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Research Article

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Mountain hikes and Levada Practitioner's motivation and experience – Characterization

Abstract: The Madeira Island provides excellent conditions for tourism due to its variety of scenarios, weather conditions and topography, and it becomes fundamental to think about the tourists' experience.

This study aims to understand the practitioner's motivations on mountains hikes and Levada, and how visitors live the experience.

We applied a 'QEFENRAM' survey (Florido, 2010) with 3 main dimensions related to the practitioner's experience while performing mountain hikes or Levadas: 1. Practitioner's motivations; 2. Practitioner's predisposition; 3. Practitioner's experience.

We obtained 293 replies immediately after the activities' conclusion (males: 124; female: 169) with the following results: a) Levels of motivation: 52.6% of the participants revelled intrinsic motivation, while 27.1% showed extrinsic motivation; b) Safety: 79.2% reported to be aware of safety measures and to have the necessary competence to perform the activity; c) Practitioners experience: 76.3% reported to be highly focused on their activity and felt to be part of the scenario itself. 10.9% referred to a feeling that, somehow, they were interfering, negatively, with the environment.

These findings can help to characterize the practitioner's motivations and experience. Based on this information, we can discuss what to improve in the touristic scenarios to refine the experience in Levadas and mountain hikes.

Keywords: Nature; Experiences; Hikes; Levadas

1 Introduction

The research for touristic activities in the wild is in expansion in Madeira Island. The region provides excellent conditions due to its variety of scenarios, weather conditions and topography, being consecutively awarded the World Travel Awards for the Leading Island Destination category.

Mountain hikes and Levada are two of the most popular activities for tourists that visit the Region. The growing number of visitors is leading to an increasing variety of terrain to travel to and increasing variety on tourist/visitor profile, on matters like age, gender, physical condition, experience, among others (Fernando, Prudente, Lopes, Vicente, 2018).

Due to this diversity, it is fundamental to think and to reflect about the quality and the experience that we can provide to those who visit us and prevent risk situations.

So, the aim of this study is to understand the practitioner's motivations on mountain hikes and Levada, and how visitors live the experience.

To achieve this goal, we applied a 'QEFENRAM' survey (Florido, 2010), with 3 main dimensions related to the practitioner's experience while performing mountain hikes or Levadas: 1. Practitioner's motivations; 2. Practitioner's predisposition; 3. Practitioner's experience.

To find the dimensions and the factors that visitors' value more will allow us to understand the practitioner's motivations and experience, and what to improve in the touristic scenarios or activities offer to refine the experience in Levadas and mountain hikes.

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2 Literature Review

2.1 Characterizing the Experience

The concept of 'experience' in tourism is described as a multifaceted and complex phenomenon (Selstad, 2007). This way, there are different areas and disciplines centred on differenced explanatory models and the different approaches of this concept bring us to this 'ambiguous social construction' (Larsen, 2007).

This ambiguity is seen as an obstacle in different areas of knowledge. Anyway, it is faced on Social and Human Science as part of having the mankind as a study object, a holistic being, that in all its activities reflects its own different facets (social, cultural, psychological, physiological, etc.), and above all, these facet dialectics that justify that the all is more than the sum of the parts.

Considering the sports, we must agree with Peric (2015) that the touristic experiences where sports activities are involved, passively or actively, can provide extraordinary experiences and adventures to the practitioners. Accordingly, for those involved in these activities, it becomes a great challenge to create and provide new sport products, that will potentiate the unique characteristics of the touristic destination and that allow them to create unique and inspiring experiences for the practitioners.

However, the main question is: What is it that the sports tourism experience provides to those that take part in it? Some authors suggest that the sport tourism conceptualization must consider three main components: the activity, the people and the place. By analysing these three components, it is possible to understand the level of experience that was obtained through the activity, even though there is an interaction that exists between these three components (Weed, 2005; Weed 2008; Weed & Bull, 2009).

