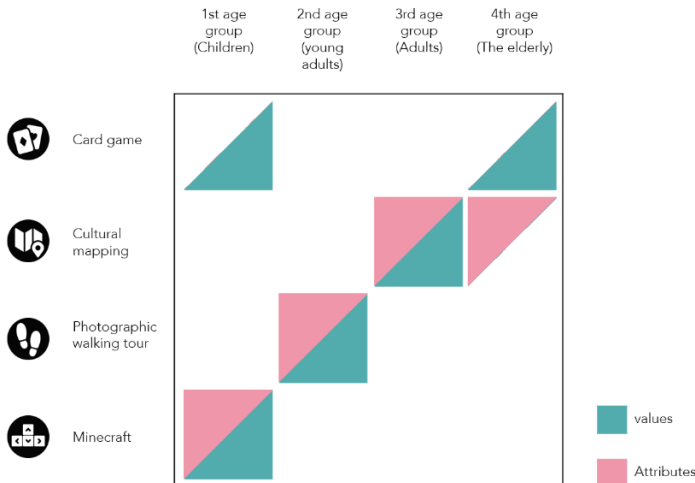


Fig. 4. Methods applied in contacting different age groups.

2.1 Card game

The card game was developed (adapted from the game “Reigns”) [11] to understand the values of both 1st and 4th age. The game is set around proposal cards that need to be accepted or declined. The proposals on these cards contain actions to take in regard to the city of Faro, e.g., organizing events, making changes to buildings, or changes in city policies. These proposals are based on nature-based solutions (NBS) from the Urbinat catalogue [12] and are completed with other actions that might want to be explored further in the design phase. Each of these proposals has been classified according to the values/attribute framework, e.g., the NBS green walls have been related to ecological values. Seventy two cards are equally distributed among the values to ensure that the results will not be biased towards one or more values and to increase the chances of recognizing the diversity of values.

2.2 Cultural mapping

Cultural mapping is suitable for 3rd and 4th age groups familiar with the neighborhood of Estação. During the interview, the participants are asked to write down on a map what they like or dislike about the area (positive and negative attributes). The participants also need to answer questions about the importance of the neighborhood to them and if they would like to stay there. These questions help to understand better the attachment people have to the area. Afterwards participants are asked to choose a specific positive or negative attribute they wrote down on the map which was relevant to their attachment to the neighborhood. The values most related to place attachment are coded based on their further explanations.

2.3 Photographic walking tour

The focus of the photographic walking tour is to identify the relationship between emotional attachment and natural attributes in the area for the 2nd age group. The tour leads through Estação for approximately 45 minutes along a fixed route. Participants are asked to take photos of natural elements in their neighborhood to which they feel emotionally connected based on their memories. To collect each participant's data, the app 'Wikiloc' was used which automatically assigns the exact location of each image. They are also asked to add a short description to each photo explaining why they took it. This way, both attributes and values of emotional attachment towards nature are derived during the tour.

2.4 Minecraft

The workshops based on Minecraft engages the 1st age group to provide their perspective on the neighborhood. The workshop aims to determine which values and attributes are essential for this age group. Each participant is given a set of cards with pictures of different places in the neighborhood, focusing on nature, vacant buildings, and public spaces. The images are selected based on the neighborhood's diversity of attributes. The cards aim to answer the question "How important is the element in the photo?" and "Why?". The cards seek to learn about the values and attributes essential to the 1st age group. Secondly, they are able to redesign a vacant building and its area using Minecraft. Based upon the outcome of this redesign the importance of attributes is determined.

3 Empirical Research

3.1 Applications

The 1st age group was consulted through a mixed method workshop. The group consisting of 22 participants was divided into two groups. The duration could not exceed 90 min. due to the school's decision, and was split in two slots of 45 minutes. This way, playing the card game and Minecraft was possible. The groups exchanged activities, so that everybody could experience working with a different method (see Fig. 5). After a quick explanation of the game, they played for about 30 minutes. Afterward, the results were discussed to understand better why they had chosen specific cards.

Participants quickly adapted to the workshop during activities and understood the research goal. They were devoted to developing appealing designs, and it was visible that they enjoyed the workshop. The card game allowed them to use many of their assets, like discussing ideas or finding the correct arguments. Additionally, they expressed their empathy for others, by being willing to find solutions and make decisions that would benefit everyone.



Fig. 5. Workshop with 1st age group using Minecraft (left) and the card game (right).

