JBACHS
Journal of Basic and Clinical Health Sciences

J Basic Clin Health Sci 2024; 8: 734-749
https://doi.org/10.30621/jbachs.1540910
RESEARCH ARTICLE

THE IMPACT OF THE RECREATIONAL FLOW EXPERIENCE ON THE PERCEPTION OF WELLNESS AMONG INDIVIDUALS ENGAGED IN EXTREME SPORTS

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Received: 30.08.2024; **Accepted:** 24.09.2024; **Available Online Date:** 30.09.2024

Cite this article as: Dilmac E, Tezcan-Kardas N. The Impact of the Recreational Flow Experience on the Perception of Wellness Among Individuals Engaged In Extreme Sports. J Basic Clin Health Sci 2024; 8: 734-749.

ABSTRACT

Purpose: The purpose of this research is to determine the impact of recreational flow experience on perceived wellness among extreme sports participants.

Material and Methods: Employing a quantitative research method, a correlational survey model was utilized in this study. The research group consists of 532 extreme sports participants, including 397 men and 135 women. Data were analyzed using SPSS 24.0, with Pearson correlation and multiple linear regression used to examine the relationship and impact of flow experience on perceived wellness.

Results: The findings revealed that anxiety and boredom during the activity were negatively correlated with perceived wellness, while acquaintance and flow were positively correlated. Regression analysis showed no significant impact of boredom on wellness. Acquaintance positively affected psychological, emotional, physical, and intellectual wellness, while anxiety had a negative effect on all dimensions of wellness. Additionally, recreational flow experience had a positive impact on all dimensions of perceived wellness.

Conclusion: Consequently, it was determined that anxiety during extreme sports negatively affected perceived wellness, while the attitude towards acquaintance during the activity and recreational flow experience positively influenced perceived wellness. Recommendations for practitioners include organizing trainers and informing recreation specialists and coaches to establish a balance between challenge and skill in order to facilitate the flow experience.

Keywords: recreational flow experience, perceived wellness, extreme sports

INTRODUCTION

In contemporary times, individuals seeking to transcend their limits and pursue diverse experiences are increasingly turning to extreme sports as a form of recreation. Activities such as rock climbing on steep slopes, paragliding from high peaks, and scuba diving to explore the underwater world offer intense experiences that are difficult to encounter in everyday life. Extreme sports, which hold a significant place in the tourism and recreation industry, have gained increasing popularity in recent years. Extreme athletes are often characterized as unconventional individuals in search of excitement and action (1). These individuals aim to feel good by experiencing different sensations during their activities. Humans are beings who strive to understand and make sense

of themselves and their lives, continually seeking ways to live happily, healthily, and peacefully. Scientists have long studied the steps leading to a happy and peaceful life. Well-being and optimal happiness depend on avoiding negative stimuli and feeling good psychologically, physically, emotionally, socially, spiritually, and intellectually (2). People pursue various emotions and experiences and try to distance themselves from negative stimuli in their lives to achieve their desired state of well-being.

Extreme sports inherently involve various risks and dangers, including the risk of death. Despite these dangers and risks, athletes participate in extreme sports, accepting all risks in their quest for meaning, excitement, and different experiences. In this context, it can be said that individuals engaging in extreme sports aim to experience unique states, such as flow (3). The physical and mental challenges inherent in extreme sports provide opportunities for experiencing recreational flow. Individuals who experience flow are fully immersed in their activities, distancing themselves from negative emotions such as worry, anxiety, and stress (4). Therefore, it can be suggested that the recreational flow experience during extreme sports contributes to increased perceived levels of well-being. The psychological mechanism of distancing from negative emotions such as anxiety, worry, and stress during the flow experience is based on several key factors. Firstly, the flow experience allows individuals to fully concentrate their attention on the activity. This concentration enables more efficient use of mental resources and facilitates a detachment from external concerns. Additionally, during flow, individuals gain confidence in overcoming challenges (20). This confidence enhances intrinsic motivation and strengthens their ability to cope with stressful situations. The flow state increases individuals' sense of control, helping them elevate their performance to a higher level. Finally, the flow experience provides individuals with a sense of achievement and satisfaction, thereby enhancing overall happiness and well-being. These processes help individuals become more resilient to negative emotions. Therefore, experiencing flow has a positive effect on psychological well-being (22).

Literature review reveals that recreational flow experience holds a significant place in positive psychology literature. Furthermore, it can be said that recreational flow experience has positive effects on well-being. When examining the conducted studies, it is known that flow experience is associated with optimal performance, positive subjective experience, positive mood, happiness, subjective well-being, and good mood, as well as life satisfaction, satisfaction, quality of life, and socialization, and it has positive effects on well-being (5-9,10,11). Additionally, flow experience is positively related to sports, exercise, and exceptional performance (12-14). In studies focused on extreme sports, it is often observed that attention is given to a single discipline, such as surfers and mountain climbers. However, it is necessary to include different extreme athletes in the research for a comprehensive examination of the topic (5, 16).

Particularly, there is a need for studies that comprehensively cover different extreme sports branches and all dimensions of well-being. Additionally, in the conducted studies, flow experience has been predominantly examined in terms of quality of life, psychological and subjective well-being, motivation, self-efficacy, or positive mood (5,6,15,17-19). The conducted research often considers the psychological well-being effects of flow. However, the state of well-being is formed not only psychologically but also integrated with other dimensions of well-being.

Csikszentmihalyi defines the flow experience as a holistic state of being and optimal experience that individuals experience when they fully concentrate on the task at hand, giving all their attention and focus (20). In this experience, individuals feel a sense of unity in their mental and emotional state and completely immerse themselves in the activity. Flow experience refers to the experience gained by an individual who is aware of their own performance, completely focusing on overcoming challenges, tasks, or actions, and achieving harmony with control and performance (21). For example, when an extreme athlete experiences flow, environmental factors and various thoughts in the mind are filtered out, concentration on the activity is at its highest level, and a sense of pleasure and happiness emerges (22). This situation has a positive effect on the individual's mental and physical health and contributes to an increase in perceived wellness.

