PJSS
ISSN: 1309-0356
http://pjss.pau.edu.tr
http://psbd.pau.edu.tr
Pamukkale Journal of Sport Sciences
2016, 7(1), 48-66
Received: 01.12.2015
Accepted: 11.01.2016

Examination of The Validity And Reliability of Extreme Sports Participation Scale: Pilot Study

Kerem Yıldırım Şimşek[1]

[1]Anadolu University, Faculty of Sport Sciences, Department of Recreation, Eskişehir, Turkey

keremys@anadolu.edu.tr

Abstract

The aim of this research is to prove the validity and reliability of extreme sports participation scale. Accordingly, validity and reliability study of the scale were carried out adding the dimensions of motive for participating in extreme sports obtained from the focus group study performed within scope of the examination of related literature and the research to the scope of the scale. The scale was applied on the individuals who utilize the extreme sports facilities in some provinces in Turkey and were chosen with convenience sampling method. The content validity of the scale (expert opinion), convergent validity (the lowest factor load value is 0.515, the highest is 0.892), differentiation/external validity (positive relationship on medium and high level in all factors) and structure validity (5-factor and 35-item) were tested. The internal consistency coefficient Cronbach's Alpha (0.957) analysis was used for the reliability of the scale. As a result of the analyses, it was included that a valid and reliable measuring tool was obtained; therefore the research achieved its aim.

Keywords: Extreme sports, sports participation, validity and reliability

INTRODUCTION

Many researches and proofs have been achieved for the activity's benefits to health. In those researches, it was found which type of physical activity is useful to improve the psychical health (Pollock et al., 1998). It is told that psychology-specific area of motivation has the answer to whether this benefit is in desired amount and why a great part of the population participates in medium-high level physical activity. Motivation presents one of the most interesting problems in sports, being both the development output of the social environment such as contest and coach behaviors and a developmental effect on the behavioral variables such as learning and performance (Duda et al., 1995). The first studies concerning the motivation of sports participation that skills development and learning, fun, physical fitness, making friends and achievement are the most important reasons that affect sports participation (Gill et al., 1985). Gould (1982) stated that researches on motivation of sports participation and the data collected would be useful for preparing programs for trainers, administrators and leaders; therefore trainers are able to meet the needs of individuals participating in the activity and it will positively affect the psychological and motor development of individuals whose needs have been identified and accordingly directed to the activity. These studies were considered by Gill et al., (1985) as studies on the measurement of individual's attitude towards the psychical activity rather than their reasons for sports participation, and it was stated that there is no research model for this subject and no standard measuring tool. Based on this, Gill, et al., (1985) developed the Participation Motivation Scale to determine young individuals' reasons for sports participation. In this inventory developed by Gill et al., (1983) on 1138 students who study at summer sports schools, individuals' reasons for sports participation are assessed in eight general dimensions: skills development, team membership/spirit, fun, friendship, achievement/status, energy expenditure, psychical fitness and other reasons. Similar general dimensions were later obtained using the PMQ developed by Gill et al., (1983) by many researchers Gill et al., (1985). Theoreticians have revealed some motivational factors while trying to determine the sports motivations of sports participants and audiences for about thirty years. The first researcher to develop the Sport Fan Motivation Scale (SFMS) in which those motivational factors were compiled was Wann (1995). The Sport Fan Motivation Scale (SFMS) measure eight different motivational factors of sport fans. These factors are positive stress, confidence, escape, fun, economy, aesthetics, group membership and family (Wann, 1995). Over 100 factors concerning the sports participation reasons by researchers to date. It was determined in previous motivation studies on young sportsmen that fun, skill, challenge and fitness are the most important factors (Gill et al., 1985; Gould et al.,

1985; Koivula, 1999; Ko et al., 2008; Wankel, 1993). Koivula (1999) and Wankel (1993) stated that sports participants chose fun/pleasure as the most important motivator, and fun/pleasure are importantly effective in commitment. McDonald (2002) examined thirteen factors - risk-taking, stress reduction, aggression, affiliation, social facilitation, self-esteem, competition, achievement, skills mastery, aesthetics, value development, self-actualization and physical fitness - which he thought to be effective in sports participation for nine popular sports branch (baseball, basketball, bowling, fishing, football, golf, softball, tennis, volleyball) in United Nations. As a result of the researches, it was determined that sports participants showed differences in eleven out of thirteen factors (the two being achievement and self-esteem). In addition, researchers identified a difference in the motivation between individual sports and contact sports. While participants are motivated by high level of physical risk in contact sports such as football, basketball and baseball, this factor is at the lowest level in individual sports. Risk-taking is highlighted by participants in extreme sports, and these branches are mostly individual sports. Participants are motivated by high levels of adrenaline, aggression, excitement, uniqueness, psychological condition, physical/spiritual comfort and achievement (Ko et al., 2008). Risk-taking is considered to be the most important motivational factor in extreme sports participation rather than dominant sports branches (Shoham, 1998). Shoham (1998) examined the role of the benefits perceived in extreme sports participation. In her research, Shoham identified that the primary motivational factors in some extreme sports such as skydiving, hang gliding and parachuting are excitement and adventure. Moreover, she stated that the reason why individuals choose extreme sports is that it allows them to get away from the routine of their daily lives. Park (2004) researched 15 different motivators of extreme sports participation. Park (2004) added the factors of being up to date and fun/pleasure to 13 factors of McDonald, Milne and Hong (2002) (risk-taking, stress reduction, aggression, affiliation, social facilitation, self-esteem, competition, achievement, skills mastery, aesthetics, value development, self-actualization and physical fitness). Rinehart and Sdynor (2003) suggested that extreme sports attract youngsters more than traditional sports and the reason is that these sports allow them to show their performance to others better. Y generation's tendency to extreme sports features that the factors affecting extreme sports participation of this age group need to be studied.

