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Predictions for activity involvement via PERMA well-being model in mountain climbing-hiking participants on Mt.Olympus

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ABSTRACT

The present study aims to investigate predictions for activity involvement per PERMA well-being model in outdoor activities such as mountain climbing-hiking on Mt.Olympus. Specifically, in the last 30 years, thousands of nature lovers/naturalists have been visiting this legendary mountain to admire up close its unfathomable natural beauty, wander in its trails and plateaus, and conquer its summits. For this research, we gathered data from participants in mountain climbing-hiking on Mt.Olympus. The total sample was 200 participants (N=200). For the measurement of well-being, we used the questionnaire by Kern et al. (2015), which encompasses five elements: positive emotions, engagement, relationships, meaning, and accomplishment. To measure the involvement, we used the scale by Kyle and Chick (2002) and investigated three parameters namely attraction (3 questions), centrality (3 questions) and self-expression (3 questions). It seems that mountain climbing continues to be an activity enjoyed mainly by ages over 30 years. Substantial average scores were noted for Attraction (mean=5.7), which refers to the pleasure the individual feels when participating in an outdoor leisure activity, and for Self-expression (mean=4.8), referring to the potential for validation of the individual through their participation in an activity. The PERMA model was a significant contributory factor for predictions in all three involvement parameters. Specifically, the "Attraction" dimension was significantly predicted by the "positive emotions" and "Meaning & Purpose" dimensions. The Centrality dimension was significantly predicted by the Importance & Purpose dimension. For the prediction of "Self-expression" all the factors of the well-being scale offered a statistically significant contribution.

Keywords: Perma, Mountaineering, Hiking, Olympos, Involvement, Leisure, Recreation, Consumer behavior

INTRODUCTION

There is extensive knowledge and plenty of documented research on the importance of physical activity, especially for the physical/ mental health and well-being (Cavill et. al 2006). Moreover, there is growing evidence for the benefits that humans derive from living in nature or being in contact with the natural environment (Ten Brink et al. 2016). There is a lot of research and discussion on issues related to outdoor physical activities and their benefits. In this context, experts from different fields have highlighted the positive impact of outdoor activities on mental, social and physical level (Kaplan 1984, Scherl 1989; Thompson Coon et al. 2011). Leisure outdoor activities are the activities that take place in natural settings and involve some kind of interaction between the participants and the environment (Miles & Priest, 1990). Sport tourism and generally the participation in outdoor activities in

Greece have seen an incredible growth in recent years. According to international studies, sport tourism is the reason for 220 million tourists traveling the world every year (22% of the European travel packages), while representing a steadily growing percentage in the overall tourist inflows of all categories. Although there is no official data, according to the numbers derived from Adrenaline-Hunter.com, the international booking platform for extreme sports and outdoor activities worldwide, Greece is the third most preferred destination for outdoor activities during the summer season (April 1–October 31, 2018). A study conducted by the United Nations Environment Programme (UNEP) Charters & Saxon, 2007 found that mountainous areas attract 15-20% of worldwide tourism, holding the second place in terms of attraction as tourist destinations after coastal areas and islands (Mountain Agenda, 1999).

This upward trend gives rise to a specialized form of tourism called "mountain tourism".

Mountaineering is a widespread activity in Greece, mainly due to the high hilly and mountainous terrain of the country. The term of mountaineering (mountain climbing, in Greek: "orivasia" from the words oros and vato, which literally means "going up the mountain") refers to any sports activity aiming at climbing, rock climbing and/or rope-free climbing up the peaks of mountains, and generally exploring the mountain landscape. Typically, the basic techniques that compose mountaineering are mountain hiking, rock climbing, rope-free climbing and alpine skiing (Karalis & Theodoropoulos, 2007). Each of these techniques encompasses a number of other more specialized techniques that range from simple mountain hiking to ice climbing and alpinism.

