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Hikes and Levadas in Madeira: Characterizing Visitors and their experience

Abstract: Recent research indicates that more and more often tourists use the Madeira Natural Park (MNP) area to develop their physical activity, through mountain hiking and Levada walks. This study aims at identifying tourists' characteristics and to understand how visitors live their experience. A survey was carried out at the end of two different activities and the sample was divided into two groups (G1: Levada Walks in the Laurissilva; G2: Walks outside the Laurissilva). The data was collected immediately after the activity ended (total: 293; male: 124; female: 169) and people were asked about: 1. Information available at the start of the activity; 2. Interaction and attention demand; 3. Natural area visited. The data indicates that the Madeira tourists have higher education, many are students and teachers, the majority being European. Our tourists are well informed about the natural environment and more than 90% agreed that it was ideal for aesthetic enjoyment and inspiring exploration. Our findings can help the tourist agents to improve their products, encourage the agencies to attract new markets outside Europe and can work as a basis for providing more guidance in the MNP, promoting a higher 'flow experience'.

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1 Introduction

From 2013 to 2019, Madeira Island has been consecutively awarded the World Travel Awards for the Leading Island Destination category. This distinction has come along with other distinctions from European and international institutions. As a result of this growing recognition, among other reasons, Madeira has been a study case and has led to scientific research in the economical field of tourism, with a wide variety of published papers (França, 2010; Valls, Mota, Vieira & Santos, 2019).

Tourism and tourist activities had their beginning between the 17th and 18th Centuries evolving to the Tourism we know it today (Marujo, 2013; Ferreira & Martins, 2007) and has been subject to constant studies. For example, the development process of tourism on Madeira Island, one of the oldest tourist destinations in the world, with centuries of tradition, has been widely documented (Marujo, 2013; ISMERI Europa, 2011, Baptista, 2005).

This constant investigation into insular tourism in general, by universities and different institutions, shows an inclination towards basing activities on a very simple logic: the exploration of the coastline and its natural resources. However, this model has been successfully avoided on Madeira Island owing to the common effort of its citizens and the government to preserve the island's territorial integrity and cultural identity, even though Madeira Island has all the amenities for mass tourism due to its weather and topographic characteristics (Lopes, Lopes, Matzarakis & Alcoforado, 2010; Valls et al., 2019).

Although Madeira Island has been rated with high levels of satisfaction from visitors (França, 2016; IDR, 2013) the main challenge is to re-think the tourism model dynamics and the potential to increase and improve the growth rates of annual visits. Investment in 'Rural Tourism' has been universally defended by the scientific

community as a solution to avoiding the coastline over-load (Okech, Haghiri & George, 2012).

For tourism purposes, Madeira Island has in its favour its relatively small dimensions when compared with the mainland, but at the same time, having diverse micro-climates. Also, its compact capital city, Funchal, with its excellent location in the Atlantic Ocean, close to the African coastline, provides a variety of scenery with its mountains and Laurissilva forest (Lopes et al., 2010).

In general, societies worldwide have high levels of sedentarism, and populations living in high density urban areas accentuate the need for physical activities in natural countryside environments. This would enable people to get out into open spaces, away from daily urban routines, and would build a society prepared to face the challenges that can only be provided by informal adventure sports (Barbosa e Rego C, 1999). In fact, recent studies show how important the 'Footpaths' in a nature environment are and how they are becoming more and more popular (Sales, Castro, Saraiva & Pinto-Correia, 2018; Braga, 2007; ERA, 2013)

This necessity leads to a flux of tourism into rural and nature areas, where tourists, in touch with nature, can enjoy a variety of activities such as 'nature sports' like walking in and out of the Laurissilva forest, through 'Levadas' and paths.

The connection between tourism and 'nature sports' is growing closer and it is becoming necessary to investigate this phenomenon in order to understand the characteristics of its supporters and enthusiasts, and the activities themselves.

This research aims to go beyond the typical assessment of the economic impact. Its purpose is to classify visitors to Madeira Island on their sociodemographic profile and capabilities, to assess and understand the relation between the places they have visited and how this reflects on the enthusiasts/tourists, namely on the so-called 'flow-experience' (Florido, Mendo & Sanchez, 2010).

