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ORIGINAL ARTICLE

THE FACTORS AFFECTING INDIVIDUALS' PARTICIPATION IN CYCLING, MOUNTAINEERING AND TREKKING ACTIVITIES: AN APPLICATION OF PROBIT ANALYSIS FOR TURKEY CASE

Abstract

The aim of this study is to examine and explain the impacts of the independent variables as gender, marital status, income, education level, age, Life Satisfaction (LS) level, Emotional Intelligence (EQ) level and Ecological values and behavior level on participating in outdoor activities as cycling, trekking and mountaineering by using Probit Model, as Turkey case. To determine the EQ level, Ecological values and behavior level, and LS levels of participants, EQ, LS and New Ecological Paradigm Scales have been used. As a result, main identifiers which have significant affects on participating in outdoor activities have been found to be age, gender, income, occupation, education level, marital status, LS, Ecological Crises, Capability of Nature, Human Hegemony, Emotion Assessment and Emotion Positively.

Keywords: Outdoor activities, mountaineers, cyclists, trekkers, probit model

INTRODUCTION

In general, activities which take place in outdoor recreation, particularly outdoor activities, can be defined as free time activities which create interaction between participants and nature and activities which enhance individual's health, spiritual and social benefits (Ibrahim and Cordes, 2002). According to another definition, all sports exercised in nature are defined as outdoor activities (Ardahan and Lapa, 2010). Outdoor recreations are a total of activities done in the sea, in the air, on ice, earth and snow. Some examples of these activities are picnicking, mountaineering, rock climbing, hiking, bird watching, upland festivals, trainings in nature, water activities, parachuting, flying kites and so on.

Outdoor recreation can be thought as a product of the advent of modernity. In many western countries, modernity accompanies the growing industrialization of societies. Activities that were previously taken place in part of the traditional life, such as fishing, hunting and walking were re-contextualized and re-established in daily life as sports and outdoor recreation. Over the last few decades, the nature of modernity has changed, and this new situation has been variously labeled as "late modernity", "modernity II", or "the society of adventure sports" (Skar et al., 2008).

Outdoor activities examined in this study are mountaineering (including rock climbing), trekking and cycling. Outdoor activities are the sports which require organized and/or wild areas and can be grouped into two parts as nature based and nature related. While trekking and recreational cycling is nature related, mountaineering can be considered to be a nature based outdoor activity. If physical and mental qualifications of a person are adequate, participating in trekking and recreational cycling activities is possible at every age. The term "recreational cycling" is used for recreational usage of mountain bikes, downhill bikes, city bikes, touring bikes, cross country bikes, racing bikes, comfort bikes and road bikes. Participating in mountaineering and rock climbing activities requires to be psychologically, physically and mentally fit. Mountaineering, included in outdoor sports, is a kind of sport exercised to reach the summit of the mountains. Since there are rocky, snowy and icy paths on the way to the summit, people climbing mountains should have knowledge and experience about rock, snow and ice climbing. In this respect, climbing is examined in subtitles such as mountaineering, traditional rock climbing, sport climbing and ice climbing (mostly done at frozen falls and icebergs) (Ardahan, 2011b).

In the last four decades, the reasons for participating in outdoor activities have drawn attentions of scientists. It is still a secret question why people participate in outdoor activities. There are two parts of the secret answer. First, the factor which is easily determined and announced; second, like an iceberg, not easy to explain and define or has a hidden reason like in the decision making process for purchasing as in marketing. While Crandall (1980) claims that the personality and conditions of an individual's life makes him/her take part in outdoor activities, Levy (1979) claims that a behavior emerges as a result of interaction between personality and social conditions. Some researchers focus on the life style and value system to explain the answer of the question "why" (Bradshaw, 1978; Daghfous et al., 1999; Gattas et al., 1986; Mitchell, 1983). In another point of view, many researchers have examined the causes of individual acts and the data obtained classified as motivational factors and needs (Ardahan and Lapa, 2010). Lawler and Driver were the masters of them. The theoretical structure of motivation models comes from Lawler's (1973) expectancy-value model. Then Driver (1983) developed the master lists of items for recreation experiences scale and domains, later, Manfreda et al. (1996) used this scale to define the factor affecting persons to participate in leisure. The other theories explaining why people participate in outdoor activities are the Needs Theory, Self Determination Theory, the Achievement Goal Theory, Activity Theory and Personality Theory.

The aim of this study is to examine and explain the impacts of the independent variables as gender, marital status, income, education level, age, Life Satisfaction (LS) level, Emotional Intelligence (EQ) level and Ecological values and behavior level on participating in outdoor activities as cycling, trekking and mountaineering by using Probit Model, as a Turkey case.

Literature Review and Conceptual Framework

There are many factors affecting a person's values, attitude, behaviors and decision. These factors are age, income, marital status, residence, education level, personality, relationship with friends, gender, neighborhood, family, occupation, colleagues, culture, subculture, ethnicity, emotional intelligence level, environmental value, environmental attitude, environmental behavior, life satisfaction level etc. All these demographics, social and economic variables have different impacts on the decision making process, demand structure, hobbies, preferred leisure activity type, lifestyle, and the preferred sport type (Ardahan and Mert, 2012; Ibrahim and Cordes, 2002; Kalkan, 2012; Turgut, 2012). In many

researches the effects of these variables are studied on many different populations. In this study; it is going to be concluded how the independent variables (gender, marital status, income, education level, age, Life Satisfaction-LS level, Emotional Intelligence-EQ level and Ecological values and behavior level) has an effect on participating in outdoor activities as cycling, trekking and mountaineering by using Probit Model as a Turkey case.

The relationships between participation in outdoor activities and independent variables such as age, gender, marital status, occupation, income, residence have all been examined so far by many researchers. Lee et al. (2001) and Solop et al. (2001) studied income, education and occupation, they concluded that these factors have a positive effect on participation in outdoor activities. White (1975), Scott and Munson (1994) focused on age, and they found that age has a negative effect on participating in some outdoor activities. Ardahan and Turgut (2013) studied how the residence factor affects participating in recreational fishing and hunting, they concluded that as urbanizing increases, the demand for outdoor activities increases, too. Harrington and Dawson (1995), Jackson and Henderson (1995) studied the gender factor and they concluded that outdoor activities are in men's hegemony. Hicks and Platt (1970), Laws (1971) found out that a good marriage has a positive affect on participating in leisure activities.

Many of the other researchers try to explain why people participate in outdoor activities by using the Motivation Theory, the Needs Theory, Self Determination Theory, the Achievement Goal Theory, Activity Theory and Personality Theory.