Mountain Hiking

Mountain hiking, or simply walking in mountainous fields, is the technique by which we approach a gentle or high slope mountain in the intention to climb up, climb down or cross the mountain complex. This activity does not require specialized knowledge and technical equipment and is the most common activity in mountaineering clubs in Greece and worldwide. It is commonly referred to as hiking to describe walking on marked trails in winter or summer. In some cases, usually in dangerous passages or loose fields, climbing techniques may be needed to overcome obstacles or to secure exposed sections of a route. Therefore, the climber who is mainly engaged in mountain hiking should also have knowledge of safety tips and techniques in order to move safely on the mountain.

Mount Olympus

Mountains occupy about 27% of the earth's surface and are home to 22% of the earth's population (WMF, 2016). Greece is characterized as a mountainous country as most of its terrain (70%) is mountainous and has geologically fascinating mountains, rich in vegetation and water resources, with an important mythological and historical heritage. Since the ancient times, the mountains in Greece, due to the mystery that surrounded them, their inaccessible character and their unique, intact and wild beauty, were considered to be the residence of gods. Particularly, Mount Olympus was thought to be the place where the gods took their form. The mountain range of Olympus was the first National Park that was established by Royal Decree in 1938, while the Olympus National Park Regulations were instituted with a Presidential Decree in 1985. In 1981, Olympus was declared a Biosphere Reserve by the UNESCO Man and Biosphere Program (MAB). The massif has also been included in the NATURA 2000 Network as a Special Area of Conservation (SAC) and a Special Protection Area for Birds (SPA) under the code name "Mount Olympus-GR1250001", in accordance with the European Directive 92/43/EEC on natural habitats and the Directive 2009/147/EU on wild birds.

There are many well-kept and marked mountaineering and hiking trails with access to many mountain shelters (8 organized and 6 emergency shelters). Most tourists prefer to visit Olympus in summer. However, in recent years, there are

many Greeks and foreigners who also choose alpine skiing and winter hiking on Olympus to experience the "white" magic of the mountain.

Literature Review

The Involvement Theory

Involvement is an important concept in the Decision-Making Model, as it implies a positive attitude and behavior towards the participation in leisure sports activities (Iwasaki & Havitz, 2004).

According to Zaichkowsky (1985), involvement is defined as "a person's perceived relevance of the object based on inherent needs, values and interests". Highly involved persons have also a high consumer desire to search for relevant products and services and gather information (Celsi & Olson, 1988). They can also highly identify the activity and the branded products, they are loyal to specific trainers or leisure programs (Alexandris et al, 2008) and they are highly attached to the activity or the organizing agency (company) (Kyle et al, 2004). Therefore, there is a positive correlation between involvement and positive attitude and behavior towards participation, both regarding the intention to continue the activity and in terms of the frequency of participation.

Similar results were drawn in a recent study by Alexandris et al., (2012), who focused on the involvement and the frequency of participation in private club tennis players. Those who participated very often in the activity also had a high involvement in the dimensions "Attraction" and "Centrality".

Involvement Scales

For the measurement of involvement, two theoretical models were used, the "*Personal Involvement Inventory*" (McQuarrie & Munson, 1987; Zaichkowsky, 1985) and the "*Consumer Involvement Profile*" (Laurent & Kapferer, 1985).

The "*Personal Involvement Inventory*" (PII) is composed of the following two dimensions: "Perceived Importance", which is the cognitive component, and "Pleasure" which is the affective component.

The "*Consumer Involvement Profile*" (CIP) suggests the following five dimensions:

- a) The "*Perceived Importance of the Product*", which refers to the importance attributed to the activity by the participant.
- b) The "*Risk Importance*", which refers to the importance of the negative effects that the purchase of the product has on the consumer.
- c) The "*Risk Probability*", which refers to the probability of the consumer having made a wrong choice (decision).
- d) The "*Sign*", which reflects the symbolic value given to the product by the consumer.

e) The “*Pleasure*”, which refers to the pleasure experienced by the consumer when using the product or service.

Leisure involvement researchers have used both models to measure and assess involvement in order to develop a more useful model. Disagreement has arisen in the number of dimensions (Havitz & Dimanche, 1997), but the most commonly used are the following three: Attraction, Centrality and Self-expression.

