

# Examination of the Leisure Involvement and Leisure Constraints Levels of Individuals Doing Ski and Snowboard as a Recreational Physical Activity

Rekreasyonel Fiziksel Aktivite Olarak Kayak ve Snowboard Yapan Bireylerin Serbest Zaman İlgiilenim ve Serbest Zaman Katılım Engelleri Düzeylerinin İncelenmesi

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## ABSTRACT

This study aimed to examine the levels of leisure involvement and perceived leisure constraints of individuals who ski and snowboard based on various characteristics. The study group of research consisted of 796 individuals who ski/snowboard in 5 ski resorts in Turkey. In the research, "Leisure Involvement Scale" (LIS) and "Leisure Constraints Scale" (LCS) were used as data collection tools. MANOVA, and ANOVA analyses were used to analyze the collected data. According to the MANOVA results with regard to gender, there were statistically significant differences between the average scores of the groups in all subscales of the "LIS" except the "interpersonal constraints" subscale of the "LCS". There was no significant difference between the participants' "LCS" mean scores according to the education level variable. On the other hand, it was found that there were statistically significant differences in all subscales of the "LIS" of the participants concerning the education level. MANOVA analysis results revealed that the average scores of the participants in all subscales of "LCS", "interpersonal constraints" "intrapersonal constraints" and "LIS" differed significantly according to the variable of having their materials. As a result, it was concluded that the most important factor that constrained individuals from participating in ski and snowboard sports as a leisure activity was "structural factors". In addition, it has been found that the three most important reasons why individuals are interested in skiing or snowboarding or both as winter sports are "attraction", "social bonding" and "centrality", respectively.

**Keywords:** Leisure constraints, leisure involvement, ski

## Öz

Bu çalışmada kayak ve snowboard yapan kişilerin serbest zaman ilgiilenim ve serbest zaman engelleri algı düzeylerinin çeşitli değişkenlere göre incelenmesi amaçlanmıştır. Araştırmanın çalışma grubunu Türkiye'deki 5 farklı kayak merkezinde kayak/snowboard yapan toplam 796 (age=32.48±12.82) birey oluşturmuştur. Araştırmada veri toplama aracı olarak "Serbest Zaman İlgiilenim Ölçeği" (SZİÖ) ve "Boş Zaman Engelleri Ölçeği" (BZEÖ) kullanılmıştır. Elde edilen verilerin analizi için, MANOVA ve ANOVA analizi yöntemleri kullanılmıştır. Katılımcıların cinsiyetlerine göre yapılan MANOVA sonuçlarına göre, "BZEÖ"nin "kişisel engeller" alt boyutu hariç "SZİÖ"nin tüm alt boyutlarında grupların ortalama puanları arasında istatistiki olarak anlamlı farklılıklar vardır. Katılımcıların "BZEÖ" ortalama puanları arasında eğitimi düzeyi değişkenine göre anlamlı bir farklılık yoktur. Buna karşın, eğitim düzeyi değişkenine göre katılımcıların "SZİÖ"nin tüm alt boyutlarında istatistiksel olarak anlamlı farklılıklar olduğu bulunmuştur. MANOVA analiz sonuçları, katılımcıların "BZEÖ"nin "bireysel engeller" ve "bireylerarası engeller" ve "SZİÖ"nin tüm alt boyutlarındaki ortalama puanlarının kendine ait malzemeye sahip olma durumu değişkenine göre anlamlı farklılık gösterdiğini ortaya koymuştur. Sonuç olarak, bireylerin serbest zaman aktivitesi olarak kayak ve snowboard sporlarına katılımlarını engelleyen en önemli faktörün "yapısal engeller" olduğu belirlenmiştir. Ayrıca bireylerin kış sporu olarak kayak veya snowboard ya da her ikisi ile de ilgilenmelerindeki en önemli üç nedenin sırasıyla "çekicilik", "sosyal ilişki" ve "özdeşleşme" olduğu tespit edilmiştir.

**Anahtar Kelimeler:** Serbest zaman engelleri, serbest zaman ilgiilenimi, kayak

## Introduction

In the leisure time literature, it is seen that the concept of involvement is examined by researchers on the basis of "definition", "conceptualisation" and "measurement-method development" (Kyle & Chink, 2004; Wiley et al., 2000). In recent years, studies have been conducted to develop measurement tools for determining individuals' level of involvement (Hickerson et al., 2014). Additionally, conceptual framework studies have been conducted to reveal the relationship and usage patterns of the concept with different subjects in detail (Lee et al., 2023). In this context, Lawler (1973) proposed that the relationship between involvement and motivation in leisure activities can be understood with the expectancy-value model. In this study, it was reported that the motivation level of individuals towards such activities is formed with the expectation of obtaining some benefits, and as a result of the realisation of this expectation, the level of involvement of individuals will increase as their needs are met in the best way. Therefore, this relationship offers significant opportunities for researchers to comprehend the motives behind leisure time behaviour, which is demonstrated through consistent participation in recreational activities (Chen et al., 2008; Gürbüz & Henderson, 2013).