Dimensions and Sub Dimensions Constituting the Extreme Sports Participation Scale

Socializing (Belonging, Friendship): Belonging can be defined as associating oneself with building a mutual relationship with others or attaching to them (Milne and McDonald, 1999).

It is seen that sense of belonging in sports complies with the sports interest defined as the main motivational factor (Zaggelidis et al., 2004). Belonging was found to be the main motivational factor in different sports branches, pastime activities and outdoor activities. Jones, Mackay and Peters (2006) found in their study on the participation motivators of challenge sports that the factor of belonging is the most important of the seven motivators they put forward. Donnelly and Young (1988) stated that relationship with sports is motivated by individual's will to strengthen their sense of identity. In other words, one can think that being connected with a group related to sports, pastime and outdoor activities has an emotional and critical important for an individual. Therefore, individual acquires a special social identity that defines their position within society through group members. Moreover, they can build relationships with group members and share group's general properties regardless of individual differences. Milne and McDonald (1999) describe the friendship the social satisfaction of being together with others who like the same activity. In other words, the term "social facilitation" is either positive or negative expression on the performance of an individual affected from the presence of an audience. Both audiences and participants are motivated by the opportunity to spend extra time with their family members, friends and colleagues. It was determined that relationships with family and friends may motivate the participation performance in sports environments presenting family peace and social interaction are (McDonald et al.,2001).

Pursuit of Excitement and Adventure (Desire to Take Risk, Pursuit of Excitement, Pleasure/Delight): Zuckerman (2000c) defined some individuals who participate in risky sportive activities to reach the stimulus in the experience as highly adventure seekers. Zuckerman (1994b) suggested the hypothesis that pursuit of emotion has been integrated into a common factor called "pursuit of excitement". In other words, he stated that there is a mutual relationship between the individual dimensions of being encouraged and pursuit of excitement. Some studies reported that there is a mutual relationship between pursuit of excitement and individuality properties of extreme sports participation. Researches on extreme sports branches can be given as example for this relationship: skydiving (Hymbaugh and Garrett, 1974), rock climbing (Robinson, 1985), mountain biking (Schneider, 2001), parachuting (Hymbaugh and Garret, 1974; Rowland et al., 1986). Zuckerman (1979a) defined the risk-taking as the will related to pursuit of excitement through recreational activities such as parachuting, hang-gliding, mountain climbing. Mobley (1985) defined them as recreational adventurous activities that are often associated with risk factor inherent in the sports mostly

related to outdoor activities and open to the risk of physical injury. Tholkes (1998) associated the risk with outdoor activities that may result in serious physical or psychological injuries. This risk may result in small injuries, circumferential injuries and sometimes even deaths. Zuckerman (1979a) stated that organisms seek for a certain level of tension and the behavior of pursuing tension increases when it goes down below the optimal level. Sports participation provides socially-acceptable risk-taking and a stressful environment not included in daily life (Dunning, 1972). Robinson (1992) stated that individuals participated in recreational adventurous activities have increased level of emotional intensity when they deal with activities facilitating the sense of being in danger, fit and the personal management, and those sports become more attractive.

Values (Fun, Freedom, Self-esteem, Pursuit of Difference): Fun can be defined as the expression of positive sensation that reflects feelings such as satisfaction and enjoyment. Relational and descriptive studies indicate that fun may be associated with physical activities (Dilorenzo, 1998; Gould, 1985). No scales with sufficient validity to be able to research the relationship between fun/pleasure and physical activity were used in the studies (Kendzierski and Decarlo, 1991). Fun/pleasure was measured using a single phrased with low level of validity and reliability. Wankel (1993) developed the Physical Activity Enjoyment Scale (PACES) to close this gap. The scale researches the exercise satisfaction experience against an inappropriate situation. It shows the difference between the mode chosen by the researcher and the physical activity mode chosen by the participant (Kendzierski and Decarlo, 1991). In theories and researches, it is stated that the experience of fun is a critical factor for the motive of the individual and the maintenance of the exercise (Kremer et al., 1997; Wankel, 1993). Weis (1987) stated that children's tendency to physical activity participation would increase in case they perceive the physical activity as fun, and the ongoing chance of participation would get strong and increase with inner motivation. In addition, efforts to increase the inner motivation are considered to be commonly desired training applications since they cause long term motivation.

