Journal of Exercise Sciences
& Physical Activity Reviews

ORIGINAL ARTICLE

Health Belief Scale for Sportive Recreational Activities in University Students

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ABSTRACT

Background: The study aimed to measure and analyses university students' health beliefs regarding recreational sports activities, understand the relationships between their health perceptions, motivational factors, and active participation levels, and evaluate the effects of sports on health.

Methods: The study was quantitative and used a descriptive survey model. The total population of the study comprised 932 university students. Of these, 412 were male and 520 were female. Personal data on age, gender, reasons for participating in physical activity in their free time, socio-economic status, and the number of days they participate in physical activity per week were collected from university students. While analyzing the data of the study, the t-test was used for pairwise comparisons, and the Anova Tukey test was used for multiple comparisons within groups.

Result: When the data obtained from the research were examined, it was seen that there was a significant difference in the sub-dimensions of health beliefs related to sportive recreational activities in the variables of age, gender, and number of physical activity days per week, but there was no significant difference in the reasons for participating in physical activity in free time or socio-economic status variables.

Conclusions: As a result, it was concluded that there was a decrease in the sub-dimensions of health beliefs related to sportive recreational activities with increasing age; male students had higher health belief sub-dimensions than female students, and students with more weekly physical activity days had higher health belief sub-dimensions. It was concluded that the socio-economic dimension had no effect on the change in health beliefs and sub-dimensions.

Keywords: Health beliefs, physical inactivity, sedentary lifestyle, recreational activity

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Academic Editor: Dr. Mehmet GÜLÜ
Journal of Exercise Science & Physical Activity Review
journal home page: www.e-jespar.com
https://doi.org/10.5281/zenodo.10438880

ARTICLE HISTORY
Received: 20 December 2023
Accepted: 25 December 2023
Published: 28 December 2023

INTRODUCTION

Recreation activities, which offer a variety of options that allow individuals living in society to find a more effective and content lifestyle, are considered an important tool (Wheaton et al., 2017). A healthy lifestyle is defined as the ability of individuals to control behaviors that affect their health and the capacity to choose the right behaviors when organizing their daily activities in accordance with their health conditions (Lamprea-Montealegre, 2022). When individuals make these behaviors a habit, they can not only lead a healthy life but also improve their health status (Conner & Norman, 2017). Individuals' health beliefs determine the level of engagement in health behaviors and the speed of learning; therefore, they can predict health behaviors and are effective in changing negative health habits (Aaby et al., 2017). This is an indication that each individual's health beliefs play a key role in shaping health behaviors **(**Jang ve Baek, 2018).

There are a number of methods for maintaining or improving health (Singh et al., 2020; Trepanowski et al., 2017). Of course, an important area where these methods converge is sporting activities and recreational exercises (Bull et al., 2020; Zügel et al., 2018). The important effects of sporting recreational activities on disease prevention and health protection stem from voluntary participation and enjoyment (Choi and Bum, 2022). Such activities lead participants to an active life in a pleasant way while at the same time providing spiritual satisfaction (Fancourt et al., 2021).

Recreational activities have evolved based on the belief that the best way for people to recover from physical fatigue and feel energized and alive is to first achieve spiritual peace (Salesa and Cerdà, 2020; Rice et al., 2020). These activities have emerged as part of a lifelong quest for energy and vitality (Kerr et al., 2017; Lewis et al., 2017). The increase in people's leisure time, together with the achievement of higher living standards, significantly increases the value given to recreational activities (Gallè et al., 2020; Lear et al., 2017). Recreation not only aims to prevent physiological and psychological problems but is also effective in relieving such disorders (Lackey et al., 2021). The reasons why individuals turn to sports activities are usually due to the desire to protect their health, get stronger, defend themselves, and make effective use of their free time (Pickett et al., 2017). This situation is very important in terms of increasing interest in recreational activities (Venter et al., 2020; Drieskens et al., 2021). Recreational activities are activities where participation is initially prioritized and then enhanced physical fitness, fun, and social interaction are frequently emphasized (Mutz et al., 2021; Hasson et al., 2022).