Csikszentmihaily (1975) developed a theory called 'flow-experience', which defines that the living experience will allow the individuals to reach the *flow* state, that is a feeling so intense and pleasant that the individuals will focus all their attention on the task performance, forgetting the rest, even losing the notion of time.

Recently, this theorization has been used as a reference to study the main motivations connected to outdoor activities highlighting the intrinsic feelings of enjoyment, personal competence and feelings of wellbeing that this kind of activities provides. As a way of saying it, experiences that are enrichments for those who take part in it (Priest and Gass, 1997; Boniface, 2000).

Other models were presented in order to help us to understand the nature-based recreation experiences (Dorwart, Moore & Leung, 2009) that are focused on 5 perceptual points to analyse the experience: nature-oriented details, scenic values, management influences, presence of other people and depreciative behaviour. In this same study, it was verified that the category that was more emphasized for the practitioners was the nature-oriented details such as plants and wildlife, than any other type of feature followed by the scenic views.

In an attempt to apply this 'optimal experience' concepts on a practical manner to the active tourism activities, different tools were suggested, and we highlight the CEFEN (Florido, 2010). The CEFEN is a survey, composed of a set of scales, which allows to try to understand the factors that are taken more into consideration by the practitioners. That will bring a better understanding regarding the nature of sports and touristic experience, working to achieve more detailed explanations of participation (Weed & Bull, 2009). It is expected to bring a higher ability to conceive and to plan more and personalized products.

2.2 Activity characterization

As it happens with the 'experience' notion in sports, we consider the Levadas walks in Laurissilva and walks out of the Laurissilva that exists in Madeira Island, as an activity that leads to an adaptation to the environment.

So, the understanding of these activities will depend on knowing how the factors at stake related to the context, to the situation and to the individual will condition the practitioners' behaviour (Almada, Fernando, Lopes, Vicente & Vitoria, 2008).

The context factors are, for example, the slope, the distance, the surface, the obstacles, the weather conditions and so on. Regarding the factors related to the situation, we must consider the kind of technique applied to progress and the set of skills that come along. On the individual side, we must consider psychological, physiological, social and cultural factors, among others.

Also, in this perspective, more than isolated factors, it is important to consider how the relations between factors are established and how the different factors can influence the practitioners' performance during the activity, and consequently, their experience.

As an example, if we consider two walks, with the same difficulty level and performed by the same individual, both walks can bring completely different experiences if the context stimulus are totally different. This different stimulus can be related to different view angles, different

environment adaptations, different promoted challenges through different obstacles, influencing and leading to a different experience.

It can also happen that two individuals, when facing the same situation, will perceive and live the experience in different ways due to the set of skills they possess, the previous lived experiences, personal motivation and so on.

For these reasons, it becomes fundamental to direct our attention towards the activity factors and the way they interact, so the activity itself can be characterized. Then, to use the information to increase the offer on different sports programs and to better manage the practitioners sports experience.

The typical walk on trails and paths isn't an activity that requires a significant number of skills, once that 'we only have to walk'. However, in a deeper analysis, it is also important to consider to adequate the walking technique and think about this adaptation according to the obstacles that the terrain offers. This consideration is fundamental not only on the activity performance aspect but also for personal safety reasons.

The capabilities of the individual (psychological, physiological, cultural, etc.) are also fundamental and may be influenced by these terrain constraints.

Despite the different classifications of difficulty on trails, most seem to highlight the duration or length of the trail, the slope of the land and sometimes the obstacles, the relation between these factors being notorious and the physical condition of the individual. However, great subjectivity is also visible in the definition of terms and the type of language used as well as the implicit concepts (Fernando, Prudente, Lopes & Vicente, 2018). Nonetheless, it is obvious that most of these classifications are based on the physical condition (distance, slope and duration).

Although there is a subjectivity on the walks' and paths' ranking, the authors refer that the main criteria, used by practitioners, to select the proper activity to perform is based on difficulty and accessibility.

