



# Landscape and Senses in a Portuguese Municipality on the Way of St. James: Potential Impacts on the Well-Being of Pilgrims

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## Abstract

The Portuguese Way of St. James is traveled by people seeking well-being, self-therapy, or answers to their personal and religious/spiritual issues. The evaluation of the landscape and its senses and how these may contribute to the well-being of pilgrims are subjects that have been little explored. This research was carried out to understand how the landscape can influence someone's well-being and the senses it awakens. The municipality of Barcelos was the one chosen as representative territory to apply a new method, which includes a participant observation together with the visual documentation of 310 photographs of its main elements and the analysis of a grid of 22 variables. The main result from this method points out the relevance of diversified landscapes with a remarkable variation in colors and sounds. Some gaps in this method were also identified, including the need for improvements by local authorities to contribute to maximized health outcomes.

**Keywords** Landscape · Sensory dimension · Well-being · Portuguese Way of St. James · Municipality of Barcelos

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## Introduction

There is a growing trend in the diversity of the types of tourism offered to the public (Martinho, 2014), and, in the last 20 years, these have been emerging in particular segments of tourist activity (Nadais, 2010) as is the case of religious tourism (e.g., Fernandes et al., 2008; Pereira & Peres, 2010; Kim et al., 2020). With a significant cultural and religious heritage, Portugal is also a gateway to other religious sites such as, for example, Santiago de Compostela, in Spain.

The Way of St. James was revived in the 1990s (Mitchell-Lanham, 2015), and it is traveled by pilgrims either on foot, by bicycle, or on horseback. For several reasons, it has become a product for tourists by offering alternatives in terms of religion, spirituality, nature, or relationships. The Portuguese Way of St. James is mostly covered by pilgrims looking for self-knowledge, emotional balance, and well-being (Reis, 2007). The fact that it is so diversified bears extra motivation (Heiser, 2021). Walking along the path allows for a reflection on their physical, emotional, or spiritual aspects of life, thus turning it into a challenge to the well-being of those who dare to go on this journey. According to Jorgensen (2008), going on a pilgrimage may be beneficial for an individual's mental health and well-being. In addition, there are pilgrims who travel the itineraries as a relief to their pain (Eade, 2000) and engage in self-therapy (Mikaelsson, 2012). The physical effort, the community, the diversity of the landscape, and the silence combine to produce a therapeutic effect on the pilgrims as they go along this pilgrimage (Maddrell, 2013).

To understand how the landscape influences the well-being of pilgrims along this Way and the senses it awakens, a case study with a mixed approach was carried out by using primary and secondary sources. Another goal of our research was to identify the gaps along the Way which could help local and regional authorities in their plans to improve it. The route that goes through the municipality of Barcelos (Northwest of Portugal) was chosen because of its characteristics, which distinctly represent the diversity of what can be observed on the Way as a whole. It covers 33.6 km, and it mostly consists of rural areas, thus presenting a very peaceful landscape and displaying a remarkable variation of colors. However, it also includes some urban territory, which grants a great sense of diversity to the itinerary.

The result of the field work carried out by three of our researchers translates into 310 photographic records along the Way in this municipality, together with a grid defined with 22 variables, and participant observation. This paper takes into analysis some of these variables, such as 614 that consisted of geo-referencing, the type of landscape along the path, the type of pavement, the type of noises and smells, places to stop and rest, and places suitable for meditation and hazards.

Based on these assumptions, this paper consists of four parts. In section "[Introduction](#)", we address the issue of religious tourism and the concept of pilgrimage itself, and how the implementation of the Way Saint James has evolved from religious to religious and spiritual and then to other dimensions (multi-motivation). In this section, we also address the sensory dimension in relation to the

landscape, the senses and well-being, that is, the diversity of the landscape and the multisensory stimuli it triggers and how these may contribute to the pilgrim's well-being along the Way. In section "[Methods Used and Case Study](#)", we mention the methodology used to carry out this study, followed by the results from our research. Finally, in section "[Main Conclusions and Recommendations](#)", we highlight the main conclusions and recommendations for future research on this topic.

## Literature Review on Religious Tourism, Pilgrimage, and Landscape

### Religious Tourism and Pilgrimage

When we discuss the Way of St. James, we primarily refer to religious tourism, although the several existing routes have now gone far beyond the historical religious sense, having, thus, increasingly become itineraries in which the religious and spiritual purposes are combined with both cultural, ecological, and natural purposes, and sports (Poyatos et al., 2011). The various routes leading to the city of Santiago are considered cultural routes, according to the U.N.W.T.O. (1994), which states that this certification can be awarded to a land or sea route, spanning over one or several countries, over a significant period, while reflecting tangible and intangible heritage. These routes are characterized by the interaction and dynamics of people and exchanges of goods, ideas, values, beliefs, and knowledge, which allows for the intertwining of cultures through time and space.

In 1984, Horne stated that today's tourist is a modern pilgrim. In addition, a few years later, authors such as Kreiner and Gatrell (2006), Margry (2008), Sharpley (2009), Norman (2011), and Norman and Cusack (2014) highlighted that the historical pilgrimage itself is the very basis of the tourism practiced today, the so-called contemporary tourism.

On the other hand, a pilgrimage is also a unique experience. In addition to taking the individual out of their area of residence, it is carried out with the aim of finding light, forgiveness, or healing (van Laer & Izberk-Bilgin, 2018). Referring to particular contexts, namely Lourdes, some authors point out that the experiences of pilgrims are associated with the peacefulness of the place (Rahtz et al., 2021). Some others measured the impact of pilgrimage to Lourdes on QOL (Quality of Life) in self-defined 416 "sick pilgrims" (suffering from chronic ill health), by using the standardized EuroQol EQ-5D-5L questionnaire (Klimiuk & Moriarty, 2021). It was measured by two aspects of QOL, namely a Visual Analogue Scale (VAS) score of self-rated health and an Index Value Score (IVS) of the five dimensions of QOL. The results got revealed that IVS Scores showed no significant differences immediately after return (Q2) from pilgrimage to Lourdes or 2 months later (Q3). But, at Q2, 67.6% of pilgrims reported their self-rated QOL as "much better" or "better". This was maintained in 54.7% at Q3 (Klimiuk & Moriarty, 2021).

In some cultures, pilgrims prepare for their journey by simplifying and altering their lifestyles, by practicing abstinence, fasting, or meditating. Spiritual journeys help individuals to slow down their daily pace, thus "juxtaposing" the spiritual and

the material (van Laer & Izberk-Bilgin, 2018). In fact, modern pilgrims seek a vast range of experiences: contact with the cultural identities of the places they visit, emotional release from their personal routines, and genuine and spiritual guidance (Casais & Sousa, 2020). Many of pilgrims' experiences involved a sense of closeness or a communicative relationship with the divine (Rahtz et al., 2021). The effort made along the Way, at all levels, is part of the ritual and the commitment made, which involves leaving the comfort of one's home, going through cold and heat, and facing the unknown, ensures the purification which the individuals aim to attain when they arrive at the destination. After arriving at the desired location to fulfill their vows or ask for something, depending on their goal, the pilgrim returns home strengthened by the spiritual reward (Vidal-González & Sánchez, 2019). Therefore, there are multiple motives underlying a pilgrim's journey (Heiser, 2021).

However, authors such as Palmer et al. (2012), Lopez (2013), Cunha (2017), and Gomes (2017) claimed, in the late 2010s, that the pilgrimage could not be part of the tourist activity, as these were very different. This is because, according to Cunha (2017) and Hall et al. (2017), the religious and spiritual centers, intrinsically associated with the traditional pilgrimage, symbolized a social and moral reevaluation of the individual. On the other hand, the journey of the religious pilgrim implied a time for reflection, meditation, or contemplation of nature. It is also curious how in this case it is necessary to engage in external journeys to reach interior depth, which is one of the characteristics of spiritual tourism (Kujawa, 2017). Religious tourism has spread as a tourism niche (Kim et al., 2020) mainly because religion and spirituality are among the most common motivations for traveling (Dias, 2010).