Worldwide, inadequate physical activity is responsible for 6% of deaths, while previous studies have reported a rate of 9%. It is one of the 21st century's biggest public health challenges. While 31% of young adults worldwide are physically inadequate, approximately 3.2 million deaths each year are caused by inadequate physical activity. In this context, the aim of the study was to conduct research and analysis of university students attitudes towards sportive recreational activities.

MATERIALS AND METHODS

Research Model

The aim of the study was to measure and analyze university students' health beliefs towards sportive recreational activities, to understand the relationships between students' health perceptions, motivational factors, and active participation levels, and to evaluate the effects of sport on health. The research was a study based on a quantitative approach and was carried out based on the descriptive survey model. The survey model refers to a type of research in which factors such as the opinions, attitudes, abilities, interests, and skills of the individuals participating in the research are determined (Karasar, 2019). The con-

venience sampling method was preferred in the sampling process. This method is a sampling method in which the researcher determines the sample to be selected from the basic group in a non-random way, taking into account the basic information about the study. This methodology enables the data to be collected quickly and is also very economical in terms of cost (Haşıloğlu et al., 2015).

Research Group

Out of a total of 932 university students, 412 were male and 520 were female. In order to ensure that the volunteers could participate comfortably and continue the study of their own free will, they were given the opportunity to terminate or withdraw from the process at any time after reading the information form about the study.

Data Collection

In this study, in order to determine the health beliefs of university students towards sportive recreational activities and to understand the relationships between students' health perceptions and active participation levels in this context, personal data on the age, gender, reasons for participating in physical activity in their free time, socio-economic status, and the number of days they participate in physical activity per week were collected. In addition, the "Health Belief Scale for Sportive Recreational Activities (HBSSI)" developed by Ertüzün et al. (2013) was used in the study. The scale is a Likert-type scale consisting of five sub-dimensions, including "perceived seriousness," "perceived barriers," "physical benefit," "psychosocial benefit," "self-efficacy," and 21 questions. The internal consistency coefficient of the scale is .88 for all items.

Statistical Analysis

The data analysis for this study involved utilizing IBM SPSS Statistics version 25.0. Initially, the personal information of adult volunteers who participated in the study was examined by calculating percentage and frequency distributions. To assess the normality of the data, the Kolmogorov-Smirnov test was applied. Subsequently, standard deviations and means were computed for all sub-dimensions of the scale. Upon analyzing the Kolmogorov-Smirnov test results, it was determined that the data distribution fell within the normal range. To evaluate the data with respect to other variables in the study, a T-test was conducted. Parametric assumptions being met, the ANOVA test was employed to examine group differences, with a chosen significance level of 0.05. Additionally, a significance level of 0.01 was specified for comparisons involving lower significant differences. If a significant difference was identified through the ANOVA test, Tukey post-hoc test results were incorporated into the tables to identify specific groups responsible for the observed differences. This comprehensive approach ensured a thorough analysis of the data and allowed for meaningful interpretations of the study's findings.

RESULTS

In this part of the study, frequency and percentage distributions of personal information were analyzed. The t-test and Anova test were applied to determine the difference between the participants' age, gender,

Reason for Participating in Leisure Time Activities, Socio-Economic Status, Physical activity per week and Health Beliefs Regarding Sportive Recreational Activities.

Table 1. Frequency and Percentage Results Regarding Participants' Demographic Variables

Variables	**Groups**	N	%
Total number of participants		932	100
Age	17-20[1]	288	30.9
	21-24[2]	205	22.0
	25-28[3]	231	24.8
	29-32[4]	208	22.3
Gender	Men	412	44.2
	Women	520	55.8
Reason for Participating in Leisure Time Activities	Being physically well	89	9.5
	Being health well	627	67.3
	Socializing	119	12.8
	Psychological relaxation	97	10.4
Socio-Economic Status	Very Low[1]	437	46.9
	Low[2]	51	5.5
	Normal[3]	223	23.9
	High[4]	104	11.2
	Very High[5]	117	12.6
Physical activity per week	1-2 Day[1]	230	24.7
	3-4 Day[2]	316	33.9
	5-6 Day[3]	175	18.8
	Never[4]	211	22.6

When Table 1 is examined, it is seen that the highest proportion of the participants is in the 17-20 age range with 30.9% according to the age variable, 44.2% of males and 55.8% of females according to the gender variable, the highest proportion is for good health with 67.3% according to the reason for participating in leisure time activities, the lowest scores are to be physically well with 9.5%, psychological relaxation with 10.4%, and socializing with 12.8%, respectively. According to the socio-economic status variable, 46.9% of the participants had very low socio-economic status, 23.9% had normal socio-economic status, and 12.6% had very high socio-economic status. According to the number of physical activity days per week variable, it was seen that 33.9% of the participants performed physical activity 3–4 days a week, while the lowest 18.8% performed physical activity 5–6 days a week.