The theoretical structure of motivation theory originally defined by Lawler (1973), he tried to explain this structure by using expectancy-value model. In this model Lawler concluded that human action was driven by physiological and psycho-social outcomes and behavior is a rational process of these outcomes. Later, some researcher like Driver and his colleagues used this model and the motivational factors to explain "why" a person participates in leisure and outdoor recreation (Driver, 1976, 1983; Driver and Brown, 1986; Manfredo et al., 1996). Scientists working on the motivational factors agreed that needs motivate people to act. This was firstly claimed by Maslow. According to Maslow's "hierarchy needs" needs have been defined in two groups. These are primary and secondary needs. The primary needs are food, security, warmth, belonging and mental fitness. Secondary needs are success, being with friends, creativity, curiosity, risk, getting rid of ego and building self (Ibrahim and Cordes, 2002). Some researchers like Kyle et al. (2006) also referred to these factors as

“leisure needs” that have a “pull” affect. According to Driver’s (1983) study, the factors, domains and core statements can easily be found out; these are; a) achievement/ stimulation, b) autonomy/leadership, c) risk taking, d) equipment, e) family togetherness, f) similar people, g) new people, h) learning, i) enjoy nature, j) introspection, k) creativity, l) nostalgia, m) physical fitness, n) physical rest, o) escape personal-social pressures, p) escape physical pressure, q) social security, r) escape family, s) teaching-leading others, t) risk reduction, and u) temperature. These core statements were later used as a scale called Recreation Experience Preferences (REP) to find out the main reason why people participate in leisure (Manfredo et al., 1996). In another study conducted in Illinois University, some new factors were added to REP such as the factors relating to primary and secondary needs which motivate people to participate in outdoor activities. These are a) nature love, b) the need for physical activity, c) creativity, d) relaxation, e) realization of self, f) meeting a famous person (if a famous rock climber is participating in the event, it should attract people who want to meet him\her), f) the desire to be recognized, g) motivating and inviting factors (e.g. a nice water fall draws people there), h) gaining social status, i) rivalry (within and out), and j) intellectual aesthetics (Ibrahim and Cordes, 2002; Kalkan, 2012). According to another study, “The Profile of the Turkish mountaineer and rock climbers” conducted by Ardahan (2011b) which was done to define and explain why people join in outdoor activities, the external and internal motivational factors derived from REP. In another study done by Kalkan and Ardahan (2012) some other factors were found out like family, friends, media, advertisements, neighborhood, culture and sub culture, and desire to be a good model to a family member and others which have impacts on participating in outdoor activities.

The researchers who studied lifestyles focused on the impacts of demographic variables in participating in outdoor activities and/or decision making process. According to Bradshaw (1978) lifestyle refers to the generalized ways of people and consumption which is somewhat more fine-grained than subculture. According to Daghfous et al. (1999) value systems affect decision making process and they are affected by lifestyles, so a lifestyle is really an important determiner of decision making process. Gattas et al. (1986) believed that asking what one does in his /her free time is not as important as asking with whom one spends it, and they believe that leisure studies should focus on groups rather than activities. An elaborate study of lifestyle in America conducted by Mitchell (1983), lifestyles of American people are divided into nine parts and found out the relationship between decision making process and preferences.

The Self-determination Theory developed by Deci and Ryan (1985) can be accepted as a macro theory which explains human motivation. And it has a link with functioning and development of the personality. This explains the social contexts of structured form of different degrees of self-determination of behavior. This behavior varies from the non-self-determined to the self-determined in three types of motivation; these are a) amotivation, b) extrinsic motivation and c) intrinsic motivation. Each motivation types is determined by a series of regulatory processes, which can be fun, values, interests, self-control, rewards, satisfaction, etc. (Moreno et al., 2007). Self-determination theory explains and recognizes a distinction between extrinsic and intrinsic motivation and innate psychological needs: a) for autonomy (to feel self-determined in one's actions rather than feeling controlled or obliged to act); b) for competence (to feel competent in dealing with one's environment); and c) for relatedness (to feel that one has satisfying and supportive social relationships) (Ingledeu et al., 2004). As a result of these behavioral regulation stages, of course, many types of behaviors emerge to support or to be against participating in outdoor activities.

The constructs of Achievement Goals Theory represent a combination of general goals or purposes like mastery or superiority as well as more specific criteria or targets by which performance will be judged (e.g., progress or self-improvement vs. higher grades than others). Achievement goals include two different goals called mastery and performance goals (Pintrich, 2000). Achievement goals theory can answer many of the reasons which have positive or negative affects on participating in outdoor activities, but not all.

Personality is the major identifier in choosing the outdoor activities. Personal choice determines which leisure activities are to be selected through the available leisure activities. Personality differences such as neuroticism and extraversion may affect individual's choices. (Knutson, 1995).

In a study of Kirkcaldy and Furnham, define the types of leisure, 50 outdoor activities were classified into three groups. These are combative, creative and competitive leisure. It was concluded that as combative leisure was related to psychoticism, competitive was related to extraversion. Furthermore, competitive leisure is usually physically taxing besides it's stronger relationship with extraversion and adventure sports, and high profile. Neurotic people attending hobbies in their leisure rather than participating in sports (Lu and Hu, 2005). T type personality person likes to experience high risks and these people usually choose to participate in high risk outdoor activities which require excessive adrenaline.

Individuals make their own choices about what to do in their leisure time or recreational usage of this time and satisfaction with these choices is individually determined (Trottier et al., 2002). Recent literature indicates that although leisure and especially being a participant in any outdoor activities might be an important indicator of life satisfaction (LS), quality of life and subjective wellbeing. How this occurs has not been still discussed and detailed enough. Activity Theory defined by Havighurst in 1961 was firstly used to explain this relationship. According to this theory, there is a positive relationship between all leisure activities and LS. According to the activity theory, the greater the frequency and intimacy of an activity, the greater the LS (Rodriguez et al., 2008).

LS has many definitions. First, it can be defined as a global judgment of a person's life. This judgment is a result of satisfied expectancy level. When the gap between what people wish and the realizations level of this wishes narrowed, it creates higher LS. (Diener, 1984; Diener et al., 1985; Pavot and Diener, 1993). Other definitions of LS are; Tekin et al. (2010), Sung-Mook and Giannakopoulos (1994) define LS as "individual's emotional acts out of life and as a general attitude towards life", Telman and Unsal (2004) define LS as "generally the pleasure an individual feels in his/her life" and according to Dikmen (1995) "LS is judgments relating to quality of life and subjective prosperity which an individual reaches on the facts of his/her life". As a result of these definitions, it can be said that LS may be one of the important indicators of participating in any outdoor activity. Within the last two decades participation in outdoor activities has increased in order to take pleasure, to increase LS, to feel good and physically healthy and etc. (Ardahan, 2012b). In Ardahan and Mert's (2012) study, the same result was observed and it was concluded that participating outdoor activities has a positive affect on LS.

Since 1990's the term "Emotional Intelligence (EQ)" has become a subject which has repercussions both upon academic circles and application areas. It is said that the origin of this term is based on Thorndike's (1920) "social intelligence" term. According to Salovey and Mayer (1990), EQ is a sub-dimension of social intelligence and they claim that EQ consists of three talent categories; the assessment of individual self emotions (oral and not oral) and others' emotions (not oral, empathy), reordering emotions (self and others') and using emotions in order to solve problems (flexible planning, creative thinking, refocusing, motivation).

Theoretically, it is believed that EQ is associated with human values such as success in education, occupation, LS and interpersonal relationship which have important role in their life (Palmer et al. 2002). For a long time EQ and LS have been associated with human values such as quality of relations between individuals, creativity, and leadership (Diener et al., 1985; Salovey and Mayer, 1990; Goleman, 1995; Bar-On, 1997; Palmer et al., 2001). Whether there is a meaningful connection between EQ and LS has been questioned by so many researchers and these researchers have found that there is a meaningful and linear relationship between EQ and LS (Bar-On, 1997; Martinez-Pons, 1997, 1999; Mayer et al., 2000; Ciarrochi et al., 2000; Ardahan, 2011a).