Religious tourism and pilgrimage tourism are similar concepts, but not only do they differ in their purposes and motivations but also regarding accommodation, trips, or itineraries (Nyaupane et al., 2015). Authors such as Pérez (1995), Sousa (1999), Ebron (1999), Slavin (2003), Steil (2003), Sousa (2005), Pérez (2008), Pérez (2011), Lois & Santos (2015), Sousa et al. (2017), Gusmán et al. (2017) and Havard (2017) have pointed out a few differences between tourism and pilgrimage, but it seems rather clear that the two phenomena have related practices (González, 2013). The religious experience, which is gained by traveling for spiritual reasons, is essential for spiritual tourism. Even for those who do not officially follow any religious faith, this experience is also important and profound (Kujawa, 2017).

Sacred places entail a myth of origin, and this particular myth concerns the supposed discovery of the mortal remains of the apostle Santiago and his disciples, in the ninth century. However, it was only in the twelfth century that the dissemination, consolidation, and veracity of the veneration occurred, in the city of Santiago de Compostela (González & López, 2012). Since the discovery of the tomb of Santiago, around 820, a set of pilgrimage routes have been created to converge in Santiago de Compostela. These routes were set by overlapping already-existing Roman roads (Otero, 2009). Currently, there are ten paths to Santiago de Compostela, which begin in different points in Europe, as stated on the Website "O Camino de Santiago": the French Way, the Fisterra-Muxía Way, the Via de la Plata Way, the Portuguese Way, the English Way, the Primitive Way, the North Way, the Route of the Sea of Arousa and the Ulla River, the Winter Way, and the Portuguese Way of the Coast. Although all these itineraries are traveled by thousands of people from

five continents every year, in 2020, the COVID-19 pandemic had a great impact on changes in relation to the special scope of the Way. While in July 2019 arrived at Santiago de Compostela city people from 135 countries, in the same month of 2020 they were only from 80 countries (Mróz, 2021).

Based on these assumptions, the Way that we address in our research is the Portuguese Way of St. James, more specifically in its passage through the municipality of Barcelos. This route is the most traveled in Portugal and the second most traveled Jacobean Route, with the French Way being the one with the highest traffic of pilgrims (Torre et al., 2010; Pereira, 2014; Duarte, 2016; Oficina del Peregrino, 2019). The Portuguese Way is around 634 km long, beginning in Lisbon and ending in the city of Santiago in Spain (Website O Camino de Santiago; Visit Portugal). In order to receive a Compostela pilgrim certificate or the Certificate of Distance at the Pilgrims Office in Santiago, you are required to walk at least the last 100 km of the Way, or cycle, at least, the last 200 km (<https://caminoways.com/getting-the-compostela-certificate>—accessed on August 30, 2021).

The Portuguese Way in the city of Barcelos runs along 33.6 km, being the second longest section, with diversified landscapes, and it crosses rural and urban areas which extend in a continuum. In this sense, according to Chronis (2015) and following the perspective of Pile (2005), there is an active discussion on the importance of the body as a mobile element, as a source of action that builds and relates to places and validates knowledge. This is what provides the framework for this topic, as the perception that religious tourists and pilgrims have of a place along the route and through the pilgrimage can be different and varies due to the influence of multiple factors, such as motivation or duration of the route. Thus, exploring bodily interactions with space through the senses highlights the emotions that contribute towards the significance of the Path and highlights the fact that there is a new cultural interpretation of emotions, feelings, and sensations, produced as a result of their experience (Lopez, 2019).

## Sensory Experience and Well-Being

Walking can be considered an experience related to the quest for individual well-being, which is a dimension of the concept of health (Trudel et al., 2019). Pilgrims often describe the positive and life-changing impact the Way had on their lives. The experiences felt on the Way can transform lives, acting as a means of construing reality (Agapito et al., 2013).

Well-being is a state of satisfaction in which a person feels well both physically and emotionally. In fact, in 1946, the World Health Organization defined health as a complete state of physical, mental, and social well-being, and not just the absence of disease or infirmity. Likewise, health implies a balance and harmony between all needs (physical, mental, and social), which combine with the emotional and spiritual needs of the individual.

However, the concept of wellness can be defined as a state of great health for individuals and groups and as an active process through which people become aware of, and make intentional choices towards, a more successful existence (National

Wellness Institute, 2015). This definition is based on three tenets: (i) it is considered a conscious, self-directed, and evolving process of achieving full potential; (ii) it is multidimensional and holistic, encompassing lifestyle, mental and spiritual well-being, and the environment; (iii) it is positive and affirming.

This is where the concept of well-being can be associated with the one of religious tourism. Health is a matter of importance for everyone, as good health gives meaning to life itself by enabling the performance of daily activities with strength and vigor. Each day the Way delivers a different landscape and new companions with whom to share the hike. It is also a good moment for self-reflection.

Adams et al. (2000) describe a model which includes the physical, social, emotional, intellectual, spiritual, and psychological dimensions of wellness, thus complementing the World Health Organization model. In this model, the different dimensions are: (i) the physical dimension—as the positive perception and expectation of physical health; (ii) the social dimension—as the perception of relying on the support from family or friends and the perception of being a valued support provider; (iii) the emotional dimension—as a secure self-identity and a positive sense of self-regard; (iv) the intellectual dimension—as the perception of being internally energized by an optimal amount of intellectually stimulating activity; (v) the spiritual dimension—as a positive sense of meaning and purpose in life; (vi) the psychological dimension—as the perception that one will experience positive outcomes of the events and circumstances of life. These dimensions are multifaceted and reside at the core of spiritual and psychological dimensions. Several authors (e.g., Devereux & Carnegie, 2006; Heiser, 2021; Reis, 2007) have shown that the search for spiritual well-being can be identified in the experience of pilgrims who travel along the Way of Saint James.

Traditionally, pilgrimage meant the social and moral revaluation of the individual, the increase of their moral authority, grace, and human and spiritual fulfillment. Currently, it bears a different meaning: (i) a purifying physical effort prior to contact with the sacred; (ii) a space to reflect on the thoughts, feelings, and actions of life; (iii) a return to nature according to the new values of mutual harmony; (iv) important business for local communities, mediators, and other social actors; (v) space of ideological, political, and institutional discourses; (vi) a search for inner peace and the meaning of life; and (vii) antidote to social malaise (Pereiro, 2017).

So, on the Way, people are, most of the time, in contact with the environment, breathing fresh air, which is healthy, especially for those who live trapped in the city. The contact with nature, forests, flowers, and clean air provides a feeling of serenity. It is important to understand that observing the landscape and breathing the reviving fresh air along the Way is an opportunity to improve both mental and physical health and the overall wellness of an individual. The surrounding environment is a promoter of human interactions (Agapito et al., 2013).

The Way requires specific knowledge, because the journey bears many obstacles and risks to one's health and well-being. The papers published so far do not take into consideration food intake, hydration levels, and other needs of the pilgrims along the Way. Our experience as pilgrims makes it possible to affirm that, in addition to the hazards related to movement in places and public roads, and other safety matters, there are serious risks related to the health and well-being of the pilgrims. Dehydration and

exhaustion can be the cause of severe issues of great physical risk. Injuries, disorientation, dangerous and bumpy trails, poorly signposted shortcuts, and even wild animals can endanger a person's life.