The present study contributes to a better knowledge of the profile of those who use the hiking trails in Madeira, with regards to nationalities and ages, as well as their skill and physical condition. This is a new type of assessment relating to Madeira as a tourism destination. The data will enable tourist recreation companies to widen their offer as well as organize activities and routes that target different groups, which will also contribute to improving security.

2 Literature Review

Personal satisfaction is closely related to the '*lived experience*', that plays a key role in this dynamic relationship (Keller, Bless, Blomann & Kleinbohl, 2011). In any case, the vast majority of research into tourism is focused on the impact of the activities and demand rather than trying to understand if tourists are getting what they had hoped for and if their lived experience meets their previous expectations (Deng, King & Bauer, 2002).

The '*flow*' concept was first introduced by Mihaly Csikszentmihalyi in 1975 as an attempt to understand what leads and motivates people to engage in certain activities in their free time. In general, the author was trying to understand these choices that did not seem to follow the utility-centred motivational theories of the time (Kavikangas, 2006).

The '*flow*' became defined as the result of the enjoyment derived from various sports and other leisure activities, leading to motivation to return to those activities (Csikszentmihalyi,1975; Kavikangas, 2006). In general, '*flow*' is reached when skills are challenged and the challenge is overcome through innate skills, creating a balance between an obstacle and achievement.

This feeling of achievement leads to the psychological phenomenon 'flow-experience', which contributes to the release of the stress control hormone, cortisol (Keller et al., 2011). Different studies indicate that this moment contributes to a cognitive absorption that takes place when one's attention is directed to accomplishing a task that defies the person's capabilities and abilities in a realistic manner (Kavikangas, 2006; Keller et al., 2011; Peifer, Schachinger, Engeser & Antoni, 2015).

It becomes highly important to promote and maximize the time dedicated to the kind of tasks that promote the flow-experience (Peifer et al., 2015) especially because the performance of this type of activity helps towards a feeling of calm and achievement (Keller et al., 2011).

Madeira is an international tourist destination, which is visited by thousands of tourists every year (Oliveira & Pereira, 2008) and many come for cultural tourism and for hiking (Marujo, 2013). The benefits to Mental Health that come from Nature Hikes is well documented (Barnes *et al.*, 2019; Davies, 2016) and so we dedicate our study to those who go on these hikes and the 'flow experience' thus obtained.

3 Methods

The data was gathered through a survey (Florido, 2010) made available in 6 different languages (Portuguese, English, French, Spanish, Polish and German) and was distributed to the participants at the end of the activity. The collected data resulted from two hundred and ninety-three replies, of which one hundred and twenty-four were from male individuals and one hundred and sixty-nine from female.

The survey contained sixteen questions that could be answered: 'Yes', 'No', or 'I don't understand' (Ghiglione & Matalom, 1992).

3.1 Sample

The whole sample was divided into two groups: G1 (n = 170) for the 'Levada Walks in the Laurissilva' and G2 (n = 123) for the 'Walks outside the Laurissilva'. All the data was collected during the months of July, August and September 2019. The University of Madeira research team was composed of seven investigators, that had no previous contact with the subjects.

Two hundred and sixty-four people replied to the questionnaire directly at the end of the activity, while twenty-nine answered online, using a QR code or a direct link to the survey.

To guarantee a random sample, some steps were followed: seven surveys were distributed simultaneously, one survey per person. Only after all the surveys had been collected and only after the individuals had abandoned the area, did the research team distribute another seven surveys. The process was repeated for six hours until fifty surveys were collected.

These seven surveys were handed out consecutively. This means that the research team delivered the surveys to the first seven people to arrive at the meeting point. When these had finished, the researchers handed out more surveys to the next seven tourists, even if more people were passing by the meeting point.

On average, fifty surveys were collected each day (day 1 = 51; day 2 = 54; day 3 = 48; day 4 = 57; day 5 = 54). Out of the two hundred and ninety-three surveys, twenty-nine were collected online. Those tourists who were unable to answer immediately after their activity, were given the option of answering online using a QR Code or a direct link that was made available to them.