Perceived wellness refers to individuals' perceptions of being healthy and happy psychologically, emotionally, physically, socially, spiritually, and intellectually (23). The perceived wellness model consists of six dimensions, including physical, spiritual, psychological, social-emotional, and

intellectual dimensions. This model is defined as a coherent and balanced lifestyle conducive to development, taking into account the outlines of integrated systems (2,24,25). Considering the operation of the perceived wellness model, it is believed that experiencing flow during activity will increase perceived wellness. Recreational flow experience is a subjective and positive state resembling an optimal experience that occurs when an individual's mind is completely focused on the current activity without realizing how time passes and shutting down non-functional thoughts (7). Extreme sports, being adrenaline-fueled and risky activities, intensify the experience of recreational flow in these activities. During recreational flow experience, individuals find opportunities to use their skills and abilities according to the difficulty of the activity. This situation helps to increase their self-confidence, feel better about themselves, become motivated towards the activity, enhance their self-esteem, distance themselves from negative emotions such as stress and anxiety, release endorphins, the happiness hormone in the brain, and strengthen their perceptions of wellness (26). Additionally, it is known that the flow experience not only creates positive emotions but also blocks negative emotions (10). In light of this information, it can be said that experiencing recreational flow during extreme sports contributes to increasing levels of perceived wellness. The aim of this research is to determine the impact of recreational flow experience on perceived wellness among extreme sports participants. In this context, the research seeks answers to the following questions:

I. Is there a significant relationship between recreational flow experience and perceived wellness among extreme sports participants?
II. Does recreational flow experience have a significant effect on perceived wellness among extreme sports participants?

The originality of the study is demonstrated by the fact that it involves extreme sports participants from various branches such as air, land, and water, which constitute a challenging sample to reach, and by considering all dimensions of perceived wellness in the assessment of recreational flow experience. Additionally, no previous study has been encountered that utilized a three-channel flow experience model and perceived wellness model, as employed in this research. Therefore, understanding the impact of recreational flow experience on perceived wellness among individuals engaged in extreme sports is important in contributing to theoretical understanding in the fields of sports recreation and sports psychology.

MATERIALS AND METHODS

In this study, a correlational survey model was used, designed using quantitative research methods. Survey models are a research approach aimed at identifying a situation that has occurred or is still ongoing in its existing form. The correlational survey model is a research model that aims to determine the presence, direction, and level of co-variation between two or more variables (27,28).

The model discussed by Csikszentmihalyi, addresses the anxiety that arises when the difficulty level of an activity exceeds an individual's skill and the boredom that occurs when the difficulty level is below the individual's skill. According to the three-channel flow model, the balance between skills and challenges results in the experience of flow and the transition into the flow channel. As shown below, Figure 1 presents the three-channel flow experience model (20).

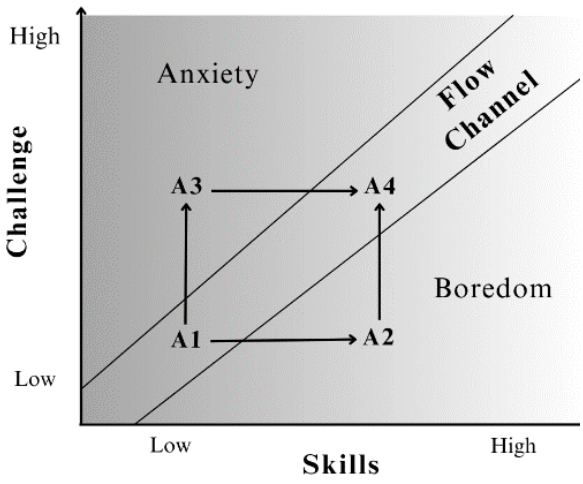

Figure 1. Three-Channel Flow Experience Model

The perceived well-being model is more concerned with how individuals perceive their own health from a personal perspective rather than providing a direct definition of health. In this context, the six dimensions within the perceived well-being model interact with each other to form a holistic structure. As illustrated in Figure 2 below, the components of perceived well-being are shown (2).

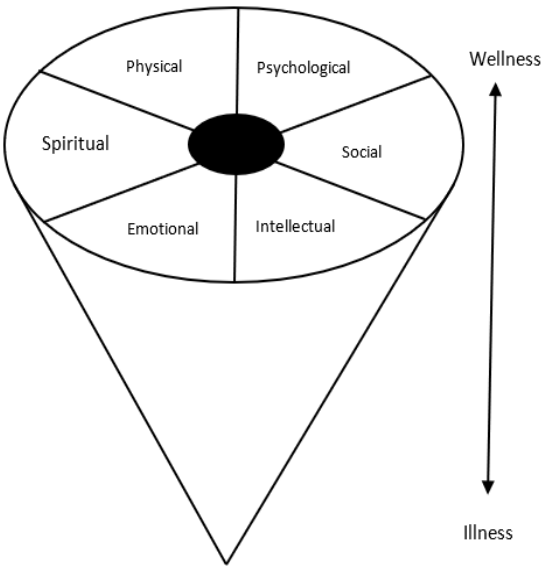

Figure 2. The Perceived Wellness Model

As shown in Figure 2, the upper part of the perceived well-being model represents well-being. As the perception of well-being increases, the upper section of the wheel representing well-being expands, while the narrowing lower part of the model represents illness and a decline in the perception of well-being. Understanding the impact of recreational flow experiences on the perception of well-being among individuals engaged in extreme sports is important for contributing to theoretical insights in the fields of sports recreation and sports psychology. In line with this information, the research has been designed within the framework of these models to determine the effect of recreational flow experiences on the perception of well-being among extreme athletes.

Research Sample

The research sample consisted of individuals engaged in extreme sports in Turkey. In selecting the research sample, the convenience sampling technique, which is a type of non-probability sampling based on voluntariness, was employed. In this context, the research sample consisted of a total of 532 participants, including 397 males (74.6%) and 135 females (25.4%). The participants included in the study were individuals who engage in at least one of the extreme sports branches in the air, land, and water, and who are interested in extreme sports at a recreational, semi-professional, competitive, or extreme sports instructor level.