The photographic walking tour was promoted by leaflets and posters on the streets in Estação to invite 2nd age group to take part in the research (see Fig. 6). However, it was hard to find participants because of the high population of the elderly and the quiet streets. Because of the small number of participants that eventually applied it was decided to run the walking tour with six non-locals as well. This engagement resulted in an interesting opportunity to compare the results of locals and non-locals. The walking tour was held two times, the first with locals and the second with non-locals. After a short introduction everybody received an overview of the route and the tasks. Participants were told to take approximately twenty photos to make the data comparison more coherent.



Fig. 6. Poster and the walking tour with 2nd age group.

Since Estação is a neighborhood with a primarily elderly population, it was hard to find a large sample of 3rd age group during the day. As solution, the cultural mapping street interviews focused on engaging people relaxing in cafes, during the evening (see Fig. 7). It was always easier to approach people in a less formal way, through which people were more open to sharing their opinions and memories. Daily talks with people working in shops around the neighborhood was another interviewing strategy, resulting in 12 participants interviewed.



Fig. 7. Street and shop interviews with the 3rd age group.

Even though the 4th age group is the most common age group in Estação, they were the most difficult to interact with, given the language barrier, even if solved with translators, assisting the interview. Therefore, the original cultural mapping method evolved into a simplified street interview, during the fieldwork. Similarly, the card game was also adapted to support shorter one-on-one interviews (see Fig. 8). Instead of asking the participants to pick cards and negotiate in groups, they were given half of the cards and asked to divide them into yes and no piles. In the end, three walking tours and one workshop in an elderly home, resulted in 40 participants.



Fig. 8. Workshop with the 4th age group using the card game.

3.2 Values

Figure 9 shows each value type with the percentage of positive responses from each age group. From there, the average response to each value type is calculated. The highest-rated values on average are ecological (26%), social (25%), and economic (19%).

The pie charts illustrate the division of the value types. The most significant values per age group are as follows: 1st group: ecological and social; 2nd group: ecological and aesthetical; 3rd group: social and economic; 4th group: social and almost at the same level ecological, aesthetical and economic. Although some value types have similar responses from all age groups, they differ in dividing secondary value types. Therefore, the secondary value types graph shows the average of the four age groups. Disparities are visible between the 1st, 2nd, and 3rd groups. While the ecological values are the most important for the 1st and 2nd age groups, they are the least significant for 3rd age group. Furthermore, the 2nd age group considers social and economic values as the least important, while inversely, for the 3rd age group, those values are the most important. The social values are most consistent across the four groups, with a small difference (4%) between the 1st and 2nd age groups.