The survey carried out is divided into three categories, sixteen multiple choice sentences (Yes, No, I don't understand) and a section used to characterize the sample (gender, age, number of hours dedicated to sport per week, years practising this kind of activity, professional status, academic qualifications, country of residence, perceived sports habits, effective sports habits).

The 'flow-experience' was assessed by analysing 3 different scales (beginning of the activity; demand, interaction, attention; natural scenery) and 6 factors (beginning of the activity; Interaction, Attention focus; Concentration, Aesthetic scenery and Scenery to be discovered).

Statistically, the first phase led us to perform an explorative analysis in order to check the sample's normal distribution (Kolmogorov-Smirnov) and to identify the possible presence of 'outliers'.

The descriptive statistic (Mean and Standard deviation) was applied to characterize the sample according to some variables that will help in the profiling.

A T-Student test, for independent samples, was applied to check the differences between the groups, on the quantitative variables with normal distribution.

The Chi-Squared test was applied to the existing dependence between the qualitative variables.

SPSS version 26.0 was the software that supported our investigation. The significance level adopted was 5%.

4 Results

4.1 Tourist Product

For the present study, two natural areas were considered. The 'Levada Walks in the Laurissilva', which include the walks in the Laurissilva forest that follow the gently sloping irrigation canals; the 'Walks outside the Laurissilva', which include the trails in the mountains and on the east coast of Madeira Island, with mountain scenic views and arid landscape with irregular inclination.

Table 1 highlights how the sample is distributed according to the scenery:

On analysing Table 1, the two different activities are identified in six different locations, four in the Laurissilva with 58% of the total sample (G1) and two outside the Laurissilva with 42% of the total sample (G2). It is also possible to verify how the tourists are distributed between each of the activities and locations, and whether they went on the walk with or without the presence of a tour guide.

A higher percentage of people went on the walk without a tour guide (86.7), and a lesser number went with a tour guide (13.3). This result is similar when G1 (ActEmpr: %Yes = 13.5; No = 86.5) and G2 (ActEmpr: %Yes = 13.0; No = 87.0) are analysed separately.

Table 1: Natural Scenery. Levada walks in the Laurissilva (G1, n= 170) and Walks outside the Laurissilva (G2, n = 123). %Balcões Levada (%Balc); %25 Fontes Levada (%25 Fon); %Risco Levada (%Risco); %Queimadas Levada (%Queim); %Pico Ruivo Hike (%PRuiv); %Ponta de São Lourenço Hike (%PtaSLour); Activity performed with a tour guide (ActEmpr).

| | Levada Walks in the Laurissilva | | | | Walks outside the Laurissilva | | ActEmpr | |
	%Balc	%25Fon	%Risco	%Queim	%PRuiv	%PtaSLou	%Yes	%No
G1 (58%)	35.3	31.8	3.5	29.4			13.5	86.5
G2 (42%)					55.3	44.7	13.0	87.0
Total (100%)	20.5	18.4	2.0	17.1	18.8	23.2	13.3	86.7

These findings can be explained by the growing demand for nature sports, where people can find alternative activities, independently, looking to find pleasure, amusement, well-being and to improve health (Carvalhinho, Sequeira, Fernandes e Rodrigues, 2010).

This fact reflects a new trend in tourism. Nowadays, Madeira Island provides a variety of tourism products that go beyond the typical sun/beach option and are adapted to a profile of tourists with higher education and greater environmental consciousness (Tomás, 2009). The profile points to a Tourist who is more highly educated, has digital skills, and who can easily access updated information about places to visit and about recommended trails, namely through the official websites of Direcção Regional de Saúde, Turismo de Portugal or other companies that promote this type of activity.

4.2 Tourist Profile

With the data collected, it has been possible to analyse the profile of a tourist. The results are presented in the following table (Table 2):

The percentage figures for each group (G1: 42.4 %Male and 57.7 %Fem; G2: 42.3 %Male and 57.7 %Fem) are similar to the total of the sample, where 42% of the sample are male subjects while 57.7% are female.

There are no statistical differences in the ages (G1 = 39.9 ± 15.9 years; G2 = 38.7 ± 16.3 years). The same can be said about the number of hours dedicated to sports per week (G1 = 5.9 ± 7.3 h; G2 = 5.8 ± 5.3 h).