Table 2. ANOVA test results of Health Beliefs Regarding Sportive Recreational Activities Subscales According to Age Variable

				ANOVA		
Variables	**Years**	**mean**	**N**	**F**	**p**	**Tukey's test**
Perceived Seriousness	17-20[1]	15.85±3.1	288	12.077	0.001	4<1&3<2
	21-24[2]	16.53±2.8	205			
	25-28[3]	15.20±2.7	231			
	29-32[4]	15.01±2.7	208			
Perceived Barriers	17-20[1]	13.15±1.9	288	14.596	0.001	1&2>3&4
	21-24[2]	13.32±1.5	205			

	25-28[3]	12.45±1.9	231			
	29-32[4]	12.47±1.6	208			
Physical Benefit	17-20[1]	23.86±3.9	288	20.150	0.001	4<1&3<2
	21-24[2]	24.67±3.9	205			
	25-28[3]	23.29±4.1	231			
	29-32[4]	21.88±2.9	208			
Psychosocial Benefit	17-20[1]	15.98±2.6	288	17.532	0.001	1&2>3&4
	21-24[2]	16.60±2.7	205			
	25-28[3]	15.24±2.5	231			
	29-32[4]	15.09±1.9	208			
Self-Efficacy	17-20[1]	16.36±2.8	288	11.047	0.001	1&2>3&4
	21-24[2]	16.81±2.8	205			
	25-28[3]	16.03±2.7	231			
	29-32[4]	16.16±2.6	208			

*p< 0.001

When Table 2 is examined, it is seen that there is a significant difference in all sub-dimensions of perceived seriousness, perceived obstacles, physical benefit, psycho-social benefit, self-efficacy sub-dimensions of health beliefs about sportive recreational activities according to age variable.

Table 3. t-test results of sub-dimensions of health beliefs about sportive recreational activities according to gender variable

Variables	Gender	mean	n	t	P	ES
Perceived Seriousness	Men	16.10±2.98	412	4.168	0.001	0.27
	Women	15.30±2.85	520			
Perceived Barriers	Men	13.24±1.77	412	5.725	0.001	0.38
	Women	12.57±1.80	520			
Physical Benefit	Men	24.04±3.93	412	4.068	0.001	0.27
	Women	22.99±3.83	520			
Psychosocial Benefit	Men	16.22±2.60	412	5.214	0.001	0.35
	Women	15.36±2.36	520			
Self-Efficacy	Men	16.67±2.65	412	5.157	0.001	0.34
	Women	15.77±2.60	520			

*p< 0.001

When Table 3 is examined, it is seen that there is a significant difference in all of the sub-dimensions of perceived seriousness, perceived obstacles, physical benefit, psycho-social benefit, and self-efficacy sub-dimensions of health beliefs about sportive recreational activities according to gender variables. This difference was found to be high in favor of men.

Table 4. ANOVA Test Results of Health Beliefs Related to Sportive Recreational Activities Subscales According to Reason for Participating in Leisure Time Activities Variable

				ANOVA		
Variables	**RPLTA**	**mean**	**N**	**F**	**p**	**Tukey's test**
Perceived	BPW	15.49±3.0	104	0.531	0.661	-
	BHW	15.68±2.8	479			