We know that there are no rules to abide by, only some advice given to promote the health and wellness for pilgrims and their success along the Way. These nuggets of advice appear in many guidebooks on the Way of Saint James and on websites. In this sense, traveling the Way of Saint James requires prior training and personalized planning (Xunta Galicia, 2021). In the study conducted by Pereiro and Gomes (2019), focusing on the Interior Portuguese Way of St. James and having interviewed 50 pilgrims, part of them pointed out the need for adequate physical, psychological, and emotional preparation before making the journey. They also stressed the importance of carrying water, a reasonably heavy backpack, comfortable clothing and footwear adapted to the route, as well as the company of other people for support along the Way.

It is usually advisable to walk between 25 and 30 km, with adequate shoes to secure the ankle. During the Way, warming up and stretching the muscles may avoid musculo-skeletal injuries. Hydration, protection against direct sunlight and rest must be a priority on the itinerary. For individuals who practice exercise of a non-competitive nature, a balanced diet according to what is recommended for the general population is sufficient to maintain health and enable good physical performance (Carvalho & Mara, 2010).

The imbalance between fluid intake and sweating during sports activities can lead to hypohydration, thus causing damage to one's health (Castro et al., 2021).

Tiredness will also vary depending on the time of year chosen to travel the Way. In summer, "heat exhaustion" can sometimes occur. In these cases, one should seek a fresh site and increase the administration of fluids. Drinking in abundance will attenuate fatigue (Xunta Galicia, 2021). The replacement of carbohydrate reserves is important in the recovery period, thus avoiding chronic fatigue, while preserving physical performance and health (Carvalho & Mara, 2010).

Sometimes rest requires not only stopping, but also adequately establishing hours dedicated to sleep or relaxation, both at body and mental levels. These short periods of relaxation should become daily practice during the pilgrim's experience on the Way (Xunta Galicia, 2021). The stops to enjoy the landscape, monumental or cultural environment help to mentally unwind and facilitate relaxation to re-intensify the rhythm when resuming the journey.

Agapito et al. (2013) refer that a multidisciplinary approach to the human senses demonstrates that the knowledge of places and surrounding environments creates a corporal experience: several sensory experiences established not only by visual impressions but also by the associated sounds, smells, tastes, and touch. The same authors state that the sensory stimuli influence behaviors, and the places and environments promote multi-sensorial encounters.



## Methods Used and Case Study

### Main Variables and Sources Used

Taking into consideration the elements analyzed in the previous section of this article, our research was undertaken in the summer of 2020.

Recently, Kim et al. (2020) conducted a systematic literature review of articles concerned with religious tourism published until 2017 and focused particularly on twelve tourism journals listed in the Social Science Citation Index (S.S.C.I.). The authors identified a total of 84 articles, of which 77 (91.7%) adopted a positivist and empirical approach, while the conceptual/theory-based approach was much less representative (8.3%). A considerable number ( $n=44$ ) applied qualitative research methods (29 used only quantitative and 11 mixed-method approaches).

Our approach was qualitative in nature (following most of the studies conducted on this topic—Kim et al., 2020), although we were required to quantify some elements of the Portuguese Way of Saint James, which helped to conduct a qualitative analysis of the elements collected. Some primary and secondary sources were used, also following the findings of Kim et al. (2020). Concerning the first sources, some participant observation (mainly interactions with pilgrims and local residents) was done by the three researchers who traveled the 33.6 km route that crosses the municipality of Barcelos. The technical and sensorial analysis was conducted by these researchers, and the result of the analysis is a summary of their own experience. This diversified the experience and helped to integrate the main elements experienced. The researchers felt the need to repeat some portions of the route to confirm some elements.

The grid used was pivotal to the characterization of the landscape, its diversification and the type of senses experienced (vision, smell, hearing, and touch), to better understand which elements can trigger a positive feeling in the pilgrims and motivate them to travel the Way. To our knowledge, this type of grid is not used in this kind of approach, as the diary is the most commonly used technique. Kim et al.'s (2020) review found only four studies on the Way of Saint James/Camino de Santiago, but these were mainly concerned with interviewing pilgrims and/or members of the tourism sector.

The local authorities from the municipal council also participated in our research by giving suggestions to improve the grid, and, because of that, the analysis carried out also suffered from some planning issues by trying to improve the offer made to the pilgrims in the municipality of Barcelos.

The grid featured 22 variables and was built using Microsoft Office's Excel. A pretest of the grid was made on the July 10, 2020, in a specific section of the route to test the grid. In this study, we focused on 9 variables (the most relevant of the 22 and the ones related to the landscape and senses) and carried out the subsequent content analysis:

1. latitude and longitude of the point selected (geo-referencing);
2. type of land use (given by Corine Land Cover 2012);



3. classification of the type of landscape along the route, based on the typology of urban areas of Portugal (T.I.P.A.U. –Typology of Urban Areas—I.N.E., 2014), while adding the category of forest (urban, semi-urban, predominantly urban areas, medially urban areas, rural, semi-rural, predominantly rural areas, forest);
4. type of pavement;
5. type of noise;
6. type of smell;
7. places to stop and rest;
8. places more appropriate to meditation;
9. type of existing hazards (e.g., absence of sidewalks and crosswalks).

The remaining 13 variables were associated with the different services offered to pilgrims.

The researchers used a tablet to enter the variables in the Excel spreadsheet while traveling the Way. The exact location of establishments, accommodations, and monuments along the route (geo-referencing) was made by using the mobile application *Locus Map*. This also allowed the recording of georeferenced photographic data. Additionally, and to gather additional documentation of the Way, 310 photographs were taken with a Nikon camera.

The secondary sources used were the official statistics concerning the characterization of the territory and the number of pilgrims who travel the route. All the sources allowed for a holistic approach to the landscape and to the senses.