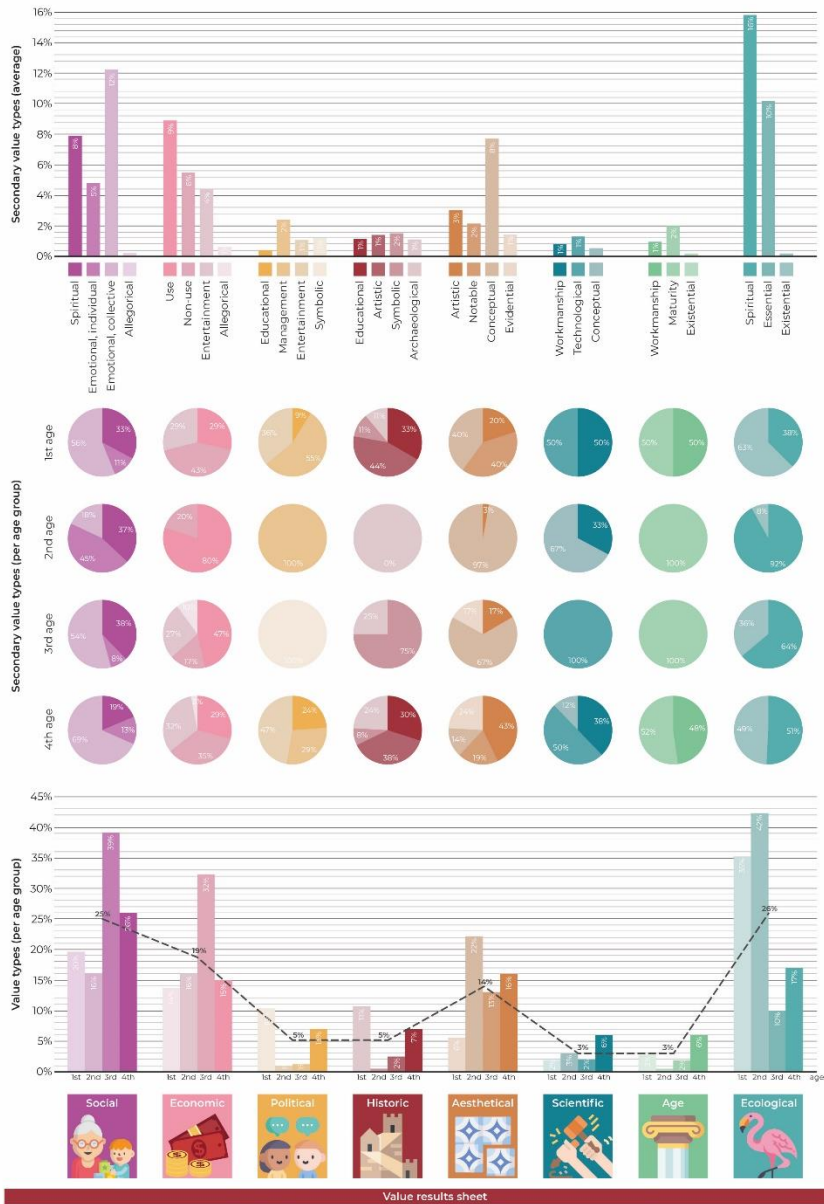


Fig. 9. The values conveyed to nature in the neighborhood of Estação, in Faro - Portugal, split by the four groups of generations

3.3 Attributes

Figure 10 illustrates the attributes discussed from the intergenerational perspective. In the first level of attribute analysis, tangible attributes gain more attention than intangible ones. Results show that the older participants are, the more they feel attached to intangible attributes. In the second level, with six categories of attribute types, people focused more on (I) societal attributes, (I) relation, and (T) asset attributes. From the intergenerational perspective, the 1st and 2nd age groups considered the asset the essential attribute, while the 3rd and 4th age groups considered social and related attributes the same significance. Furthermore, there is a focus shift from (I) social attributes to (I) relation attributes between 3rd and 4th age group.

The last level of analysis clarifies four attributes relevant to nature in *Estação* (natural asset, relation, use, and community). The high-frequency answers about natural attributes are usually combined with the three types of attributes in the descriptions from stakeholders (see figures 11 and 12). As illustrated by the table, the most high-frequency answers are sea, beach, park, trees, and plants for natural elements; family members, friends, and neighbors for the community; memory, meaning, and identity for relation; and exercising, drinking and talking for use.

The 4th age group feels more attached to intangible attributes than the 1st age group, which is visible at levels 1 & 2. At levels 3 & 4, older people are more attached to (I)relation-relation attributes because of memory, meaning, and identity. This result confirms that the 4th age group values memories more than the 1st age group. Level 2 of the attributes chart suggests that 1st age group are more related to assets since they might perceive the environment through more visible and physical aspects. On level 3 of the attributes chart, natural elements are high for the 1st and 2nd age group. Level 4 attributes indicate the most frequent natural elements: sea, beach, park, trees, and plants.



Fig. 10. The attributes conveyed to nature in the neighborhood of Estação, in Faro - Portugal, split by the four groups of generations

