

## Prediction of involvement in activity based on the dimensions of participation in mountaineering and hiking on Mount Olympus

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### Abstract

Purpose of this study is to investigate the prediction of involvement based on the dimensions of participation motives in outdoor activities such as mountaineering and hiking on Mount Olympus. Especially over the last 30 years, thousands of nature lovers from around the globe visit the legendary mountain to admire from up close the unsurpassed natural beauty, to wander through its paths and to “conquer” its peaks, becoming for a while part of this majestic scenery. To conduct this study, research data have been collected from a sample consisting of individuals participating in the activity of mountaineering and hiking on Mount Olympus. The research sample was totally two hundred participants (N=200). To measure the participation motives, the REP questionnaire (Lois et al., 2005) was used. To measure the involvement, the (Kavussanu, et al., 1996) scale was applied which consists of three factors: Attraction (3 questions), Centrality (3 questions), Self-expression (3 questions). The answers to both questionnaires were noted on a seven-point Likert scale (1= strongly disagree, 7= strongly agree). To extract the results, a confirmatory factor analysis was performed for both scales of the questionnaires, as well as a regression analysis and variance analyses. The results indicated the validity and reliability of both questionnaire scales as well as a statistically significant contribution to the prediction of involvement based on the overall motivation. The research results are discussed in terms of the development of strategies and respective proposals and actions from the implementation bodies to improve the provided services.

**Key words:** Participation Motives, Involvement, Leisure Sports, Mountaineering, Olympus, Mountain Tourism

### 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 (Cavil N 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 (McIntyre, N., et al., 1992). 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 (Miles et al., 1990; Scherl et al., 2989). Leisure outdoor activities are the activities that take place in natural settings and involve some kind of interaction between the participants and the environment (Manfredo et al., 1997). 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 et al., 2017) 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 (McQuarrie et al., 1987).

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

### 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 (Havitz et al., 1997).

According to (Vallerand et al., 1987), 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 et al., 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) Kouthouris et al., 2005). 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*” (Manfredo et al., 1997; Vallerand et al., 1999) and the “*Consumer Involvement Profile*” (Kyle et al., 2004a).

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 et al., 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 (Kavussanu et al., 1996), as well as by other researchers in the field of leisure studies (Alexandris et al., 2008; 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 (Lung et al., 1990). “*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 et al., 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 (Vallerand et al., 1999).

Taking it a step further, Kyle and his colleagues in 2007 (Kyle et al, 2002) developed the “*Modified Involvement Scale*” which was first used in earlier studies by (McIntyre et al., 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 et al., 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., 2007)] 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 et al., 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 [16]. (Kyle et al., 2002; Havitz et al., 1997; Laurent et al., 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).

*Participation Motives*

Motivation refers to the individual's behavior that is defined by his internal and external motives or by the lack of motives (intrinsic motivation, extrinsic motivation, amotivation) (Kouthouris et al., 2005; Deci et al., 1991). This theoretical approach was applied by many researchers in their studies and was found to be appropriate and applicable to the field of sports (Vallerand et al., 1987). In the attempt to define intrinsic motivation, (Deci et al., 1992) says that the person participates in a sports activity to derive satisfaction and pleasure. Moreover, intrinsic motivation is when the person participates on his own will, with no prize or material reward by an external factor (Deci et al., 1991). The person who participates in the activity because he finds it interesting and satisfying and wants to learn as much information as possible about it, or trains to overcome himself is characterized as intrinsically motivated. Extrinsic motivation refers to non-self-determined behavior, which could be differentiated due to external factors (e.g. a prize). The person participates in the sports activity not to feel an emotional joy but to gain a material reward after completing the action. The person that is motivated neither intrinsically nor extrinsically acts in a motivation-free state called amotivation. He does not derive any satisfaction from the participation, he often feels inability and lack of control and eventually he does not comprehend the real reason for his involvement in the activity (Deci et al., 1991). Sometimes he even decides to stop participating altogether.