Kahle et al., (2004) developed a different approach called List of Values (LOV) inspired from Rokeach's Extreme Values which include the freedom value. However, only sense of achievement and self-esteem are similar to Rokeach's RVS. Others were integrated with Rokeach's values in a way that two or more of them are summarized (safety instead of family

and national safety; getting respect instead of admiration and respect) (Watkins and Gnoth, 2005).

Sports participation at club level or effective recreational activities presents positive social and psychological effects. Increased self-esteem is one of the biggest results of sports participation. In studies of self-esteem in sports, self-esteem can be defined as the assessment of self-worth (Milne and McDonald, 1999). Robson (1989) defined self-esteem as individual's self-valuation, acceptance and satisfaction of their results originating from their importance, competence and ability to satisfy their wills. Practitioners perceive themselves positively through the relationship of sports and physical activity and improve their skills during the activity, therefore strengthening their self-esteem. In the report of social development council (2001) in Canada stated that sports participations organized in relation to higher level of self-esteem are important for expenditure. It was also determined in the report that self-esteem level of young participants in the organized sports has a higher level of satisfaction compared to the non-participant youngsters (Government of Canada, 1998). Addeo (1994) associated a healthy self-esteem with happiness, winning and high achievement. He stated that physical activity efficiently decreases depression and improves self-esteem. It was stated that outdoor and recreational activities such as rafting may therefore decrease depression and cause self-esteem to reach an efficient level. Sonstroem and Morgan (1999) stated that high self-esteem would make relationship with more physical activities increase and also make self-respect become a result of the physical activity.

In accordance with the data obtained from group members as a result of the focus group study performed within the scope of the research, it is mentioned that there is a motive called "pursuit of difference". The group members stated that extreme sports and sportsman are different than traditional sports and sportsman. Moreover, they told that they find the difference they've been looking for in extreme sports, and this difference is one of the reasons that made them participate in extreme sports. A few statements of group members are given below as a result of the focus group interview:

"... It can be the greatest way of making a social circle after pursuing different circles..."

"... I mean, it is different. They look at us differently but we are more different within ourselves. Being different gives us pleasure..."

"... You feel the monotony and you are actually deficient while you're a normal person. The scenario began like this in the first place. Everybody is looking for something..."

Physical Fitness: It can be said that physical fitness or will to live physically fit may be one of the most common reasons for sports participation and consumption. Physical fitness can be defined as a well-structured physical condition and the expression of health. Adamson and Wade (1986) found the physical fitness as the primary factor that motivates the sports participation. Jones, Mackay and Peters (2006) stated that physical fitness is an important motivational factor along with self-esteem, skills development and friendship. Although the definition of physical fitness is well structured conceptually, it cannot be easily measured with properties such as strength, agility, fatigue and fun. Elements contributing to physical fitness are divided into two groups. These groups are those related to health and those related to more suitable athletic skill. Those related to health are cardiovascular stamina, muscular stamina, muscular strength, body composition and flexibility. The levels of these elements may not be equal to each other. For example, an individual with high level of muscular strength may not have a good flexibility. The five elements related to health are more important for public health rather than the athletic skills (Caspersen, 1985: 129).

Stress Reduction: Stress reduction can be defined as an emotional situation characterized by perception, the process of decreasing the tension anxiety integrated with fear and psychological alertness (Leunes and Nation, 1996). Steptoe et al., (1998) stated that exercise is associated with positive mood and less amount experiences of daily tension. And they added that positive mood is at higher level on the days when exercise is performed compared to the days when exercise is not performed. In their researches, they reported that participants were less stressful on the days when they did exercises in state of low anxiety. It was also reported that exercise motivators such as health, physical appearance and mood are pretty dominant on daily incidence, and individuals who participated in physical exercise experienced potentially more stressful activities during the day when they were not stressful. Driver and Tocher (1975) suggested that the need of relaxation is the primary determinant of the pastime preference and outdoor sports activities are useful for decreasing the tension levels. In addition, Berger (1994) stated that mild exercise which does not include contesting and is performed in short term has an important effect on decreasing the tension levels (Steptoe et al., 1998).