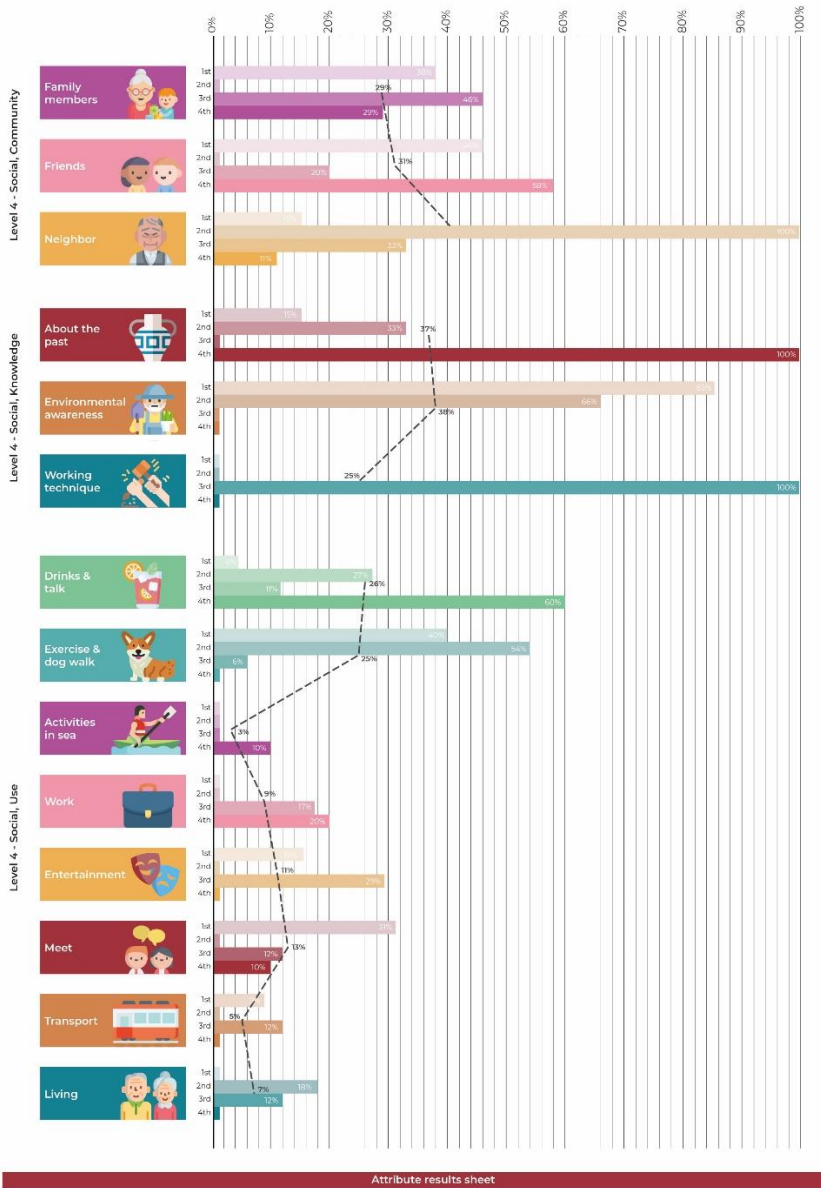


Fig. 11. The high-frequency answers for five core attributes, in the neighborhood of Estação, in Faro - Portugal, split by the four groups of generations – part 1