A term that is also often found in the motivational literature is the Self-Determination Theory. There may be different reasons, for which a person engages in a sports activity, such as experiencing new sensations or emotions, mastering complex skills, or overcoming new challenges. Thus, by engaging in a sports activity, participants set certain goals, for example, to have fun, to improve their performance, etc. According to the Self-Determination Theory (Deci et al., 1991; 1992), each person's goals are fueled by psychological needs. There are three most important needs that motivate human action: autonomy, which refers to the individual's desire for self-initiative in the regulation of his actions (DeCharms et al., 1968), competence, meaning that the individual wants to interact effectively with his environment (Harter et al., 1978), and relatedness, which refers to the individual's desire to feel that he has many things in common with others. Indeed, the conditions, which the individual considers suitable for opportunities that can satisfy his desires for autonomy, competence and relatedness, are great motivational elements. According to the Self-Determination Theory (Deci et al., 1991), these three elements constitute psychological mediators of the impact that social events have on the individual's motivation. In addition, as social conditions vary greatly and each person perceives them differently, the reasons why each person participates in an activity vary from case to case (Vallerand et al., 1999). (Kavussanu et al., 1996) studied tennis beginners' courses and found that the dominant "climate" and the relationships that are created between the participants have a significant effect on the intrinsic motivation of each individual. When the environment and the relationships are highly competitive, the intrinsic motivation is limited; whereas, when the participants are oriented towards their best performance, the intrinsic motivation is maintained on good levels, even. Therefore, it is essential that in competitions and in the competitive part of sports activities, the participants are motivated and encouraged so they can focus on their best possible performance and not on external factors (Burton et al., 1989). The Self-Determination Theory deals with motivation in terms of differentiating the degree of self-determination. That is, on a scale-continuum, the motives are differentiated along with the levels of self-determination: as the Self-Determination grows higher, motivation moves from amotivation to → extrinsic motivation to → intrinsic motivation (Deci et al., 1991). It should be noted that the highest levels of self-determination are considered to be obtained in intrinsic motivation. The last level of the Self-Determination Continuum is amotivation. This state refers to behaviors that are neither intrinsically nor extrinsically motivated and indicates a lack of motivation altogether. Behaviors of this kind are the least Self-Determined, because there is no incentive or expectation of environmental influence. In short, there is no continuum from the individual's actions to his environment of action.

According to (Lung et al., 1990), it has not been completely understood what motivates people to engage in high-risk behaviors. (Lupton et al., 2002) emphasized this concern, acknowledging that only a small empirical study has attempted to examine the concepts attributed to high-risk behaviors. Previous research has focused on some high-risk sports, but not on extreme sports (Lois et al., 2005). In 2009, (Brymer et al., 2009) studied 15 participants in leisure activities, such as B.A.S.E. jumping (building, antenna, span, earth), big wave surfing, extreme skiing, waterfall kayaking, extreme mountaineering, and solo rope-free climbing. They investigated their courage, humility, but also what they could learn from extreme sports. The results showed that humility and courage can be deliberately pursued in activities that involve fear and the possibility of death. One of their main conclusions was that participants in extreme sports directly link their experience with all aspects of their personality. Research conducted by (Tara et al., 2009) on B.A.S.E. jumpers showed that the most common motives for participating in this activity were: to master a new skill, to get the sense of accomplishment, to feel the adrenaline, to overcome their fear, to get the sense of "belonging" somewhere both personally and spiritually. The findings disputed the stereotypical view of B.A.S.E. jumpers being insane and willing to die. Instead, the personal motives that were extracted are compatible with findings from previous studies (Brymer et al., 2009; Lupton et al., 2002), in which high-risk athletes deliberately took risks as a way to positively transform their personality.

Research conducted by (Alexandris et al., 2007) in 220 leisure skiers found that: (a) both intrinsic and extrinsic motivation has a statistically significant correlation with the intention to continue skiing, (b) the dimensions “time management” and “ski knowledge improvement” had a significant contribution to predicting the intention. The Greeks showed statistically higher values in motivations related to abilities and skills, while the British displayed statistically higher values in motivations related to relatedness (Kaffesakis et al., 2013). Research by (Moira et al., 2017) found that the main motives for visiting mountainous areas are the pleasure of the “alpine experience”, contact with the nature, and getting away from the urban environment and the stressful lifestyle.

*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, participation motives, involvement in the activity). Specifically, the purpose is to investigate the prediction of involvement based on the dimensions of participation motives 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=201). To measure the participation motives, the REP questionnaire (Manfredo et al., 2007) was used. To measure the involvement, the (Kyle et al., 2004a) 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 Paggaio 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.** Financial situation

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 (De Vellis et al., 2003), 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.** Mean values of the dimensions of involvement

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

**Mean values of the dimensions of participation motives**

Regarding the internal consistency of the subscales, the alpha indices showed satisfactory values as they ranged above 0.70 [15], while the mean value of the scale was 3.6. The respective indices and values are presented in detail below.