The collected data referring to the age groups of this sample follows the newest tourist trend (RAM, 2016). 'Baby boomers' and 'Millennials' look for active and healthier tourism, with nature sports and activities affording them enjoyment and satisfaction (Ijspeert, 2017).

The average age in these activities is lower than that reported in other studies (Almeida, Teixeira & Franco, 2019). Almeida *et al.* (2019) mention a higher average age for tourists who visit Madeira during the Carnival, Flower Fest and Atlantic Festival (ages 56.0; 59.3; 54.9). This difference between the studies indicates that a younger population is involved in the hikes, while an older population comes for the festivals.

Both groups were also similar with regard to previous experience and years of practising this kind of activity (YrPra), with no statistical differences found between G1 (YrPra: 13.7 ± 14.3 years of age) and G2 (YrPra: 13.3 ± 13.9 years of age).

Table 2: Group(s) Characteristics. Levada walks in the Laurissilva (G1) and Walks outside the Laurissilva (G2). Gender: % Male (%Male) and % Female (%Fem.); Age (years), number of hours dedicated to sport per week (HpW) (h), years practising these activities (YrPra). Mean, standard deviation (stdd), maximum (max) and minimum (min).

| | Group(s) Characteristics | | | | | | | | | | |
| | Gender | | Age (years) | | | HpW (h) | | | YrPra (years) | | |
	%Male	%Fem	Mean stdd	Max	Min	Mean stdd	Max	Min	Mean stdd	Max	Min
G1	42.4	57.6	39.9 ± 15.9	77	14	5.9 ± 7.3	45	0	12.7 ± 14.3	50	0
G2	42.3	57.7	38.7 ± 16.3	78	13	5.8 ± 5.3	40	0	13.3 ± 13.9	57	0
Total	42.3	57.7									
P	0.990		0.465			0.238			0.807		

Overall, the data collected shows no significant differences between groups with regard to gender, age, level of physical activity or previous experience. Therefore, the sample presents homogeneity.

This study also analyses the groups' Country of Residence. The results are shown in Table 3.

In Table 3, Portugal is clearly identified as the country of residence of 30% of the group. This is also made clear when the groups are analysed separately (%Portugal: G1 = 30.0; G2 = 30.1). The most obvious data to be reported is that 97.1% of those surveyed come from Europe while 2.9% of visitors come from other countries in the world. These findings are in agreement with other studies (RAM, 2016; Marujo, 2013).

France appears as a solid tourist market (Total = 19.1%; G1 = 17.1%; G2 = 13.8%), as do Germany (Total = 15.7%; G1 = 17.1%; G2 = 13.8%) and Spain (Total = 11.9%; G1 = 15.9%; G2 = 6.5%). This information coincides with the most recent statistics relating to the countries that contribute most towards the growth of tourism in Madeira (Marujo, 2013; RAM, 2016; *Almeida et al.*, 2019).

However, the fact that the percentage for Spain (G2 and Total) is lower than that expected should be noted. With the ongoing data collection over the next 12 months, we expect the percentage for Spain to grow as further analysis is made of a larger sample.

It should also be noted that the traditional British market is not significantly present in the current data.

This fact is surprising, as Madeira is the second largest tourist destination for the UK (RAM, 2016; Marujo, 2013). Gathering and analysing additional data will support or deny the present results.

The Other European Countries (%Total =20.4; %G1 =16.0; %G2 = 26.8) include Poland (1.7%), the United Kingdom (3.8%), the Netherlands (5.1%), Switzerland (.7%), Austria (2.4%), the Czech Republic (.7%), Belgium (1%), Italy (4.4%) and Norway (.3%).

We also evaluate the professional status and the academic qualification of the group and the findings are shown in Table 4 and Table 5.

On analysing Table 4, we can see that the percentage of the Unemployed and Retired is very low both for G1 (5.3%) and G2 (3.7) (%Une/Rtd Total = 4.6%). This means that most of the people who are involved in nature sports are those who are active, with work and/or studies in their everyday life.

The percentages of Students (%Students Total = 24.3%; G1 = 23.3%; G2 = 25.7%) and Leaders (%Leaders Total = 25.4%; G1 = 24.0%; G2 = 25.7%) in this sample should be highlighted. This was the most common verified status, in line with other studies (IJspeert, 2017; Tomás, 2009).