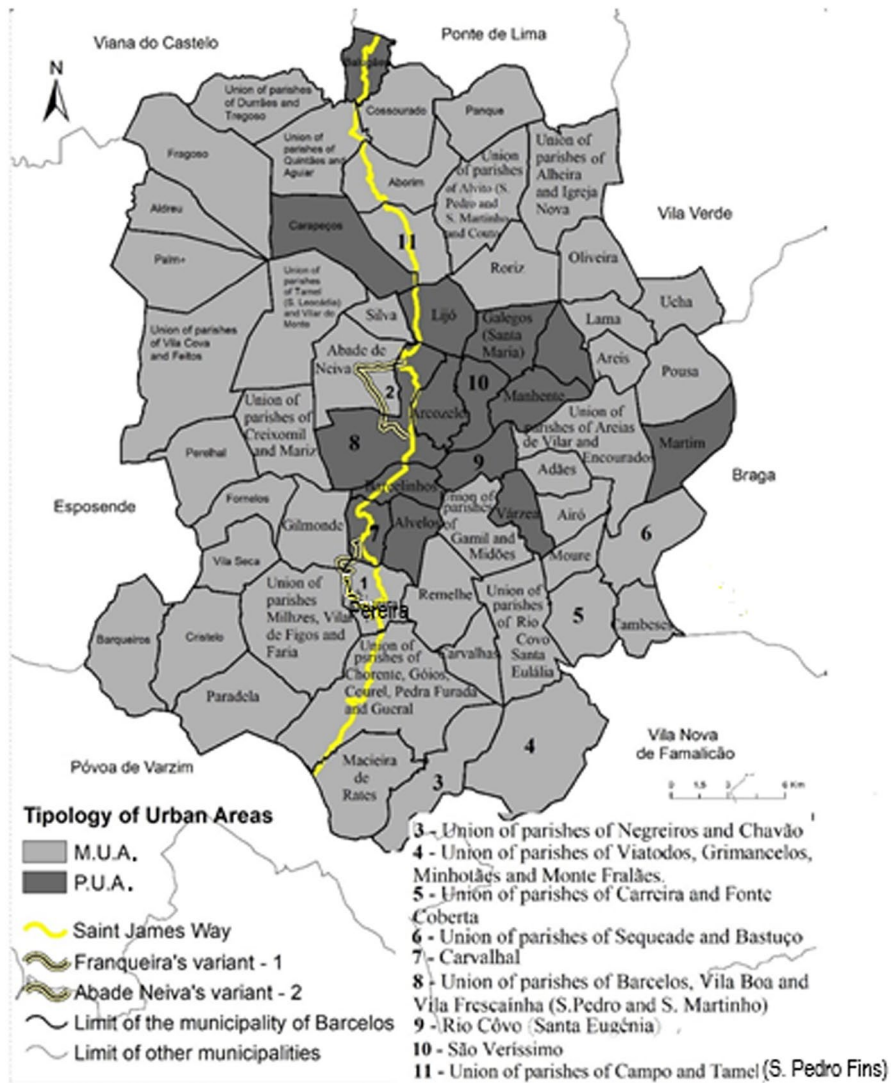
## The Study Area

As mentioned in Sect. 1, the stretch of the Way that crosses the municipality of Barcelos is a relevant portion of the entire Way, by representing the landscape and senses offered to pilgrims along the Way of Saint James between Porto and Santiago de Compostela (including the Spanish route of almost 120 km before reaching Santiago de Compostela). That is why it was chosen to be our laboratory for testing our method of evaluation. Also, the municipal council was interested in gathering further information on the Way to cover some existing gaps.

The municipality of Barcelos belongs to the district of Braga and is included in N.U.T.S. II North and N.U.T.S. III Cávado and corresponds to 378.9 km<sup>2</sup> (Municipal Council of Barcelos, 2015).

The classification Typology of Urban Areas (T.I.P.A.U.–I.N.E., 2014) used in Fig. 1 corresponds to the division of urban areas into three typologies: Predominant Urban Area (P.U.A.), Medium Urban Area (M.U.A.), and Predominantly Rural Area (P.R.A.).

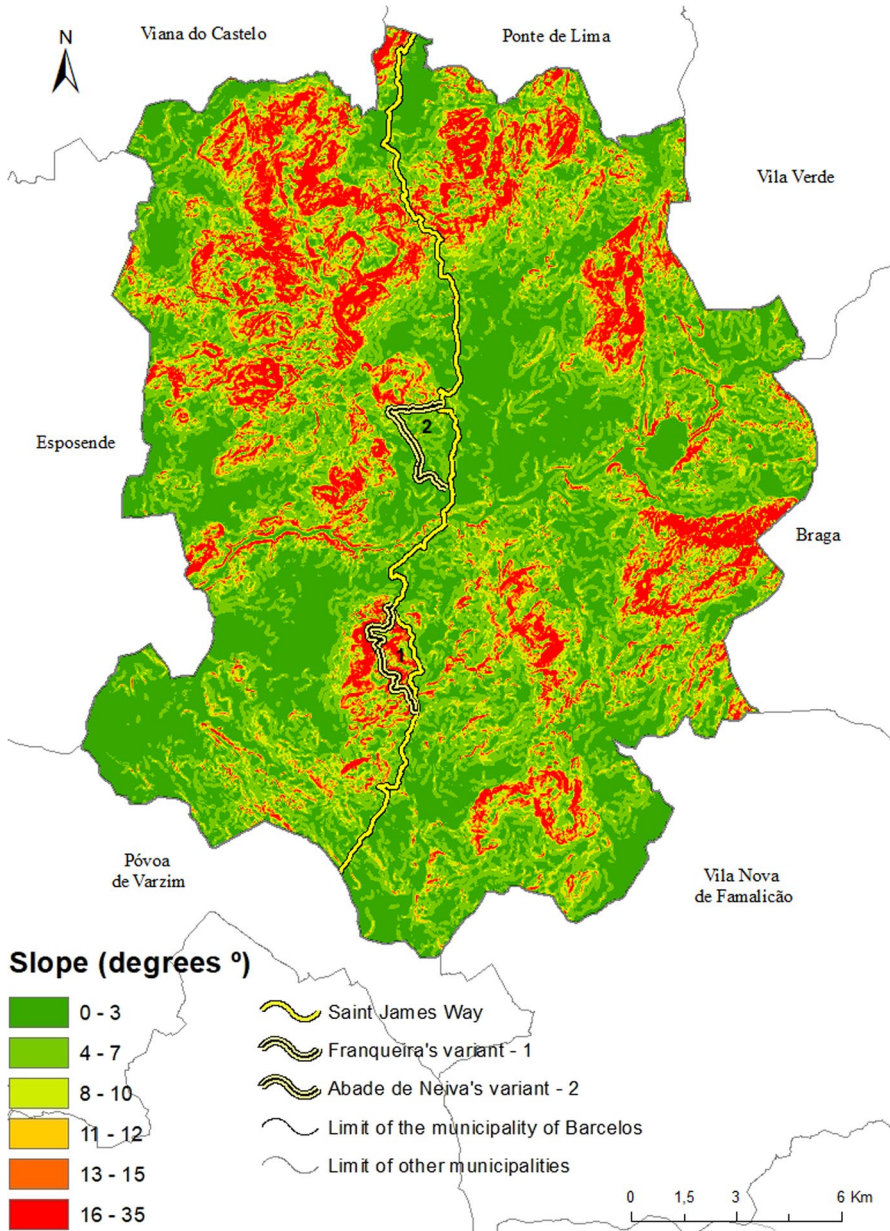
Out of the total 61 parishes in the municipality of Barcelos, 15 correspond to P.U.A., 46 to M.U.A. and there are no parishes assessed as P.R.A, meaning that we are facing a predominant urban territory (I.N.E.). In the case of the Way of Saint James, the route goes through some of the most urbanized parishes in the municipality, but it also crosses parishes that allow the pilgrims to admire a more bucolic and rural landscape.



**Fig. 1** Typology of Urban Areas in the Parishes of the Municipality of Barcelos. Sources: Authors' own elaboration supported by the Official Administrative Charter of Portugal (C.A.O.P.), S.N.I.G. (2019) and I.N.E. (2014)

The pilgrims interact with a population who is middle-aged or of retirement age and holds, for the most part, a low level of formal education (I.N.E., 2019), with no training in foreign languages: English, French, or German. Although this fact may reveal a potential obstacle for residents in their interaction with foreign pilgrims, we believe that the hospitality and willingness to collaborate, typical of the population of Minho, help to overcome the language barrier.

To better understand the landscape of the Way of Saint James, it is important to characterize the existing slopes (Fig. 2). The less accentuated slopes predominate



**Fig. 2** Slopes in the Municipality of Barcelos along the Way of St. James and its Variants. Sources: Authors' own elaboration supported by the Official Administrative Charter of Portugal (C.A.O.P.), S.N.I.G. (2019)

in the municipality, which may contribute to the perception of a low degree of difficulty in traveling the path. High-altitude areas have greater expression on the right bank of the River Cávado. Along the way, the slopes are mostly between  $0^\circ$  and  $7^\circ$ , except in the cases of the parishes of Tamel (S. Pedro Fins) and Aborim, whose slopes are between  $11^\circ$  and  $15^\circ$ . In the Franqueira variant, as it reaches Monte da Franqueira and Igreja with the same name, the  $16^\circ$ – $35^\circ$  slopes are notorious.

Concerning the land use that best describes the itinerary, land coverage has been organized into four areas, by using the Corine Land Cover Nomenclature of the Portuguese Geographic Institute (I.G.P., 2018): forest, agricultural, social, and water-course areas (Fig. 3). The predominant area is the agricultural area (47.13%), followed by the forest area (44.97%), the social area (7.09%), and, finally, the courses of water (0.78%). On the Way, the most representative occupation of the land is also the agricultural area. Social spaces can be found, for the most part, in the center of the territory of Barcelos. Forest spaces represent large patches of territory.