The reviewed literature led us to a variety of studies that analyse the factors that can influence the individual energetic expenditure on a walk. Factors as speed performance, load carried (Bastien, Willems, Schepens & Heglund, 2005), pace variation (O'Connor, Xu & Kuo, 2012), terrain instability (Davies & Mackinnon, 2017), high (Nenad, Slobodan, Ciric, Ranko & Nebojs, 2012) and decision making (Fernando et *all*, 2018) were assets.

Notwithstanding the subjectivity found in the previously mentioned ranks, some authors state that practitioner's base their criteria on 'difficulty and accessibility' when choosing their route (Torbidoni, Grau & Camps, 2004). However, we assume that each participant or group, aware of the possessed skills and abilities, will choose appropriate pathways that will enable them to meet appropriate challenges.

These indications, about the difficulty level based on subjective classification and the fact that are the tourists choosing their tracks based on their own perception of difficulty, made us to decide to evaluate the motivations and factors that practitioner's value during the activity.

Considering the subjectivities inherent in the classification of the degree of difficulty in walking and the perception that the participant himself adjusts the difficulty to his abilities, it seemed more interesting to study the comparison of motivations and factors that are valued in performing the activity.

In our study, we look to compare the Walks outside the Laurissilva Forest context (which in this specific context coincide with the 'Veredas') and the Levada Walks in Laurissilva Forest trails (which in this specific context coincide with the 'Levadas'). This classification is compatible, in a certain way, with the two most valued aspects in the previous model, referred to Dorwart, Moore and Leung (2009).

Based on these assumptions of the notion of experience and the characterization of activity, we sought to find tools that would be useful for further study of the participants in Mountain hikes and Levadas.

3 Methods

A survey, QEFENRAM adapted from CEFEN (Florido, 2010), in 6 different languages was used to access and collect data, directly where the activities took place, immediately after its conclusion. The sample included 293 replies from 124 males and 169 female subjects from different age groups and nationalities.

The research idea can be seen in Figure 1, where the study's different phases and steps are presented:

3.1 Sample

The study included 293 subjects of both genders (124 women and 169 men) who developed a walking activity in the ARM. The subjects were divided into two groups according to the natural scenarios in which the activity took place: (i) G1 - Levada walk inside Laurissilva (n = 170) and (ii) G2 - walk scenery outside Laurissilva (n = 123). Between both groups, there were no differences regarding
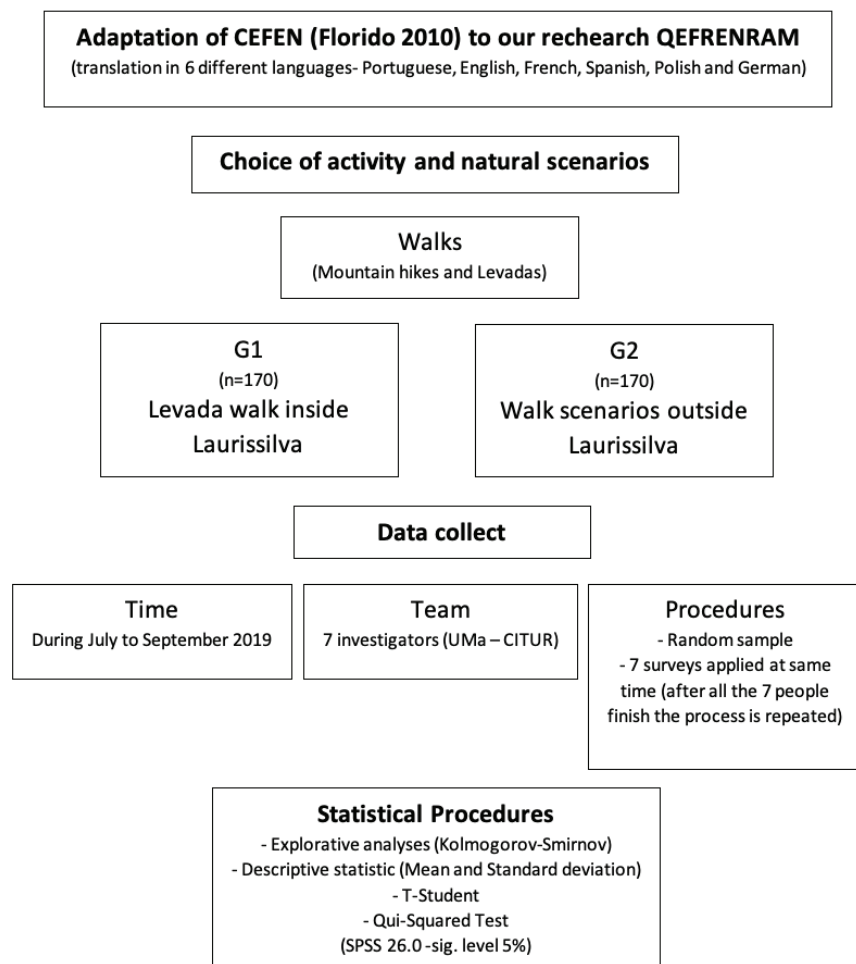
Adaptation of CEFEN (Florido 2010) to our rechearch QEFRENRAM
(translation in 6 different languages- Portuguese, English, French, Spanish, Polish and German)