The single profession most reported was '%Teachers' (Total = 12.4%; G1 = 14.7%; G2 = 9.2%), which together with the reported '%Stu' indicates that 36% of the visitors are related with academic institutions.

Table 3: Country of Residence. Levada walks in the Laurissilva (G1) and Walks outside the Laurissilva (G2). %Portugal; %Germany; %France; %Spain; %Other Countries in Europe (%O.Europe); %Other Countries in the World (%O.World).

	%Portugal	%Germany	%France	%Spain	%O.Europe	%O.World
G1	30.0	17.1	18.2	15.9	16.0	3.0
G2	30.1	13.8	20.3	6.5	26.8	2.4
Total	30.0	15.7	19.1	11.9	20.4	2.9

Table 4: Professional Status. Levada walks in the Laurissilva (G1) and Walks outside the Laurissilva (G2). %Unemployed/Retired (%Une/Rtd), %Students (%Stu), %Teachers (%Teac), %Leadership (%Lead), % Health Professionals (Hlt), %Other Activities (%OAct).

	%Une/Rtd	%Stu	%Teac	%Lead	%Hlt	%OAct
G1	5.3	23.3	14.7	24.0	6.7	26.0
G2	3.7	25.7	9.2	25.7	11.0	24.7
Total	4.6	24.3	12.4	25.4	8.5	24.8

Table 5: Academic Qualifications. Levada walks in the Laurissilva (G1) and Walks outside the Laurissilva (G2). %Elementary School (%ElmSc); %High School (%HigSc); %Professional High School (%ProHigSc); %Higher Professional Education (%HigEduProC); %Higher Education (%HigEdu);

	Academic Qualifications				
	%ElemSc	%HigSc	%ProHigSc	%HigEduProC	%HigEdu
G1	1.8	22.0	13.1	6.0	57.1
G2	2.5	15.0	23.3	10.8	48.3
Total	2.1	19.1	17.4	8.0	53.5

Furthermore, within these parameters, it can be seen that the groups do not deviate significantly from one another, and there is even a similarity between G1 and G2. The total values are also similar to the group values, making this a homogenic sample.

More than half of the surveyed population is finishing or has completed a Higher Educational Programme (%HigEdu: Total = 53.5; G1 = 57.1; G2 = 48.3 and %HigEduProC: Total = 8.0; G1 = 6.0; G2 = 10.8), while only 2.1% of the total population has completed or is finishing Elementary School (%ElemSc: G1 = 1.8; G2 = 2.5).

High School and Professional High School are the second most common levels of graduation for this sample (%HigSc: Total = 19.1%; %ProHigSc: Total = 17.4%)

This result is in accordance with the consulted literature (IJspeert, 2017; Tomás, 2009) and particularly with the study developed by Almeida *et al.* (2019). This study reports that 54% of the tourist population that visits Madeira for the festivals (Carnival, Flower Fest and Atlantic Festival) has higher education and 35% finished high school.

The collected data indicates that more than three quarters of the group answered the question about performing physical activity on a regular basis (PSpHab: Total = 84.3%) with G2 showing higher results (%PSpHab: G1 = 79.4; G2 = 91.1) and having statistically significant differences (Table 6).

However, when analysing the Effective Sports Habits, where people practise more than three hours of sport a week (WHO, 2010), the difference between the groups is lower and not statistically significant (%ESpHab +3h/w: G1 = 64.7; G2 = 71.7).

Both activities present two different challenges. The Levada walks tend to be on a terrain with gentler slopes, while the Walks outside the Laurissilva present a more demanding activity, posing different challenges with some more difficult paths on steeper terrain. Therefore, it was not a surprise to find that G2 is considered to be more active on a daily basis than G1. However, it was interest-

Table 6: Sports Habits. Levada walks in the Laurissilva (G1) and Walks outside the Laurissilva (G2). Perceived sports habits (PSpHab); Effective sports habits (ESpHab).