Even though the main population constituting the universe in the literature is 10 million, it is stated that for many studies, a sample size of 384 participants, with a confidence level of 95% and a margin of error of 5%, is sufficient to collect data with high reliability. That is, if the elements in the population exceed ten million, it is considered appropriate to collect data with a high level of reliability with a minimum required sample size of 384 participants (29-31). In this study, the sample of 532 extreme athletes was deemed suitable for generalizing to athletes in Turkey, as it exceeds the minimum of 384 participants indicated in scientific research literatüre (29-31), thus supporting the representativeness of the sample for the population. The exact number of recreational, semi-professional, competitive, and extreme sports instructors in Turkey is not precisely known. Although the total number of extreme sports athletes in Turkey is unclear, it is estimated to be under 10 million. Based on this, a minimum sample size of 384 participants was deemed appropriate for the study. A final sample of 532 extreme athletes was reached by including as many participants as possible.

Descriptive information regarding the participants' "age, gender, marital status, education level" is provided in Table 1 below.

The descriptive information regarding the participants' "area where extreme sports are practiced, years of experience in extreme sports, frequency of engaging in extreme sports, introduction and interest in extreme sports" is presented in Table 2.

Data Collection Instruments

The data collection instruments for this research consist of three sections. In the first section, a "Personal Information Form" prepared by the researcher was used. In the second section, the "Alpak Flow Scale (AFS)" was utilized, and in the third section, the "Perceived Wellness Scale (PWS)" was employed.

Personal information form

The first section of the questionnaire, which served as the data collection tool, included a researcher-developed personal information form consisting of a total of 11 statements aimed at determining the socio-demographic characteristics of the participants.

Table 1. Variables related to participants' personal information.

Variables	Groups	Frequency (N)	Percent (%)
Age	Under 18 years old	57	10,7
	19-25	139	26,1
	26-35	147	27,6
	36-45	127	23,9
	46	62	11,7
Gender	Male	397	74,6
	Female	135	25,4
Marital Status	Married	147	27,6
	Single	385	72,4
Educational Status	High school graduate	164	30,8
	Collage graduate	268	50,4
	Postgraduate	101	18,8
Total		532	100

Table 2. Various variables related to participants' engagement in extreme sports.

Variables	Groups	Frequency (N)	Percent (%)
Area of Extreme Sports Participation	Air	111	20,9
	Land	262	49,2
	Water	159	29,9
Years of Experience in Extreme Sports	Less than 1 year	63	11,8
	Between 2-4 years	144	27,1
	Between 5-7	102	19,2
	Between 8-10	80	15
	11 years and above	143	26,9
Frequency of Engaging in Extreme Sports	At least once every 3 days	183	34,4
	At least once a week	145	27,3
	At least once a month	116	21,8
	At least once every 6 months	88	16,5
Introduction to Extreme Sports	Through friends	189	35,5
	Through social media	93	17,5
	By observing live	250	47
Interest in Extreme Sports	At a recreational level	222	41,7
	Semi-professional	142	26,7
	Competitor	89	16,7
	Extreme sports instructor	79	14,8
Total		532	100

These statements covered information such as "age, gender, marital status, education level, extreme sports branch, years of interest in extreme sports, frequency of engaging in extreme sports, introduction to extreme sports, and interest in extreme sports." The personal information form was designed by researchers to closely examine the personal characteristics of extreme athletes.

Alpak flow scale

The "Alpak Flow Scale (AFS)" developed by (32) was used to measure the flow experience of individuals interested in extreme sports. The primary reason for selecting the Alpak Flow Scale is its role as a multidimensional measurement tool that effectively represents the three-channel flow model in the literature. This scale not only captures the complexity of flow experiences but also aligns well with our study's focus on wellness. Furthermore, it is believed that the factors within the scale can comprehensively explain all parameters of perceived well-being in relation to flow and wellness. These attributes underscore the scale's suitability for achieving the objectives of our research, enabling us to explore the intricate relationships between flow experiences and overall well-being among extreme athletes. The items in the scale were ranked according to a 5-point Likert scale (1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree). The scale consists of four dimensions and twenty items. The dimensions of the scale are "encounter, boredom, anxiety, and flow." The overall Cronbach's alpha reliability coefficient (α) of the scale was calculated as .807. When examining internal consistency in terms of sub-dimensions, it is observed that the Cronbach's alpha coefficient was α=.65 for the encounter sub-dimension, α=.78 for the boredom sub-dimension, α=.87 for the anxiety sub-dimension, and α=.79 for the flow sub-dimension (32).

Perceived wellness scale

The levels of wellness perception of individuals were examined in the research. In this context, the Perceived Wellness Scale (PWS), developed by (1) and adapted into Turkish by (33) through reliability and validity studies, was used. The primary reason for choosing the Perceived Wellness Scale is its comprehensive coverage of all wellness components. Unlike scales that measure only one aspect of wellness, this scale assesses six fundamental components, providing a holistic view of well-being.

This multidimensional approach is particularly important in the context of extreme sports, where various factors can influence athletes' overall wellness. Additionally, the Perceived Wellness Scale is considered a crucial measurement tool for determining the well-being of extreme athletes, as it captures the complex interplay between physical, emotional, and social dimensions of wellness. By utilizing this scale, our study aims to gain deeper insights into how flow experiences impact the overall wellness of extreme sports participants. Perceived wellness scale consists of six dimensions, each comprising six items. The dimensions of the scale are "physical, psychological, emotional, intellectual, social, and spiritual wellness perception." The PWS is a 6-point Likert-type scale (1=Strongly disagree, 2=Disagree, 3=Partially disagree, 4=Partially agree, 5=Agree, 6=Strongly agree).

Of the 36 items in the scale, 21 are positive and 15 contain negative expressions. Negative statements were reverse-coded during the analysis process. An increase in the average scores obtained from the scale indicates an increase in wellness perception. The Cronbach's alpha reliability coefficient of the scale was found as α=.81 in the initial application by (34) and α=.83 in the second application. The internal consistency coefficient of the PWS was determined as α=.91 in the study conducted by (1).