Choice of activity and natural scenarios

Walks
(Mountain hikes and Levadas)

G1
(n=170)
Levada walk inside
Laurissilva

G2
(n=170)
Walk scenarios outside
Laurissilva

Data collect

Time
During July to September 2019

Team
7 investigators (UMa – CITUR)

Procedures
- Random sample
- 7 surveys applied at same time (after all the 7 people finish the process is repeated)

Statistical Procedures
- Explorative analyses (Kolmogorov-Smirnov)
- Descriptive statistic (Mean and Standard deviation)
- T-Student
- Qui-Squared Test
(SPSS 26.0 -sig. level 5%)

Figure 1: Research phases and steps

the mean age (G1 39.85 ± 15.96 VS G2 38.46 ± 16.41), nor the proportion of men and women (p > 0.05).

3.2 Instrument

With the applied survey, we centred our study on the treatment of 3 main scales related to: 1. Practitioner's motivations; 2. Practitioner's predisposition; 3. Practitioner's experience through 28 questions. Each scale was determined to calculate the mean of the following questions.

The first scale (1. *Practitioner's motivations*) takes into consideration the following factors: a) *Extrinsic motivation*; b) *Intrinsic Motivation*; c) *Instrumental motivation*; and d) *Autodiscover*.

The second scale (2. *Practitioner's predisposition*) takes into consideration the following factors: e) *Safety and the perception to evaluate the self-competence to perform the activity*; and f) *Predisposition to perform the activity and to get familiarized with the activity*.

The third scale (3. *Practitioner's experience*) takes into consideration the factors related to: g) *Attention and focus during the activity*; h) *Progression awareness and control on the technical skills required to perform the activity*; i) *Personal and collective challenge and respect for the environment*; j) *Awareness about the group and context integration*.

3.3 General Procedures

The data collection occurred during the months of July, August and September 2019. A team of 7 investigators that belongs to the University of Madeira - Tourism Centre for Investigation (CITUR) was assigned for the effect.

A random sample was collected. The surveys were applied as followed: 7 surveys applied simultaneously; 1 survey per person; only after all 7 surveys were collected and only after the 7 subjects have abandoned the place, the research team would apply another 7 surveys; the process

would be extended for 6 hours until about 50 surveys were collected. The 7 surveys were applied to groups of tourists, to individual tourists and to some people from different groups of tourists.

On average, 50 surveys were collected per day (day 1 = 51; day 2 = 54; day 3 = 48; day 4 = 57; day 5 = 54). Twenty-nine surveys out of 293 were collected online. For those tourists who didn't have the time to answer immediately after their activity, the research team gave them the possibility to do it on-line, using a QR Code or a direct link that was available on a piece of paper that was designed for that effect and handed to the tourists.