	Sports Habits			
	PSpHab		ESpHab	
	%Yes	%No	+3h/w	-3h/w
G1	79.4	20.6	64.7%	35.3%
G2	91.1	8.9	71.7%	28.3%
Total	84.3	5.7	80.5%	19.5%
p	0.011		0.26	

ing to find that those differences were, not in effect, confirmed by the collected data.

4.3 The surrounding Scenery

Table 7 shows that both groups state that information on the natural environment was obtained at the beginning of the activity (InfRegNatEnv %Yes: Total = 65.5; G1 = 68.8; G2 = 61.0) with no statistical differences between the groups.

There appears to be a lack of information regarding the equipment to be used during the activity (InfRegMatUse %Yes: Total = 38; G1 = 42.4; G2 = 32.5), particularly for G2, which was involved in the more challenging hikes. This may be due to the number of tourists who went on the walks without tour guides. It may also suggest that these groups represented very adventurous hikers, as was suggested earlier in this paper.

Half of those who answered the survey said they were informed of the general rules for the activity (ActGenRul %Yes: Total = 54.6; G1 = 57.1; G2 = 51.2) and of the safety rules (SafRul %Yes: Total = 55.6; G1 = 60.6; G2 = 48.8).

No significant differences between the groups were found.

Table 7: Beginning of the activity. Levada walks in the Laurissilva (G1) and Walks outside the Laurissilva (G2). Information regarding the natural environment (InfRegNatEnv); Information regarding the equipment to be used (InfRegMatUse); Activity general rules (ActGenRul); Safety rules (SafRul).

	1. Scale – Beginning of the activity							
	Factor Beginning of the Activity							
	InfRegNatEnv		**InfRegMatUse**		**ActGenRul**		**SafRul**	
	%Yes	%No	%Yes	%No	%Yes	%No	%Yes	%No
G1	68.8	18.2	42.4	34.7	57.1	25.3	60.6	22.9
G2	61.0	20.3	32.5	43.1	51.2	28.5	48.8	30.1
Total	65.5	19.1	38.2	38.2	54.6	26.6	55.6	25.9
p	0.55		0.10		0.50		0.11	

Table 8 assesses the 'Demand, Interaction, Attention' Scale, where the level of interaction between tourists and that between tourists and equipment can be evaluated. The scale allows us to draw conclusions as to the attention and focus required for the activity.

In accordance with Table 8, we can observe that 43.7% of the respondents stated that at some point, it was necessary to assist others, while 35.2% said they required the assistance of fellow participants (HelpFrOtPart %Yes: Total = 35.2%).

On comparing the results of both groups, we can see that the need to help and receive help from others was always greater in G2 (HelpOtPart %Yes = 48.8; HelpFrOtPart % Yes = 44.7) than G1 (HelpOtPart % Yes = 40.0; HelpFrOtPart % Yes = 28.2).

The significant differences between the groups can possibly be explained by the greater challenge facing G2.

Our study found that 47.7% of the group indicated the importance of focusing on the equipment when its use was needed. There are no statistical differences between

G1 (FocMat %Yes = 42.4) and G2 (FocMat %Yes = 54.5) but, once again, the higher percentage found in G2 underlines the greater challenge demanded of G2 .

Statistically significant differences were again identified between G1 (%Yes = 79.4) and G2 (%Yes = 91.1) regarding the need to be attentive to movements in general (AttMov). The challenges that G2 faced during the activities required them to be aware, attentive, alert and prudent in their actions.

Both groups drew special attention to the need to focus on body movements (FocMov %Yes: Total = 79.9; G1 = 75.9; G2 = 85>4). Again, both appear to recognize that being cautious in both challenges is key to achieving the final goal in safety.

But this research also aims at understanding the tourists' enjoyment and their appreciation of the natural scenery. We assess the level of attention required in absorbing the natural surroundings and evaluate how the tourists appreciate the aesthetic scenery. We also evaluate how participants focus on the activity while they, simul-

Table 8: '2. Scale – Demand, Interaction, Attention'. Levada walks in the Laurissilva (G1) and Walks outside the Laurissilva (G2). The need to help other participants (HelpOtPart); The need to get help from other participants (HelpFrOtPart); The need to be focused on the equipment (FocMat); The need to pay attention to movements in general (AttMov); The need to be focused on body movements (FocMov).