**Table 4.** Mean values of overall motivation

	M.V.	S.D.	alpha
Motivation	3.6	1.3	.82

**Prediction of involvement in the activity based on the participation motives**

The Regression analysis results for the prediction of the sub-scales of Involvement based on the overall scale of participation motives showed a statistically significant contribution to the prediction of involvement. In more detail, the overall motivation showed a statistically significant contribution to the prediction of Attraction (t = 9.2, p<.001), Centrality (t = 6.4, p<.001), and Self-expression (t = 7.8, p <.001). The overall motivation offers a statistically significant contribution to the prediction of all three dimensions of involvement in the activity.

**Table 5.** Prediction of the involvement dimension “Attraction” based on the overall motivation

Motivation scale	B	β	T	p
Motivation	.91	.05	9.2	.05

R<sup>2</sup>=0.3, F=85.7, p<.001

**Table 6.** Prediction of the involvement dimension “Centrality” based on the overall motivation

Motivation scale	B	β	T	p
Motivation	0.9	0.4	6.4	<0.001

R<sup>2</sup>=0.1 F=41.7 p<.001

**Table 7.** Prediction of the involvement dimension “Self-expression” based on the overall motivation

Motivation scale	B	$\beta$	t	p
Motivation	0.9	0.4	7.8	<.001

$R^2=0.2$   $F=61.8$   $p<.001$

## Discussion

### *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 (Kaimakamis D., 2014) 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 (Kaimakamis D., 2014), 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.

### *Motivation*

With regard to the reasons that motivate the participants to hike Olympus, it is mostly to enjoy nature and to be close to nature and less to socialize through the activity.

It is proposed to:

- Provide opportunities for hikers to get close to nature with the massification of hiking
- Provide opportunities for socializing through the exchange of experience
- Ensure better communication with clubs that organize excursions to Olympus
- Protect the environmental wealth of Olympus

### *Involvement in the activity*

The highest mean values were recorded in the dimensions “Attraction” (Mean = 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” (Mean = 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

*Prediction of involvement in the activity based on theoretical concepts*Involvement based on the participants' motives

Overall motivation offers a statistically significant contribution to the prediction of all three dimensions of involvement in the activity. More specifically, the possibility and opportunity to meet people who have the same interests and preferences increase the pleasure that the person derives from participating in a leisure activity, but also how important this activity is to the individual. Also, the possibility of meeting new people increases the role that this activity plays in the life of the individual as it is expressed in both his daily life and social interactions. The sense of risk and danger that the participant experiences represent and predicts the "Self-expression" of the participant, since through the experience of risk the individual has the opportunity to affirm his identity and shape the image he wants to project in his social environment.

*Limitations and proposals for further research*

The research sample was relatively small and can in no way be considered representative of all the participants in Greece. Moreover, data from other outdoor recreational activities also need to be collected in order to better explore the concept of involvement.

It is proposed to further investigate a number of concepts that will give more detailed information on each activity, such as image, quality of services, brand, consumer connotations that have been developed with each of them and in relation to the constraints and the involvement in the activity.

It is also suggested to try new theoretical models, such as the Psychological Continuum Model (Funk et al., 2001), which could display detailed information on the process followed to develop loyalty to an activity.

Finally, future research could focus on the strategies that have been designed and implemented for the promotion of each activity and the role of private initiative.

**Conclusion**

The present study was designed to predict the involvement in activity based on the dimensions of the participation motives as well as to define the profile of the participants in mountaineering and hiking on Mount Olympus. 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.

Participants want to continue visiting Olympus in the future which means they have a strong attachment to the location. The overall motivation offers a statistically significant contribution to the prediction of all three dimensions of involvement in the activity. Mountaineering plays a crucial role in the life of the participants both in their interactions and in their social environment. When people with common interests join an activity, the experience of the activity is more intense and enjoyable. Through mountaineering, the participant experiences all these emotions and is given the opportunity to affirm his identity and shape the image he wants to project in his social environment.