The dimensions of this scale have been used in several studies in the field of sports (Kyle et al., 2004) as well as by other researchers in the field of leisure studies (Alexandris et al. 2008; Alexandris et al., 2011). In more detail, “*Attraction*” refers to the pleasure experienced by the individual who participates in a leisure activity, as well as to how important this activity is to the individual (McIntyre & Pigram, 1992). “*Centrality*” refers to the role that activity plays in the life of an individual and how it is expressed in his everyday life and social interactions (Iwasaki & Havitz, 2004). “*Self-expression*” indicates the possibility of an individual to affirm his identity by participating in a leisure activity and the image he wishes to project to others through his participation (Wattanasuwan, 2005).

Taking it a step further, Kyle and his colleagues in 2007 Kyle et al. (2004) developed the “*Modified Involvement Scale*” which was first used in earlier studies by McIntyre and Pigram (1992). This new version of the scale involved the dimension of “*Social Bonding*”, which refers to the extent, to which the social network or environment influences the individual’s participation in the activity.

According to Kyle and Chick (2002), the social environment of individuals significantly affects their participation and their continued participation in an activity. Furthermore, in the modified scale, the dimension of “*Self-expression*” is divided in two more dimensions “*Identity Affirmation*”, which is the extent, to which the activity enables the individual to affirm his identity, and “*Identity Expression*”, which refers to the extent, to which the activity enables the individual to express his feelings to others.

The final version of the “*Modified Involvement Scale*” (MIS) by Kyle et al. (2007) includes the following five dimensions: Attraction, Centrality, Social Bonding, Identity Affirmation, and Identity Expression. Many studies have later confirmed the reliability of this scale Alexandris et al. 2011; Kyle et al., 2004) and suggested that the involvement in a leisure activity is directly correlated with the motives, the preferences and the perceived constraints in the decision to participate in a leisure sports activity (Alexandris et al., 2008; Havitz & Dimanche, 1997).

The implementation of this correlation in practice can be very helpful to those organizing training courses and to professionals as they can record and classify the athletes or clients according to their level of involvement (high, medium, low) and design strategies to increase the frequency of participation and the intention to continue the participation.

For example, individuals classified in the high involvement group with their specific qualities can be used as a “*model*” to design strategies for the improvement of low involvement groups.

Involvement in activity means the extent, to which a person is loyal to the activity, in which he is engaged (Engel & Blackwell, 1982).

Kyle & Chick, (2002), Havitz & Dimanche, (1990), Laurent & Kapferer, (1985) suggest that the involvement in a leisure activity reveals certain internal meanings and answers sought by the individual, thus demonstrating the motives that guide the individual’s behavior towards the leisure activity.

Alexandris et al. (2008), researching the involvement and loyalty of skiers in the ski resorts of Greece, found that the dimensions of “*attraction*” and “*centrality*” were important signs of loyalty, while on the contrary “*self-expression*” was not. In an earlier study in 2007, the same researchers studied the motives of leisure skiers. It was found that negotiation strategies are decisive for the loyalty to skiing. However, location attachment and quality of services seemed to influence the development of loyalty to the ski resort. (Alexandris et al., 2006).

The PERMA model (Positive Emotion-Engagement-Relationships-Meaning-Achievement)

The PERMA model was designed by Martin Seligman and encompasses five core elements of psychological well-being and happiness. Seligman claims that these five elements can help individuals to achieve a life of fulfilment, happiness, and meaning. This model can also be applied to various institutions for the actualization of programs aiming to facilitate individuals develop new cognitive and emotional tools.

Positive emotions

This element of the PERMA model is the one that has a profound connection to happiness. The ability to focus on positive emotions moves beyond just smiling; it reflects the ability to be optimistic and look at the present, past, and future with a positive attitude. This perspective can facilitate and ease relationships -both personal and work- and instill creativity and active decision-making.

Positive emotions is the driving force motivating human actions. People read, travel or do whatever makes them feel happy. Positive emotions also improve work performance, reinforce physical health, and promote optimism and hope for the future.