The emergence of global environmental problems as major policy issues symbolizes the growing awareness of the problematic relationships between modern industrialized societies and the physical environments on which people depend. In particular, suggestions that a more ecologically sound worldview should emerge have gained credibility in the past decade (Dunlap et al., 2000). While economical crisis continues, environmental concern has increased and this makes positive effects on many people's principles, basic values and attitudes toward nature. After globalization and urbanization, the demand for wild and organized nature has increased. So, the relationship between nature and people require proper and adequate management of natural resources. The development of responsive environmental management is required to understand people's attitudes and value systems about their environmental concerns (Trope and Acott, 2000). Many of the researchers believe and support that people's environmental attitudes (EA) and environmental behaviors (EB) are related to the person's environmental value (EV) systems (Dunlap et al., 1983; Karp, 1996, Schultz and Zelezny, 1999; Stern, 2000). Values are typically conceptualized as important life purposes that guide principles in life (Rokeach, 1973). In relation to the environment and environmental problems, there is a conflict between collective beliefs of a society and individual's values which have an important impact on environmental behaviors (Axelrod, 1994; Karp, 1996; Keles, 2011). EV, EA and EB are the usually learned and/or sometimes analogized results of the environmental value system of a person. There are some factors that affect EV systems and make major differences between persons. These are gender, age, ethnicity, income, sensitivity, personality, education systems, education level, school type, personal and/or governmental political affiliations, neighborhoods, parents' educational backgrounds, family incomes, occupation, free time activities, personal and/or regional

experiences, development level of a country, parents and their life paradigms, relation between nature, residence, value systems of friends, religion and piety (Ardahan, 2012c).

Despite increased EV, EA and EB, people want to go to nature for many outdoor activities such as hiking, trekking, mountaineering, climbing, fishing, picnicking, camping, doing motorsports, orienteering and so on. Furthermore, being in nature affects wildlife much more than before, and the demand for being in nature increased the popularity of outdoor activities. This makes environmental damages. These negative effects of outdoor activities have been overlooked by researchers and environmentalists until nowadays (Cole 1981, 2004). To understand and to define the EV, EA and EB, Dunlap and Van Liere (1978) have developed the New Ecological Paradigm (NEP) scale.

METHOD

The scope of this study is restricted to Turkish mountaineers, cyclists, trekkers and the persons who are not interested in outdoor activities. To determine the EQ and LS level of Turkish mountaineers, cyclists, trekkers and the persons who are not interested in any of the outdoor activities (NPOA), the Life Satisfaction Scale developed by Diener et al. (1985) was used and during the assessment of EQ dimensions the scale was used by Chan (2004, 2006). This study is a descriptive and a definitive research using Probit Models for the binary dependent variables mentioned in 3.2.

Sampling

The sampling group consists of 1719 persons who are mountaineers ($n = 426$, $\bar{x}_{age} = 36.12 \pm 10.10$), cyclists ($n=373$, $\bar{x}_{age}=31.36 \pm 9.73$), trekkers ($n = 382$, $\bar{x}_{age} = 39.92 \pm 10.30$) and NPOA ($n = 538$, $\bar{x}_{age} = 31.78 \pm 11.47$). The exact number of mountaineers/rock climbers, cyclists and trekkers in Turkey is not defined. In this study, total field under survey were consist of all members of mountaineering and cycling clubs under the Turkish Mountaineering Federation and Turkish Cycling Federation. The random sampling method has been applied and an electronic questionnaire form was sent to all members of mountaineering and cycling clubs members under two federations. All the received survey answers which were volunteer participants have been assessed. NPOA were selected randomly in Antalya, a city of Turkey.

The Tool of Gathering Data and Variables

An electronic questionnaire form developed to gather data suitable for the purpose of this study has been sent, between the dates 1th November, 2011 - 31th March, 2012, to all members of mountaineering and cycling clubs under Turkish Mountaineering Federation and Turkish Cycling Federation, and the persons who were not interested in any outdoor activities in this study were selected randomly.

The variables used in this study are mentioned below:

Dependent Variables

CYC	(takes the value of 1 if individual does cycling, 0 otherwise)
MNT	(takes the value of 1 if individual does mountaineering, 0 otherwise)
TRK	(takes the value of 1 if individual does trekking, 0 otherwise)

Independent Variables

Gender	(takes the value of 1 if individual is male, 0 otherwise)
Age	(takes the value of 1 if individual is single, 0 otherwise)
MS	Marital Status (takes the value of 1 if individual is single, 0 otherwise)
Income2	(takes the value of 1 if individual has the monthly income between 401-800 €, 0 otherwise)
Income3	(takes the value of 1 if individual has the monthly income between 801-1200 €, 0 otherwise)
Income4	(takes the value of 1 if individual has the monthly income between 1201-1600 €, 0 otherwise)
Income5	(takes the value of 1 if individual has the monthly income higher than 1600 €, 0 otherwise)
Education2	(takes the value of 1 if individual has the education level as high school, 0 otherwise)
Education3	(takes the value of 1 if individual has the education level as university, 0 otherwise)
Educadion4	(takes the value of 1 if individual has the education level as M.Sc. or P.hD., 0 otherwise)
Occupation1	(takes the value of 1 if individual works in a private sector, 0 otherwise)
Occupation2	(takes the value of 1 if individual works at a public employment, 0 otherwise)
Occupation3	(takes the value of 1 if individual is a business owner, 0 otherwise)
Occupation4	(takes the value of 1 if individual is a professional, 0 otherwise)
Occupation5	(takes the value of 1 if individual is a student, 0 otherwise)
Occupation6	(takes the value of 1 if individual is a student, 0 otherwise)
LS	Life Satisfaction
HH	Human Hegemony
EC	Ecological Crises
CN	Capability of Nature
HN	Hegemony of Nature
EA	Emotion Assessment
ES	Emphatic Sensitiveness
PEM	Positive Emotional Management
EP	Emotions Positively

Econometric Model

If the dependent variable is binary in an econometric model, it is usually preferred to use Logit or Probit models. The small difference between two methods is the cumulative distribution function used in the model. Logit model uses logistic cumulative distribution function while probit model uses normal cumulative distribution function (Gujarati, 2003).

Three probit models are specified in this study. The first model is to analyze the individuals' situation as to whether to participate in a cycling activity, which can be expressed as follows:

$$\begin{aligned} \text{CYC}_i = & \beta_0 + \beta_1 \text{Gender} + \beta_2 \text{MS} + \beta_3 \text{Income2} + \beta_4 \text{Income3} + \beta_5 \text{Income4} + \beta_6 \text{Income5} \\ & + \beta_7 \text{Education2} + \beta_8 \text{Education3} + \beta_9 \text{Education4} + \beta_{10} \text{Occupation1} \\ & + \beta_{11} \text{Occupation2} + \beta_{12} \text{Occupation3} + \beta_{13} \text{Occupation4} + \beta_{14} \text{Occupation5} \\ & + \beta_{15} \text{Occupation6} + \beta_{16} \text{Age} + \beta_{17} \text{LS} + \beta_{18} \text{HH} + \beta_{19} \text{EC} + \beta_{20} \text{CN} + \beta_{21} \text{HN} + \beta_{22} \text{EA} \\ & + \beta_{23} \text{ES} + \beta_{24} \text{PEM} + \beta_{25} \text{EP} + u \end{aligned}$$