Data Collection Method

Permissions regarding the use of measurement instruments for the research were obtained by contacting the responsible authors via email. Subsequently, The Ethics Committee of the Sakarya University of Applied Sciences Rectorate decided that the study is ethically appropriate (Date: 10.03.2023, Deciison no: 29/10). To collect the data, a questionnaire was designed using Google Forms. The research data were obtained using the online survey technique. Consent was obtained from participants for their voluntary participation in the online survey. Virtual groups consisting of extreme sports enthusiasts were considered as an important source to achieve the desired sample size in the research. In this regard, relevant community members were directed to the online survey form through social media and messaging platforms such as Instagram, Facebook, Telegram, and WhatsApp.

Additionally, the online survey form was sent to various official institutions related to extreme sports (Ministry of Youth and Sports, Sports Federations, etc.) and sports clubs. The survey for this study was distributed to individuals interested in extreme sports, social media groups, and relevant sports federations to reach an appropriate sample that could represent the population. It is assumed that participants answered the questions in the survey form completely, sincerely, and objectively. During the data collection process, only extreme athletes who have participated in at least one of the following sports—such as aerial sports including cliff diving, sky surfing, sky diving/freediving, hang gliding (delta), bungee jumping, and paragliding; land sports like mountaineering and rock climbing, enduro/extreme motocross and rally, parkour/freerunning, BMX and mountain biking, snowboarding/snowsurfing, and aggressive inline skating and skateboarding; and water sports including wakeboarding, windsurfing, kitesurfing, wakesurfing, freediving and scuba diving, as well as rafting and canoeing—were included as recreational, semi-professional, competitive, or instructors. Additionally, it was required that the extreme athletes included in the study have engaged in extreme sports for at least one year and have reached a certain level of proficiency. Additionally, the data collection process was conducted with attention to the principles of voluntariness. Furthermore, 57 individuals aged 18 were included in the study, and written consent forms were obtained from the relevant participants during the data collection process.

Data Analysis

To prevent potential problems arising from the data collection instruments and alleviate reader concerns, a pilot test was conducted. The pilot study, applied to 30 extreme sports enthusiasts, revealed no formal or semantic issues in the questionnaire form.

For the statistical analysis of the data obtained in the research, SPSS (Statistical Package for the Social Sciences) 24.0 program was utilized. Descriptive statistics such as "frequency, percentage, mean, and standard deviation" were employed to determine the demographic characteristics of the participants. Cronbach's Alpha internal consistency coefficients were calculated to determine the reliability of the scales used in the research.

The normality test was applied, and skewness and kurtosis values were examined to confirm that the data obtained from the research exhibited normal distribution. Therefore, parametric tests were employed for statistical analysis. Pearson Correlation analysis was used to determine the relationship

Table 3. Reliability analyses of the study variables.

Scale Name	Dimensions	Number of Items	Cronbach Alpha (α)
Alpak Flow Scale	Encounter	5	,791
	Boredom	5	,666
	Axiety	5	,851
	Flow	5	,828
	AFS Total	20	,814
Perceived Wellness Scale	Psychological	6	,709
	Emotional	6	,729
	Social	6	,757
	Physical	6	,729
	Spiritual	6	,768
	Intellectual	6	,514
	PWS TOTAL	36	,890

Table 4. Results of the normality analysis for the scales used in the research.

Dimensions	N	X̄	Ss	Kurtosis	Skewness
Encounter	532	4,76	,32	,884	-1,246
Boredom	532	2,48	,80	-,041	507
Anxiety	532	2,10	,94	-,206	717
Flow	532	4,78	,38	1,024	-1,425
AFS Total	532	4,25	,45	,151	-,655
Psychological	532	4,24	,77	,042	-,016
Emotional	532	4,56	,88	-,510	-,277
Social	532	4,48	,91	-,296	-,368
Physical	532	4,41	,90	-,075	-,324
Spiritual	532	4,43	,92	-,100	-,479
Intellectual	532	4,64	,72	-,442	-,165
PWS Total	532	3,91	,39	,751	,589

between recreational flow experience and wellness perception, while Multiple Linear Regression analysis was utilized to determine the levels of influence of AFS sub-dimensions on PWS sub-dimensions.

Reliability analysis results for the scales used in the research

Table 3 below presents the reliability analysis results for the Alpak Flow Scale (AFS) and the Perceived Wellness Scale (PWS).

The Cronbach Alpha (α) values of the total score averages for the scales used indicate that the Alpak Flow Scale (α: 0.814) is highly reliable, and the Perceived Wellness Scale (α: 0.890) is also highly reliable. The high reliability level of the scales used in the research means that the measurement tools consistently and reliably measure the variable of interest (34).

Results of normality analysis for the scales used in the research

As seen in Table 4 below, the results of the normality analysis for the Alpak Flow Scale and the Perceived Wellness Scale used in the research are presented.

According to Table 4, when the kurtosis and skewness values of the scores for the Alpak Flow Scale and the Perceived Wellness Scale are examined, it is determined that the data obtained in the research fall within the range of "-/+ 1.5" values and exhibit a normal distribution. Therefore, it has been determined that the use of parametric tests in the analyses is appropriate (35).

RESULTS

This section presents the research findings obtained from the statistical analyses conducted within the scope of the research.

Pearson correlation analysis on the relationship between recreational flow experience and perceived wellness

The Pearson correlation analysis results between the sub-dimensions of the Alpak Flow Experience Scale and the sub-dimensions of the Perceived Wellness Scale for extreme sports athletes are presented in Table 5.

According to Table 5, a positive and significant relationship was found between the dimensions of acquaintance and flow and all subdimensions of well-being. Additionally, the anxiety subdimension was negatively related to all subdimensions of well-being, while the boredom subdimension had no significant relationship with physical well-being but showed a negative significant relationship with the other subdimensions of well-being.

The acquaintance dimension was positively and weakly correlated with psychological well-being ($r=0.260$, $p<0.01$), emotional well-being ($r=0.269$, $p<0.01$), social well-being ($r=0.075$, $p<0.05$), physical well-being ($r=0.233$, $p<0.01$), spiritual well-being ($r=0.209$, $p<0.01$), and moderately correlated with intellectual well-being ($r=0.311$, $p<0.01$).

The boredom dimension was negatively and weakly correlated with psychological well-being ($r=-0.143$, $p<0.01$), emotional well-being ($r=-0.171$, $p<0.01$), social well-being ($r=-0.134$, $p<0.01$), and spiritual well-being ($r=-0.138$, $p<0.01$), but showed no

Table 5. Results of the analysis regarding the relationship between AFS subscales and PWS subscales.