Engagement

This is a term that refers to attachment, participation, concentration, and tendency towards activities such as leisure, hobbies, or work (Higgins, 2006; Schaufeli et al., 2006). The basic tenet behind it is flow, i.e. when time seems to stand still and the individual loses the sense of self and focuses intensely on the present/gets in the zone. In positive psychology, ‘flow’ describes a state of absolutely joyful

immersion in the present moment. When we focus on doing things we truly enjoy and care for, we begin to engage ourselves with the present moment and enter a situation which is to be known as 'flow' (Seligman, 2011).

Relationships

People share a strong internal need for connection, love, physical, and emotional contact with others. This allows us to improve our well-being by establishing powerful networks of relationships with other individuals around us. Positive relationships, as well as powerful connections with family and friends or weak relationships with colleagues instill a sense of belonging (Sandstrom & Dunn, 2014).

Meaning and Purpose

Meaning –as an intrinsic human quality– requires search and the need to have a sense of personal value. To that end, meaning is discussed as serving a purpose greater than ourselves. We reach the peak of our personal best when we devote time to a purpose higher than the individual self. This could be pursued through volunteering, being a member of a community, a group of people or a religious group, or learning something to achieve a personal goal. Such activities have a sense of purpose, which by definition is the most substantial reason why people do what they do.

Achievement

As a term, it reflects the course of a productive and meaningful life. It is the result of working toward and reaching goals even though this may not bear any positive emotions, any meaning, or anything contributory to positive relationships (Seligman, 2011). To achieve well-being, individuals need to be able to look back to their lives with a sense of fulfilment and pride: I've done it and I've done it well.

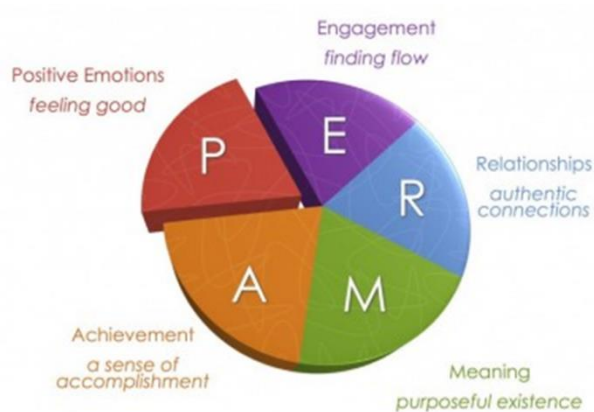


Figure 1. Graphical representation of the PERMA model

The PERMA model

Well-being, according to Seligman (2011), is a construct not to be confused with happiness on account of the former being the result of positive psychology. Well-being features five core elements (PERMA):

- ◆ Positive emotion
- ◆ Engagement
- ◆ Relationship

◆ Meaning

◆ Accomplishment

With regard to positive emotion, the PERMA model was developed to establish those mental conditions that impact experience in the past (satisfaction, fulfilment), present and future (hope, optimism, confidence) (Seligman, 2002). These emotions related to our well-being (Seligman et al., 2006) because they help to:

- ✓ Reinforce positivity attributed to past memories
- ✓ Protect the individual from negative emotions or diseases (depression) in the future.

Engagement refers to the degree of immersion and focus the individual experiences or directs to an activity (Csikszentmihalyi, 1990). The immersion the individual directs to supporting their favorite team becomes so overwhelming that the individual loses their sense of self when dealing with activities related to that team (Csikszentmihalyi, 1990).

According to Filo & Coghlan, (2016), commonalities in engagement have been found in their research among participants in hiking, running, and swimming; nonetheless, engagement was found to be the least important PERMA element in their study.

Relationships refer to our connection with others. Participation in sports activities naturally facilitates the creation of relationships, which in turn improve our well-being (Brajsa-Zganec et al., 2011). Further, Funk et al. (2011) have found that passionate runners preferred the company of other runners at a running festival and enjoyed it more.