The second model is to analyze the individuals' situation concerning whether to participate in a mountaineering activity, which can be expressed as follows:

$$\begin{aligned} \text{MNT}_i = & \beta_0 + \beta_1 \text{Gender} + \beta_2 \text{MS} + \beta_3 \text{Income2} + \beta_4 \text{Income3} + \beta_5 \text{Income4} + \beta_6 \text{Income5} \\ & + \beta_7 \text{Education2} + \beta_8 \text{Education3} + \beta_9 \text{Education4} + \beta_{10} \text{Occupation1} \\ & + \beta_{11} \text{Occupation2} + \beta_{12} \text{Occupation3} + \beta_{13} \text{Occupation4} + \beta_{14} \text{Occupation5} \\ & + \beta_{15} \text{Occupation6} + \beta_{16} \text{Age} + \beta_{17} \text{LS} + \beta_{18} \text{HH} + \beta_{19} \text{EC} + \beta_{20} \text{CN} + \beta_{21} \text{HN} + \beta_{22} \text{EA} \\ & + \beta_{23} \text{ES} + \beta_{24} \text{PEM} + \beta_{25} \text{EP} + u \end{aligned}$$

And finally the last model is to analyze the individuals' situation as regards whether to participate in trekking activity, which can be expressed as follows:

$$\begin{aligned} \text{TRK}_i = & \beta_0 + \beta_1 \text{Gender} + \beta_2 \text{MS} + \beta_3 \text{Income2} + \beta_4 \text{Income3} + \beta_5 \text{Income4} + \beta_6 \text{Income5} \\ & + \beta_7 \text{Education2} + \beta_8 \text{Education3} + \beta_9 \text{Education4} + \beta_{10} \text{Occupation1} \\ & + \beta_{11} \text{Occupation2} + \beta_{12} \text{Occupation3} + \beta_{13} \text{Occupation4} + \beta_{14} \text{Occupation5} \\ & + \beta_{15} \text{Occupation6} + \beta_{16} \text{Age} + \beta_{17} \text{LS} + \beta_{18} \text{HH} + \beta_{19} \text{EC} + \beta_{20} \text{CN} + \beta_{21} \text{HN} + \beta_{22} \text{EA} \\ & + \beta_{23} \text{ES} + \beta_{24} \text{PEM} + \beta_{25} \text{EP} + u \end{aligned}$$

In all three models, β represents a vector of unknown parameters and u represents a random disturbance term. Robust standard errors of coefficients were computed for the possible presence of heteroskedasticity.

Reliability Values of Factors

Reliability values of factors were LS (Cronbach's Alpha=0.846), HH (Cronbach's Alpha=0.610), EC (Cronbach's Alpha=0.710), CN (Cronbach's Alpha=0.530), HN (Cronbach's Alpha=0.410), EA (Cronbach's Alpha=0.742), ES (Cronbach's Alpha=0.836), PEM (Cronbach's Alpha=0.772), and EP (Cronbach's Alpha=0.795). All of them reliability limits.

Empirical Results

In this part, descriptive results of the research and results of probit models have been given. Descriptive statistics for some independent variables according to the variable of outdoor activity types are given in Table-1. As seen in the table, the participants are young and the average age is 34.57. The oldest subjects are from the non participants in outdoor activities and the youngest were the cyclists. Overall mean of LS is medium level (M=3.21). While LS level of trekkers (M=3.37) is the highest, LS level NPOA (M=3.08) is the lowest. The HH level of them is over more than expected (M=2.69). While trekkers' and mountaineers' HH level (M=2.60) is the lowest, HH level of cyclists (M=2.79) is the highest. Besides, while EC level (M=3.57), CN level (M=3.74), HN level (M=3.86), EA level (M=3.87), ES level (M=3.80), PEM level (M=3.83) and EP level (M=3.91) of trekkers are the lowest, cyclists' EC level (M=3.91), mountaineers' CN level (M=4.20), cyclists' HN level (M=4.45), mountaineers' EA level (M=4.45), cyclists' ES level (M=4.05), mountaineers' PEM level (M=4.09) and mountaineers' EP level (M=4.29) are the highest. In all sub-dimensions of NEP (except HH) and EQ trekkers' score represent their poor situation.

Frequency tables for categorical variables are given in Table 2. As seen in the table, a big majority of the participants are males, singles, have monthly income below 1201 €, have a university degree and employed in the private sector. These results are the same as in all outdoor activities and NPOA.

The results of the probit models are given in Table 3. As seen in Table 3, our probit models are significant (Wald $\chi^2=234.19$ and Prob=0.000 for CYC, Wald $\chi^2=139.98$ and Prob=0.000 for MNT, Wald $\chi^2=225.83$ and Prob=0.000 for TRK). According to this table, the variable Gender is statistically significant at .01 level for CYC and MNT while it is insignificant for TRK (coef.=0.8430, P=0.000 for CYC, coef.=0.2459, P=0.003 for MNT).

Table 1: Descriptive statistics for some independent variables according to outdoor activity types

Activity Type	Statistics	Age	LS	HH	EC	CN	HN	EA	ES	PEM	EP
MNT	N	426	426	426	426	426	426	426	426	426	426
	Mean	36.12	3.28	2.60	3.88	4.20	4.43	4.08	4.02	4.09	4.29
	StdDeviation	10.101	0.836	0.744	0.739	0.699	0.596	0.552	0.655	0.668	0.565
	Minimum	19.0	1.0	1.0	1.5	2.0	1.5	1.0	1.0	1.0	1.0
	Maximum	62.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
CYC	N	373	373	373	373	373	373	373	373	373	373
	Mean	31.36	3.16	2.79	3.91	4.15	4.45	4.07	4.05	4.07	4.23
	StdDeviation	9.731	0.823	0.781	0.734	0.814	0.608	0.597	0.627	0.679	0.611
	Minimum	15.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Maximum	64.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
TRK	N	382	382	382	382	382	382	382	382	382	382
	Mean	39.92	3.37	2.60	3.57	3.74	3.86	3.87	3.80	3.83	3.91
	StdDeviation	10.296	0.759	0.659	0.453	0.431	0.346	0.275	0.399	0.307	0.206
	Minimum	18.0	1.0	1.0	2.3	2.0	2.5	2.7	2.0	2.3	3.0
	Maximum	60.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
NPOA	N	538	538	538	538	538	538	538	538	538	538
	Mean	31.78	3.08	2.75	3.64	3.93	4.24	3.96	3.96	3.89	4.20
	StdDeviation	11.466	0.925	0.608	0.710	0.803	0.873	0.713	0.723	0.797	0.753
	Minimum	15.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Maximum	65.0	5.0	4.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total	N	1719	1719	1719	1719	1719	1719	1719	1719	1719	1719
	Mean	34.57	3.21	2.69	3.74	4.00	4.25	3.99	3.96	3.96	4.17
	StdDeviation	11.044	0.853	0.698	0.690	0.734	0.696	0.579	0.631	0.665	0.605
	Minimum	15.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Maximum	65.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