Various leisure time studies have shown that the relationship between involvement and motivation may vary depending on the type of activity, experience style, and personal characteristics of the individual (Argan et al., 2023; Kara et al., 2019). For instance, Gould and Horn (1984) stated that young individuals are interested in such activities for reasons such as fun, excitement, making friends or success. In their 1993 study, Wold and Kannas evaluated the involvement and motivation of young people towards physical activities. The findings from the question 'What do you liken physical activities to?' led to the conclusion that socialisation, health, and entertainment are the primary motivating factors. Chen and his friends (2008) found that adolescents' strong interest in leisure activities increased their motivation levels for such activities. They also discovered that maintaining a continuous involvement in the activity had a positive impact on their life satisfaction levels. Many individuals participate in physical activity programs for various reasons, such as weight loss, improved appearance, and enhanced well-being (Avci et al., 2021). However, individuals who participate in activities with extrinsic motivation may experience a lower level of enjoyment, which can negatively impact their involvement (Bagoien & Halvari, 2005). According to Perrin (1979), individuals who engage in physical activities with the goal of appearing healthy are more likely to continue participating if they find the activity enjoyable. This leads to long-term participation, which is driven by intrinsic motivation rather than extrinsic. Perrin's statement highlights the importance of finding enjoyment in physical activity to maintain a healthy lifestyle. Yetim (2014) conducted a study to determine the impact of leisure involvement on the satisfaction and loyalty of fitness centre members in Eskişehir. The study found that various demographic characteristics affect the level of involvement of the participants towards the activities. Additionally, leisure involvement has a positive effect on leisure time satisfaction and loyalty. The research results may assist fitness centre operators and leisure researchers in identifying individuals' involvement profiles in leisure activities. The Turkish adaptation of the Leisure Involvement Scale (Kyle et al., 2007), which includes statements to determine the involvement levels of individuals participating in leisure time activities, was first tested on fitness participants by Gürbüz and colleagues (2018) in domestic literature. The research findings indicate that the involvement scale, comprising of 3 subscales and 15 items, can be a valid and reliable measurement tool in the Turkish language without any loss of items or subscales. The adaptation of the scale to Turkish culture has led to an increase in the number of studies conducted in this area. For instance, Ayhan and colleagues (2019) discovered that the level of involvement in leisure time activities may vary depending on the coping strategies developed to overcome obstacles faced by young individuals. They found that developing new strategies can help overcome these obstacles and increase the level of involvement once again.

As a result, in parallel with the developments in the international literature, it is seen that the concepts of Leisure Involvement Scale and constraints are frequently addressed by researchers in Turkey, which is in the category of developing countries. Determining the level of involvement of individuals participating in leisure time activities and the factors preventing them or examining the relationship with variables such as leisure time satisfaction and participation intention will contribute to the existing literature. Furthermore, the results of this research are expected to be valuable for professionals and managers in the field, aiding in the development of policies to promote community engagement in leisure activities.

## Theoretical Background and Hypothesis

### Leisure involvement

The concept of involvement started to be included in the literature for the first time in 1966 with Krugman's research in the field of marketing. In his research, Krugman expresses involvement as the number of connections of clues or individual references to establish a voluntary connection between the content of a persuasive stimulus and the content of one's own life within a minute (Kandemir, 2018). In its general form, involvement can be expressed as individual preference or attitude of desire for any activity and the satisfaction, pleasure and excitement derived from it (Decloe et al., 2009). Approaches that focus on the concept of involvement, expressed as consumer behaviour in other sectors, have been present in leisure time literature since the mid-1980s (Havitz & Dimanche, 1997). This is due to the rapid development of recreation in the world economy and its perception as a product model based on consumption in society's lives (Odabaşı & Barış, 2002). Since then, the concept of involvement has become a phenomenon that has been discussed and analysed by researchers working in the field of leisure (Wiley et al., 2000).

Leisure researchers commonly define involvement by drawing on consumer behaviour literature (Jun et al., 2012). For instance, Havitz and Dimanche (1997) describe involvement as an unobservable state of motivation, arousal, or interest in a recreational activity or related product, which is adapted from consumer behaviour research. Although researchers have proposed many definitions of leisure involvement (Kyle et al., 2007), they mainly conceptualise involvement as personal involvement in a recreational activity (Slama & Tashchian, 1985).