Meaning is another element of well-being, which describes the importance and the notion that our lives have meaning (Seligman, 2011). Research has shown that meaning contributes in active participation in volunteer sports events, thus establishing its emotional, functional, and symbolic value (Coghlan & Filo, 2013; Filo et al. 2008, 2009).

Achievement reflects the sense of accomplishment of an individual after they have succeeded in a particular goal or goals (Forgeard et al., 2011). According to (Filo & Coghlan, 2016; Filo et al. 2009), participants in a sports event can benefit their well-being by accomplishing certain objectives related to the event or even, succeed in their personal targets during their participation in the event.

Various studies have been conducted to study how well-being impacts different situations. Few, however, take into account those situations related to sports or exercise. Doyle et al. (2013) in their research focused on the advantages of watching sports by applying the PERMA model to the sports viewer. They found that positive emotions, relationships, meaning, and achievement of viewers' goals are activated both during sports season and off it.

Croom (2014) maintains that frequent participation and training in martial arts can positively impact all five elements of the PERMA model, resulting in establishing the positive impact of martial arts in our personal and social lives. Further, Coffey et al. (2016) did research with university students and

concluded that the PERMA model is a valid measurement unit for well-being thus rendering it a useful tool for their prediction in students' physical health and success in university.

The degree of interaction between involvement- active participation and well-being has been under substantial scrutiny from time to time by the scientific community. Specifically, quite extensive research has been done on whether higher degree of involvement-active participation can lead to well-being. For example, a study done on Icelandic young adults by Vihjalmsson & Thorlindsson (1998) investigated the interaction between involvement-active participation in sports and a variety of psychological, social, and demographic variables. They found that the participants' sex plays a major role in involvement-active participation but most importantly, that involvement-active participation in physical activities increases sociability. Another study, focused on teenagers, found that the degree of involvement-active participation in sports activities was linked to lower levels of depressive mood, higher levels of achievement and more social activities (Mechanic & Hansell, 1987). Specifically, the researchers studied the connection of different degrees of involvement-active participation in sports activities with social and psychological variables, including depression, in American teenagers. The principal conclusion was that teenagers with higher degrees of involvement-active participation showed lower levels of depression, closer relationships with family and friends, and a greater average score in their school performance. Finally, involvement-active participation in leisure (e.g. physical activity) is positively correlated with well-being in stark contrast to passive leisure (e.g. watching TV, playing computer games etc), which is negatively correlated to well-being (Mark et al., 2009).

The PERMA model has received wide acclaim and is applied to various research fields (Butler & Kern, 2016; Kun, Balogh & Krasz, 2017).

Kern et al. (2015) applied the model to 1300 secondary school students in Australia. Their results confirmed the original PERMA model findings, i.e. that well-being positively affects the feelings of hope for the future and satisfaction in life. However, well-being in sports tourism and leisure is a new concept for research (Doyle, et al., 2016; Rodríguez, et al., 2008). In this respect, the PERMA model was first applied to sports viewers. Doyle et al. (2016; 2019) measured the degree in which the systematic viewing of a sports championship (e.g. rugby) can contribute to an individual's well-being and also to what extent well-being is affected on season and off season. The results of their studies revealed the substantial contribution of sports viewing to the four elements of the PERMA model namely positive emotion, relationships, meaning, achievement. It was also evident that well-being reaches its peak as the championship progresses to the finale while it decreases during the off-season. Sato et al. (2016) studied the impact of the individuals' involvement in outdoor running on the development of positive intentions and reinforcement of the feeling of life satisfaction. It has been

established, after all, that the more time is spent outdoors doing activities, the greater the sense of well-being in life (Korpela, et al., 2014). Nonetheless, more research on the concept of well-being and how it relates to sports events is encouraged (Kavetsos & Szymanski, 2010; Korpela, et al., 2014). A final note regards the suggestion by Doyle et al. (2016) to apply the PERMA model on different fields of sports tourism.