## Main Results

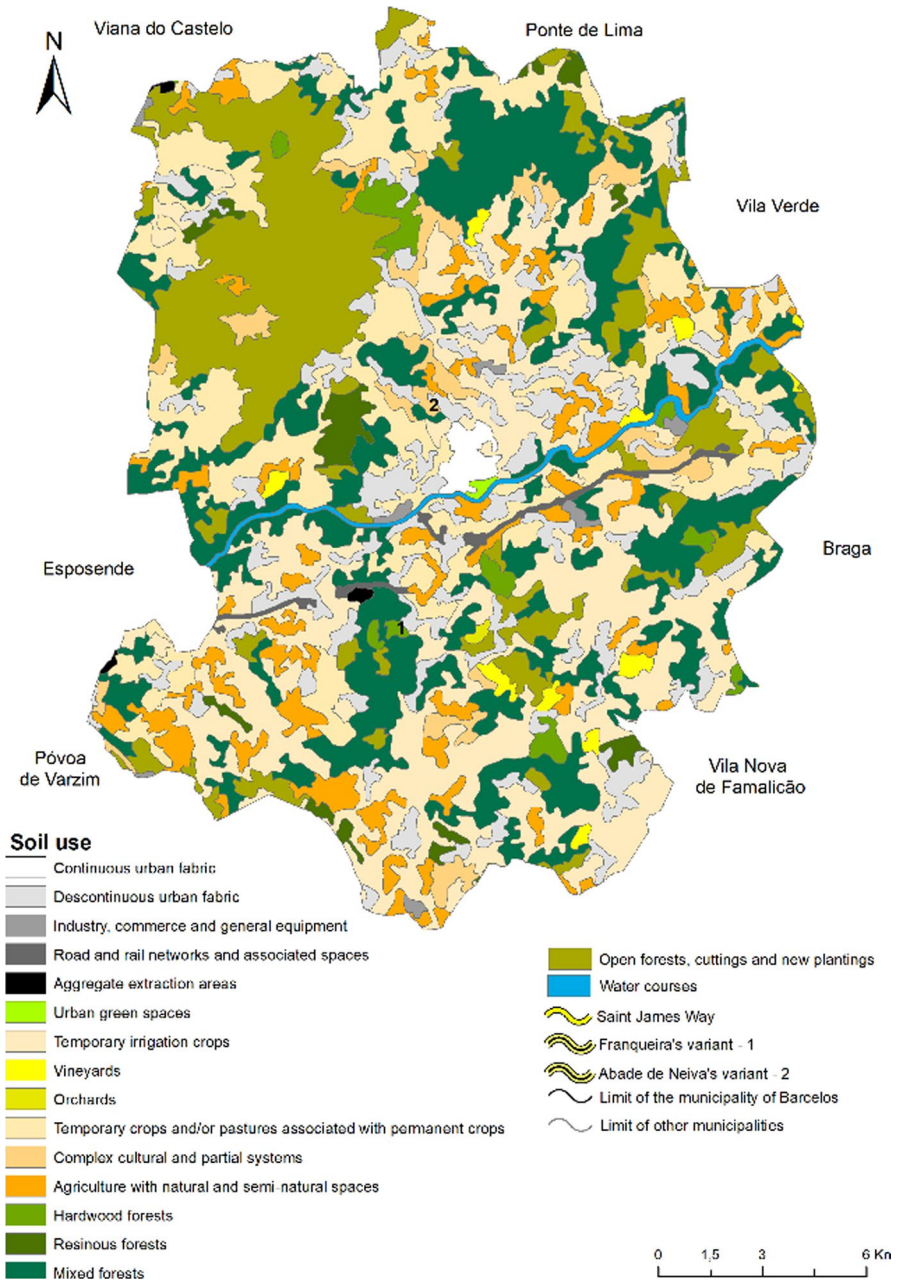
Knowing how transformative a walking pilgrimage can be for individuals, we present different elements of the Way that may influence their well-being. By applying Adams' et al. (2000) model, we analyze, in this section, the physical, social, emotional, intellectual, spiritual, and psychological dimensions of wellness. A total of 614 geo-referencing elements and the analysis conducted by the three researchers was taken into consideration.

## Senses and Physical Well-Being

Walking is an everyday activity with diverse impacts on our physical state. Studies demonstrate that physical exercise is a robust gene modulator that induces structural and functional changes in the brain, thus benefiting our cognitive functioning and well-being (Mandolesi et al., 2018). The Way of Saint James involves intense physical activity that can be as risky as any other walking route. Walks involving many kilometers (which is the case of the 33.6 km in Barcelos) entail great physical effort and can pose a threat to the health and physical well-being of an individual. It is not difficult to travel, but, as the distance is long, it is strongly recommended, for the less prepared, to do it in two parts.

Complementing what was said in the previous section, we can conclude the relief is not very rugged, with the highest point being 188 m in altitude in Portela, that is, exactly on the National Road E.N. 204, 130 m from the Municipal Hostel for Pilgrims, The House of Recoleta. The lowest point is the medieval bridge in Barcelos with 13.9 m of altitude. It consists essentially of rural paths. This follows what occurs in most sections of the Way from Porto to Santiago de Compostela, except the stretch between Ponte de Lima and Rubiães, still in the Portuguese route, which is of a higher difficulty due to more accentuated slopes. Therefore, the route in the





**Fig. 3** Land Use in the Municipality of Barcelos Along the Way of St. James Way. Source: Authors' own elaboration based on the Official Administrative Charter of Portugal (C.A.O.P.) and Corine Land Cover Nomenclature of the I.G.P

municipality of Barcelos is diversified, while presenting varied landscapes, and, in the north of the municipality, the path is predominantly along rural and forest paths.

The type of floor is a factor that influences walking and this alternates between dirt, stone, or asphalt, thus making it difficult for those who have mobility issues or for those who are older and need to carry a heavy backpack. The stoned pavement (usually in granite) or the dirt paths punctuated with stones are the most challenging. In approximately 34 km of route, in this municipality, about 54.9% correspond to the type of surface which presents the hardest conditions for walking (stoned 27.9% and dirt 27%—Fig. 4).