### Leisure constraints

In the leisure literature, the concept of "constrain" refers to the reasons encountered by the person that prevent or prevent the person from participating in recreational activities in their free time (Gürbüz & Henderson, 2014). This concept is defined as factors that limit people's participation in leisure activities, use of leisure services or enjoyment of activities (Jackson & Scott, 1999). Jenkins and Pigram (2003) defined the concept of constrain as a set of factors that affect individuals' participation in leisure activities, their satisfaction or enjoyment of the activities they participate in and their utilisation of leisure services. Crawford et al. (1991) analysed leisure constraints in three formats as intrapersonal, interpersonal and structural and stated that the most effective of these factors is the intrapersonal dimension and that this occurs in the decision-making step. According to this model, the most important factor that prevents or restricts participation in recreational activities is "personal constraints", while "structural constraints" are in the last step (Gürbüz & Henderson, 2014).

Alexandris and Carroll (1997) categorise constraints as internal and external. Constraints such as time, money, geographical distance and lack of opportunities are classified as external constraints, while individual skills, abilities, knowledge and field of interests are classified as internal constraints. Environmental constraints are external obstacles that are not caused by the individual and cannot be controlled. Examples of environmental constraint include noise, lack of social support, time constraints, and financial limitations. Personal constraints, on the other hand, are internal obstacles that are caused by the individual themselves. Examples of personal constraints include lack of knowledge, social skills, and poor health. Socio-demographic factors generally refer to variables such as financial status and education level, which can significantly affect the constraints faced by individuals and their ability to cope with them. It is important to note that subjective evaluations should be excluded unless clearly marked as such. Socio-demographic factors generally refer to variables such as financial status and education level, which can significantly affect the constraints faced by individuals and their ability to cope with them.

### The relationship between leisure constraints and leisure involvement

Numerous empirical studies have shown a correlation between individuals' involvement in leisure activities and constraints to participation (Alexandris et al., 2008). For instance, Warren (1990) discovered that women face more limited chances and opportunities to participate in leisure activities than men, which is linked to their position in society. In other words, women's participation in leisure activities may be limited due to their societal role of primarily being responsible for housework and childcare, particularly in developing countries. Additionally, a study found that the amount of free time available is the most significant factor influencing individuals' leisure involvements. However, participation in leisure activities

is not solely determined by time constraints. According to Kyle and Mowen (2004), individuals also employ various strategies to engage in leisure activities.

Various factors contribute to differences in individuals' leisure involvements. According to Wiley et al. (2000), individuals' preferred activities are related to the impression of self they wish to convey to others. For instance, Kyle and Mowen (2005) found that participants' engagement increased in proportion to their positive perception that their preferred activity reflects their qualities. In this context, individuals' positive attitudes about the extent to which the activities they participate in reflect their own personality and/or image also affect their commitment to this activity, their intention to participate again and their intention to recommend it. For example, in the study conducted by Sakai (2010), it was determined that people with higher education level in leisure involvement were found to be involved in more recreational activities. Similarly, Lee and Bhargava (2004) stated that there are significant relationships between the increase in the level of education of individuals and the level of creating leisure time and using leisure time effectively and efficiently. Furthermore, research has shown that as education levels increase, individuals tend to participate in leisure activities more frequently and with greater intentionality, leading to a higher level of sustained engagement (Aslan, 2005). Based on this literature and rationale, the following hypotheses are presented:

**H1:** There is a statistically significant difference in the mean scores of participants' leisure constraints and leisure involvement levels according to gender variable.

**H2:** The participants' leisure constraints and leisure involvement levels showed a statistically significant difference based on their educational level.

**H3:** The activity type variable shows a statistically significant difference in the mean scores of participants' leisure constraints and leisure involvement levels.

**H4:** The variable of having their own materials shows a statistically significant difference in the mean scores of the participants' leisure constraints and leisure involvement levels.

## Methods

Ethics committee approval for this study was obtained from Atatürk University Scientific Publishing and Ethics Board. (Date: February 21 2023 Number: E-70400699-050.02.04-2300255410). Verbal consent was obtained from all the participants.

### Participants

In this study, the correlational research method, which is one of the quantitative research types frequently preferred in the field of social sciences, was used. The main purpose of the correlational survey method is to examine and explain the relationship between two or more variables. In this research model, the researcher tries to determine how the variables change together and if there is a change, how (positive, negative) it is (Karasar, 2005). A total of 796 individuals (mean age=25.86± 8.87), including 499 males (mean age=26.99± 9.31) and 297 females (mean age=23.96± 7.72), aged between 18 and 70, who ski/snowboard or do both in 5 ski centers (Erciyes, Kartalkaya, Palandöken, Sarıkamış, Uludağ) and other centers with the highest number of capacity (accommodation, etc.) and runways, participated voluntarily.