3.4 Statistical procedures

Statistically, the first phase took us to perform an explorative analysis to check sample distribution normality (Kolmogorov-Smirnov) and to identify the possible presence of 'outliers'. Descriptive statistic (mean and standard deviation) was applied to characterize the sample (age and gender).

A Student's t-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 analyse the existence of dependence between the qualitative variables.

SPSS, on its 26.0 version, was the software that supported our investigation and the adopted sig. level was 5%.

4 Results and Discussion

In the present study, two types of routes were considered: Levada Walks in Laurissilva (G1) and Walks out of Laurissilva (G2), according to Table 1. G1 represents 58% of our sample and G2 42%.

The G1 sample comes from Levada dos Balcões (35,3%), Levada das 25 Fontes (31.8%), Levada do Risco (3.5%) and Levada das Queimadas (29.4%).

The G2 samples was collected at two points: 55% of the surveys came from Pico Ruivo and 44.7% came from Ponta de São Lourenço.

It must be highlighted in the data that only 13.3% of the population was performing the walks following a guide or touristic agent. We believe that this is a very low rate and should lead to a different line of investigation to understand the reasons that explain this value.

The values used in the questionnaire scales and in the factors vary between 0 and 1, with 0 not valuing the variable and 1 valuing the variable (the variables assume the value of 0 or 1). The presented scales and factors reflect the average answer of surveys about the questions that were associated with the considered survey scales and factors. From the answers to the survey, the most important scale for the participants is the *Practitioner's predisposition*, with an average value of 0.81, followed by the *Practitioner's experience* (0.63), and finally, the *Practitioner's experience* scale (0.48), as shown in Table 2.

The factors with higher rates from the practitioners are: i. *Personal and collective challenge and respect for the environment* (0.83± 0.34); f. *Predisposition to perform the activity and to get familiarized with the activity* (0.82 ± 0.28); e. *Safety and the perception to evaluate the self-competence to perform the activity* (0.80 ± 0.28). The factor with lower values was: a. *Extrinsic motivation* (0.23 ± 0.23)

Table 2: Mean and Standard deviation (Mean ± SD) for the considered scales: 1. Practitioner's motivations; 2. Practitioner's predisposition; 3. Practitioner's experience

Scales	Mean ± SD
Practitioner's motivations	0.48 ± 0.21
Practitioner's predisposition	0.81 ± 0.24
Practitioner's experience	0.63 ± 0.23

Table 1: Natural Scenario. Levadas walks in Laurissilva (G1, n = 170) and Walks out of the Laurissilva (G2, n = 123). %Balcões Levada (%Balc); %25 fontes Levada (%25Fon); %Risco Levada (%Risco); %Queimadas Levada (%Queim); %Pico Ruivo Hike (%PRuiv); %Ponta de São Lourenço Hike (%PtaSLour); Activity performed with a touristic agent (ActEmpr).

	Levadas Walks in Laurissilva				Walks out of Laurissilva		ActEmpresa	
	%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	20.5	18.4	2.0	17.1	18.8	23.2	13.3	86.7

Table 3: Mean and Standard deviation (Mean ± SD) for the considered factors that compose the scales: 1. Practitioner's motivations (a. Extrinsic motivation, b. Intrinsic motivation, c. Instrumental motivation, d. Autodiscover); 2. Practitioner's predisposition (e. Safety and the perception to evaluate the self-competence to perform the activity, f. Predisposition to perform the activity and to get familiarized with the activity); 3. Practitioner's experience (g. Attention and focus during the activity, h. Progression awareness and control on the technical skills required to perform the activity, i. Personal and collective challenge and respect for the environment, j. Awareness about the group and context integration)