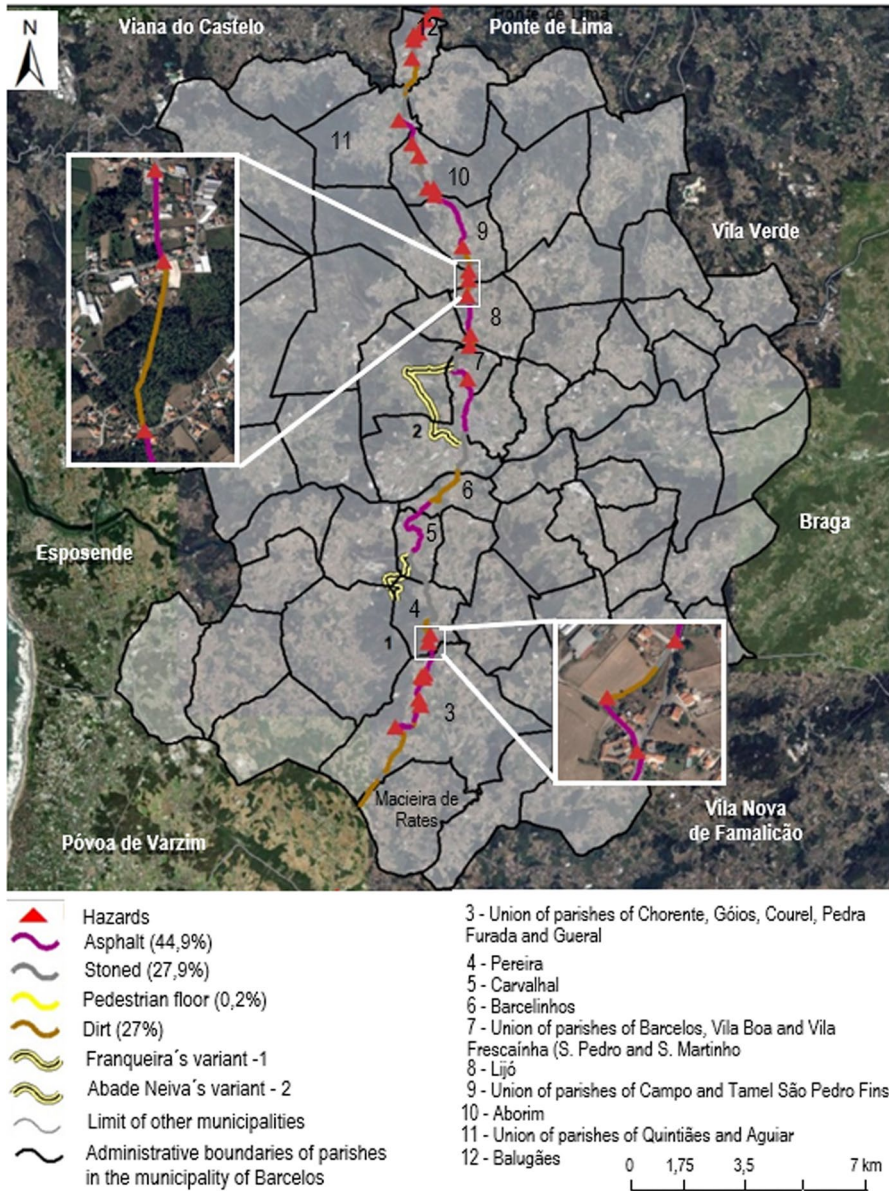
The landscape induces serenity for most of the route, due to the crossing of predominantly agricultural areas, where you can hear the chirping of birds, the crowing of cocks, the barking of dogs and, occasionally, the chime of church bells, the noise of running water and planes or cars. The sense of smell is awakened by eucalyptus trees along the way. Consequently, the combination of the senses (hearing, smell, and eyesight) can induce a feeling of relaxation since the route is largely traveled through agricultural areas, where the bucolic and green landscape are dominant.

In addition to the hazards related to movement in places and roads, or personal safety, there are serious risks related to the health and well-being of the walker (Felkai, 2019; Xunta Galicia, 2021). Even though there are little to no studies on the medical problems of the pilgrims on the Way of St. James, the three major causes of death are Acute Coronary Syndrome (ACS), traffic accidents, and preexisting disease (Felkai, 2019), hence the need for adequate prevention through good preparation and careful pre-travel advice (Felkai, 2019) in order to avoid complications and potentially harmful events which may end the pilgrim's journey or even lead to life-threatening situations. In the municipality of Barcelos, the Way poses very few threats (Fig. 4).

These are mainly in spots that cross national roads, in particular, the national road E.N. 306 (in the parishes of Pedra Furada, Góios, and Pereira), E.N. 204 [in the parishes of Tamel (S. Pedro Fins), and Aborim] and E.N. 308 (in the parish of Balugães), stretches of road with no or intermittent or dilapidated sidewalks [in the parishes of Courel, Pedra Furada, Góios, Vila Boa, Lijó, Tamel (S. Pedro Fins), and Aborim], or where no walkways may be found at all [in the parishes of Courel, Pedra Furada, Góios, Pereira, Vila Boa, Lijó, Tamel (S. Pedro Fins), Aborim, and Balugães]. The danger also lurks in isolated places (in the parishes of Pereira, Barcelinhos, Lijó, Carapeços, and Balugães), where pilgrims are vulnerable to mugging and assault. These facts follow what may be found in the rest of the Way. As an example, at Travessa de Santiago, 120 m from the restaurant Pedra Furada, in the parish with the same name, there is a narrowing of the road due to the sliding of the walls, which can be rather perilous to those who choose to go along such path.

## Senses and Social Well-Being

The route offers some contact with the local communities in less urbanized areas, but mainly in the urban areas, thus being relevant to the pilgrims' needs. In the parishes of Carvalhal and Pedra Furada, there are some expressions of the owners

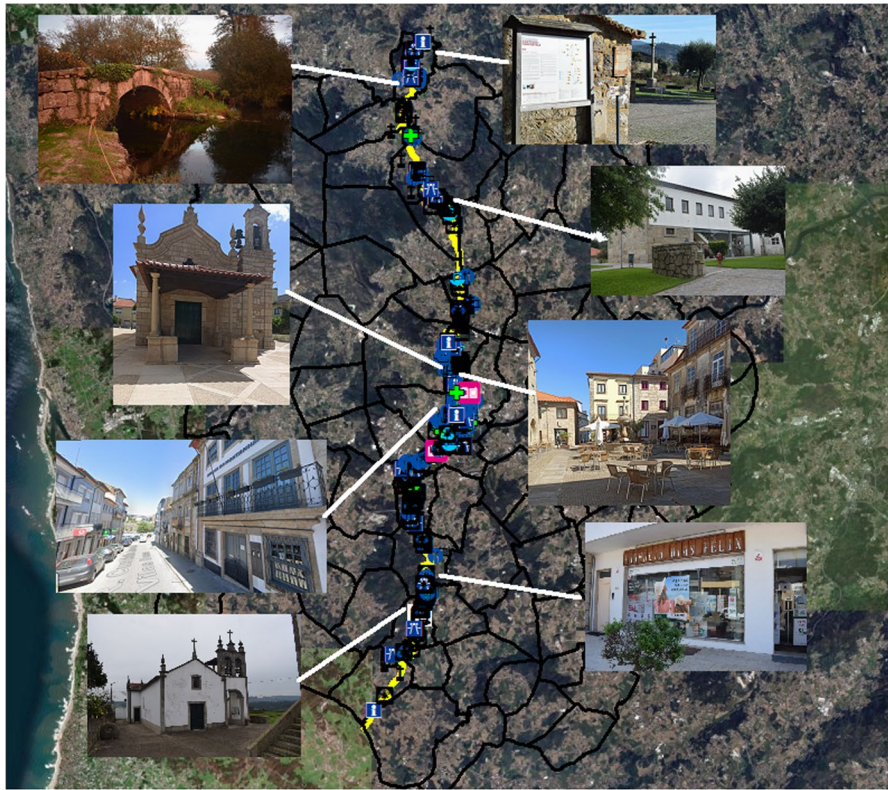


**Fig. 4** Type of Surface and Hazards Found Along the Way of Saint James in Barcelos. Source: Authors' own elaboration with the help of Sandro Alfaro using Official Administrative Charter of Portugal (C.A.O.P.), S.N.I.G. (2019)




















of the houses, such as the benches in the backyard of the house and some gardens with representative elements of the Way. Along the path, monuments and structures, as well as the elements at the journey's end, are significant and stand as enduring locations in changing landscapes (Darvill et al., 2018). We were able



to observe that the pilgrims’ view of the hospitality and kindness of people on the Way is generally favorable. Also, good services are offered, including pharmacies, commerce, signposting, and information. It is in urban areas that more services are available for the pilgrim to enjoy, and there are plenty of places to



**Elements along the Saint James Way**

-  Public or private hostel
-  Commerce or service of other importance
-  Waste dump/ Ecopoints
-  Food establishment
-  Water source
-  Self service laundry
-  Place of specific help for pilgrims
-  Resting place/ Snack field
-  Landmark with kms indication to Santiago
-  Monument of cultural interest
-  Monument of religious interest
-  Other type of accommodation
-  Information panel
-  Police office
-  Massage service
-  Public or private health service
-  Public WC
-  Saint James Way
-  Limit of the municipality of Barcelos



**Fig. 5** Main Elements Along the Way of Saint James in the Municipality of Barcelos. Source: Authors’ own elaboration supported by the Official Administrative Charter of Portugal (C.A.O.P.), S.N.I.G. (2019) and Google maps

have a meal, use the toilet or ask for help when afflicted with muscle pain or other ailments (Fig. 5).