METHODS and METHOD

Research Model

This study is a methodological research planned to test the validity and reliability of the Extreme Sports Participation Scale developed by the researcher. After laying the theoretical foundation, data were collected, and a scale is applied as the basic technique. Techniques such as interview, examination, document scanning, focus group and expert opinion were used as assistant techniques.

Population and Sample of the Research

The population of the research is composed of participants at extreme sports facilities in several provinces and districts in Turkey. Total 105 extreme sports participants specified with convenience sampling method were chosen among the specified population.

Development of Extreme Sports Participation Scale

Developmental stage of the scale used within the scope of the research was adapted from Churchill's (1979) scale development model. The first stage defined by Churchill (1979) is the determination of structures. Related literature was examined and the structures were determined in this stage. In the second stage named "forming the scale phrases", related literature was examined again and observation and focus group studies were performed. Data were collected for the pilot study in the third stage. Cronbach's Alpha, Explanatory Factor Analysis and expert opinion were used in the fourth stage named "simplification of scale". Data were collected again from the sample after this stage. Cronbach's Alpha and Explanatory Factor Analysis were used to prove the validity and reliability of the scale in the last stage.

The stage of application of the qualitative techniques such as observation, focus group and expert opinions is as the following, except the statistical analysis techniques defined in the scale development model developed by Churchill (1979): Structured observation study was chosen for the observation stage of the research. This method is used if the observation by favor of human is performed by a certain person, and the observer takes notes without interfering in the event. The researcher made observations in the environments with extreme

sportsmen who study at Anadolu University, School of Physical Education and Sports, sportsmen of Esbike bicycle club and extreme sportsmen at 720adrenalinskatepark facilities.

After the observation, it was aimed that individuals who do extreme sports and focus groups are interviewed for the research. The following volunteers in Eskişehir province were interviewed as the focus group: mountain bikers at Esbike sports club (6 individuals), students from Anadolu University, School of Physical Education and Sports who are interested in skateboarding, snowboarding and freerunning (7 individuals), sportsmen who do extreme sports, are interested in BMX biking and aggressive skating at the recreational park within the main campus of Anadolu University (6 individuals). Semi-structured interviews were recorded with digital voice recorder and then deciphered. After the data obtained from the research are coded, a code list was established. In this stage, the information was divided into significant groups and it was defined what each group means conceptually. Miles and Huberman (1994) mention descriptive, interpretive and modeling methods in data coding. The coding was performed within a general framework in this study, and concepts previously defined during the coding stage and obtained from the data were used together. Associates specialized in physical education and sports were asked to assess the scale phrases determined in the second stage to be positive about the phrases representing the dimensions of the scale. The associates can generally be considered to be the specialist or arbitrator of the dimensions of a scale (Arnold and Reynolds, 2003). In this stage, the associates were asked to assess each phrase considered to be representing the dimensions of extreme sports motivations and check the clarity of the words forming the phrases, the length and form of the phrases. As a result of both processes, phrases which could not be completely understood were corrected, some phrases were shortened and those which were thought to be repeating were omitted. Dimensions, sub dimensions and similar studies which were put forward within the scope of the research are shown in Table 1.

Table 1: Dimensions, sub dimensions and similar researches constituting the extreme sports participation scale

Dimensions	Sub Dimensions	Similar Researches
SOCIALIZING	Belonging	Kahle et al., 2004; Wann, 1995; Mackay and Peters 2006; Zaggelidis et al., 2004; Park et al., 2008.
	Friendship	Kahle et al., 2004; Kahle et al., 1996; Wann, 1995; Gill et al., 1983.
PURSUIT OF EXCITEMENT AND ADVENTURE	Pursuit of Adventure	Kahle et al., 2004; Self et al., 2007; Zuckerman, 1994b; Tholkes 1998;
	Pleasure / Delight	Gould, 1985; Dilorenzo, 1998; Kendzierski & Decarlo 1991
	Desire to Take Risk	Self et al., 2007; Ewert (1985), Leunes and Nation, 1996; Zuckerman, 1994b; Park et al., 2008; Mcdonald 2002;
VALUES	Fun	Kahle et al., 2004; Wann, 1995; Gill et al., 1983; Wankel 1993; Park et al., 2008;
	Lifestyle	Plummer, 1974; Kropp et al., 1999; Park et al., 2008;
	Freedom	Milne and McDonald 1999; Kahle et al., 2004
	Self-esteem	Wann, 1995; Milne and McDonald 1999; Robson 1989; Park et al., 2008;
	Achievement	Kahle et al., 2004; Gill et al., 1983; Covington and Roberts 1995; Czajkowski, 1995; Mullin et al., 1993; Park et al., 2008; Milne and Mcdonald, 1999;
	Pursuit of Difference	Established within the scope of the research.
PHYSICAL FITNESS	Fitness	Farmer 1992; Gill et al., 1983; Caspersen, 1985; Jones et al., 2006; Adamson and Wade 1986; Park et al., 2008; Milne and Mcdonald, 1999;
STRESS REDUCTION	Escape	Wann, 1995; Trail and James, 2001.
	Stress Reduction	Wann, 1995; Steptoe et al., 1998; Leunes and Nation, 1996; Berger 1994; Driver and Tocher, 1975; McDonald, 2002;

Data Collecting Tool

The Extreme Sports Scale developed by the researcher comprise 34 items and 5 dimensions. The dimensions and number of items of the scale are shown in Table 2.