		Psychological Wellness	Emotional Wellness	Social Wellness	Physical Wellness	Spiritual Wellness	Intellectual Wellness
Encounter	r	**,260****	**,269****	**,075***	**,233****	**,209****	**,331****
	p	,000	,000	,042	,000	,000	,000
Boredom	r	**-,143****	**-,171****	**-,134****	-,051	**-,138****	**-,129****
	p	,000	,000	,001	,120	,001	,001
Anxiety	r	**-,231****	**-,429****	**-,235****	**-,153****	**-,302****	**-,199****
	p	,000	,000	,000	,000	,000	,000
Flow	r	**,286****	**,277****	**,175****	**,283****	**,263****	**,356****
	p	,000	,000	,000	,000	,000	,000

***statistically significant at p<0.01 *statistically significant at p<0.05*

Table 6. Results of the analysis on the impact of flow experience on psychological wellness perception.

Independent Variables	B	Standard Error	Beta (β)	t	R^2_{adj}	p
Encounter	,235	,076	,146	3,098	**,123**	**,002****
Boredom	-,049	,042	-,052	-1,177		**,240**
Anxiety	-,124	,036	-,152	-3,431		**,001****
Flow	,266	,073	,174	3,646		**,000****

Dependent Variable: Psychological Wellness; R: ,360; R^2: ,130; F: 19,679; p: ,000; Durbin-Watson: 1,786; Method: Enter

Table 7. Analysis results on the impact of flow experience on emotional wellness perception.

Independent Variables	B	Standard Error	Beta (β)	t	R^2_{adj}	p
Encounter	,270	,081	,146	3,324	,231	**,001****
Boredom	-,006	,045	-,005	-,132		,895
Anxiety	-,350	,039	-,377	-9,076		**,000****
Flow	,217	,078	,124	2,779		**,006****

Dependent Variable: Emotional Wellness; R: ,486; R^2: ,237; F: 40,813; p: ,000; Durbin-Watson: 2,059; Method: Enter

significant relationship with physical well-being. It was also negatively correlated with intellectual well-being (r=-0.129, p<0.01).

The anxiety dimension was negatively correlated with psychological well-being (r=-0.231, p<0.05), emotional well-being (r=-0.429, p<0.01), social well-being (r=-0.235, p<0.01), physical well-being (r=-0.153, p<0.01), spiritual well-being (r=-0.302, p<0.01), and intellectual well-being (r=-0.199, p<0.01).

The flow dimension was positively and weakly correlated with psychological well-being (r=0.286, p<0.01), emotional well-being (r=0.277, p<0.01), social well-being (r=0.175, p<0.01), physical well-being (r=0.283, p<0.01), spiritual well-being (r=0.263, p<0.01), and moderately correlated with intellectual well-being (r=0.356, p<0.01).

Multiple linear regression analysis on the effect of recreational flow experience on perceived wellness

In the study, the sub-dimensions of the Alpak Flow Scale, including encounter, boredom, anxiety, and flow, were determined as dependent variables, while the psychological, emotional, social, physical, spiritual, and intellectual dimensions of the Perceived Wellness Scale were determined as independent variables. The results of the multiple linear regression analysis conducted on the effect of flow experience on psychological wellness are presented in Table 6 below.

According to Table 6, it is observed that the model developed for the effect of extreme athletes' flow experience on perceived psychological wellness is statistically significant (F=19.679; p<0.01). According to the model, 12.3% (R^2adj=0.123) of the participants' perceived psychological wellness levels (dependent variable) are explained by their flow experiences (independent variable). When examined in terms of sub-dimensions, it was determined that the encounter dimension (β=0.146; t=3.098; p=0.002), anxiety dimension (β=-0.152; t=-3.431; p=0.001), and flow dimension (β=0.174; t=3.646; p=0.000) scores have a significant effect on perceived psychological wellness. However, it was found that the boredom dimension (β=-0.052; t=-1.117; p=0.240) does not statistically significantly affect perceived psychological wellness.

According to Table 7, it has been determined that the model developed for the effect of extreme athletes' flow experience on perceived emotional wellness is statistically significant (F=40.813; p<0.01). According to the model, 23.1% (R^2adj=0.231) of the participants'

Table 8. Analysis results on the impact of flow experience on social wellness perception.

Independent Variables	B	Standard Error	Beta (β)	t	R^2_{adj}	p
Encounter	-,057	,093	-,030	-,610	,067	,542
Boredom	-,050	,051	-,044	-,971		,332
Anxiety	-,188	,044	-,194	-4,238		**,000****
Flow	,259	,090	,142	2,883		**,004****

Dependent Variable: Social Wellness; R: ,272; R^2: ,074 F: 10,534; p: ,000; Durbin-Watson: 1,750; Method: Enter

Table 9. Analysis results on the impact of flow experience on physical wellness perception.

Independent Variables	B	Standard Error	Beta (β)	t	R^2_{adj}	p
Encounter	,218	,090	,115	2,415	,093	**,016***
Boredom	,027	,050	,025	,551		,582
Anxiety	-,94	,043	-,099	-2,202		**,028***
Flow	,372	,087	,208	4,298		**,000****

Dependent Variable: Physical Wellness; R: ,316; R^2: ,100; F: 14,585; p: ,000; Durbin-Watson: 2,054; Method: Enter

Table 10. Analysis results on the impact of flow experience on spiritual wellness perception.

Independent Variables	B	Standard Error	Beta (β)	t	R^2_{adj}	p
Encounter	,181	,098	,086	1,837	,132	,067
Boredom	-,021	,054	-,017	-,381		,703
Anxiety	-,262	,047	-,247	-5,601		**,000****
Flow	,332	,095	,166	3,505		**,000****

Dependent Variable: Spiritual Wellness; R: ,372 ; R^2: ,139; F: 21,221; p: ,000; Durbin-Watson: 1,805; Method: Enter

Table 11. Analysis results on the impact of flow experience on ıntellectual wellness perception.