Within the limits of the municipality, it is in the city of Barcelos where three of the four pilgrims' hostels are located (only one is public), and where it is possible to enjoy specialized information services and support to pilgrims in need. However, it is also worth mentioning that the closest hostel to the Pilgrim's Hostel S. Pedro de Rates is 16 km away, which highlights the scarcity of public toilets, self-service laundries, massage parlors (there is only one massage service along the route) and physiotherapy services, as an aid to the pilgrim. These may be of assistance in case of physical exhaustion resulting from carrying their heavy backpacks along the dozens of kilometers of the route, while stepping on uneven pavement, which can lead to calluses and blisters on the feet.

Whenever the yellow line is not visible on the map, this means that there is an agglomeration of various services in some places; the visibility of the yellow line suggests a deficit in these services. The photographs presented in Fig. 5 represent the diversity of places that are found along the route.

### **Senses and Emotional and Psychological Well-Being**

Nature is known for its restorative health qualities, thus producing a sense of coherence, relation and belonging to one's surroundings, that is, the concept of 'being-in-the-world' (Jørgensen et al., 2020). The presence of green spaces and walking routes provide the pilgrim with a feeling of vitality and relaxation. A strong sense of place can influence well-being.

Complementing what has been previously said, the landscape is diverse throughout the municipality and does not change considerably during the year. In summer, it is predominantly green, and, in winter, the changes are more noticeable as the vine and corn fade away.

After all, there are some locations with factories, which are not very appealing. Between urban areas, with suburban and urban landscapes cut by municipal and national roads, the housing is colorful and varied. In rural areas the landscape is agricultural, with diversified housing, mostly single-family houses with several trees and plants in their gardens, which document the preferences of the Portuguese (e.g., starfish). The passage goes either through the forest or through corn fields and other crops and may be made of dirt.

Water is also considered to be one of the most important aesthetic elements of the landscape. There are eighteen water supply points and three water sources along the Way. It is important to highlight that nine water supply points and two sources of drinking water do not contain any kind of information. To our surprise, we could only document one water supply point warning people of its unsuitability for consumption in four different languages (in the parish of Pereira) and another non-drinking water supply point whose information is conveyed through a figure on a signboard (parish of Barcelinhos). These results are in line with what occurs in the rest of the Way and are in line with the study of Bieling et al. (2014) and of Norton et al. (2012). In fact, Bieling et al. (2014) refer that pilgrims frequently declared

biophysical landscape features. This indicates that the material world indeed matters and that well-being is not a mere product of social construction. Norton et al. (2012) showed that differing site characteristics result in a variety of ways in which the biophysical world may contribute towards human well-being. Consequently, landscape-related values or cultural ecosystem services are tightly associated with very specific landscape features.

The stimuli by sound, light, and temperature have an optimal level of arousal and influence the well-being. Individuals prefer some degree of uncertainty in their environment, so it may pose sufficient challenge. Apparently, the lack of stimuli may be experienced as positive if the environment contains natural elements, such as trees and water, or is associated with places of contemplation and retreat, such as a church (Ettema & Smajic, 2014). These positive experiences contribute to the well-being and are present in the municipality of Barcelos.

### **Senses and Intellectual Well-Being**

Intellectual well-being is related to new learning and interests, curiosities, creativity, and personal development. Along the Way, we find many communities that inherited the traditions and customs typical of the Minho region.

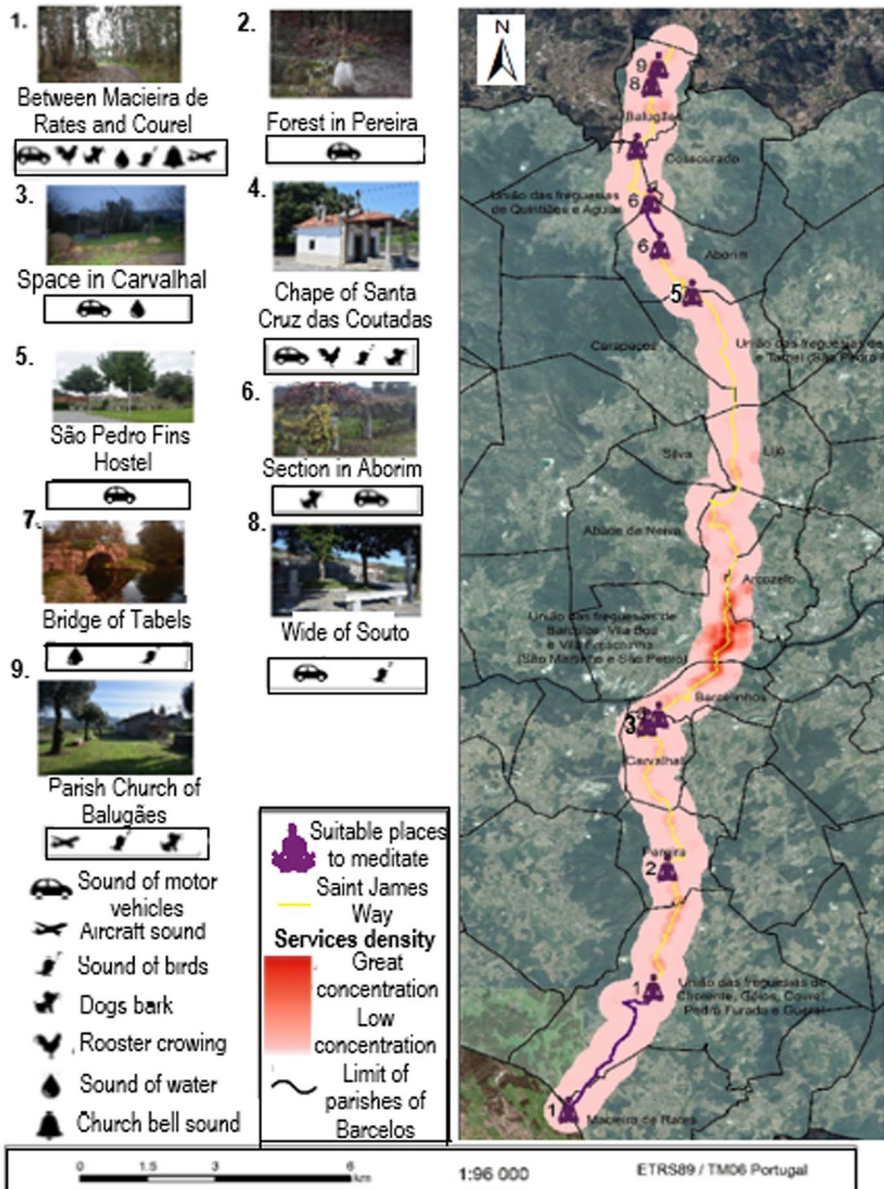
Santiago is the apostle in several parishes of the municipality, and, not only along the Way, but also outside it, there are shrines, churches, niches, and bridges that portray the heritage, memory, history, and identity of the Jacobean experience in this territory.

Some of these elements with great Jacobean inclination are the Medieval Bridge of Barcelos and the Bridge of Tábuas (Fig. 5), the Main Church, the Church of Pedra Furada, the Romanesque Church of Abade Neiva (if the pilgrim chooses the Abade Neiva variant), the Chapel of Senhora da Ponte or the Sanctuary of Nossa Senhora da Franqueira (if the pilgrim chooses the Franqueira variant) or the Cruzeiro do Galo, which embodies the Miracle of Santiago, among many other examples along the way.