Table 2: Dimensions and number of items of the extreme sports participation scale

DIMENSIONS	Number of Items
Values	12
Socializing	7
Pursuit of Excitement and Adventure	7
Stress Reduction	4
Physical fitness	4
Total	34

As seen in Table 2, the five-dimension original scale is composed of 34 items written in sentence format. The items of the scale were graded in 5-Likert form as the following: (1) Strongly Disagree, (2) Disagree, (3) Slightly Agree, (4) Agree, (5) Strongly Agree.

RESULTS

Content Validity: Extreme sports participants and academicians working in the area of sports were asked to control the scale to determine whether it measures the reasons of extreme sports participation. Within this context, extreme sports participants and associates were asked to assess each phrase considered to be representing the dimensions of extreme sports participation and check the clarity of the words forming the phrases, the length and form of the phrases.

Structure Validity

Explanatory Factor Analysis was used to generate the scale structures within the scope of the research. Kaiser-Meyer-Olkin (KMO) value was found to be (.657) to determine the conformity of data with basic components. Bartlett (25386.609 df: 1378, p: 0.00) test was used to reveal whether data obtained from the Extreme Sports Participation Scale come from multivariate normal distribution.

Table 3: Number of factors of the extreme sports participation scale and load values of the items

PHRASES	**F 1**	**F 2**	**F 3**	**F 4**	**F 5**
Values					
I can have fun thanks to extreme sports	.749				
I think I live a funnier life thanks to extreme sports	.892				
I have fun in the environment I built up with my friends while	.864				

doing extreme sports					
Freedom is in the nature of extreme sports	.804				
I am responsible only for myself while doing extreme sports	.786				
Feelings I have while doing extreme sports make me feel the freedom	.749				
Extreme sports improve my self-esteem	.679				
I am able to reflect the self-esteem I earned in extreme sports on my social life.	.625				
I am able to learn how to fight on my own thanks to extreme sports.	.600				
I think extreme sports are different than other sports	.642				
I think extreme sports add difference to me	.638				
Extreme sports make me feel extraordinary	.568				
Socializing					
I feel belonging to a group in extreme sports environment		.813			
I can feel I am alive in the world of extreme sports		.743			
I think I am an individual of the world of extreme sports		.616			
Extreme sports allow me to be together with my friends		.804			
There is a friendship among people who do extreme sports		.570			
Extreme sports give me the chance to meet new people		.554			
I spend good time with my friends in extreme sports environment		.574			
Pursuit of Excitement and Adventure					
Risk and extreme sports are inseparable			.849		
I love taking risk although I know extreme sports may hurt me			.821		
I think risk is one of the features that attracted me to extreme sports			.558		
I love the moves which are risky in extreme sports more			.616		
Excitement is an inseparable part of in extreme sports			.539		
I think extreme sports add excitement to my life			.533		
The excitement I feel while doing extreme sports is incredible			.515		
Stress Reduction					
Extreme sports help me reduce the stress				.673	
I experience a mental relaxation after doing extreme sports				.657	
Fatigue after the training gives me peace				.652	
The best way to get away from the tension of intense life is extreme sports				.688	
Physical fitness					
Extreme sports allow me to use my body's whole capacity					.644
I am able to understand the limits of by body thanks to extreme					.622

sports	
I think my physical condition is better thanks to extreme sports	.621
I am able to live more healthily thanks to extreme sports	.585

Convergent Validity

As a result of the Explanatory Factor Analysis performed within the scope of the research, there is no question under the sub-breakpoint .50 among 34 questions. The lowest load value is .515 and the highest one is .892 among 34 questions. When all 34 questions are examined, it can be said that load values of scale factors are at a good level and the scale provides convergent validity.

Internal Consistency

As a result of the internal consistency analysis for the reliability of Extreme Sports Participation Scale, total Cronbach's Alpha coefficient value of the scale is .957. Cronbach's Alpha values of the dimensions of the Extreme Sports Participation Scale are shown in Table 4.

Table 4: Cronbach's Alpha values of the extreme sports participation scale

DIMENSIONS	**Cronbach's Alpha**
Values	.944
Socializing	.883
Pursuit of Excitement and Adventure	.867
Stress Reduction	.760
Physical fitness	.739
Total	.957

When Cronbach's Alpha values of the Extreme Sports Participation Scale are examined, it is seen that the coefficients have a high level of reliability.