Independent Variables	B	Standard Error	Beta (β)	t	R^2_{adj}	p
Encounter	,298	,069	,197	4,309	,167	**,000****
Boredom	-,039	,038	-,044	-1,027		,305
Anxiety	-,078	,033	-,102	-2,364		**,018***
Flow	,330	,067	,230	4,959		**,000****

Dependent Variable: Intellectual Wellness; R: ,416; R^2: ,173; F: 27,608; p: ,000; Durbin-Watson: 1,858; Method: Enter

perceived emotional wellness levels are explained by their flow experiences. When examined in terms of sub-dimensions, it was found that the encounter dimension (β=0.146; t=3.324; p=0.001), anxiety dimension (β=-0.337; t=-9.076; p=0.000), and flow dimension (β=0.124; t=2.779; p=0.006) have a significant effect on perceived emotional wellness. However, it was found that the boredom dimension (β=-0.005; t=-0.132; p=0.895) does not have a significant effect on perceived emotional wellness. **I**n Table 8, it is observed that the model developed for the effect of extreme athletes' flow experience on perceived social wellness is statistically significant (F=10.534; p<0.01). According to the model, 6.7% (R^2adj=0.067) of the participants' perceived social wellness levels are explained by their flow experiences. When examined in terms of sub-dimensions, it was found that there is no statistically significant effect of the encounter dimension (β=-0.030; t=-610; p=0.542) and the boredom dimension (β=-0.44; t=-0.971; p=0.322) on perceived social wellness. However, it was found that the anxiety dimension (β=-0.194; t=-4.238; p=0.000) and the flow dimension (β=0.142; t=2.883; p=0.004) have a significant effect on perceived social wellness.

According to Table 9, it is seen that the model developed for the effect of extreme athletes' flow experience on perceived physical wellness is statistically significant (F=14.585; p<0.01). According to the model, 9.3% (R^2adj=0.093) of the participants' perceived physical wellness is explained by their flow experience. The dimensions that have a significant effect on physical wellness are determined to be the encounter dimension (β=0.115; t=2.415; p=0.016), the anxiety dimension (β=-0.099; t=-2.202; p=0.028), and the flow dimension (β=0.208; t=4.298; p=0.000). It was found that the boredom dimension (β=0.025; t=551; p=0.582) does not have a statistically significant effect on perceived physical wellness.

According to Table 10, it is observed that the model developed for the effect of extreme athletes' flow experience on perceived spiritual wellness is statistically significant (F=21.221; p<0.01). According to the model, 13.2% (R^2adj=0.132) of the participants' perceived spiritual wellness is explained by their flow experience. The dimensions that have a significant effect on spiritual wellness are determined to be the anxiety (β= -0.247; t=-5.601; p=0.000) and flow dimensions (β=0.166; t=3.505; p=0.000). It was found that the encounter dimension (β=0.086; t=1837; p=0.067) and the boredom dimension (β=-0.017; t=-381; p=0.703) do not have a statistically significant effect on perceived spiritual wellness.

Table 11 indicates that the model developed for the effect of extreme athletes' flow experience on perceived intellectual wellness is statistically significant (F=27.608; p<0.01). Upon examining Table 11, it is determined that 16.7% (R^2adj=0.167)

of the participants' perceived intellectual wellness is explained by their flow experience. The dimensions that have a significant effect on intellectual wellness perception are found to be encounter (β= 0.197; t=4.309; p=0.000), anxiety (β=-0.102; t=-2.364; p=0.018), and flow dimensions (β=0.230; t=4.959; p=0.000). It is concluded that the boredom dimension (β=-0.044; t=-1.027; p=0.305) does not have a significant effect on perceived intellectual wellness perception.

DISCUSSION

"The aim of this study is to determine the effect of the recreational flow experience on the well-being perception of extreme athletes. Within the scope of the study, the hypotheses 'H1: There is a significant relationship between the recreational flow experience and the perception of well-being in extreme athletes' and 'The recreational flow experience has a significant impact on the perception of well-being in extreme athletes' were tested and confirmed.

Focusing on well-being, which has not been previously emphasized in research involving a specific group such as extreme athletes, is thought to contribute to the theoretical literature within the framework of flow theory. Additionally, the research results highlight the importance of recreation and recreational flow experiences as a means of renewal for maintaining "well-being and balance" in terms of the triad of mind, body, and spirit. Therefore, the study's support for and validation of flow theory, along with the testing of the relationship between perceived well-being and flow theory within a specific group of extreme athletes, underscores the significance and unique value of this research.

Based on the regression analysis conducted, it was concluded that 12.3% of the perceived psychological wellness, 23.1% of emotional wellness, 6.7% of social wellness, 9% of physical wellness, 13.2% of spiritual wellness, and 16.7% of intellectual wellness perceptions were explained by the Alpak Flow Experience Scale. These results indicate the significant role of recreational flow experience in explaining wellness perception. While no research specifically investigating the impact of flow experience on perceived wellness was found in the literature, the findings of this study can be paralleled with studies focusing on different dimensions of wellness (4- 6,15,16).

The Pearson correlation analysis results between the Alpak Flow Experience Scale dimensions and the Perceived Wellness Scale dimensions revealed a significant positive relationship between the encounter dimension and psychological, emotional, social, physical, spiritual, and intellectual wellness dimensions. Within this framework, it was determined that extreme athletes' attitudes toward acquaintance with the activity had a significant effect on psychological, emotional, physical, and intellectual wellness perceptions.

The stage of acquaintance with the activity is a process where both physical and mental perceptions are active. It is known that feelings and states such as happiness, self-confidence, and excitement are associated with an individual's perceptions of themselves and the activity. Therefore, it can be said that positive emotions and states experienced during participation in the activity will increase psychological and emotional wellness perceptions perceived by the individual. Csikszentmihalyi, in his studies on flow experience mentioned that states such as happiness and motivation during the participation in the activity positively affect wellness, especially psychological well-being (36).

Research supports the idea that there is a positive relationship between activity-related positive attitudes and wellness perceptions, and as positive attitudes toward the activity increase, wellness also increases (6,37-42). Studies indicating that positive feelings during the activity process positively affect wellness support the findings of this study (43,44).