Seriousness	Socializing	15.43±3.2	127			
	PR	15.79±2.9	222			
Perceived Barriers	BPW	12.70±1.9	104	18.068	0.804	-
	BHW	12.88±1.7	479			
	Socializing	12.90±2.0	127			
	PR	12.86±1.8	222			
Physical Benefit	BPW	23.47±3.6	104	20.330	0.410	-
	BHW	23.40±3.8	479			
	Socializing	23.98±4.2	127			
	PR	23.27±4.2	222			
Psychosocial Benefit	BPW	15.65±2.7	104	14.040	0.958	-
	BHW	15.73±2.5	479			
	Socializing	15.74±2.4	127			
	PR	15.74±2.5	222			
Self-Efficacy	BPW	16.04±2.6	104	11.588	0.951	-
	BHW	16.19±2.5	479			
	Socializing	16.11±2.9	127			
	PR	16.20±2.7	222			

RPLTA; Reason for Participating in Leisure Time, Activities BPW;Being physically well, BHW;Being health well,PR; Psychological relaxation *p< 0.001

When Table 4 is examined, it is seen that there is no significant difference in all of the sub-dimensions of perceived seriousness, perceived barriers, physical benefit, psycho-social benefit, and self-efficacy sub-dimensions of health beliefs about sportive recreational activities according to the reason for participating in free-time physical activities.

Table 5. ANOVA Test Results of Sub-Dimensions of Health Beliefs Regarding Sportive Recreational Activities According to Socio Economic Status Variable

				ANOVA		
Variables	**Sosyo Economic Status**	**mean**	**N**	**F**	**p**	**Tukey's test**
Perceived Seriousness	Very Low[1]	15.61±3.0	437	0.307	0.873	-
	Low[2]	16.01±2.5	51			
	Normal[3]	15.65±2.8	223			
	High[4]	15.78±3.1	104			
	Very High[5]	15.54±2.8	117			
Perceived Barriers	Very Low[1]	13.02±1.6	437	2.443	0.045	-
	Low[2]	13.12±1.8	51			
	Normal[3]	12.53±2.2	223			
	High[4]	12.73±1.9	104			
	Very High[5]	12.87±1.8	117			
Physical Benefit	Very Low[1]	23.74±3.8	437	2.637	0.033	-
	Low[2]	23.72±3.9	51			
	Normal[3]	23.53±3.7	223			
	High[4]	22.48±4.4	104			
	Very High[5]	23.04±4.3	117			
Psychosocial Benefit	Very Low[1]	15.81±2.5	437	0.406	0.805	-
	Low[2]	15.60±1.9	51			

	Normal[3]	15.67±2.5	223			
	High[4]	15.86±2.6	104			
	Very High[5]	15.55±2.7	117			
Self-Efficacy	Very Low[1]	16.21±2.6	437	0.654	0.624	-
	Low[2]	16.25±2.3	51			
	Normal[3]	16.30±2.4	223			
	High[4]	15.90±3.0	104			
	Very High[5]	15.93±3.2	117			

*p< 0.00

When Table 5 is examined, it is seen that there is no significant difference in all sub-dimensions of perceived seriousness, perceived obstacles, physical benefit, psycho-social benefit, and self-efficacy sub-dimensions of health beliefs about sportive recreational activities according to the socio-economic status variable.

Table 6.ANOVA Test Results of Health Beliefs About Sportive Recreational Activities Subscales According to the Number of Physical Activity Days per Week Variable

				ANOVA		
Variables	**Physical activity per week**	**mean**	**N**	**F**	**p**	**Tukey's test**
Perceived Seriousness	1-2 Day[1]	15.52±2.9	282	14.046	0.001	4<1&2<3
	3-4 Day[2]	16.01±2.9	287			
	5-6 Day[3]	16.65±2.7	135			
	Never[4]	14.78±2.9	228			
Perceived Barriers	1-2 Day[1]	12.88±1.8	282	18.068	0.001	4<1&2<3
	3-4 Day[2]	13.16±1.7	287			
	5-6 Day[3]	13.37±1.7	135			
	Never[4]	12.17±1.9	228			
Physical Benefit	1-2 Day[1]	23.39±4.1	282	20.330	0.001	4<1&2<3
	3-4 Day[2]	24.04±3.8	287			
	5-6 Day[3]	24.86±3.7	135			
	Never[4]	21.96±3.9	228			
Psychosocial Benefit	1-2 Day[1]	15.72±2.4	282	14.040	0.001	4<1&2<3
	3-4 Day[2]	16.07±2.4	287			
	5-6 Day[3]	16.45±2.5	135			
	Never[4]	14.92±2.5	228			
Self-Efficacy	1-2 Day[1]	16.03±2.8	282	11.588	0.001	4<1&2<3
	3-4 Day[2]	16.49±2.6	287			
	5-6 Day[3]	16.96±2.4	135			
	Never[4]	15.45±2.6	228			