DISCUSSION

The validity and reliability of the scale was tested gathering the extreme sports participation motives obtained with techniques such as literature review, interview, examination, document review, focus group and expert opinion within the scope of this researched aimed to determine

the reasons of extreme sports participation. The scale was applied on the individuals who utilize the extreme sports facilities in some provinces in Turkey and were chosen with convenience sampling method.

One of the critical factors in forming the content validity of the items in a research is to define the dominance of the properties conceptually (Churchill, 1979). In another definition, content validity is the extent to which the scale as a whole and each items of the scale serve a purpose (Ercan and Kan, 2004). Extreme sports participants and academicians working in the area of sports were asked to control the scale to determine whether it measures the reasons of extreme sports participation. Necessary corrections were made in accordance with the opinions of extreme sportsmen and academicians, and the face validity of each item expressing the dimensions of the scale was provided.

Sample size in this research is three times of the number of items. While the number of items in the Extreme Sports Participation Scale is 34, the sample size consists of 105 participants. There are different opinions on the number of samples necessary for performing explanatory factor analysis within the literature. For example, the sample size should be at least five, at most 10 times of the number of variables, in other words, items according to Tavşancıl (2002). Preacher and MacCallum (2002) stated that this rate varies between 3 times and 10 times in the literature. If Comrey and Lee (1992)'s opinion "a sample group of 1000 or more people is the ideal one", the number of participants in this research is sufficient. Structure validity is considered to be the integrity of abstract or theoretical structure of the items in a scale (Churchill, 1979). Structure is a pattern formed by certain elements which are thought to be related to each other or relationships between those elements. According to Tavcancıl (2002) and Buyukozturk (2009), KMO test should be performed to determine the adequacy of data obtained from the sample in the Explanatory Factor Analysis. KMO shows that the value becomes excellent as it gets close to 1, it is unacceptable when it is below 0.50 (Sapnas, 2004). (KMO) value was found to be (.882) to determine the conformity of data with basic components. According to Kulaksizloglu et al., (2003), these values showed that the sample size and the data obtained are appropriate and sufficient for the chosen analysis. Distribution in the population should be normal in the Explanatory Factor Analysis according to Tavsancıl (2002). It is tested with Bartlett test whether the data come from multivariate normal distribution. As a result of the Bartlett test performed on the data from the Extreme Sports Participation Scale is significant (25386.609 df: 1378, p: 0.00). Several rotation techniques was tried to separate the Extreme Sports Participation Scale into factors unrelated to each

other, and an easily-interpretable result was achieved with Varimax vertical rotation technique. Items below multiple factors were omitted from the scale. There is no item of which mutual variance value is under 0.30. It was seen that mutual variance of scale's 34 items is between 0.360 and 0.659. Moreover, it was found that 34-item scale could be gathered under 5 factors, and it explains 71.727% of total variance. It is stated in the analysis in social sciences that variance rates varying between 40% and 60% are considered to be sufficient. Therefore, it can be said that total variance percentage obtained is sufficient and provides structure validity.

As a result of the Explanatory Factor Analysis performed within the scope of the research, there is no question under the sub-breakpoint .50 among 34 questions when scale's convergent validity is assessed. The lowest load value is .515 and the highest one is .892 among all the questions. Bogazzi and Yi, (2011) suggested the factor loads excessing .70 as a proof of the convergent validity. In addition, Child (1970) stated that factor load values being .50 and above can be interpreted as good and very significant, .32 and below as poor. When all questions of the scale are examined, it can be said that load values of scale items are at a good level and the scale provides convergent validity.

When the reliability of the Extreme Sports Participation Scale was examined, it was found that Cronbach's Alpha values of the dimensions of values (.944), socializing (.883), pursuit of excitement and adventure (.867), stress reduction (.760) and physical fitness (.739) are above the acceptable limit. According to Nunnally et al., (1978) and Nunnally and Bernstein (1994), If Cronbach's Alpha coefficient is $\alpha < 0.40$, the scale is not reliable and it needs to be reconstructed; if it is $0.70 \leq \alpha < 0.90$, the scale is highly reliable and can be used reliably in public reviews and for generating scientific judgments. If Cronbach's Alpha coefficient is $\alpha \geq 0.90$, it has high level of reliability and can be used for generating scientific judgments on high level of validity and reliability related to the area of examination. Within this context, total Cronbach's Alpha value of the Extreme Sports Participation Scale is (.957). It can be said that the scale is highly reliable generally in accordance with this result.

As a result, it can be concluded that a valid and reliable measuring tool was achieved in this researched aimed at determining the validity and reliability of the Extreme Sports Participation Scale in Turkish language and culture; therefore, the research achieved its goal.