	2. Scale – Demand, Interaction, Attention									
	Interaction Factor						**Attention_Focus Factor**			
	HelpOtPart		**HelpFrOtPart**		**FocMat**		**AttMov**		**FocMov**	
	%Yes	%No	%Yes	%No	%Yes	%No	%Yes	%No	%Yes	%No
G1	40.0	51.8	28.2	62.4	42.4	45.3	79.4	15.9	75.9	17.6
G2	48.8	47.2	44.7	51.2	54.5	37.4	91.1	6.5	85.4	12.2
Total	43.7	49.8	35.2	57.7	47.4	42.0	84.3	11.9	79.9	15.4
P	0.29		0.01		0.10		0.02		0.21	

Table 9: '3. Scale – Natural Scenery'. Levada Walks in the Laurissilva (G1) and Walks outside the Laurissilva (G2). Centre of Attention_Attention Factor (Centre of Att_Att Factor); Aesthetic Scenery Factor; Scenery to Discover Factor. The Natural Scenery waiting to be explored (InvExp); It is the perfect scenery for Aesthetic pleasure (AesAms); It contains elements worth exploring (HidElmExp); It captivates the attention while engaging in the activity (CaptAtt); It encourages the tourist to view the scenery while engaging in the activity (InstAttScn); It is a surprising place (SurpPlc); Its beauty impacts those who visit (OfeBeauty).

	3. Scale – Natural Scenery													
	Centre of Att_ Att Factor				**Aesthetic Scenery Factor**						**Scenery to Discover Factor**			
	InvExp		**AesAms**		**HidElmExp**		**CaptAtt**		**InstAttScn**		**SurpPlc**		**OfeBeauty**	
	%Yes	%No	%Yes	%No	%Yes	%No	%Yes	%No	%Yes	No	%Yes	%No	%Yes	%No
G1	94.7	2.4	85.9	5.9	68.2	21.8	89.4	5.3	91.2	6.5	91.2	4.7	94.7	1.8
G2	92.7	4.9	93.5	0.0	74.0	13.8	92.7	3.3	95.9	3.3	94.3	3.3	96.7	1.6
Total	93.9	3.4	89.1	3.4	70.6	18.4	90.8	4.4	93.2	5.1	92.5	4.1	95.6	1.7
P	0.40		0.02		0.13		0.56		0.32		0.73		1.00	

taneously, appreciate the surrounding environment and if the beauty of the scenery itself impacts those who visit and engage in activities there.

The results are now presented on Table 9.

In general, 93.3% of the surveyed population states that the natural scenery encouraged them to explore (InvExp %Yes: G1 = 94.7; G2 = 92.7). No significant differences were found between G1 and G2 on this point.

Of those answering the survey, 89.1% states that the area they visited is ideal for aesthetic pleasure and enjoyment. However, despite both groups presenting high percentages of positive answers on this subject (AesAms %Yes: G1 = 85.9; G2 = 93.5), there are some differences between them. This is due not only to variations in the positive answers, but also because 0.0% of the G2 answered 'No' when questioned.

Referring to the Aesthetic Scenery, the majority of this sample, 70.6%, indicates that there are Unrevealed Elements worth exploring (HidElmExp %Yes: G1 = 35.2%; G2 = 74.0%), while 90.8% of tourists replied 'yes' when asked whether they were captivated by the natural scenery (CaptAtt %Yes: G1 = 89.4; G2 = 92.7). High percentages were also observed when tourists were asked if the natural scenery alone encouraged them to pay attention to the view before them while performing the activity (InstAttScn %Yes: Total = 93.2; G1 = 91.2; G2 = 95.9).

Both groups also agree that the place they visited was a positive surprise (SurpPlc %Yes: Total = 92.5; G1 = 91.2; G2 = 94.3) and answered almost unanimously that the beauty of the natural scenery had an impact on those who visit (OfeBeauty %Yes: G1 = 94.7%; G2 = 96.7%).

4.4 Natural Scenery – The Experience

This research also makes an Inferential analysis between both activities. The findings are presented in Table 10, which show how the groups, in general, evaluate their experience.