*p< 0.001

When Table 6 is examined, it is seen that there is a significant difference in all of the sub-dimensions of perceived seriousness, perceived barriers, physical benefit, psycho-social benefit, self-efficacy sub-dimensions of health beliefs related to sportive recreational activities according to the number of physical activity days per week variable.

DISCUSSION

In this study, it was aimed to measure and analyze the health beliefs of university students towards sportive recreational activities, to understand the relationships between students' health perceptions, motivational factors, and active participation levels, and to evaluate the effects of sports on health. In light of the findings, according to the reason for participating in leisure time activities, the highest rate was 67.3% for good health, the lowest scores were 9.5% for physical well-being, 10.4% for psychological relaxation, and 12.8% for socializing. According to the socio-economic status variable, 47.0% of the participants had very low socio-economic status, 23.9% had normal socio-economic status, and 12.3% had very high socio-economic status. According to the number of physical activity days per week variable, it was seen that 33.9% of the participants had the highest score by doing physical activity 3–4 days a week, and 18.8% of the participants had the lowest score by doing physical activity 5–6 days a week. Şahin and Karabulut (2014) examined the frequency of participation of university students in sportive recreation activities in their study, and it was seen that 13.8% did not do any activity and 5.1% did activity frequently.

According to the age variable, it was determined that there was a significant difference in all of the sub-dimensions of perceived seriousness, perceived barriers, physical benefit, psycho-social benefit, and self-efficacy sub-dimensions of health beliefs about sportive recreational activities. It was determined that the lowest score in the perceived seriousness and physical benefit sub-dimensions was in the 29–32 age range, while the highest score was in the 21–24 age range. In the sub-dimensions of perceived barriers, psychosocial benefit, and self-efficacy, it was determined that the lowest scores were in the 25–28 age range and the 29–32 age range, while the highest scores were in the 17–20 age range and the 21–24 age range. In the light of these data, it was observed that there was a decrease in the sub-dimensions of health beliefs related to sportive recreational activities with increasing age.

According to the gender variable, it was determined that there was a significant difference in all of the sub-dimensions of perceived seriousness, perceived obstacles, physical benefit, psycho-social benefit, and self-efficacy sub-dimensions of health beliefs about sportive recreational activities. This significant difference was found to be higher in favor of men in all of the sub-dimensions of perceived seriousness, perceived barriers, physical benefit, psycho-social benefit, and self-efficacy. It was seen that men had more developed health beliefs than women in the sub-dimensions of health beliefs related to sporting recreational activities. In the study conducted by Şahin and Karabulut (2014), it was seen that the obstacle for female students to participate in sportive recreational activities was higher than that for male students. It is similar to our research. Yalçın and Ayhan (2022), in their study titled "The effect of physical appearance perfectionism and psychological well-being on self-confidence in women participating in sportive recreational activities," found that the self-confidence levels of women who felt physically and psychologically well also increased. In Önen's (2022) study titled "Investigation of health beliefs of middle-adolescence high school students regarding sportive recreation activities," no significant difference was found in any of the health belief sub-dimensions of male and female students. In this respect, it does not overlap with our study.

It was determined that there was no significant difference in all of the sub-dimensions of perceived seriousness, perceived obstacles, physical benefit, psycho-social benefit, and self-efficacy sub-dimensions of health beliefs about sportive recreational activities according to the reasons for

participating in leisure time activities. The reason for the lack of significant difference is thought to be related to the fact that being healthy includes being physically well, being healthy, socialization, and psychological relaxation. It is thought that the belief in being healthy is perceived as a whole. Cingöz et al. (2022) also found no significant difference in any of the reasons for participating in leisure activities in their study. The results of the study are similar to ours. Goulimaris et al. (2014) stated that recreational activities are important for the psychological well-being of individuals as well as improving their physical condition. The fact that there was no significant difference in our study shows that it is considered a holistic indicator of being healthy in physical, psychological, and social aspects. In their study, Çoruh and Karaküçük (2016) also found that there was a significant difference in terms of women's lack of time and interest in terms of having problems participating in leisure activities compared to men. It is not similar to our research in this respect.