Brymer et al. (2009) concluded from their study with rock climbers that extreme sports create a sense of closeness between athletes and nature, can increase respect and sensitivity to nature, and can support environmental sustainability (17). This study emphasizes that extreme sports enhance perceived intellectual skills and make athletes more conscious of the natural environment, which supports the findings of this research. Akyol and İmamoğlu (2019) stated in their study that highly motivated students experience flow more frequently and at higher levels (45). Based on this study, it can be said that there is a positive relationship between motivation and flow experience during the acquaintance with the activity, and high motivation can increase flow experience. Dietrich (2004) in his study on flow experience from a cognitive and neuroscience perspective mentioned that flow experience activates different areas of the brain such as the prefrontal cortex, temporal lobe, parietal lobe, and cerebellum (46). These activations are believed to affect mental processes such as

attention, learning, memory, and motor control, and support factors for the occurrence of flow experience. It is also stated that neurochemicals such as dopamine and norepinephrine play an important role in flow experience. These neurochemicals are thought to increase the activation of reward centers in the brain, thereby increasing motivation and strengthening the factors that provide flow experience. These findings support the idea that extreme athletes' experiences of flow during the acquaintance with the activity, resulting in perceptions of time dilation and rapid flow of time towards the activity, have effects on perceived wellness.

Regression analysis results of the study indicate that while wellness perception is explained by recreational flow experience, it is also important to note the existence of other contributing factors such as happiness level, health status, stress level, received social support, job satisfaction, personal development, social relationships, and the presence of purpose in life. In this context, perceived wellness can be said to be explained in different ways according to individual, social, and environmental factors.

Although no significant relationship was found between the dimension of boredom and physical wellness, a significant negative relationship was identified between psychological, emotional, social, spiritual, and intellectual wellness dimensions. Previous studies have shown that the level of boredom during free time is negatively associated with life satisfaction, psychological resilience, self-esteem, perceived social competence, and mood states. Additionally, studies have consistently shown a negative relationship between boredom and wellness dimensions such as psychological well-being. The findings of our research parallel these studies, indicating a negative relationship between boredom and various dimensions of wellness.

The research findings also reveal that when the level of challenge in the activity falls below the individual's skills, resulting boredom does not significantly impact wellness perception. Boredom during an activity usually arises due to its monotony, repetitiveness, or low level of challenge. Wellness perception generally refers to an individual feeling happy, satisfied, balanced, and good about themselves. Therefore, it can be said that there is a negative relationship between boredom during the activity and wellness perception. However, the study found that the level of boredom did not have a significant effect on perceived wellness. This may be because the feeling of boredom during the activity is temporary and may not be significant enough to affect wellness perception. The lack of impact of perceived wellness on boredom may be due to the transient nature of boredom in extreme sports and the rapid transition from the boredom channel to the acquaintance or flow channels. It is thought that boredom may not occur as frequently in extreme sports as in other passive recreational activities. The lack of influence of perceived wellness on boredom may also be due to factors such as the impact of motivation and flow experience on wellness perception, or other (physical, social, psychological, environmental, and cultural) factors not tested in this research.

According to the research findings, the anxiety state that occurs when the level of challenge in the activity exceeds the individual's skills is negatively associated with psychological, emotional, social, physical, spiritual, and intellectual wellness dimensions. Additionally, it was found that the anxiety dimension had a significant negative effect on all dimensions of perceived wellness. These findings suggest that as anxiety levels increase, perceived wellness decreases, and the anxiety state experienced by extreme athletes during the activity negatively affects wellness perception.

The anxiety dimension in the AFS involves negative attitudes toward the activity. As individuals encounter new things and the level of difficulty increases during the activity, if their skills are insufficient, they may consider quitting the activity, not wanting to participate, feeling like everyone is watching them, and experiencing anxiety. In some sports activities like extreme sports, situations may arise where the perceived difficulty exceeds the skills, leading to anxiety. Increased anxiety levels may lead to doubt in performance and exposure to negative stimuli mentally. Particularly in competitive sports or excessive exercise, anxiety can increase, leading to a decrease in wellness perception. Therefore, it is important for individuals to recognize their own limits and choose activities in which they feel comfortable while engaging in sports. It is expected that when faced with difficulty in the activity, the individual will challenge the activity and balance the perceived difficulty with their skills. In this case, the individual's self-confidence increases, they move away from the anxiety state, and gain motivation. Otherwise, if the individual's ability falls below the perceived difficulty

level, they enter the anxiety channel, although this situation may not always result in negative outcomes. For example, Brymer and Schweitzer (2013) suggest that perceived anxiety in extreme sports can enhance the quality of the experience (26). Additionally, it is expected that for recreational flow experience not to occur, the level of performance anxiety should be balanced rather than absent (47,48). Ultimately, for recreational flow experience to occur and for individuals to derive pleasure, enjoyment, and happiness from the activity, it is expected that there will be sufficient levels of performance anxiety (4,20). Furthermore, research has found a negative relationship between flow experience and anxiety levels (4,49).

Situational anxiety arises depending on environmental conditions during extreme sports. Negative attitudes and thoughts toward one's own performance create cognitive anxiety. Along with these anxiety states, the individual's heart rate accelerates, shallow breathing, tense muscles, sweating, distraction, and inattention occur, leading to physical anxiety. Physical wellness perception is negatively affected by bodily anxiety. The continuation of anxiety turns the situation into chronic stress, and the athlete begins to view events with a negative approach. This leads to dissatisfaction and unhappiness in the athlete and eventually leads to burnout. Therefore, it can be said that anxiety affects emotional, psychological, and spiritual wellness perception negatively. In light of this information, it can be said that the findings of the study are in parallel with the literature and provide support for studies conducted in the field of positive psychology.

According to the research findings, there is a significant positive relationship between the flow dimension and psychological, emotional, social, physical, spiritual, and intellectual wellness dimensions. Furthermore, it was found that recreational flow experience positively influenced all dimensions of perceived wellness. The flow dimension of the AFS includes experiencing emotions and situations such as returning to the activity with developing skills, being satisfied with performance, experiencing pleasure, joy, happiness, and motivation during the activity. It was determined that extreme athletes who experience recreational flow during the activity also experience increased levels of wellness perception.