### **Senses and Spiritual Well-Being**

The Way of St. James was originally a Catholic Christian Pilgrimage. Nowadays, everyone walks the Way for different reasons. For some, the Way is a spiritual journey. According to data from the Pilgrim's Office (official data), in 2019 and in 2020, the main motivations that moved the pilgrim to travel the Way were "religious and other reasons", with religious motivations alone coming in second place. Pilgrims may experience other kinds of transformation, related, for example, to their world view or their perceptions of illness (Rahtz, et al., 2021). Places for meditation or rest are more frequent in rural areas, where it is easier to have silence or listen to the chirping of birds and the crowing of roosters. In urban areas, the territory does not offer many conditions to meditate or rest due to the surrounding noise.

Figure 6 considers the suitable places for meditation, the concentration of existing services along the Way and, at the same time, the dimension of the landscape,



**Fig. 6** Concentration of Services, Suitable Places for the Practice of Meditation and Landscape Dimension. Source: Authors’ own elaboration supported by the Official Administrative Charter of Portugal (C.A.O.P.), S.N.I.G. (2019)

that is, the sounds that are heard along the route. To supplement this type of information, photographs of some places suitable for meditation were included. The criterion used to rank those as the best places to do so was the sense of silence, whether they have benches or seats for the pilgrim to sit, or if they feature larger stones to



do so. It should be noted that all the places or sections marked for meditating are located in places with a rural, green and calm landscape, where the sounds of birds, dogs, roosters, wind, water, and bells can be heard. On the other hand, the sound of motor vehicles (since the places are close to a National Road) or planes above are also perceivable.

Seven places combining favorable conditions for rest and meditation were identified (Fig. 6). Rest places along the itinerary have also been defined considering the places featuring benches or tables, so the pilgrim may sit, put down their backpack or eat, regardless of these places being located in areas with a lot or little noise. We concluded that places with both conditions are sufficient along the route, although not all of them are designed for the practice of meditation.

Often, there is a strong smell of eucalyptus, and we can hear the birds and some flies, so it is quiet enough for the pilgrim to meditate with no risk of any kind. These findings suggest the possibility that the act of meditation along the way influences well-being via changes in the regulation of emotions. Neural and physiological benefits found to be associated with meditation include an increase in immune system activity and left-sided prefrontal activation, a pattern associated with positive effects (Davidson, 2003). Meditation tasks involve slow breathing, relative to a normal breathing condition during a resting baseline, which will contribute to the various dimensions of well-being. Walking has the miraculous power of helping to heal the spirit, particularly when it is addressed as a form of meditation on the present moment in every step of the way (Tisdell, 2013).

As stated by Darvill et al., (2018, p. 2): *This itinerary, while defining how places are encountered, allows for a commonality of experience, and also provides the pilgrims with a sense of preparation for healing, by heightening their anticipation that, should the set requirements be correctly completed, the likelihood of a cure or miracle will increase.*

Table 1 summarizes the main conclusions on the five senses analyzed.

## Main Conclusions and Recommendations

Portugal has, ever since the late sixties and for decades now, invested in the “Sun & Beach” tourism product. However, from 1990 onwards, it was forced to deal with a massive crisis in traditional tourism due to the emergence of the mass consumption of culture, nature, and religiosity tourism in Portugal.

The Way of Saint James must be traveled one step at a time, that being one of the main tools contributing to the pilgrim’s well-being. This study allows us to conclude that this route promotes physical, emotional, spiritual, intellectual, and social well-being. The joy and friendliness of the people make this route important and unique. The sharing of experiences and the observation of life are moments that facilitate social, intellectual, and emotional well-being. The aroma of the fields, the wind, the flowers, and brightly colored trees, and the singing of the birds push the traveler to overcome all the difficulties and obstacles on the way. The natural landscape is proof that the way has a lot to offer. Each locality contributes to a person’s well-being by offering its best, including historical, artistic, intellectual, and spiritual value.

**Table 1** Visual, hearing, smell, touch and taste elements felt on the way of the municipality of Barcelos

Main Attributes of the Municipality of Barcelos	
Elements Associated with visual perception	Landscape changes very little, except for the differentiation between rural and urban spaces Dispersed settlements with single-family houses Single-family houses with large gardens or vegetable gardens in rural areas and apartments in urban areas
Elements associated with hearing	The noise of motor vehicles can be heard both in rural and urban areas, as the route goes along national or municipal roads The sound of birds, roosters, and church bells is more audible in rural areas The sound of water is only perceptible when crossing the medieval bridge, in the city center and in small streams, as is the case of the Bridge of Tábuas
Elements associated with smell	It smells a lot of eucalypti, especially in forested areas and even in rural areas Smells of animal biowaste when passing near houses that raise animals, such as roosters, ducks, and cows There is a strong smell of fuel on the roads in the city center of Barcelos, due to the influx of traffic
Elements associated with touch	Paved in clay with stones and stone (to sit while walking) and asphalt Eucalyptus leaves on the ground
Elements associated with taste	When the pilgrim stops to enjoy a Portuguese meal or pastry, in the different hospitality services available

*Source:* Authors' own elaboration

The local agents of the municipality of Barcelos have the potential to continue to develop and invest in the Way of Saint James as traveling the Way may be a good solution in periods of pandemic, as less human contact results in a lower risk. It has physical characteristics for its practice in terms of slopes and land use, while revealing diversity in its landscape, which is attractive to pilgrims. The rural landscape and the silence that follow along the itinerary as we travel through the rural world invite the traveler to spirituality.

The elements that should be improved by local authorities to make the pilgrim's experience more pleasant are the drinking water supply points with translation into other languages, the improvement of the signage of the yellow arrows identifying the route, so as to ensure that whoever goes through the itinerary, does not lose their way or has any doubts regarding which direction to follow. A common strategy needs to be implemented by the public decision-makers of Barcelos together with other municipalities of the Way, mainly the ones around the city of Porto. The standardization of the signage to be used is one of these needs, perhaps taking advantage of the granite solid stone as the best solution since it is harder to vandalize. Also, placing more infrastructure for rest stops along the way and, if possible, mitigating or lessening some of the hazards detected along the Way are other elements that deserve the attention of local authorities. The latter should also focus on the absence of sidewalks on the sides of the roads with heavy traffic. In wider routes, it would be

easy to place some sidewalks. Additionally, it is also necessary to intervene in some spots with foul smells and enforce a fine on non-law-abiding citizens.

In the present study, some limitations were identified, such as the bibliography on senses and well-being to better support its content. It should also be noted that the qualitative approach undertaken in this study does not allow the generalization of the results to the entire Way of St. James on Portuguese grounds. Despite this limitation, we cannot exclude the possibility of the results being transferable to other similar paths in the Central Portuguese Way, and, likewise, serve as a starting point for similar qualitative studies.

The present study represents a first effort in applying a new method of analyzing the senses and the landscape on the Way of Saint James. Future studies shall require the capture of the profile and motivations of the pilgrims themselves through the implementation of surveys to assess which kind of impact Barcelos may have in their pilgrimage. A study on profile and motivation of the pilgrim who travels this route can also be compared with those carried out in research focusing on the pilgrims arriving in Santiago de Compostela via other routes.

**Author Contributions** All authors contributed to the conception and design of this study. CAPF, PCR and MFSVM were responsible for material preparation, data collection and subsequent analysis. CAPF and MFSVM wrote the first draft of the manuscript and replied to the remaining authors' comments on previous versions of the manuscript. All authors read and approved the final manuscript.

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## Declarations

**Conflict of interest** The authors have no relevant financial or non-financial interests to disclose.

**Ethical Approval** All procedures carried out in this study did not involve any human or animal participants, and the data retrieved abided by the ethical standards of the institutional and national research committee.

**Consent to Participate** As the research involved no human or animal participants, a formal informed consent was not required.

**Consent to Publish** As this research involved no human or animal participants, the formal consent to publish was not required. All the photographs used were taken by the authors of the paper and the former do not include human beings.

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