### Measurements

To gather demographic information on the study group, the researcher used a 'Demographic Information Form' along with the Leisure Involvements and Leisure Constraints Scale (LCS). The characteristics of these tools are presented in detail below.

#### Leisure Involvement Scale (LIS)

The study group participants' Leisure involvement scale levels were determined using the Leisure Involvement Scale developed by Kyle et al. (2007). The LIS was adapted into Turkish culture by Gürbüz et al. (2018) and consists of 15 items and 5 subscales. Attractiveness (three items), Caring (three items), Social Relationship (three items), Identification (three items), and Self-Expression (three items). The scale comprises five subscales: Participants evaluate the statements using a 5-point Likert scale.

#### Leisure Constraints Scale (LCS)

The 'Leisure Constraints Scale', developed by Alexandris and Carroll (1997) and validated for Turkish culture by Gürbüz et al. (2020), was used to identify constraints that may prevent or restrict participants from engaging in leisure activities. The

scale comprises 18 items and uses a 4-point Likert scale, with options ranging from 'Absolutely Unimportant' (1) to 'Very Important' (4). The scale's Turkish version comprises six subscales: Individual Psychology, Lack of Information, Facility, Lack of Friends, Lack of Time, and Lack of Interest. However, the scale's items can also be scored in three dimensions: Personal Constraints, Interpersonal Constraints, and Structural Constraints.

### Procedure

The social sciences consider different sampling techniques based on probability of selection as the most common ways to meet representativeness requirements, which are sometimes seen as the gold standard of research. However, it is important to note that this method often requires a school or club setting to be preferred. Simple random sampling, a type of random sampling strategy, requires that the names of everyone in the population of interest are available in order to obtain a sample, and that each individual has an equal chance of selection in this process. For this reason, the individuals in the study group were reached through convenience sampling, a type of non-random sampling method (Bishop, 2017). The study participants completed the measurement tools online within 8-10 minutes. Prior to participation, they were informed of the study's purpose and that their data would only be used for scientific research. Volunteers were recruited for the study.

### Statistical Analysis

The data collected through the online method was transferred to the SPSS online form. Missing or incorrect data was checked and the study excluded data from a total of 44 participants. To determine the normal distribution status of the data suitable for analysis, we examined the skewness and kurtosis values, as well as the results of the Levene test for equality of variances. Based on these results, we decided to perform either parametric or nonparametric tests. Before beginning hypothesis testing, we also calculated the internal consistency coefficients for the scales. Descriptive statistics, multivariate analysis of variance (MANOVA), one-way analysis of variance (ANOVA, Tukey Test), and simple linear Pearson correlation analyses were used to test the hypotheses formed within the scope of the research. The language used is clear, objective, and value-neutral, and the technical terms are consistent throughout the text. The sentence structure is simple and the logical flow of information is maintained. The text is free from grammatical errors, spelling mistakes, and punctuation errors. No additional content has been added to the text.

## Results

### Descriptive Statistics

Table 1 presents the descriptive statistics of the scores obtained from the scales used to determine the leisure constraints and leisure involvement levels of the individuals in the study group, as well as the normality distribution scores and internal consistency coefficients of the scales.

**Table 1.**  
*Average Scores, Skewness and Kurtosis Values for LCS and LIS*

Scale	Subscales	N	Mean	Sd	Skewness	Kurtosis	C. Alfa
LCS	Interpersonal factors	796	2.69	0.68	-0.351	-0.254	0.82
	Intrapersonal factors	796	2.60	0.90	-0.111	-0.898	0.80
	Structural factors	796	2.98	0.68	-0.561	0.003	0.79
LIS	Attraction	796	3.39	1.28	-0.389	-0.958	0.92
	Centrality	796	2.56	1.22	0.457	-0.768	0.88
	Social Bonding	796	3.12	1.14	-0.129	-0.782	0.83
	Identity Affirmation	796	3.06	1.21	-0.081	-0.936	0.86
	Identity Expression	796	2.88	1.22	0.124	-0.941	0.88

Lcs: Leisure Constraints Scale Lis: Leisure Involvement Scale

The study participants achieved an average score of 2.98 for the 'Structural constraints subscale of the 'Leisure Constraints Scale', and an average score of 3.39 for the 'Attractiveness' subscale of the 'Leisure Involvement Scale'. The study found that the skewness and kurtosis coefficients for the subscales of the LIS and LCS were within the range of +2 and -2 values, meeting the assumption required for parametric analysis (Kline, 2005). Additionally, both scales had subscale Cronbach's Alpha coefficients greater than 0.70.