Aims of the study

The present study aims at investigating issues related to the participation in outdoor activities such as mountaineering and hiking on Mount Olympus (frequency of participation, demographic variables, wellbeing (perma), involvement in the activity). Specifically, the purpose is to investigate the prediction of involvement based on the dimensions of the perma scale in the activity of mountaineering and hiking on Mount Olympus, as well as to define the profile of the participants. The hiking activity was chosen because it is the most popular activity that takes place on Mount Olympus, and according to data from the shelter reservations, more than 25,000 visitors hike on Mount Olympus every year.

Significance of the study

The significance of this study lies in its originality, the possibility of entrepreneurs and local agencies utilizing the results, as well as in the lack of relevant research in Greece. Moreover, the study proposes strategies for promoting the athletic lifestyle in society, as well as developing and promoting mountaineering on Mount Olympus and optimizing the quality of services. In order to design better programs to improve the facilities and services provided (trails, shelters, cleaning, feeding, safety), it is important to know the profile, needs and behavior of climbers, so as to ensure the best possible experience and the establishment of a relationship that will raise the chances of participating in a future.

MATERIAL AND METHODS

To conduct the study, research data were collected from individuals participating in the activity of mountaineering and hiking on Mount Olympus. The total research sample was two hundred one participants (N=200). To measure well-being, the questionnaire of Kern, et al. (2015) was adopted, which contained five dimensions: Positive emotions, Commitment, Relationships, Meaning, Achievement.

To measure the involvement, the (Kern et al, 2015) scale was used, consisting of four factors: Attraction (3 questions), Centrality (3 questions), Self-expression (3 questions) and Social Bonding (3 questions). The answers to both questions were noted on a seven-point Likert scale (1= strongly disagree, 7= strongly agree).

RESULTS

Demographic characteristics of the sample

With regard to the profile of the participants engaged in mountaineering, 65% were men and 35% were women. 14% of the participants were 18-22 years of age. The largest percentage of participants (53%) were over 31 years old, while 28% of the sample was between 23 and 30 years old. Moreover, 70% of the participants were single, while 25% were married, and 5% did not answer. 77% of the participants said they have no children, 9% have 1 child, 11% have 2 children and only 3% have 3 children. In matters of education, 30% were junior/ senior high school graduates (gymnasium/ lyceum), 19% were graduates of a technical educational institute (TEI), 29% were university graduates, 16% had a master's degree and 6% were graduates of an institute of vocational training (IEK). As regards the manner, in which they participated in the activity, 25% participated with a mountaineering club, 67% participated alone or with friends, and 8% participated with a leisure company. In matters of financial situation, it seems that the largest percentage (52%) had a moderate financial situation, followed by 32% with a good financial situation, 10% with poor, 3% with very good, and 3% with very poor finances.

Table 1. Demographic characteristics of the participants

Age	Gender	Marital status	Education
18-22: 14%	Men: 65%	Single: 70%	High school: 30%
23-30: 28%	Women: 35%	Married: 25%	TEI: 19%
> 31: 53%		No answer: 5%	IEK: 6%
No answer: 5%		Children: 0-77%, 1 -9%, 2-11%, 3-3%	University: 29%
			Master's degree: 16%

Regarding the average participation in hiking and mountaineering, the research findings showed that on average the participants visit the mountains about 30 times a season, especially Olympus about 20 times a season. Regarding the most favorite mountains for hikers, the favorite mountain is Olympus with 65%, followed by the Pindos Mountain range with 13.5%, Tymfi with 8.5%, Kissavos with 7.5% and Paggai with 5.5%. Among the most favorite activities of the participants, the largest percentage (60%) was mountaineering, followed by cycling (33%), rock climbing (21%), running (38%), yoga (11%) and skiing (10%). The money spent on average by the participants for equipment and related gear for mountaineering is around 50 euros (15.5%), 100 euros (14.4%), 200 euros (13.4 %) and 150 euros (11.4%), and there are also those who do not spend any money at all (11.4%). Finally, those who participate alone or with friends represent the largest percentage (67.2%), followed by those who participate with a mountaineering club (24.4%), and finally those who participate with leisure companies (8.5%).