According to the socio-economic status variable, it was determined that there was no significant difference in all sub-dimensions of perceived seriousness, perceived obstacles, physical benefit, psycho-social benefit, and self-efficacy sub-dimensions of health beliefs about sportive recreational activities. It was concluded that the reason there was no significant difference in the sub-dimensions of health beliefs about sportive recreational activities of participants with different socio-economic levels was that the socio-economic status variable did not affect the health beliefs about sportive recreational activities. Cingöz et al. (2022) also found that there was no significant difference according to monthly income level in their study. The results of the research are similar to those of this study.

It was determined that there was a significant difference in all of the sub-dimensions of perceived seriousness, perceived barriers, physical benefit, psycho-social benefit, and self-efficacy, which are sub-dimensions of health beliefs about sportive recreational activities, according to the number of days of weekly physical activity participation. It was determined that this difference was against those who said that they never do physical activity and their scores were low, while the scores of those who regularly do physical activity 5–6 days a week were high. It is thought that the reason for this is that the participants who do regular physical activity have experience doing physical activity; awareness is gained, and with this awareness, health beliefs about sportive recreational activities increase in all sub-dimensions. Cingöz et al. (2022) did not find a significant difference in the number of days of weekly physical activity in their study. It is not similar to our study.

CONCLUSIONS

As a result, this study aimed to measure and analyze the health beliefs of university students towards sportive recreational activities, to understand the relationships between students' health perceptions, motivation factors, and active participation levels in this context, and to evaluate the effects of sports on health. When the results obtained and the studies conducted were examined, it was seen that there was a decrease in the sub-dimensions of health beliefs related to sportive recreational activities with increasing age. It was observed that males had more health beliefs about sporting recreational activities than females in the sub-dimensions of health beliefs. It was concluded that the reasons for participating in leisure-time activities did not make a significant difference in the sub-dimensions of health beliefs related to sportive recreational activities because the physical and psycho-social aspects of health are not separated from each other and being healthy should be realized as a whole. Socio-economic status had no effect on health beliefs related to sporting recreational activities. Gaining health beliefs about sporting recreational activities is not only a situation specific to individuals with good economic status.Economic status has no

effect on health beliefs. With the development of technology, every individual can access information on any subject from anywhere and under any condition. Inexpensive and cost-free activities can be done. The number of days of weekly participation in physical activity increases in parallel with health beliefs about sporting recreational activities. So, the more physical activity is done, the health beliefs of the individual will continue to increase. Many responsibilities, such as increasing responsibilities with age, efforts to start a profession, efforts to earn money to survive, having to work more, having to provide for the family, etc., distract and prevent people from doing sporting recreational activities and physical activity. Awareness of physical activity should be brought to individuals, regardless of the conditions. First of all, individuals should be made aware of what the concept of health is and what should be done primarily to be healthy, and that health covers the whole of emotional, social, physical, and cognitive development. Individuals who grow up with this awareness prepare for a quality life with health and happiness, both for themselves and for their environment. For this reason, it is important to adopt sportive recreation activities for each individual starting from childhood and supporting their participation throughout life.

Author Contributions

Conceptualization, H.Y. D.U., methodology, H.Y., D.U., A.A.D.; software, H.Y; validation, H.Y.; formal analysis, H.Y.; research, D.U.; sources, B.E., D.U.; data curation, H.Y.; writing-original drafting, H.Y., D.U., B.E.; writing-review and editing, H.Y., B.E.; visualisation, B.E.; supervision, D.U., A.A.D., D.I.A. S.B.A.; project management, H.Y.; the authors have read and accepted the published version of the article."

Informed Consent Statement:

Participants took part in the research voluntarily and the research was conducted in line with the Declaration of Helsinki.

Acknowledgments:

We would like to thank all participants who took part in the research.

Funding:

This research was not funded by any institution or organization.

Conflicts of Interest:

The authors declare that no conflicts interest.

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