Table 2: Frequency tables for categorical variables

Categorical Variables		MNT		CYC		TRK		NPOA		Total	
		n	%	n	%	n	%	n	%	n	%
Gender	Male	326	76,5	331	88,7	280	73,3	284	52,8	1221	71,0
	Female	100	23,5	42	11,3	102	26,7	254	47,2	498	29,0
Marital Status	Married	169	39,7	127	34,0	170	44,5	142	26,4	608	35,4
	Single	257	60,3	246	66,0	212	55,5	396	73,6	1111	64,6
Monthly Income	0- 400 €	105	24,6	154	41,3	62	16,2	216	40,1	537	31,2
	401- 800 €	134	31,5	115	30,8	158	41,4	148	27,5	555	32,3
	801- 1200 €	104	24,4	59	15,8	76	19,9	98	18,2	337	19,6
	1201- 1600 €	37	8,7	13	3,5	48	12,6	42	7,8	140	8,1
	Over 1600 €	46	10,8	32	8,6	38	9,9	34	6,3	150	8,7
Education Level	Elementary	3	0,7	10	2,7	12	3,1	12	2,2	37	2,2
	High School	76	17,8	101	27,1	78	20,4	72	13,4	327	19,0
	University	280	65,7	232	62,2	236	61,8	420	78,1	1168	67,9
	Msc and Ph.D.	67	15,7	30	8,0	56	14,7	34	6,3	187	10,9
Occupation	Private sector	151	35,4	129	34,6	130	34,0	164	30,5	574	33,4
	Public employment	103	24,2	53	14,2	94	24,6	88	16,4	338	19,7
	Business Owner	35	8,2	38	10,2	60	15,7	52	9,7	185	10,8
	Professional	27	6,3	30	8,0	32	8,4	16	3,0	105	6,1
	Student	63	14,8	85	22,8	6	1,6	128	23,8	282	16,4
	Retired	35	8,2	18	4,8	52	13,6	48	8,9	153	8,9
	Unemployed and housewife	12	2,8	20	5,4	8	2,0	42	7,8	82	4,8
Total		426	24.8	373	21.7	382	22.2	538	31.3	1719	100.0

Table 3: Probit models for CYC, MNT and TRK

Dep. Variable:	CYC		MNT		TRK	
Variables	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Cons.	-2.7247 ***	0.000	-4.9856 ***	0.000	0.9605 *	0.098
Gender	0.8430 ***	0.000	0.2459 ***	0.003	-0.0234	0.798
MS	-0.1992 **	0.035	0.0081	0.925	0.1544 *	0.076
Income2	-0.0256	0.814	0.1373	0.194	0.1640	0.164
Income3	-0.0548	0.678	0.2952 **	0.017	-0.1966	0.150
Income4	-0.4973 ***	0.006	0.1406	0.384	0.0995	0.551
Income5	0.2974 *	0.071	0.3848 **	0.015	-0.2895 *	0.091
Education2	0.3383	0.135	0.5365 *	0.089	-0.3313	0.169
Education3	-0.0104	0.963	0.5028	0.103	-0.3738	0.109
Education4	0.0084	0.973	0.7685 **	0.018	-0.2004	0.432
Occupation1	-0.2349	0.191	0.2504	0.199	0.6452 ***	0.007
Occupation2	-0.2327	0.246	0.2070	0.319	0.6372 **	0.010
Occupation3	-0.2842	0.169	-0.0854	0.697	0.8731 ***	0.000
Occupation4	-0.0102	0.964	0.1493	0.524	0.7458 ***	0.006
Occupation5	-0.2203	0.257	0.3958 *	0.063	-0.4443	0.200
Occupation6	-0.0550	0.822	-0.0384	0.869	0.3192	0.227
Age	-0.0300 ***	0.000	0.0125 ***	0.008	0.0371 ***	0.000
LS	-0.0262	0.569	0.0274	0.544	0.1737 ***	0.001
HH	0.0786	0.153	-0.1383 ***	0.009	-0.0378	0.518
EC	0.2171 ***	0.001	0.0893	0.140	-0.0388	0.502
CN	0.0935	0.107	0.1800 ***	0.002	-0.1984 ***	0.001
HN	0.2580 ***	0.000	0.3152 ***	0.000	-0.4621 ***	0.000
EA	0.0304	0.713	0.0374	0.648	0.2141 **	0.016
ES	0.0431	0.558	-0.0881	0.213	-0.0404	0.607
PEM	0.0909	0.222	0.0758	0.320	0.0579	0.491
EP	-0.1253	0.162	0.1319	0.154	-0.4721 ***	0.000
	Obs. = 1719		Obs. = 1719		Obs. = 1719	
	Wald Chi2(25) = 234.19		Wald Chi2(25) = 139.98		Wald Chi2(25) = 225.83	
	Prob. = 0.000		Prob. = 0.000		Prob. = 0.000	
	Pseudo R2 = 0.137		Pseudo R2 = 0.081		Pseudo R2 = 0.227	

†: * significant at .10 level, ** significant at .05 level, *** significant at .01 level.

For CYC and MNT, that the signs of coefficient of the variable Gender are positive indicates that being male increases the odds that the individual may participates in the cycling and the mountaineering activity. Marital status has an insignificant effect on the individuals' participation in the mountaineering activity. However, it is significant at .05 level for CYC and at .10 level for TRK (coef.=-0.1992, P=0.035 for CYC and coef.=0.1544, P=0.076 for TRK).

In addition to this, signs of the coefficients of the variable MS are different. In other words, being single has a negative effect on the individuals' participation in the cycling activity while it has a positive effect on the trekking activity. On the other hand, the high income level of individuals is significant in the model for CYC. The variable Income4 is significant negatively at .05 level and Income5 is significant positively at .10 level (coef.=-0.4973, P=0.006 for Income4 and coef.=0.2974, P=0.071 for Income5 in the model for CYC). In the model for MNT, not only the high level of income has a positively significant effect on

the individuals' participation in the mountaineering activity but also the low level of income has a positively significant effect on the individuals' participation in the mountaineering activity at .05 level (coef.=0.2952, P=0.017 for Income3 and coef.=0.3848, P=0.015 for Income5 in the model for MNT). For the model of TRK, only the high-level income is negatively significant at .10 level (coef.=-0.2895, P=0.091 for Income5). The variable Education4 as a proxy for the high education level (M.Sc. and Ph.D) of the persons is positively significant at .05 level in the model of MNT (coef.=0.7685, P=0.018). And also, the variable Education2 is positively significant at .10 level in the model of MNT (coef.=0.5365, P=0.089). In the models for CYC and TRK, the education level has no effect on participation in the activities. For the model of CYC, the dummy variables about occupation are insignificant. Being a student has a positive effect on participation in the mountaineering activity and this effect is positively significant at .10 level (coef.=0.3958, P=0.063 for the variable Occupation5 in the model for MNT). As for the model of TRK, the variables Occupation1, Occupation3 and Occupation4 are positively significant at .01 level and Occupation2 is positively significant at .05 level (coef.=0.6452, P=0.007 for Occupation1, coef.=0.6372, P=0.010 for Occupation2, coef.=0.8731, P=0.000 for Occupation3 and coef.=0.7458, P=0.006 for Occupation4). Working in a private or public sector, being a business owner and a professional have all positive effects on the individuals' participation in the trekking activity. The variable Age is negatively significant at .01 level in the model for CYC (coef.=-0.0300, P=0.000). As the persons are getting older, the chance of participating in the cycling activity decreases. Conversely, the variable Age is positively significant at .01 level for MNT and TRK (coef.=0.0125, P=0.008 for MNT and coef.=0.0371, P=0.000 for TRK). That the persons are getting older increases the chance of participating in the mountaineering and the trekking activities. The variable LS is significant in the model of TRK at .01 level (coef.=0.1737, P=0.001). The positive sign of this variable indicates that the higher the LS levels, the higher the chance of participation in the trekking activity. The variable HH is negatively significant at .01 level in the model of MNT (coef.=-0.1383, P=0.009). Increasing HH level decreases the chance of participating in the mountaineering activity. The variable EC is positively significant in the model of CYC (coef.=0.2171, P=0.001). Increasing EC level increases the chance of participating in the cycling activity. The variable HN is positively significant at .01 level for the models of CYC and MNT while it is negatively significant at .01 level for the model of TRK (coef.=0.2580, P=0.000 for CYC, coef.=0.3152, P=0.000 for MNT and coef.=-0.4621, P=0.000 for TRK). The HN has a positive effect on the individuals' participation in the cycling and the mountaineering