Financial situation of the participants

Regarding the financial situation of the participants, the largest percentage are those with moderate financial status

(52%), followed by those with good financial situation (32%), 10% seem to have a poor financial status, while the lowest percentage are those with a very good (3%) and very poor (3%) financial status, respectively (Table 2).

Table 2. Financial situation

Financial Situation	Ratio
Very poor	3%
Poor	10%
Moderate	52%
Good	32%
Very good	3%

Prediction of participation

When asked whether they will continue visiting Olympus for hiking, 70% of the respondents answered in the affirmative, and 76.7% said they would suggest friends to visit Olympus for hiking.

Mean values of the dimensions of involvement

Regarding the internal consistency of the subscales, the alpha indices showed satisfactory values as they ranged above 0.70, while the mean values of the subscales ranged from 4.2 to 5.7. The respective indices and values are presented in detail below (Table 3).

Table 3. Mean values of the dimensions of involvement

	M. V.	S. D.	alpha
Attraction	5.7	1.2	.86
Centrality	4.2	1.6	.81
Self-expression	4.8	1.4	.84

Mean scores of the PERMA model elements

As per the internal coherence of the sub models, alpha values were satisfactory since they ranged over 0.70 (Churchill, 1979; De Vellis, 2003) while mean scores of the sub models ranged from 4.1 to 4.5. Scores and values are presented below (Table 4).

Table 4. Mean scores of the PERMA model elements

	M. O.	T. A.	alpha
Positive emotions	4.4	0.7	.84
Socialization	4.1	0.8	.83
Achievement	4.5	0.6	.80

Prediction of involvement in activity using the PERMA model

The results from the regression analysis for the prediction of involvement parameters -particularly that of Attraction- using the PERMA model revealed substantial contribution in predicting attraction. In detail, for the prediction of involvement, the contribution of PERMA model elements was deemed statistically important ($F= 2.5, p<.05$), namely Positive emotions ($t=4.1, p<.01$) and Meaning and Purpose ($t=3.3, p<.005$) while the element of Relationships does not seem to have statistically important contribution to prediction of involvement (Table 5).

Table 5. Relation between the PERMA model and Attraction

PERMA model	B	β	t	p
Positive emotion	0.7	0.0	4.1	0.00
Socialization	-0.0	-0.0	-0.2	n.s
Achievement	0.5	0.2	4.1	.001

$$F=48.3, p<.01, R^2=0.42$$

For the prediction of centrality, a statistically significant contribution ($F=21.7, p<.01$) was provided by the "Achievement" factor ($t=4.1, p<.01$) of the well-being scale (Table 6).

Table 6. Relation between the PERMA model and Centrality

PERMA model	B	β	t	p
Positive emotion	0.4	0.2	4.1	n.s
Socialization	0.1	0.0	-0.2	n.s
Achievement	0.6	0.2	4.1	$P<0.05$

$$F=21.7, p<.01, R^2=0.2$$

For the prediction of Self-expression, all of the elements of the PERMA model are deemed to have statistically important contributors ($F=39.3, p<.01$); specifically, Positive emotions ($t=2.0, p<.05$), Socialization ($t=2.3, p<.05$) and Achievement ($t=3.2, p<.05$) (Table 7).

Table 7. Relations between the PERMA model and Self-Expression

PERMA model	B	β	t	p
Positive emotion	0.4	0.2	2.0	$<.05$
Socialization	0.3	0.1	2.3	$<.05$
Achievement	0.6	0.2	3.2	$<.05$

DISCUSSION AND CONCLUSION

Profile of participants in mountaineering

Mountaineering is one of the most popular activities in Greece thanks to the numerous mountain masses that adorn and dominate the territory of Greece. Olympus, with the highest peaks in Greece and its impressive volume, is a symbol of the Greek spirit, faith and freedom, cultural navel of Greece and a world natural monument.