**Table 2.**  
**Comparison of Participants Leisure Constraints Scale and Leisure Involvement Scale Scores According to Gender Variables**

Scale	Subscales	Gender	N	Mean	Sd	F	p
LCS	Interpersonal factors	Woman	499	2.79	0.60	9.524	.002*
		Male	297	2.64	0.71		
	Intrapersonal factors	Woman	499	2.61	0.90	0.079	.779
		Male	297	2.59	0.91		
	Structural factors	Woman	499	3.04	0.64	3.692	.055
		Male	297	2.95	0.71		
LIS	Attraction	Woman	499	3.18	1.31	12.486	.000*
		Male	297	3.51	1.18		
	Centrality	Woman	499	2.31	1.09	21.396	.000*
		Male	297	2.72	1.27		
	Social Bonding	Woman	499	2.95	1.08	10.902	.001*
		Male	297	3.22	1.16		
	Identity Affirmation	Woman	499	2.99	1.19	1.838	.176
		Male	297	3.11	1.22		
	Identity Expression	Woman	499	2.74	1.17	6.964	.008*
		Male	297	2.97	1.23		

\* $p < .01$  (LCS) *Leisure Constraints Scale*

\* $p < .05$  (LIS) *Leisure Involvement Scale*

When comparing IPSAS scores by gender [ $\lambda=0.987$ ,  $F(3, 792)=3.515$ ,  $p < .05$ ], a significant difference was observed only in the personal constraints subscale of IPSAS [ $F(1, 794)=9.524$ ,  $p < .01$ ]. Female participants had higher average scores on the 'personal constraints subscale of 'IPSAS' than male participants.

The MANOVA analysis revealed a significant effect of gender on the subscales of 'CPS' ( $\lambda=0.952$ ,  $F(5, 790)=7.946$ ,  $p < .05$ ). Specifically, there were significant differences in the scores for 'attractiveness' ( $F(1, 794)=12.486$ ,  $p < .01$ ), 'caring' ( $F(1, 794)=21.396$ ,  $p < .01$ ), 'social relationship' ( $F(1, 794)=10.902$ ,  $p < .01$ ), and 'self-expression' ( $F(1, 794)=6.964$ ,  $p < .01$ ) among the participants. In the subscales of 'attractiveness', 'caring', 'social relationship' and 'self-expression', where a significant difference was found, male participants scored higher on average than female participants.

**Table 3.**  
**Comparison of Leisure Constraints Scale and Leisure Involvement Scale Scores of Participants According to Education Level Variables**

Scale	Subscales	Education level	N	M	Sd	F	p	PostHoc/ Tukey
LCS	Interpersonal factors	High school and less	124	2.66	0.60	2.001	.136	-
		Licence	601	2.72	0.68			
		Master's/PhD	71	2.55	0.77			
	Intrapersonal factors	High school and less	124	2.72	0.83	1.303	.272	-
		Licence	601	2.58	0.89			
		Master's/PhD	71	2.54	1.14			
	Structural factors	High school and less	124	3.06	0.67	1.234	.292	-
		Licence	601	2.96	0.68			
		Master's/PhD	71	3.03	0.76			
LIS	Attraction	High school and less	124	3.57	1.31	8.998	.000*	2-3
		Licence	601	3.29	1.27			
		Master's/PhD	71	3.91	1.09			
	Centrality	High school and less	124	2.93	1.21	11.318	.000*	1-2 2-3
		Licence	601	2.45	1.19			
		Master's/PhD	71	2.90	1.34			
	Social Bonding	High school and less	124	3.24	1.28	4.500	.011*	2-3
		Licence	601	3.06	1.12			
		Master's/PhD	71	3.45	1.01			
Identity Affirmation	High school and less	124	3.22	1.30	9.903	.000*	2-3	
	Licence	601	2.97	1.19				
	Master's/PhD	71	3.60	1.09				
Identity Expression	High school and less	124	3.12	1.27	9.607	.000*	1-2 2-3	
	Licence	601	2.78	1.18				
	Master's/PhD	71	3.34	1.31				

\* $p < .05$  ((LCS) *Leisure Constraints Scale*

\* $p < .05$  (LIS) *Leisure Involvement Scale*

**Table 4.**  
**Comparison of Participants Leisure Constraints Scale and Leisure Involvement Scale Scores According to Activity Type Variables**