activities, but it has a negative effect on the individuals' participation in the trekking activity. The variable EA is positively significant at .05 level in the model of TRK (coef.=0.2141, P=0.016). Increasing the emotion assessment level of the persons increases the chance of the participation in the trekking activity. The variable EP is negatively significant at .01 level in the model of TRK (coef.=-0.4721, P=0.000). The higher the level of the EP, the lower the chance of participation in the trekking activity.

CONCLUSION

The purpose of this study is to examine and explain the impacts of the independent variables as gender, marital status, income, education level, age, Life Satisfaction (LS) level, Emotional Intelligence (EQ) level and Ecological values and behavior level on participating in outdoor activities as cycling, trekking and mountaineering by using Probit Model, as a Turkey case.

CYC, MNT and TRK are outdoor activities and there are many factors affecting people to participate in any of them. These factors have been discussed in many studies so far (Ibrahim and Cordes, 2002; Ardahan, 2011b; Kalkan and Ardahan, 2012; Kalkan, 2012).

Some researchers tried to define out the relationship between gender and leisure constraints in their study. They concluded that the constraints of men in their leisure are less than women (Harrington and Dawson, 1995; Jackson and Henderson, 1995). According to Shaw and Henderson (2005), the major constraints on women's leisure are lack of time and time stress. Participating in outdoor activities is in man's hegemony and all these kinds of activities are called "men's sport". The gap between men and women is getting closer, but it is still not close enough (Ibrahim and Cordes, 2002; Ardahan, 2011a, 2011b). On the other hand, when women are free from their constraints and their roles, they have an opportunity to be in nature and/or in any outdoor activities. The result of current study overlaps these results. While cycling and mountaineering are still in man's hegemony, this is not the case for trekking. It means, gender is not a major determiner factor to be a participant in trekking.

Even if the relationship between outdoor activities and marital status has been studied in literature, many studies emphasize that a good marriage usually motivates couples positively to be a participant in outdoor activities. It can even be thought that having a meaningful and happy marriage can further motivate people to participate in outdoor activities and help build relations (Hicks and Platt, 1970; Laws, 1971; Ardahan and Lapa, 2010). The

result reached in this study partly supports this conclusion. While being a single has a negative effect on the individuals' participation in cycling, it has a positive effect on the individuals' participation in trekking activities. That is, being married increases the probability of participation in cycling activities. In contrast, being single increases the probability of participation in trekking activities while it has been an insignificant determiner to be a participant in mountaineering activities.

The relationships between participation in outdoor activities and variables such as age, occupation, income and education level have all been examined. While Lee, Scott and Floyd (2001) and Solop et al. (2001) claim that progress in age, education, income and occupation affects participation in outdoor activities positively, White (1975) claims that the main determining factors are age and income. Similarly, Scott and Munson (1994) emphasize the effects of income on participation in outdoor activities. In a study conducted by Ardahan and Lapa (2010) the effects of age, education, income and occupation on participation in outdoor activities have been emphasized. Ardahan and Lapa (2010) state that age has a major effect on taking part in some outdoor activities. Physical fitness and experience are necessary to be a participant in mountaineering and it is possible to be a participant in trekking and cycling in all ages. The results of the current study overlap this conclusion for mountaineering and trekking but not cycling. While getting older decreases the probability of being a participant in cycling, it increases the probability of being a participant in mountaineering or trekking. This means that the average age of Mountaineers and Trekkers are higher than that of cyclists in Turkey and when cyclists are getting older they prefer to use cars. To be an experienced mountaineer longer periods are required. Usually, many of the mountaineers in Turkey start these outdoor activities during university education and continue through their second and third age. However, this is valid for recreational but not for professional participation.

Occupation, income and education have positive effects on participating in outdoor activities (White, 1975; Scoot and Munson, 1994; Lee at al., 2001; Solop et al., 2001; Ardahan and Lapa, 2010). This means, when these increase, participation in any outdoor activities also increases and so do the person plans to carry on alone or only with close friends, travel long distances and buy expensive activities. In other words, when occupation, education and income level of a person decrease, s/he shares all activities with open groups or with family members, friends, neighbors and they do not travel far away (Ardahan, 2011b; Ibrahim and Cordes, 2002). The results of the current study support this conclusion. The Income5 is the highest level of income and it has a negative effect on the model for trekking.

This means those who have Income5 prefer to join in cycling and mountaineering rather than trekking, and they have a chance to travel far away and they are well equipped. So, they prefer to join in cycling and/or mountaineering with close groups or alone. The average income level is Income3 in Turkey, and the person with Income3 also prefers to join in mountaineering but with open groups. The results of the current study do not overlap the conclusion on education except Education2 and Education4 in mountaineering. It shows that the education level is not a determiner of being a participant in trekking, cycling and mountaineering. The persons with education on the level of Education2 and Education4 prefer mountaineering. Also, the occupation is not a determiner of being a cyclist or a mountaineer (except Occupation5) but in contrast, all occupations (except Occupation5 and 6) have a big impact on the probability to be a participant in trekking activities. Additionally, being a student in a university is a determiner to be a participant in mountaineering and increases the probability of being a participant in mountaineering. This result overlaps those of Ardahan's study (2011b).

LS is the level of satisfaction the individual gains in return for what s/he gains from life. The LS of people exercising and/or participating in outdoor activities is higher than that of the people who do not participate in any outdoor activities. If a person has a positive experience of participating in outdoor activities, it gives positive LS to the person (Ardahan, 2011b). This conclusion overlaps the results of the current study only for those who are the participants in trekking. LS has a positive effect on being a participant in trekking but LS does not have a significant effect on being a participant in cycling and mountaineering. In other words, LS is not a determiner factor for cycling and mountaineering.

EV, EA and EB are the main identifiers of conscious environmentalism. A person uses the nature as a resource and goes to the nature for many different reasons and sees how these factors affect nature when s/he is in it; so, it is expected that NEP level of the participants in outdoor activities will be high. The difference between NEP scores of participants and non-participants in outdoor activities is statistically significant in favor of outdoor participants (Ardahan, 2012a). The results of the current study support the conclusion except trekking. EC and HN have positive effects on being a participant in cycling. While CN and HN have positive effects on being a participant in mountaineering, CN and HN have negative effects on being a participant of trekking. This means that EA, EV and EB of mountaineers and cyclists are higher than those of trekkers.