SUGGESTIONS

It is important that findings obtained from the research are supported by new researches to be performed on different societies and sample groups from the aspect that proofs concerning the validity and reliability of the Extreme Sports Participation Scale.

References

Adamson, B. J., & Wade, J. K. (1986). Predictors of sport and exercise participation among health science students. *Australian Journal of Science and Medicine in Sport*, 18(4), 3-10.

Addeo, R. R., Greene, A. F., & Geisser, M. E. (1994). Construct validity of the Robson self-esteem questionnaire in a college sample. *Educational and Psychological Measurement*, 54(2), 439-446.

Arnould, E. J., & Price, L. L. (1993). River magic: extraordinary experience and the extended service encounter. *Journal of Consumer Research*, 24-45.

Bagozzi, R. P., & Yi, Y. (2012). Specification, evaluation, and interpretation of structural equation models. *Journal of the Academy of Marketing Science*, 40(1), 8-34.

Buyukozturk, S. (2009). *Data Analysis Handbook for Social Sciences Handbook*. s. 121-125. Pegem Academy, Ankara.

Caspersen, C. J., Powell, K. E., & Christenson, G. M. (1985). *Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research*. Public health reports, 100(2), 126.

Churchill Jr, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of marketing research*, 64-73.

Child, D. (1990). *The essentials of factor analysis.* Cassell Educational.

Comrey, A. L., & Lee, H. B. (2013). *A first course in factor analysis*. Psychology Press..

DiLorenzo, T. M., Stucky-Ropp, R. C., Vander Wal, J. S., & Gotham, H. J. (1998). Determinants of exercise among children. II. A longitudinal analysis. P*reventive Medicine*, 27(3), 470-477.

Duda, J. L., Chi, L., Newton, M. L., & Walling, M. D. (1995). *Task and ego orientation and intrinsic motivation in sport.* International journal of sport psychology.

Donnelly, P., & Young, K. (1988). The construction and confirmation of identity in sport subcultures. *Sociology of Sport Journal*, 5(3), 223-240.

Ercan, I., & Kan, I. (2004). Reliability and Validity in Scales. *Uludag University Journal of the Faculty of Medicine*, 30(3), 211-216.

Gill, D.L., & Gross, J.B., Huddleston, S. (1985). Participation motivation in youth sports. *International Journal of Sport Psychology*, (14), 1–14.

Gould, D. (1982). Sport psychology in the 1980s: Status, direction, and challenge in youth sports research. *Journal of Sport Psychology.*

Gould, D., Feltz, D., & Weiss, M. (1985). *Motives for participating in competitive youth swimming.* International Journal of Sport Psychology.

Canada. Parliament. House of Commons. Standing Committee on Canadian Heritage, & Mills, D. J. (1998). *Sport in Canada: Everybody's business: Leadership, partnership and accountability*. The Sub-Committee.

Hymbaugh, K., & Garrett, J. (1974). Sensation seeking among skydivers. *Perceptual And Motor Skills*, 38(1), 118-118.

Jones, G. W., Mackay, K. S., & Peters, D. M. (2006). Participation motivation in martial artists in the west midlands region of England. *Journal of sports science & medicine*, 5(CSSI), 28-34.

Kahle L., R. Shoham, A., Gregory M., R. (2004). *Sports Marketing and the Psychology of Marketing Communication.* Lawrence Erlbaum Associates, Publishers Mahwah, New Jersey London.

Kendzierski, D., & DeCarlo, K. J. (1991). Physical Activity Enjoyment Scale: Two validation studies. *Journal of Sport & Exercise Psychology.*

Koivula, N. (1999). Sport participation: Differences in motivation and actual participation due to gender typing. *Journal of Sport Behaviour*, 22, 360-380.

Kremer, J., Trew, K. J., & Ogle, S. (Eds.). (1997). *Young people's involvement in sport*. Psychology Press.

Kropp, F., Lavack, A. M., & Holden, S. J. (1999). Smokers and beer drinkers: values and consumer susceptibility to interpersonal influence. Journal of Consumer Marketing, 16(6), 536-557.

Kulaksizloglu, A., Dilmac, B., Eksi, H., & Otrar, M. (2003). The linguistic equivalence scale, reliability and validity study of universities form- Compliance Scale. *Educational Sciences and Applications*, 2(3), 49-63.

Le Unes, A., & Nation, J. R. (1996). *Sport psychology: An introduction*. Nelson-Hall, Inc...

McDonald, M. A., Milne, G. R., & Hong, J. (2002). Motivational factors for evaluating sport spectator and participant markets. *Sport Marketing Quarterly*, 11(2), 100-113.

Milne, G. R., & McDonald, M. A. (1999). *Sport marketing: Managing the exchange process*. Jones & Bartlett Learning.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook.* Sage.

Mobley, M. (1985). On the razor's edge: the management of risk. *Trends*, 22(3), 12-14.

