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Original Article

Happiness Levels and Leisure Life Satisfaction for Sports Leisure Activities Participation: Implication for Physical Education in Korea

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Abstract

Background: The study aimed to analyze happiness levels and leisure life satisfaction related to participation in sports leisure activities, and the differences in satisfaction levels by the type of participation events and participants' demographic backgrounds.

Methods: This study was based on the 2020 Korea National Leisure Activities Survey using stratified multi-stage cluster sampling with a population over the age of 15 years and a nationwide survey. Moreover, a household visit interview survey was conducted from September 7 to November 16, 2020. A total of 10,088 people (5,003 males and 5,085 females) responded to the survey. Frequency analysis, chi-square test, independent *t*-test, and one-way analysis of variance were performed.

Results: The analysis of the distribution of participants and the happiness level and overall leisure life satisfaction between participants in sports and non-sports leisure activities showed significant differences ($P<0.05$). Participants in sports leisure activities had higher levels of happiness and satisfaction with leisure activities than those in non-sports leisure activities. There were significant differences in satisfaction with participation in sports leisure activities by type of sports, age, educational level, marital status, and household income level ($P < 0.05$).

Conclusion: There were significant differences in participation in sports leisure activities by type of sports, age, educational level, marital status, and household income level, and the satisfaction level of participants in sports leisure activities differed according to these factors. This suggests that various educational efforts are required to combine physical education with sports leisure activities in school.

Keywords: Happiness; Leisure life satisfaction; Physical education; Sports participation

Introduction

Physical activity is substantially related to chronic diseases such as diabetes, obesity, and hypertension (1). Put differently, insufficient physical activity increases the possibility of contracting various diseases and in the worst case, may lead to death (2). The lack of physical activity is a significant burden on the state because of the social costs incurred to address it (3). The lack of physi-

cal activity worldwide was 28.5% in 2001 and 27.5% in 2016, which has remained stable for 15 years (4). This figure is concerning because it suggests that one in four people in the world suffer from physical insufficiency. Accordingly, the WHO has made efforts to reduce the global rate of physical inactivity to less than 10% by 2025 (5). Owing to the recent coronavirus disease, measures to restrict people's activities, such as lockdowns, have been implemented over extended periods to prevent the spread of the virus; these restrictions may have led to the physical inactivity rate regressing rather than approaching the WHO target of 10%.

Many countries have proposed several ways to address the lack of physical activity, one of which is through leisure activities. Leisure activities refer to the voluntary use of personal free time for certain activities for pleasure or well-being (6-7). There are various types of leisure activities, including cultural, artistic, athletic, tourism, and social activities. Participation in leisure activities accompanied by physical activity prevents chronic diseases, reduces mortality from physical activity, improves the quality of life, and increases satisfaction due to the inherent characteristics of leisure (8). Physical activity can help prevent various diseases, suggesting that sports leisure activities that include physical activity effectively prevent various diseases and reduce mortality.

Therefore, this study focused on leisure characteristics and examined the effect of sports leisure activities on quality of life. Specifically, because studies have solely focused on leisure sports, this study divided the participants into sports and non-sports leisure activity participants and analyzed their demographic characteristics, happiness level, and satisfaction. Additionally, this study aimed to examine the differences in satisfaction levels by the type of participation event and demographic background of the participants. Sports leisure activities that continue into adulthood are closely associated with physical education in schools (9). The study results provide important implications for school-level sports leisure activity education, for transitioning school physical education to lifelong sports leisure through the derived results.

Materials and Methods

Participants

The 2020 Korea National Leisure Activity Survey was conducted by the Korea Culture and Tourism Institute under the supervision of the Korea Ministry of Culture, Sports, and Tourism to analyze people's leisure activities (10). The population was based on the census of the Korea National Statistical Office, and the population aged ≥ 15 years residing in all households in Korea during the survey period was targeted (11). Sampling was stratified by region and colony using stratified multi-stage cluster sampling, followed by phylogenetic sampling. For sample allocation, the number of surveyed households was randomly selected after allocation by square root proportional distribution considering the sample's precision and appropriateness. The survey was conducted through one-on-one interviews during household visits from September 7 to November 16, 2020. A total of 10,088 people (5,003 men and 5,085 women) responded to the survey; the study participants' characteristics are shown in Table 1.

Ethical considerations

Since datasets on the survey did not include private identifier information, such as home addresses, telephone numbers, and social security numbers, ethical approval was not required. The contents of the experiment were explained to the participants, who subsequently provided written informed consent before the study commenced.