Scale	Factor	Mean ± SD	Max	Min
1. Practitioner's motivations	a. Extrinsic motivation	0.23 ± 0.23	0	1
	b. Intrinsic motivation	0.41 ± 0.43	0	1
	c. Instrumental motivation	0.58 ± 0.30	0	1
	d. Autodiscover	0.69 ± 0.46	0	1
2. Practitioner's predisposition	e. Safety and the perception to evaluate the self-competence to perform the activity	0.80 ± 0.28	0	1
	f. Predisposition to perform the activity and to get familiarized with the activity	0.82 ± 0.28	0	1
3. Practitioner's experience	g. Attention and focus during the activity	0.53 ± 0.42	0	1
	h. Progression awareness and control on the technical skills required to perform the activity	0.72 ± 0.34	0	1
	i. Personal and collective challenge and respect for the environment	0.83 ± 0.34	0	1
	j. Awareness about the group and context integration	0.43 ± 0.30	0	1

and the factor where we can verify a wider standard deviation is d. *Autodiscover* (0.46), as we can see in Table 3.

According to the literature (Priest & Gass, 1997; Lee, Graefe, & Li, 2007; Tsaur, Lin & Cheng, 2015) challenge perception has a significant positive impact on flow-experience, satisfaction and psychological well-being. This is consistent with the fact that this factor was one of the most appreciated by the participants in our study.

When the factors f. (*Predisposition to perform the activity and to get familiarized with the activity*) and e. (*Safety and the perception to evaluate the self-competence to perform the activity*) were analysed, it was possible to verify that the findings are coherent with the need to find a balance between the challenges and skills (Florido, 2010; Boniface, 2000).

From the comparison between G1 (0.41 ± 0.21) and G2 (0.49 ± 0.20), we verify differences statistically significant on scale 1. *Practitioner's motivations* ($t_{(291)}$ = -3.145; p = 0.002) with higher average values for G2 (Table 4 and Figure 2).

However, when the different factors are taken in consideration, we can also verify differences statistically significant on factor b. *Intrinsic motivation* ($t_{(291)}$ = -5.436; p < 0.001), on factor d. *Autodiscover* ($t_{(291)}$ = -2.339; p= 0.020) and on factor j. *Awareness about the group and context integration* ($t_{(291)}$ =-4.879; p < 0.001) with higher average values for G2.

The first two factors are associated with motivation (b. *Intrinsic motivation* and d. *Autodiscover*) that involves the fun, pleasure, satisfaction and challenge that the activity provides (Ntoumanis, 2001). We believe that the difference in values between G1 and G2 on these factors can also be influenced by the fact that the paths in which the G2 data were collected are more demanding and, therefore, more challenging.

Regarding factor j. *Awareness about the group and context integration*, in order to have a better understanding of this value, it would be necessary to adjust the data in our questionnaire to identify some of the group characteristics (if they already knew each other before the activity, if they stayed together during the whole route, etc.)
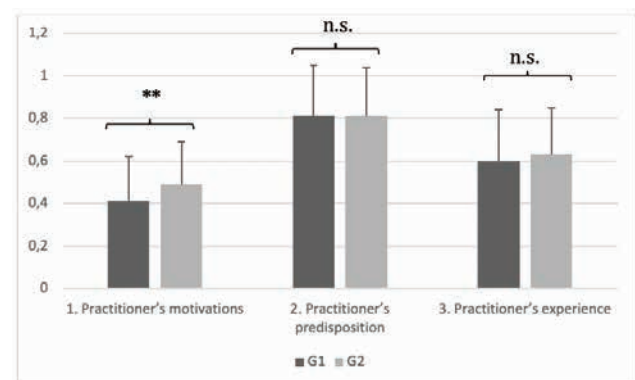

Figure 2: Group Comparison: Levadas walks in Laurissilva (G1) and Walks out of the Laurissilva (G2). Mean and Standard deviation (Stdd) and p value. ** p < 0.001; n.s. – p > 0.05, Error bar – standard deviation.

Table 4: Group Comparison: Levadas walks in Laurissilva (G1) and Walks out of the Laurissilva (G2). Mean and Standard deviation (Stdd) and p value.