**References**

- Alexandris, K., Funk, D., Pritchard, M. The Impact of Constraints on Motivation, Activity Attachment and Skier Intentions to Continue. *Journal of Leisure Research* 2011, 43, 56-79.
- Alexandris, K., Kouthouris, C., & Girgolas, G. Investigating the relationships among motivation, negotiation and intention to continuing participation: a study in recreational alpine skiing. *Journal of Leisure Research* 2007, 39(4), 648-668.
- Alexandris, K., Kouthouris, C., Funk, D. & Tziouma, O. The use of negotiation strategies among recreational participants with different involvement level: The case of recreational swimmers. *Leisure Studies* 2012, 32:3, 299-317
- Alexandris, K., Kouthouris, C., Funk, D., & Chatzigianni, E. Examining the relationships between leisure constraints, involvement and attitudinal loyalty among Greek recreational skiers. *European Sport Management Quarterly* 2008, 8(3) 247-264.
- Alexandris, K., Kouthouris, C., Meligdis A. Increasing Customers' Loyalty in a Skiing Resort: The Contribution of Place Attachment and Service Quality. *International Journal of Contemporary Hospitality Management* 2006 18(5):414-425 DOI:10.1108/09596110610673547
- Brymer E., Oades L.G. A Positive Transformation in Courage and Humility. *Journal of Humanistic Psychology* 2009 49(1) DOI:10.1177/0022167808326199
- Burton, D. Winning isn't everything: Examining the impact of performance goals on collegiate swimmers' cognitions and performance. *The Sport Psychologist* 1989 3(2), 105-132. <https://doi.org/10.1123/tsp.3.2.105>
- Cavill N., Kahlmeier S., Racioppi F. *Physical Activity and Health in Europe: Evidence for Action*. WHO; Copenhagen, Denmark: 2006
- Charters, T. and Saxon, E. *Tourism and Mountains. A Practical Guide to Managing the Environmental and Social Impacts of Mountain Tours* (Sweeting, A. ed.), United Nations Environment Programme, 2007 4

- June, In [http://www.unep.fr/ shared/publications/pdf/DTIx0957xPA-MountainsEN.pdf](http://www.unep.fr/shared/publications/pdf/DTIx0957xPA-MountainsEN.pdf), accessed 22/7/2017
- Celsi, R., & Olson, J. The role of involvement in attention and comprehension processes. *The Journal of Consumer Research* 1988 15, 210-224.
- Deci, E. L., & Ryan, R. M. A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), Nebraska symposium on motivation: 1991 Vol. 38, Perspectives on motivation (pp. 237-288). Lincoln: University of Nebraska Press.
- Deci, E. L. & Ryan, R. M. Intrinsic motivation and self-determination in human behaviour. 1985 New York: Plenum
- Deci, E.L. On the nature and functions of motivation theories. *Psychological Science* 1992 3, 167-171
- DeCharms, R. C. Personal causation: The internal affective determinants of behavior. 1968 New York: Academic Press.
- De Vellis, R. F. Scale Development: Theory and Applications (2nd ed., Vol. 26). Thousand Oaks, 2003 CA: Sage Publications.
- Engle, James F. and Roger D. Blackwell. Consumer Behavior, Fourth edition, 1982 Chicago: The Dryden Press.
- Funk, Daniel C. & James, Jeff. "The Psychological Continuum Model: A Conceptual Framework for Understanding an Individual's Psychological Connection to Sport," *Sport Management Review*, Elsevier, 2001, vol. 4(2), pages 119-150, November.
- Havitz, M., & Dimanche, F. Leisure involvement revisited: Conceptual conundrums and measurement advances. *Journal of Leisure Research*. 1997, 29, 245-278.
- Harter, S. Effectance motivation reconsidered: Toward a developmental model. *Human Development*. 1978, 21(1), 34-64. <https://doi.org/10.1159/000271574>
- Iwasaki, Y. and Havitz, M. E. Examining relationships between leisure involvement, psychological commitment and loyalty to a recreation agency. *Journal of Leisure Research*. 2004, 36: 45-72.
- Kaffesakis Nikolaos. Κίνητρα συμμετοχής σε υπαίθριες αθλητικές δραστηριότητες: Διαφορές μεταξύ Ελλήνων και ξένων συμμετεχόντων. (Participation motives in outdoor sports activities: differences between Greek and foreign participants). Diploma Thesis. University of Thessaly. School of Physical Education and Sport Science. Department of Physical Education and Sport Science. 2013. Pp. 23-25
- Kaimakamis D. Διερεύνηση των παραγόντων που περιορίζουν και ωθούν την συμμετοχή σε υπαίθριες αθλητικές δραστηριότητες. Investigating the factors that constraint and motivate participation in outdoor sports activities. Phd thesis. 2014 pp. 181-187
- Kouthouris, Ch., Alexandris, K., Giovani, Ch., & Chatzigianni, E. Ανασταλτικοί παράγοντες συμμετοχής στην χιονοδρομία αναψυχής. Constraints in Recreational Winter Skiing Participation. *Inquiries in Sport & Physical Education*. 2005, 3 (1), 55 – 63.
- Kavussanu, M., & Roberts, G. C. Motivation in physical activity contexts: The relationship of perceived motivational climate to intrinsic motivation and self-efficacy. *Journal of Sport and Exercise Psychology*. 1996, 18, 264-281.
- Kyle, G., Bricker, K., Graefe, A., Wickham, T. (2004a). An examination of recreationists' relationships with activities and settings. *Leisure Sciences*, 26, 123-142.
- Kyle, G. T., Absher, J. D., Norman, W., Hammitt, W. E., & Jodice, L. A modified involvement scale. *Leisure Studies*. 2007, 26(4), 399-427.
- Kyle, G., & Chick, G. E. Enduring leisure involvement: The importance of relationships. *Leisure Studies*. 2002, 23, 243-266.
- Laurent, G., & Kapferer, J. Measuring consumer involvement profiles. *Journal of Marketing Research*. 1985, XXII, 41-53.
- Lois J. Gender and emotion management in the stages of edgework. In: Lyng S (ed.) Edgework. 2005 New York: Routledge, pp. 117-15
- Lupton D & Tulloch J. Life would be pretty dull without risk: voluntary risk-taking and its pleasures. *Health, risk and society*. 2002, 4(2): 113-24
- Lyng S. Edgework: A social phylogenetic analysis of voluntary risk taking. 1990, AJS 95 (4) 851-86. The university of Chicago.
- Manfredo, M. J., B. L. Driver, and M. A. Tarrant. "Measuring Leisure Motivation: A Meta-analysis of the Recreation Experience Preference Scales." *Journal of Leisure Research*. 1997, 28: 188-213.
- McIntyre, N., & Pigram, J. J. Recreation specialization reexamined: The case of vehicle-based campers. *Leisure Sciences*. 1992, 14 (1), 3-15. <https://doi.org/10.1080/01490409209513153>
- McQuarrie E., F. Munson J., M. "The Zaichkowsky Personal Involvement Inventory: Modification and Extension", in NA - Advances in Consumer Research Volume 14, eds. Melanie Wallendorf and Paul Anderson, Provo, UT: Association for Consumer Research. 1987, Pages: 36-40.
- Miles, J. C., & Priest, S. (Eds.). *Adventure education*. 1990, State College, PA: Venture.
- Moira P., & Drivas p. Mountain Tourism in Greece. Possibilities and Prospects of Tourist Season Extension throughout the Year. *International Journal of Research in Tourism and Hospitality*. 2017, Volume 3, Issue 4, 2017, PP 14-24 ISSN 2455-0043.