Scale	Subscales	Activity Type	n	Mean	Sd	t	p	PostHoc/Tukey
LCS	Interpersonal factors	Ski Only	609	2.72	0.67	6.672	0.000*	1-2 2-4
		Snowboard only	43	2.31	0.70			
		Mostly Skiing	84	2.58	0.64			
		Rarely Snowboarding	60	2.84	0.65			
		Mostly Snowboarding						
	Intrapersonal factors	Ski Only	609	2.61	0.91	0.254	0.859	-
		Snowboard only	43	2.55	0.97			
		Mostly Skiing	84	2.53	0.87			
		Rarely Snowboarding	60	2.61	0.85			
		Mostly Snowboarding						
	Structural factors	Ski Only	609	2.99	0.69	0.563	0.640	-
		Snowboard only	43	2.90	0.60			
		Mostly Skiing	84	2.92	0.67			
		Rarely Snowboarding	60	3.03	0.74			
		Mostly Snowboarding						
LIS	Attraction	Ski Only	609	3.29	1.24	8.573	0.000*	1-2 1-3 2-4
		Snowboard only	43	4.07	1.30			
		Mostly Skiing	84	3.81	1.15			
		Rarely Snowboarding	60	3.29	1.53			
		Mostly Snowboarding						
	Centrality	Ski Only	609	2.44	1.17	8.419	0.000*	1-3 1-4
		Snowboard only	43	2.89	1.23			
		Mostly Skiing	84	2.99	1.32			
		Rarely Snowboarding	60	2.94	1.34			
		Mostly Snowboarding						
	Social Bonding	Ski Only	609	3.05	1.13	3.692	0.012*	1-3
		Snowboard only	43	3.50	1.16			
		Mostly Skiing	84	3.36	1.05			
		Rarely Snowboarding	60	3.21	1.26			
		Mostly Snowboarding						
Identity Affirmation	Ski Only	609	2.98	1.18	4.512	0.00*	1-2	
	Snowboard only	43	3.51	1.23				
	Mostly Skiing	84	3.28	1.21				
	Rarely Snowboarding	60	3.28	1.34				
	Mostly Snowboarding							
Identity Expression	Ski Only	609	2.80	1.18	4.337	0.005*	1-4	
	Snowboard only	43	3.06	1.32				
	Mostly Skiing	84	3.13	1.23				
	Rarely Snowboarding	60	3.26	1.37				
	Mostly Snowboarding							

\* $p < .05$  (LCS) Leisure Constraints Scale

\* $p < .05$  (LIS) Leisure Involvement Scale

The MANOVA analysis revealed a significant effect of education level on the subscales of LCS [ $\lambda=0.977$ ,  $F(6, 1582)=3.032$ ,  $p < .05$ ]. The ANOVA analysis, however, showed no statistically significant difference ( $p > .05$ ) in the subscale scores of the

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participants in 'IPSAS'.

MANOVA analysis was conducted to test the differentiation of the scores of the participants according to their level of education. According to the results of the analysis, it was seen that the education level variable had a statistically significant effect on the subscales of "LIS" [ $\lambda=0.952$ ,  $F(10, 1578) = 3.936$ ,  $p < .05$ ]. When the ANOVA test results were evaluated, it was observed that the participants' "attractiveness" [ $F(2, 793) = 8.998$ ,  $p < .01$ ], "caring" [ $F(2, 793) = 11.318$ ,  $p < .05$ ], "social relationship" [ $F(2, 793) = 4.500$ ,  $p < .05$ ], "identification" [ $F(2, 793) = 9.903$ ,  $p < .01$ ] and "self-expression" [ $F(2, 793) = 9.607$ ,  $p < .01$ ] subscale scores showed a significant difference. Accordingly, the average scores of participants who attended high school or less in the subscales of "caring", "attractiveness", "social relationship", "identification" and "self-expression" were higher than the average scores of the others.

According to the results of the MANOVA analysis, it was seen that the activity type variable had a significant effect on the subscales of "IPSAS" [ $\lambda=0.968$ ,  $F(9, 1922) = 2.849$ ,  $p < .01$ ]. When the results of the ANOVA analysis were evaluated, it was found that there was a significant difference in the participants' scores on the "personal constraints" subscale of the "LCS" [ $F(3, 792) = 6.672$ ,  $p < .01$ ]. Accordingly, in the subscale of 'personal constraints where this difference occurred, it was seen that the mean scores of the participants who preferred the activity type 'Mostly snowboarding Rarely skiing' were higher than the others.

It was found that the results of the analysis carried out according to the type of activity frequently preferred by the participants had a significant effect on the subscales of "LIS" [ $\lambda=0.930$ ,  $F(15, 2175) = 3.879$ ,  $p < .01$ ]. ANOVA analysis was performed to determine the source of this difference. According to the results of the analysis, the participants' "attractiveness" [ $F(3, 792) = 8.573$ ,  $p < .01$ ], "caring" [ $F(3, 792) = 8.419$ ,  $p < .01$ ], 'social relationship' [ $F(3, 792) = 3.692$ ,  $p < .05$ ], 'identification' [ $F(3, 792) = 4.512$ ,  $p < .01$ ] and 'self-expression' [ $F(3, 792) = 4.337$ ,  $p < .01$ ] in the subdimension scores. Correspondingly, the mean scores of the participants who prefer snowboarding only in the subscales "attraction", "social relationship", "identification", who mostly ski and rarely snowboard in the subscale "giving importance" and who mostly snowboard and rarely ski in the subscale "self-expression" are higher than the others.