According to above research, 65% of the participants in mountaineering are men and 35% are women. In an earlier study by (Dimitrios, & Sterios, 2022), 80% of the participants were men and 20% were women. A study conducted by the outdoor participation report (2013) found that men participate in outdoor leisure activities more than women. On the contrary, women participate more in indoor activities. The largest percentage of participants (53%) is over 31 years old, while 28% are from 23 to 30 years old. In an earlier study by (Dimitrios, & Sterios, 2022), the demographic results showed that 11% were 18-22 years old, 37% were 23-30 years old, and the highest percentage (52%) were over 30. It seems that mountaineering continues to be an activity enjoyed mainly by people over the age of 30. The largest percentage of participants said they are single, with no children. In matters of education, the participants seem to be mainly university and high school graduates and a smaller percentage are TEI

graduates. Most of them participate alone or with friends and few participate with a mountaineering club. A very small percentage of participants choose professionals for their mountain climbing. This shows the lack of advertising and promotion of the activity by both local agencies and leisure companies. The increased rates of fatal accidents on Mount Olympus (66 climbers in 50 years, 1960-2022) testify to the need for more organized excursions and the huge need for a special helicopter rescue team of European standards. It can be easily assumed that the more the interest of Greeks in mountain sports, and the number of tourists arriving in the country to engage in sports and adventure activities increases, the more the number of accidents will increase, too.

In regard to the financial status of the participants, it seems that the largest percentage is in moderate to good financial situation, with a percentage of 52% and 32% respectively. Regarding the average participation in mountaineering and hiking, research showed that on average the participants visit the mountains about 30 times a season, especially Olympus about 20 times a season. According to the research results, the favorite mountain to climb is Olympus and Pindos. Favorite activities of the participants are mountaineering followed by cycling, rock climbing and running. The money spent on average for equipment and related gear seems to be around 50 euros to 100 euros, a justified percentage due to the financial crisis, although the most dedicated to the activity do not hesitate to spend more money on equipment.

Involvement in the activity

The highest mean values were recorded in the dimensions "Attraction" ($M.O = 5.7$) which refers to the pleasure that the individual derives from participating in an outdoor recreational activity, but also to how important this activity is to the individual, and "Self-expression" ($M.O = 4.8$) which indicates the possibility of the individual to affirm his identity through his participation in a leisure activity as well as the image he wishes to project to others through his participation. It seems that the participants feel pleasure and satisfaction as their participation in outdoor recreational activities plays a very important role in their lifestyle. They seem to organize their lives around these activities as this is where they choose to spend their leisure time on.

It is proposed to:

- Study the factors that lead to the development of self-expression
- Develop an Olympus information center for those who wish to be daily informed (e.g. weather conditions, actions, etc.)
- Organize events related to Olympus in large urban centers
- Organize educational events related to Olympus (hikes, herbs gathering, tastings) in schools

Concluding remarks

The present study has been conducted to investigate involvement in activity using the PERMA model. Further, it aimed to profile participants in mountain climbing-hiking on Mt. Olympus. It seems that participants share feelings of joy and satisfaction on account of the importance they place on outdoor leisure activities. They organize their schedule around these activities and devote their free time there.

The participants wish to continue visiting Mt. Olympus in the future which in turn, means that they are profoundly attached to the location. Overall motivation has statistically important contribution to the predictions of all three parameters of involvement in the activity. Mountain climbing plays a decisive role in the lives of participants both in their interaction and their social life. It is true that when people with common interests interact, then the experience of the activity itself is more intense and pleasurable.

Limitations and Suggestions for further research

The research sample is deemed as somewhat limited and in no way is it indicative of all Greek participants. More data needs to be gathered including other types of outdoor activities so as to better investigate the concept of involvement. It is suggested that a series of concepts be investigated too such as profile, quality of services, branding, consumer connotations which can sketch out a clearer picture for each activity and then cross-section that with any deterring factors and involvement in activities. It is also suggested that new theoretical models be tried such as the Psychological Continuum Model (PCM) (Funk & James, 2001), which could reveal the underlying process contributing to building up enthusiasm for an activity.

Finally, future research can study the strategies implemented for the promotion of each activity and the role of personal initiative.

COMPLIANCE WITH ETHICAL STANDARDS

Conflict of Interest

No potential conflict of interest was reported by the author.

Ethical Approval

For this type of study, formal consent is not required.

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