When analysing the Scale and Factor 'Beginning of the activity', no differences were found between the groups. In general, the statements of both groups tend to agree that the necessary information was obtained (G1 = 0.68 ± 0.41; G2 = 0.60 ± 0.40), indicating that the study population was positively informed at the beginning of the activity.

The differences observed on the Demand, Interaction, Attention Scale indicates that G2 was more in need of interactive help between the fellow participants. These differences can be associated to the greater challenge of G2 activities when compared to those of G1.

From the Natural Scenery Scale, we can observe that in both groups, there is a high percentage (93%) of people who found the scenery aesthetically pleasing and enjoyable. The difference between the groups is close to 0.05, but in both cases, the answers are frankly positive (88%–98%), which means that 9 out of 10 people who visit these natural sceneries find pleasure in the views and the environment.

5 Conclusion

The data analysed allows us to conclude that the studied population went on both walks without a tour guide or tourist agent (%No: Total = 86.7%) with no significant

Table 10: Inferential Analysis between Activities. Levada walks in the Laurissilva (G1) and Walks outside the Laurissilva (G2). Scales: Beginning of the activity; Demand, Interaction; Attention; Natural Scenery. Factors: Beginning of the activity; Interaction, Attention Focus; Concentration, Aesthetic Scenery, Scenery to be discovered.

Inferential analysis between activities			
Scales	G1	G2	p
Factors	Mean ± StDd	Mean ± StDd	< 0.05
1. Beginning of the activity			
Beginning of the activity	0.68 ± 0.41	0.60 ± 0.40	0.18
2. Scale – Demand, Interaction, Attention	0.59 ± 0.34	0.68 ± 0.30	0.02
Interaction	0.42 ± 0.42	0.53 ± 0.40	0.02
Attention_Focus	0.82 ± 0.35	0.90 ± 0.26	0.02
3. Natural scenery	0.93 ± 0.14	0.95 ± 0.10	0.05
Concentration	0.96 ± 0.16	0.98 ± 0.11	0.30
Aesthetic scenery	0.88 ± 0.21	0.92 ± 0.19	0.10
Scenery to be discovered	0.96 ± 0.15	0.98 ± 0.13	0.52

statistical differences between the groups. Considering the challenges that this activity offers and that less than 75% of the people surveyed said they were informed about the activity at the start, we conclude that more effort is required by the authorities to reinforce the information and the way that it is presented and made available.

The significant differences existing between G1 and G2 for the Perceived Sports Habits is not apparent in the Effective Sports Habits column. This seems to indicate that the people who take part in the G2 activities are believed to be more active and more capable of performing these walks, even if they are not, in effect, more active.

The collected sample indicates that there is room for more investment in markets other than the European one since only 2.9% of the tourists are not from Europe. We can also conclude that the second largest market providing more tourists to Madeira Island is not significantly represented in these activities and this may open up an opportunity for another line of investigation.

Students and self-employed workers, who hold senior positions at their jobs, make up the majority of visitors (24.3% and 25.4%, respectively) for both groups, G1 and G2. We can conclude that Millennials are growing into a larger tourist group and that people with higher education and job position also tend to get more and more involved in this type of nature sports.

We can also conclude, through this sample, that G2 activities require more help and cooperation between participants. The government authorities could take this data into consideration and define a clear strategy to guarantee some personal support at an accessible cost for those who visit Madeira Island.

The main conclusion is that both groups agree that this destination is ideal for the pursuit of leisure and enjoyment. This is the question on which most people agree and where no differences were found between the groups. If we add the fact that both groups also agree that the place visited was a positive surprise and that the stunning scenery impacts those who visit it, we come to the conclusion that the flow-experience was achieved and that these activities contribute to the positive satisfaction of the sample.

The main limitation of this study is the fact that the data was collected only in the summer months, thereby reducing the scope of our study, given the seasonal flows of tourism in Madeira.

Nevertheless, we would like to mention that this is an exploratory study of a research project currently underway, which will run until October 2020, covering different periods, sceneries and activities.

The data collected and the results obtained will be important for tourist leisure and recreation companies and for regional entities responsible for managing the natural spaces where the different activities take place.

The study presented here, is also intended to complement the findings of other research work carried out in Madeira, focusing on Sustainability (Valls et al., 2019) and Tourist Profile (RAM, 2016).

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