Ayhan (2022) found in their study that experiencing recreational flow during recreational activities is positively correlated with the recreational benefit dimensions of physical, psychological, and social benefits, and that recreational flow experience has a positive effect on leisure satisfaction (50). Kim and Lee (2008) conducted a study on individuals participating in sports recreational activities and found that recreational flow experience contributes positively to individuals' recreational benefits, allowing them to enjoy activities more and feel more satisfied (8). In a study conducted by Jang (2016) on ski athletes, it was found that recreational flow experience has a positive effect on recreational benefits and life satisfaction (7). Other studies conducted on individuals interested in aviation sports, swimmers, and paragliders have also found that recreational flow experience has a positive effect on recreational benefits (8-11). These findings are consistent with our study results.

The findings of the research parallel the results of studies conducted within the scope of positive psychology. For example, (16) suggested in their study on mountaineers that the flow experience has a positive effect on their happiness levels. Cheng and Lu (2015) found in their study on surfers that the flow experience has a positive effect on wellness perception (5). Sahoo and Sahuu (2009) concluded in their study that the flow experience has a positive effect on happiness and wellness (15). Additionally, a study by Mountinho et al. (2019) found that the flow experience has a positive impact on subjective well-being among students (51). Moreover, in conjunction with the study by Mountinho et al. (2019), a study by Lynch and Troy (2009) identified a positive relationship between flow experience and well-being (15, 51). Similar results were reported in studies by Asakawa (2004) and Carpentier (2012) (52-53). Likewise, a study by Cathcart, McGregor, and Groundwater (2014) concluded that the levels of "mindfulness" and "flow" in elite athletes are positively related to the athlete's performance and well-being (54). It was also found that an increase in mindfulness levels corresponds to an increase in flow levels. These findings align with those of Kee and Wang (2008), which were based on university students (55).

In light of all this information, it can be seen that the findings of our research regarding the positive effect of the flow dimension on perceived wellness are consistent with research in the field. Furthermore, the fact that this conclusion is reached with the increasingly popular extreme sports community

highlights the importance of extreme sports in increasing wellness perception.

CONCLUSION

This study was conducted to determine the impact of recreational flow experiences of extreme sports participants on their wellness perceptions. The research findings indicate that the anxiety and boredom experienced by individuals during extreme sports activities are negatively correlated with wellness perceptions, while the acquaintance and flow dimensions are positively correlated with wellness perceptions. In other words, as negative experiences during the activity increase, wellness perception decreases. Additionally, it was found that the boredom dimension does not have a significant effect on perceived wellness dimensions, while the acquaintance dimension has a positive effect on psychological, emotional, physical, and intellectual wellness perception. The anxiety dimension has a negative effect on all dimensions of perceived wellness, while the flow dimension has a positive effect on all dimensions of perceived wellness. In conclusion, it was determined that the anxiety experienced during extreme sports negatively affects wellness perception, while the attitude during the acquaintance with the activity and the recreational flow experience positively influence wellness perception.

In extreme sports, the emotions and attitudes during acquaintance with the activity, as well as the recreational flow experience that occurs when one is fully immersed in the activity without being aware of the passage of time, can have positive effects on all dimensions of individuals' wellness perceptions. Therefore, the feeling of losing oneself in the flow of time during the activity, which allows individuals to escape from the negative stimuli of daily life, can positively affect various parameters of well-being.

Limitations & Future Research

Like many scientific studies, this research has several limitations. The limitations of the study are discussed below:

This research is limited to individuals engaged in extreme sports in Turkey. While this suggests that the research group may represent the universe, it also restricts the generalizability of the findings to the broader population. For example, individuals participating in extreme sports in different countries or cultural contexts may have varying opinions and experiences.

The data needed for the research were obtained between July 20 and November 23, 2022. This specific time frame means that external factors (such as seasonal changes or local events) during this period have not been considered in terms of their potential impact on participants' opinions. Additionally, the validity of the findings may be questioned when compared to studies conducted outside this time frame.

The research is limited to the opinions of participants and the scale items used. This may lead to participants thinking only within a specific framework, thus restricting the possibility of reaching a broader perspective. Other important factors outside the participants' expressed opinions may also exist.

It is assumed that the individuals participating in the study easily and accurately understood the statements in the survey form and provided objective and sincere answers. However, the level of understanding of the survey questions by participants and the accuracy of their responses can affect the reliability of the study's findings. Factors such as participants' motivation, willingness to complete the survey, and social pressures may significantly influence the validity of the obtained data.

These limitations should be carefully considered when interpreting the findings of the study and generalizing the results.

Recommendations for practitioners

- Training sessions should be organized for instructors, recreational experts, and coaches to ensure the correct balance of challenge and skill during the activity, aiming to facilitate the occurrence of flow experiences.
- Providing educational programs and counseling services for individuals participating in recreational activities to help them manage their flow experience.

Recommendation for future research

- Future research could consider variables such as recreational benefits, intrinsic motivation, thrill-seeking, fear, and risk perception instead of perceived wellness in extreme sports participants.
- Additionally, examining other variables that contribute to perceived wellness and identifying

mediator and moderator variables in explaining perceived wellness could be recommended.

- This study was limited to individuals involved in extreme sports. Future research could focus on individuals engaged in different sports, from various cultures, and participating in different recreational activities.
- While this study adopted quantitative research methods, future research could explore the experience of flow and wellness perception using different measurement methods or conduct qualitative studies to determine why athletes may not experience flow.

Acknowledgement: We would like to thank all the participants who supported us during the data collection process.

Author contribution: Conception: NTK, ED; Design: NTK,ED; Supervision: NTK, ED; Fundings: ED, NTK; Materials: ED, NTK; Data Collection: ED, NTK; Analysis: ED, NTK; Literature Review: ED, NTK; Writing: ED, NTK; Critical Review: NTK, ED.

Conflict of interests: There was no conflict of interest.

Ethical approval: The Ethics Committee of the Sakarya University of Applied Sciences Rectorate determined that the study is ethically appropriate (Date: 10.03.2023, Decision no: 29/10). This research is derived from the master's thesis numbered 807455, written in the Recreation Department of the Graduate School at Sakarya University of Applied Sciences.

Funding: No financial support or funding was applied for or received for this study.

Peer-review: Externally peer-reviewed.

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