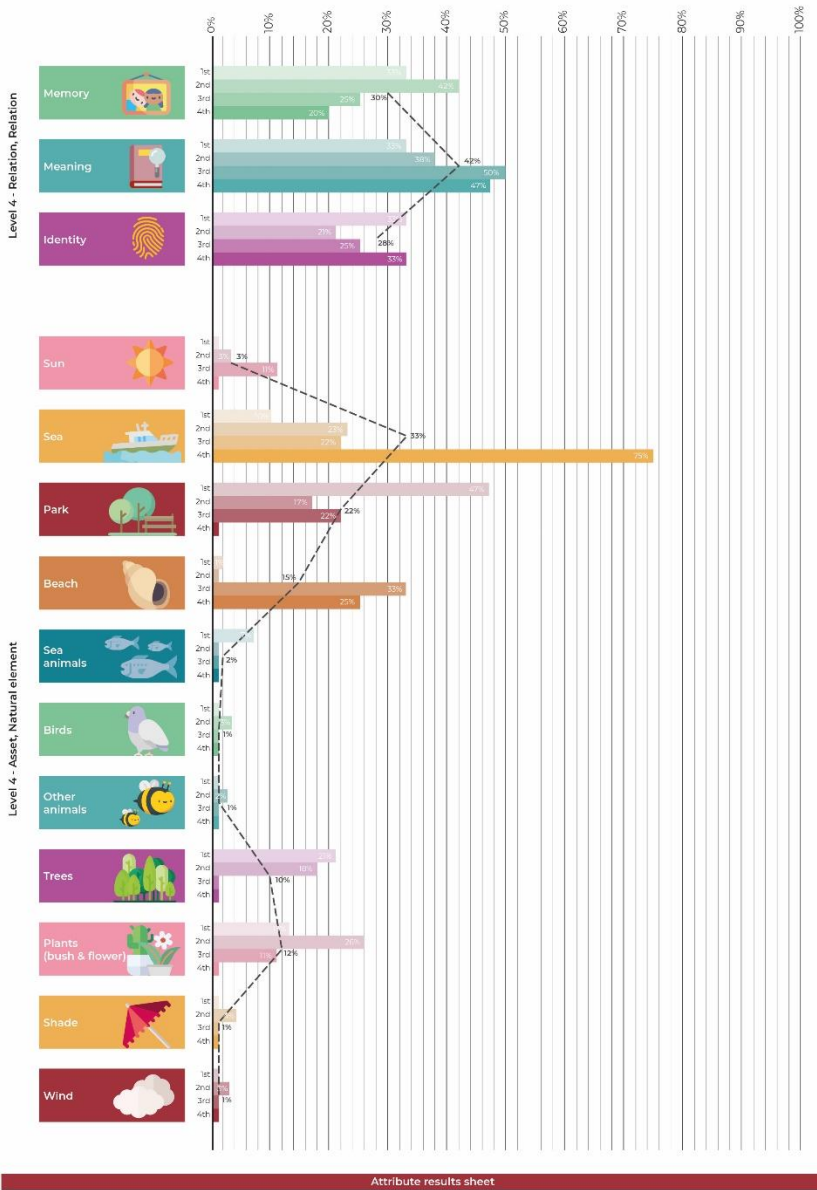


Fig. 12. The high-frequency answers for five core attributes, in the neighborhood of Estação, in Faro - Portugal, split by the four groups of generations – part 2

4 Conclusion

This research aimed to reveal how the values on the nature of different generations influence the emotional attachment to Estação. Values conveyed to nature revealed much more comprehensive than expected. A deeper analysis indicated that values considering nature could be associated with social interaction, memories, and environmental awareness. In addition, different generations vary considerably on the values they convey, which can be seen both as an obstacle or an opportunity to create a more complex and meaningful urban landscape. The 3rd and 4th age groups feel more attached to their neighborhood because of memories and emotions triggered by nature-relevant social interaction. The 1st and 2nd age groups feel attached to their place of living, because of the importance of nature in their life.

The most important values for all generations are social, economic, and ecological. The highest overlaps are (social) emotional, collective, and (ecological) spiritual. These are linked to proposals connected to social gatherings and the relationship between nature and the built environment. The most important values on nature for the 1st and 2nd are ecological, aesthetical, economic, and social. By comparing the positive and negative attachment to nature with each other, this generation is aware of the potential that nature can have in their neighborhood and that they are not satisfied with the current state. The most essential for the 1st age group are ecological and social values on nature. They choose tangible attributes, in contrast to the 4th generation. Intangible social and related attributes are more relevant to place attachment than tangible attributes. There is a focus shift from social attributes to relation attributes between the 3rd and 4th age groups.

The conclusion focuses only on the four highest-rated values: ecological, social, economic, and aesthetical (see figure 13). It was concluded that natural elements promote people's emotional attachment to Estação mainly through two approaches: (1) Based on the ecological values of natural assets, people feel attached to the green areas as a part of Estação. (2) Based on the social and economic values of natural assets, natural elements are well connected with other attributes, mainly (I) relation-relation, (I) social-use, and (I) social-community attributes. In this way, people's emotional attachment to their social network is also translated into natural assets.

A challenging aspect of this research was that four different methods were used to research four stakeholder groups. Differences in the design of methods could influence the outcomes. For example, the questionnaire used with the 1st age group and the walking tour format were oriented towards natural attributes. On the other hand, if nature were not considered significant by the 1st and 2nd age groups, it would be visible in the results. Furthermore, the 3rd and 4th age groups results show similarities in values and attributes, which can be linked to adapting the method from the card game and street interviews.

Corresponding to the challenge, this research to academic areas by exploring the idea of combining survey data from various research methods using the same analysis techniques. This implication suggests an expanded applicability of the values framework.

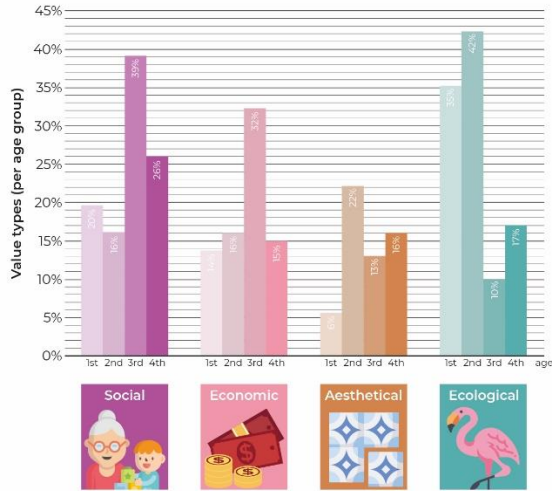


Fig. 13. The four highest-rated values from research.

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