**Table 5.**  
**Comparison of Leisure Constraints Scale and Leisure Involvement Scale Scores According to Participants' Own Material Ownership Status**

Scale	Subscales	Material Ownership Status	N	Mean	Sd	F	p
LCS	Interpersonal factors	Yes	181	2.49	0.75	20.475	.000*
		No	615	2.75	0.64		
	Intrapersonal factors	Yes	181	2.39	0.96	11.765	.001*
		No	615	2.66	0.88		
	Structural factors	Yes	181	2.97	0.72	0.041	.840
		No	615	2.98	0.67		
LIS	Attraction	Yes	181	4.28	1.02	131.427	.000*
		No	615	3.13	1.22		
	Centrality	Yes	181	3.38	1.25	119.311	.000*
		No	615	2.32	1.10		
	Social Bonding	Yes	181	3.74	1.01	76.042	.000*
		No	615	2.94	1.11		
Identity Affirmation	Yes	181	3.76	1.05	84.766	.000*	
	No	615	2.86	1.18			
Identity Expression	Yes	181	3.58	1.23	82.525	.000*	
	No	615	2.68	1.14			

\* $p < .05$  (LCS) Leisure Constraints Scale

\* $p < .05$  (LIS) Leisure Involvement Scale



A MANOVA analysis was carried out according to whether the participants had their own equipment to participate in winter sports. The results of the analysis showed that the effect of owning equipment on the subscales of "LCS" [ $\lambda=0.951$ ,  $F(3, 792)=13.563$ ,  $p<.01$ ] was significant. When the results of the ANOVA analysis were examined, it was understood that there was a significant difference in the participants' scores on the "personal constraints" [ $F(1, 794)=20.475$ ,  $p<.01$ ] and "interpersonal constraints" [ $F(1, 794)=11.765$ ,  $p<.01$ ] subscales. Accordingly, the mean scores of participants who reported that they did not have their own material were higher than the mean scores of the others in the 'personal constraints and 'interpersonal constraints' subscales.

The results of the MANOVA analysis showed that the variable "own equipment to participate in winter sports" had a significant effect on the subdimensions of "LIS" [ $\lambda=0.840$ ,  $F(5, 790)=30.126$ ,  $p<.01$ ]. When the results of the ANOVA analysis were examined, it was found that the participants' "attractiveness" [ $F(1, 794)=131.427$ ,  $p<.01$ ], "caring" [ $F(1, 794)=119.311$ ,  $p<.01$ ], 'social relationship' [ $F(1, 794)=76.042$ ,  $p<.01$ ], 'identification' [ $F(1, 794)=84.766$ ,  $p<.01$ ] and 'self-expression' [ $F(1, 794)=82.525$ ,  $p<.01$ ] in the subscale scores. Accordingly, the mean scores of the participants who reported having their own material were higher than the mean scores of the others on the subscales of attractiveness, caring, social relationship, identification and self-expression.

## Discussion

This study aimed to explore the relationship between adult individuals' leisure involvement s and leisure constraints s. This was examined in relation to the participants' gender, level of education, type of activity and material possession status.

### **Gender, leisure constraints and leisure involvement (H1)**

It was concluded that women's mean scores were higher than men's on the 'personal constraints subscale of the participants' IPSAS (table 2). This finding suggests that women face more constraints than men when participating in recreational skiing or snowboarding activities. In their research, Guthold et al. (2008) found that gender is one of the factors thought to influence participation in recreational activities and that there are many gender-based constraints to women's participation. Godbey et al. (2010), in their study of leisure constraints, found gender to be an important constraint.

It was found that the gender variable created a significant difference in the subscales of LIS. According to the results of the analysis, it was found that there was a statistically significant difference in the scores of the 'attractiveness', 'caring', 'social relationship' and 'self-expression' subscales of 'LIS'. This finding is similar to other studies in the literature. For example, Güngörmüş et al. (2019) aimed to determine the leisure involvement and leisure time activity attitude levels of individuals who participate in racquet sports as a physical activity according to various variables and found that the gender variable is an important variable in determining attitudes towards such activities, especially male participants have higher attitude scores than females.