Park, H. (2004). *Analyzing motivational factors of action sports participants* (Doctoral dissertation. Washington State University.

Nunnally, J. C., Bernstein, I. H., & Berge, J. M. T. (1967). *Psychometric theory* (Vol. 226). New York: McGraw-Hill.

Nunnally, J. & Bernstein, I. (1994). *Psycometric Theory*. pp..33-34, McGraw-Hill.

Ko, Y. J., HyeWon, P., & Claussen, C. L. (2008). Action sports participation: consumer motivation. *International Journal of Sports Marketing and Sponsorship*, 9(2), 111-124.

Pollock, M. L., Gaesser, G. A., Butcher, J. D., Després, J. P., Dishman, R. K., Franklin, B. A., & Garber, C. E. (1998). ACSM position stand: the recommended quantity and quality of exercise for developing and maintaining cardiorespiratory and muscular fitness, and flexibility in healthy adults. *Med Sci Sports Exerc*, 30(6), 975-991.

Preacher, K. J., & MacCallum, R. C. (2002). Exploratory factor analysis in behavior genetics research: Factor recovery with small sample sizes. *Behavior genetics*, 32(2), 153-161.

Rinehart, R. E. & Sydnor, S. (eds) (2003). *To the extreme: Alternative Sports. Inside and Out.* 1-5, Albany, NY: State University of New York Pres.

Robinson, D. (1985). Stress seeking: Selected behavioral characteristics of elite rock climbers. *Journal of Sport Psychology*, 7, 400–404.

Robinson, D.W. (1992). A descriptive model of enduring risk recreation involvement. *Journal of Leisure Research*, 24(1), 52-63.

Robson, P. (1989). Development of A New Self-report Questionnaire to Measure Self Esteem. *Psychological Medicine*, 19(02), 513-518.

Rowland, G. L., Franken, R. E., & Harrison, K. (1986). Sensation seeking and participation in sporting activities. *Journal of Sport Psychology*, 8(3), 212-220.

Ryckman, R. M., & Hamel, J. (1993). Perceived physical ability differences in the sport participation motives of young athletes. *International Journal of Sport Psychology.*

Sapnas, K.G. (2004). Letters to The Editor: Determining Adequate Sample Size. *Journal of Nursing Scholarship*, 36(1), 4

Schneider, T. M. (2001). *Sensation seeking in ultra-endurance sports.* Unpublished manuscript. San Jose State University. Risk Among Adventure Racers.

Self, D. R., De Vries Henry, E., Findley, C. S., & Reilly, E. (2007). Thrill seeking: The type T personality and extreme sports. International journal of sport management and marketing, 2(1), 175-190. Dunning, E. (1972). The Cross-Cultural Analysis of Sport and Games. *Sportwissenschaft*, 2(3), 333-335.

Shoham, A., Rose, G. M., & Kahle, L. R. (1998). Marketing of risky sports: From intention to action. *Journal of the Academy of Marketing Science*, 26(4), 307-321.

Sonstroem, R. J. (1984). Exercise and self-esteem. *Exercise and Sport Sciences Reviews*, 12(1), 123-156.

Steptoe, A., Kimbell, J., & Basford, P. (1998). Exercise and the experience and appraisal of daily stressors: a naturalistic study. *Journal of Behavioral Medicine*, 21(4), 363-374.

Tavsancil, E. (2006). *Data Analysis and Measurement of Attitudes and SPSS.* pp.177-181, Ankara:Nobel Publish.

Tholkes, B. F. (1998). *Defining Risk.* Camping Magazine, 71(5), 24-26.

Wann, D. L. (1995). Preliminary validation of the sport fan motivation scale. Journal of Sport & Social Issues, 19(4), 377-396.

Wankel, L. M. (1993). The importance of enjoyment to adherence and psychological benefits from physical activity. International Journal of Sport Psychology.

Watkins, L., & Gnoth, J. (2005). Methodological issues in using Kahle's list of values scale for Japanese tourism behaviour. *Journal of Vacation Marketing*, 11(3), 225-233.

Weiss, M. R. (1987). Self-esteem and achievement in children's sport and physical activity. *Advances In Pediatric Sport Sciences*, 2, 87-119.

Zaggelidis, G., Martinidis, K., & Zaggelidis, S. (2004). Comparative study of factors-motives in beginning practicing judo and karate. *Physical Training: Fitness for Combatives*, 1-8.

Zuckerman, M. (1979a). *Sensation seeking and risk taking. In Emotions in personality and psychopathology* (pp. 161-197). Springer US.

Zuckerman, M. (1984b). Experience and desire: A new format for sensation seeking scales. *Journal of Behavioral Assessment*, 6(2), 101-114.

Zuckerman, M. (2000c). *Are You A Risk-Taker?.* Psychology Today-New York-, 33(6), 52-57.