- Mountain Agenda. Mountains of the World – Tourism and Sustainable Mountain development. 1999, Berne, Switzerland.
- Scherl, L.M. (1989). Self in wilderness: Understanding the psychological benefits of individual-wilderness interaction through self-control. *Leisure Sciences*, 11,123-135.
- Tara A., Mittelstaedt R., Martin B., Goldenberg M. Exploring the Motivations of BASE Jumpers: Extreme Sport Enthusiasts. *Journal of Outdoor Recreation Education and Leadership*. 2009, 2(2)  
DOI:10.1080/14775080903453740
- Ten Brink P., Mutafoğlu K., Schweitzer J.-P., Kettunen M., Twigger-Ross C., Baker J., Kuipers Y., Emonts M., Tyrväinen L., Hujala T., et al. *The Health and Social Benefits of Nature and Biodiversity Protection. A report for the European Commission*. Institute for European Environmental Policy; London, UK: Brussels, Belgium: 2016
- Thompson Coon J., Boddy K., Stein K., Whear R., Barton J., Depledge M.H. Does Participating in Physical Activity in Outdoor Natural Environments Have a Greater Effect on Physical and Mental Wellbeing than Physical Activity Indoors? A Systematic Review. *Environ. Sci. Technol.* 2011;**45**:1761–1772. doi: 10.1021/es102947t
- Vallerand, R. J., & Losier, G. F. An integrative analysis of intrinsic and extrinsic motivation in sport. *Journal of Applied Sport Psychology*. 1999, 11(1), 142–169. <https://doi.org/10.1080/10413209908402956>
- Vallerand, R.J., Deci, E.L., & Ryan, R.M. Intrinsic motivation in sport. In K.B. Pandolf (Ed.), *Exercise and sport sciences reviews 1987*, Vol. 15, pp. 389-425. New York: MacMilla
- Wattanasuwan, K. The self and symbolic consumption. *Journal of American Academy of Business*. 2005, 6 (1), 179-184.
- Zaichkowsky, J. L. Measuring the involvement construct. *Journal of Consumer Research*. 1985, 12(3), 341–352.