	G1	G2	
	Mean ± SD	Mean ± SD	p
1. Practitioner's motivations	0.41 ± 0.21	0.49 ± 0.20	0.002
a. Extrinsic motivation	0.22 ± 0.23	0.23 ± 0.24	0.787
b. Intrinsic motivation	0.29 ± 0.39	0.56 ± 0.43	< 0.001
c. Instrumental motivation	0.55 ± 0.31	0.61 ± 0.48	0.083
d. Autodiscover	0.64 ± 0.48	0.77 ± 0.42	0.018
2. Practitioner's predisposition	0.81 ± 0.24	0.81 ± 0.23	0.946
e. Safety and the perception to evaluate the self-competence to perform the activity	0.80 ± 0.28	0.80 ± 0.27	1.000
f. Predisposition to perform the activity and to get familiarized with the activity	0.82 ± 0.28	0.81 ± 0.29	0.898
3. Practitioner's experience	0.60 ± 0.24	0.63 ± 0.22	0.354
g. Attention and focus during the activity	0.54 ± 0.42	0.51 ± 0.41	0.509
h. Progression awareness and control on the technical skills required to perform the activity	0.71 ± 0.34	0.73 ± 0.34	0.785
i. Personal and collective challenge and respect for the environment	0.88 ± 0.29	0.76 ± 0.38	0.000
j. Awareness about the group and context integration	0.36 ± 0.31	0.52 ± 0.26	<0.001

and perhaps also discriminate against awareness about the group of awareness about the context.

Differences were found on factor i. *Personal and collective challenge and respect for the environment* ($t_{(291)}$ = 2.645; p = 0.009) in favour of G1 (0.88 ± 0.29).

5 Conclusions

From the analysis of the collected data, it was possible to conclude that although this type of activity is often associated to an older age group, this doesn't verify in our sample, even when considering routes with relatively low difficulty.

Another result to highlight is the low percent of people that is hiring touristic agents or guides to follow them while performing the activity. This is a surprising data, especially when we verify that 70% of the surveyed sample is foreigner and it's not expected that they will know the terrain better than the guides. It can be a market opportunity if these companies can convey the message that they can enhance the participants' experience and effectively offer more attractive products.

The Intrinsic motivation doesn't present higher values as it could be expected from the results of other studies. Anyway, we believe that this results from the coexistence with factor d. *Autodiscover in the scale* 1. *Practitioner's motivations* that probably led to the absorptions of some

answers commonly associated to factor a. *Intrinsic Motivation*.

The higher values on i. *Personal and collective challenge and respect for the environment*; f. *Predisposition to perform the activity and to get familiarized with the activity*; e. *Safety and the perception to evaluate the self-competence to perform the activity* are compatible with the values that are presented by the different explanatory models that evaluate the touristic sport experience on this kind of activities.

When G1 and G2 are compared, some differences were found in factors such as: b. *Intrinsic motivation*, d. *Autodiscover*, j. *Awareness about the group and context integration* and i. *Personal and collective challenge and respect for the environment*, with higher mean values for G2. Some of these variations can be related to the specific difficulty that characterizes each activity, especially when we consider the factor b. *Intrinsic motivation* that was one of the previous identified flaws on the explanatory models used for this kind of experience.

And hence, we believe that another research line could be open to collect data related to this aspect, in Levadas Walks with higher levels of difficulty, allowing to clarify some of the questions that could have been influenced by this variable.

In relation to the Levadas, it was interesting to realize that these activities had a positive influence on the individual appreciation for the factor *respect for the environ-*

ment. This finding could be important for tourism, but also for the regional government, if it intends to establish strategies to educate the local population to respect the environment.

Overall, we believe that this research has the potential to investigate deeper the motivation and experience not only in Levadas Walks and Hiking but also in other different touristic products that are so characteristic in Madeira Island as scuba diving, canyoning and coasteering.

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