There is an insignificant relation between EQ and being a participant in any outdoor activities, or it cannot be said that people whose EQ level is high prefer outdoor activities (Ardahan, 2011a, 2012b). This conclusion defends the results of current study. While any of the sub dimensions of EQ do not have any effect on being a participant in cycling and mountaineering, EA has a positive and EP has a negative effect on being a participant in trekking. It is expected to have a positive influence but two sub dimensions of EQ have different effects on being a participant in trekking.

As a result, main identifiers which have significant affects on participating in outdoor activities are age, gender, income, occupation, education level, marital status, LS, EC, CN, HN, EA, and EP.

We advise new researchers that as new independent variables personality, opportunities in residence, social, health and recreational capital of person, hobbies, and the like might as well be added to our model.

REFERENCES

- Ardahan, F. and Lapa, Y.T. (2010). Outdoor recreation: the reasons and carried benefits for attending outdoor sports of the participants of cycling and/or trekking activities. *International Journal of Human Sciences*, 8(1), 1327- 1341.
- Ardahan, F. (2011a). Examining Relation between Emotional Intelligence and Life Satisfaction on the Example of Outdoor Sports Participants, *1th International Sport Economy and Management Congress*, 12-15th October 2011, Izmir / Turkey.
- Ardahan, F. (2011b). The Profile of The Turkish Mountaineers and Rock Climbers: The Reasons and The Carried Benefits for Attending Outdoor Sports and Life Satisfaction Level, *8th International Conference Sport and Quality of Life/2011*, 10-11 November 2011, Congress Centre-Brno/Czech Republic.
- Ardahan, F. (2012a). The New Ecological Paradigm (NEP Scale) Score Of Turkish Mountaineers/Rock Climbers, Cyclists and Trekkers. *Energy Education Science and Technology Part B, Social and Educational Studies*, 4(4), 2035-2046.
- Ardahan, F. (2012b). Comparison of the Life Satisfaction and Emotional Intelligence of the Participants and Non Participants of Outdoor Sports with respect to some demographic variables, *WCBEM, World Conference On Business, Economics and Management*, 04-06 May 2012, Belek, Antalya, Turkey.
- Ardahan, F. (2012c). Comparison of the New Ecological Paradigm (NEP) Scale's Level of Participants and Non Participant of Outdoor Sports with Respect to Some Demographic Variables: Turkey Case. *The Online Journal of Recreation and Sport*, 1(3), 8-18.

- Ardahan, F. and Mert, M. (2012). Impacts of Outdoor Activities, Demographic Variables and Emotional Intelligence on Life Satisfaction: An Econometric Application of a Case in Turkey. *Social Indicators Research*, 78(2). doi:10.1007/s11205-012-0118-5
- Ardahan, F. and Turgut, T. (2013). Comparing the Motivational Factors of Recreational Fishers and Hunters, Life Satisfaction Level of Participants and Non Participants in These Activities: Turkey Case. *The Online Journal of Recreation and Sport*, 2(1), 1-11.
- Axelrod, L.J. (1994). Balancing personal needs with environmental preservation: Identifying the values that guide decisions in ecological dilemmas. *J Soc Issues*, 50, 85-104.
- Bar-On, R. (1997). *Emotional Quotient Inventory: Technical Manual. Multi-Health Systems*. Toronto.
- Bradshaw, T.K. (1978). *Lifestyle in the advanced industrial societies*. Berkeley, CA: Institute of Governmental studies, University of California.
- Chan, D.W. (2004). Perceived Emotional Intelligence and Self-Efficacy Among Chinese Secondary School Teachers in Hong Kong. *Personality and Individual Differences*, 36, 1781–1795.
- Chan, D.W. (2006). Emotional Intelligence and Components of Burnout among Chinese Secondary School Teachers in Hong Kong. *Teaching and Teacher Education*, 22, 1042–1054.
- Ciarrochi, J.V., Chan, A.Y.C. and Caputi, P. (2000). A Critical Evaluation Of The Emotional Intelligence Construct. *Personality and Individual Differences*, 28, 539–561.
- Cole, D.N. (1981). Vegetational changes associated with recreational use and fire suppression in the eagle cap wilderness, oregon: some management implications. *Biologic Conser*, 20, 247-270.
- Cole, D.N. (2004). Environmental impacts of outdoor recreation in wildlands. 1-16, Retrieved from <http://www.leopold.wilderness.net/research/fprojects/docs12/ISSRMChapter.pdf>.
- Crandall, R. (1980). Motivation for leisure. *Journal of Leisure Research*, 12(1), 45-54.
- Daghfous, N., Petrof, J.V. and Pons, F. (1999), Values and adoption of innovations: a cross-cultural study. *Journal Of Consumer Marketing*, 16(4), 314-331.
- Deci, E.L. and Ryan, R.M. (1985). The general causality orientations scale: Self determination in personality. *Journal of Research in Personality*, 19, 109-134.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542–575.
- Diener, E., Emmons, R.A., Larsen, R.J. and Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 71-75.
- Dikmen, A.A. (1995). Relation Between Life Satisfaction and Job Satisfaction. *Journal of Ankara University Faculty of Political Sciences*, 50, 3-4.
- Driver, B.L. (1976). Quantification of outdoor recreationists' preferences. In B. van der Smissen (ed.), *Research on camping and environmental education* (pp. 165–188). State College: The Pennsylvania State University, College of Health, Physical Education, and Recreation.
- Driver, B.L. (1983). Master list of items for recreation experience preferences scales and domains. Unpublished document. USDA Forest Service, Fort Collins, CO: Rocky Mountain Forest and Range Experiment Station.

- Driver, B. L. and Brown, P. J. (1986). Probable personal benefits of outdoor recreation. In *President's commission on American outdoors—A literature review* (pp. 63–70). Washington, D.C.: U.S. Government Printing Office.
- Dunlap, R.E., Van Liere, K.D., Mertig, A.G. and Jones, R.E. (2000) Measuring endorsement of the new ecological paradigm: A revised NEP scale. *J Soc Issues*, 56, 425–442.
- Dunlap, R.E., Grieneeks, J.K. and Rokeach, M. (1983). *Human values and pro-environmental behavior, in WD. Conn (ed) energy and material resources: Attitudes, values, and public policy*, Boulder, CO:Westview.
- Dunlap, R.E. and Van Liere, K.D. (1978). The “new environmental paradigm”: A proposed measuring instrument and preliminary results. *J Environ Educ*, 9, 10–19.
- Gattas, J.T., Roberts, K., Schmitz-Scherzer, R., Tokarski, W. and Vitanyi, Y.I. (1986). Leisure and life-styles: towards a research agenda. *Society and Leisure*, 9(2), 524-537.
- Goleman, D. (1995). *Emotional Intelligence*. Bantam Books.
- Gujarati, D.N. (2003). *Basic Econometrics, fourth edition*, McGraw-Hill/Irvin, New York.
- Harrington, M. and Dawson, D. (1995). Who has it best? Women's labor force participation, perceptions of leisure and constraints to leisure. *Journal of Leisure Research*, 27, 4–25.
- Hicks, M.W. and Platt, M. (1970). Marital happiness and stability: A review of the research in the sixties. *Journal of Marriage and the Family*, 32, 553-574.
- Ibrahim, H. and Cordes, K.A. (2002). *Outdoor Recreation, Enrichment For a Lifetime*. Second Edition, Sagamore Publishing, Il.
- Ingledeu, D.K., Markland, D. and Sheppard, K.E. (2004). Personality and self-determination of exercise behaviour, *Personality and Individual Differences*, 36, 1921-1932.
- Jackson, E.L. and Henderson K.A. (1995). Gender-based analysis of leisure constraints. *Leisure Sciences*, 17, 31–51.
- Kalkan, A. and Ardahan, F. (2012). The Profile of the Outdoor Sports Participants and the Reason and the Benefits of Participating Outdoor Sports: Antalya Case, *12 th International Sport Science Congress, December, 12-14, Denizli, Turkey*.
- Kalkan, A. (2012). *Outdoor Recreation, Reasons For Individuals Participation In Nature-Based Sports Within The Province Of Antalya*, Akdeniz University, Social Sciences Institute, Sport Management Department, Master Thesis, Antalya, Turkey.
- Karp, D.G. (1996). Values and their effect on pro-environmental behavior. *Environ Behav*, 28, 111–133.
- Keles, O. (2011). Evaluation of primary school students' thought about and behaviors and attitudes towards environment. *Energy Edu Sci and Technol Part B*, 3, 343–358.
- Knutson, K.A. (1995). Type T Personality and Learning Strategies, *Annual Meeting of The American Educational Research Association*, San Francisco, CA, April, page 3.
- Kyle, G.T., Absher, J.D., Hammit, W.E., and Cavin. J. (2006). An Examination of the Motivation—Involvement Relationship. *Leisure Sciences*, 28: 467–485. doi: 10.1080/01490400600851320