### **Education status, leisure constraints and leisure involvement (H2)**

It was found that the variable level of education had a significant effect on the subscales of IPSAS. According to the results of the ANOVA analysis, it was concluded that there was no statistically significant difference in the subscale scores of the participants (table 3). According to Tudor-Locke (2005), education is one of the factors thought to influence regular participation in leisure activities. Alexandris and Carroll (1997) stated that it is important to find more variables such as employment status, financial status and education level among the socio-demographic variables to determine the importance of personal constraints. In the multivariate analysis of our research results, a significant difference on the factor of education is in line with the literature. As educational status is intertwined with many factors (financial status, social environment, etc.), it is related to many issues in our research.

According to the analysis of the research on the level of education, it was found that the variable of the level of education had a significant effect on the subscales of "LIS". According to the ANOVA results, it was understood that there was a significant difference in the participants' scores on the subscales of "attractiveness", "importance", "social relationship", "identification" and "self-expression". This significant difference was found to be higher in the subscale of 'caring' than in the subscales of 'attractiveness', 'social relationship', 'identification' and 'self-expression' of participants with a high school education or less, and in the subscales of 'attractiveness', 'social relationship', 'identification' and 'self-expression', the average scores of M.A./Ph.D. students were higher than the scores of others. Similar to this finding, Park et al. (2019) found in their study that a higher level of education has a positive effect on increasing the cognitive level, that is, the individual's attitude towards participating in the activity, and thus increasing recreational participation.

### **Activity type, leisure constraints and leisure involvement (H3)**

According to the results of the ANOVA analysis, it was found that there was a significant difference in the scores of the "personal obstacles" subscale of the participants' "LCS". In this subscale, where a significant difference occurred, it was found that the mean scores of the participants who preferred the activity type "Mostly snowboarding, rarely skiing" were higher than the others (table 4). Several factors may play a role in the fact that individuals who mostly prefer snowboarding and rarely ski perceive fewer personal constraint. For example, it can be assumed that participants who prefer "mostly snowboarding, rarely skiing" perceive the constraints they face as more important due to their involvement and passion for this activity.

When the results of the research were analysed, it was found that there was a significant difference in all the subscales of the "LIS", and that this difference was caused by the high level of involvement of people who "mostly ski, rarely snowboard". It is thought that various factors may be at work in producing this result. For example, the belief that the ability and experience in the skiing activity type is higher will have a positive effect on the involvement level of the individuals who do this branch. In addition, the popularity or social acceptance of a particular activity in the relevant field may also have an effect on the involvement levels of individuals.

### **Owning one's materials, leisure constraints and leisure involvement (H4)**

According to the results of the analyses, it was found that the variable of owning equipment had a significant effect on the subscales of "LCS" (table 5). In other words, individuals who do not own equipment for skiing or snowboarding are more affected by personal or interpersonal constraints to participating in these activities. In line with this finding, it was also found that those with their own equipment had a higher level of leisure involvement than the others. One of the most basic prerequisites for skiing or snowboarding is the factor of owning equipment. Therefore, if a person who is interested in participating in one of these activities does not have the appropriate equipment, this may reduce the accessibility or motivation of the individual and thus constitute a constraint. If the opposite is the case, i.e. the individual has their own equipment, the level of involvement in the activity will be high. In addition, individuals who have their own equipment for skiing or snowboarding may have more control or planning over their participation in activities. This may increase their interest in skiing or snowboarding.

## **Conclusion**

This study was conducted to determine the leisure constraints to participation in skiing or snowboarding and the level of involvement in participating in these activities. According to the results obtained, it was found that the most fundamental obstacle or limiting factor for individuals to ski or snowboard as a recreational physical activity is "structural constraints" and the least influential factor is "interpersonal constraints". It can also be said that these constraints are perceived as more important by female participants and those with lower levels of education than by others. These results indicate the importance of reducing structural constraints in order to increase participation in such activities, especially for women. It was also found that the two most important factors for individuals to ski or snowboard were 'attractiveness' and 'social relationships'. In addition, it was concluded that having one's own equipment has a significant effect on individuals' skiing or snowboarding. From this point of view, it is thought that it would be useful to develop different strategies to increase the level of attractiveness and social relationship of the activities.

### **Limitation and future research directions**

In general, this study was carried out with the participation of adults only. Future studies can be conducted with the participation of more specific groups, such as adolescents, who are considered as a high-risk group in the literature, and health professionals, who do not have enough free time and autonomy. Our study was conducted in 5 ski resorts (Erciyes, Kartalkaya, Palandöken, Palandöken, Sarıkamış, Uludağ) which have the highest number of ski slopes (accommodation, etc.). Similar studies can be repeated in other ski resorts in different cities in different periods and comparisons can be made. Our study was conducted only in skiing and snowboarding branches. Future studies can be carried out on people interested in different industries. It is also suggested that modelling studies, longitudinal and empirical studies are needed to better explain leisure behaviour and to investigate the causal relationships between these variables.

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