- Lawler, E.E. (1973). *Motivations in work organizations*. Monterey, CA: Brooks/Cole.
- Laws, J.L. (1971). A feminist review of marital adjustment literature: The rape of Locke. *Journal of Marriage and the Family*, 33, 483-516.
- Lee, J., Scott, D. and Floyd, M.F. (2001). Structural inequalities in outdoor recreation participation: A multiple hierarchy stratification perspective. *Journal of Leisure Research*, 33(4), 427-449.
- Levy, J. (1979). *Motivation for leisure: An interactionist approach*. In H. Ibrahim and R. Crandall (Eds.), *Leisure: A psychological approach*. Los Alamitos, CA: Hwong Publishing.
- Lu, L. and Hu, C.H. (2005). Personality, Leisure Experiences and Happiness, *Journal of Happiness Studies*, 6, 325–342.
- Martinez-Pons, M. (1997). The Relation Of Emotional Intelligence With Selected Areas Of Personal Functioning, Imagination. *Cognition and Personality*, 17, 3–13.
- Martinez-Pons, M. (1999). Emotional Intelligence As A Self-Regulatory Process: A Social Cognitive View, Imagination. *Cognition and Personality*, 19, 331–350.
- Manfredo, M., Driver, B.L. and Tarrant M.A. (1996). Measuring leisure motivation: a meta-analysis of the recreation experience preference scales. *Journal of Leisure Research*, 28 (3), 188-213.
- Mayer, J.D., Caruso, D.R. and Salovey, P. (2000). Emotional Intelligence Meets Traditional Standards For And Intelligence. *Intelligence*, 27, 267–298.
- Mitchell, A. (1983). *The nine American Life Style: Who are and were we're going*. New York, Macmillan.
- Moreno, J. A., Cervelló, E.M. and Martínez, A. (2007). Measuring self-determination motivation in a physical fitness setting: validation of the Behavioral Regulation in Exercise Questionnaire-2 (BREQ-2) in a Spanish sample. *The Journal of Sport Medicine and Physical Fitness*, 47(3), 366- 378.
- Palmer, B., Walls, M., Burgess, Z. and Stough, C. (2001). Emotional Intelligence And Effective Leadership, *Leadership and Organisational Development Journal*, 22, 5–10.
- Palmer, B., Donaldson, C. and Stough, C. (2002). Emotional Intelligence And Life Satisfaction. *Personality and Individual Differences*, 33, 1091–1100.
- Pavot, W. and Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment*, 5(2), 164–172.
- Pintrich, P.R. (2000). An Achievement Goal Theory Perspective on Issues in Motivation Terminology, Theory and Research, *Contemporary Educational Psychology*, 25, 92–104.
- Rodriguez, A., Latkova, P. and Sun, Y.Y. (2008). The relationship between leisure and life satisfaction: application of activity and need theory. *Social Indicators Research*, 86,163–175.
- Rokeach, M. (1973). *The Nature of Human Values*. Free Press, New York.
- Salovey, P. and Mayer, J.D. (1990). *Emotional Intelligence*. Baywood Publishing Inc.
- Schultz P.W. and Zelezny L. (1999). Values as predictors of environmental attitudes. *J Environ Psychol*, 19, 255–276.

- Scott, D. and Munson, W. (1994). Perceived constraints to park usage among individuals with low incomes. *Journal of Park and Recreation Administration*, 12(4), 79-96.
- Shaw, S.M. and Henderson, K.A. (2005). *Gender analysis and leisure constraints: An uneasy alliance*. In E.L. Jackson(Ed.), *Constraints to leisure*(pp.23-34). State College, PA: Venture Publishing.
- Skar, M., Odden, A. and Inge Vistad, O.I. (2008). Motivation for mountain biking in Norway: Change and stability in late-modern outdoor recreation. *Norsk Geografisk Tidsskrift - Norwegian Journal of Geography*, 62(1), 36-45.
- Solop, F.I., Hagen, K.K. and Ostergen, D. (2001). Back to nature: Visiting or not visiting our national parks. *Public Perspective*, 12(4), 41-43.
- Stern, P.C. (2000). Towards a coherent theory of environmentally significant behavior. *J Soc Issues*, 56, 407-424.
- Sung-Mook, H. and Giannakopoulos, E. (1994). The Relationship of Satisfaction With Life To Personality Characteristics, *Journal of Psychology Interdisciplinary and Applied*, 128/5, 547.
- Tekin, A., Akcakoyun, F.M., Elioç, B., Fisekcioglu, M.S. and Ozdag, S. (2010). Life Satisfaction and Hopelessness in Elderly: Tai-Chi Chuan Outcomes. *World Applied Sciences Journal*, 10(10), 1236-1241.
- Telman, N. and Unsal, P. (2004). *Calisan Memnuniyeti*. Epsilon Yayınevi. Istanbul.
- Thorndike, E.L. (1920). Intelligence and its uses. *Harper's Magazine*, 140, 227-235.
- Trobe, H.L. and Acott, T.G. (2000). A modified NEP/DSP environmental attitudes scale. *J Environ Educ*, 32, 12-20.
- Trottier, A.N., Brown, G.T., Hobson, S.J.G. and Miller, W. (2002). Reliability and validity of the Leisure Satisfaction Scale (LSS –short form) and the Adolescent Leisure Interest Profile (ALIP). *Occupational Therapy International*, 9(2), 131-144.
- Turgut, T. (2012). *Water Based Recreation and A Case Study On Defining Profile of Enterprises in Water Based Recreation in Antalya*, Akdeniz University, Social Sciences Institute, Sport Management Department, Master Thesis, Antalya, Turkey.
- White, T.H. (1975). Relative importance of education and income as predictors in outdoor recreation participation. *Journal of Leisure Research*, 7(3), 191-199.