Table 1: Participant characteristics (n = 10,088)

Variables		***Frequency (n)***	***Ratio (%)***
Sex	Male	5,003	49.6
	Female	5,085	50.4
Age (years)	15–19	619	6.1
	20–29	1,536	15.2
	30–39	1,644	16.3
	40–49	1,888	18.7
	50–59	1,858	18.4
	60–69	1,377	13.6
	Over 70	1,166	11.6
Educational level	Elementary school or below	1,101	10.9
	Middle school	1,067	10.6
	High school	4,039	40.0
	College or university or above	3,881	38.5
Marital status	Single	3,041	30.1
	Married	5,713	56.6
	Divorce, bereavement, etc.	1,334	13.2
Household income	Less than USD 1,000	980	9.7
	USD 1,000–<2,000	923	9.1
	USD 2,000–<3,000	1,405	13.9
	USD 3,000–<4,000	1,824	18.1
	USD 4,000–<5,000	1,782	17.7
	USD 5,000–<6,000	1,407	13.9
	Greater than USD 6,000	1,767	17.5
Type of sport leisure activities	Ball sports	450	4.5
	Billiards/pocket-ball	436	4.3
	Bowling/table-tennis	341	3.4
	Golf	201	2.0
	Seasonal sports	345	3.4
	Bodybuilding/aerobic dance	958	9.5
	Yoga/Pilates	483	4.8
	Badminton	1,073	10.6
	Running	284	2.8
	Fighting sports	61	.6
	Dance sports	39	.4
	Other outdoor sports	152	1.5
	Non-sports leisure activities	5,265	52.2

Leisure activities

Sports leisure activities

Sports leisure activities were grouped into 12 categories—ball sports, billiards or pocket-ball, bowling or table-tennis, golf, seasonal sports, bodybuilding or aerobic dance, yoga or Pilates, badminton, running, fighting sports, dance sports, and other outdoor sports. Ball sports included basketball, volleyball, baseball, soccer, and foot volleyball. Seasonal sports included water

sports such as swimming, surfing, and water skiing; snow sports such as skiing; and ice sports such as ice hockey. Running included walking and jogging. Fighting sports included taekwondo, judo, and aikido. Dance sports included tango, waltz, and jive. Other outdoor sports included cycling, horseback riding, and rock climbing.

Non-sports leisure activities

Non-sports leisure activities were defined as those that did not involve physical activities such as exercise and sports. Types of non-sports leisure activities included cultural and artistic activities such as performances, art, and musical performances; tourism activities such as viewing and experiencing other areas for pleasure; hobbies and entertainment activities such as collecting and cooking; media activities; rest and relaxation; and socializing and other such activities.

Happiness level and leisure satisfaction

Happiness level

The level of happiness was measured with the question "*How happy do you think you are now?*" This was rated on a scale of one to ten, with one being unhappy, five being average, and ten being happy. Responses closer to one indicated being unhappy and closer to ten indicated feeling happy. This question applied to both sports and non-sports leisure activity participants.

Leisure satisfaction

Leisure satisfaction was measured with the question "*Are you satisfied with your overall leisure life?*" This was rated on a scale of one to seven, with one being very dissatisfied, four being average, and seven being very satisfied. Responses closer to one suggested greater dissatisfaction and closer to seven suggested greater satisfaction. This question applied to both sports and non-sports leisure activity participants.

Satisfaction with participation in sports leisure activities

Satisfaction with participation in sports leisure was solely applicable to participants engaging in sports leisure activities (n = 4,823), measured with the question "*To what extent are you satisfied with your participation in sports leisure activities?*" A score of one indicated being very dissatisfied, four indicated moderate satisfaction, and seven indicated being very satisfied. Responses closer to one indicated being dissatisfied and closer to seven indicated satisfaction.

Statistical analysis

All results are presented as the mean ± standard deviation or number (%). A chi-square test was performed to analyze participation in sports leisure while considering gender, age, educational level, marital status, and household income. An independent *t*-test was conducted to analyze the difference in happiness level and leisure life satisfaction according to participation in sports leisure activities. One-way analysis of variance (ANOVA) and post-hoc tests were performed to analyze satisfaction with participation in sports leisure activities. The Scheffe test (post-hoc testing) was conducted to specifically confirm which groups showed differences when a difference between the groups occurred. Statistical analyses were performed using SPSS version 24.0 (IBM Corp., Armonk, NY, USA), and statistical significance was set at $P < 0.05$.

Results

Distribution of participants in sports leisure activities and non-sports leisure activities

The analysis of the distribution of participants in sports and non-sports leisure activities is shown in Table 2. The chi-square test was used to analyze the characteristic variables for participants in sports and non-sports leisure activities; results showed statistical significance for all variables ($P < 0.001$). Males had a higher participation rate in sports leisure activities, and females had a higher participation rate in non-sports leisure activities. The participation rate in sports leisure activities was higher than the participation rate in non-sports leisure activities until the age of 40 years, whereas the participation rate in non-sports leisure activities was higher for those in their 50s and 70s.

Table 2: Distribution of leisure activity participants

Variables			***Type***		***x^2/P***
			Sports leisure activities	Non-sports leisure activities	
Sex	Male	Frequency	2631 (26.1%)	2372 (23.5%)	90.854/
		Expected frequency	2391.9	2611.1	<0.001***
	Female	Frequency	2192 (21.7%)	2893 (28.7%)	
		Expected frequency	2431.1	2653.9	
Age (years)	15–19	Frequency	358 (3.5%)	261 (2.6%)	375.436/
		Expected frequency	295.9	323.1	<0.001***
	20–29	Frequency	928 (9.2%)	608 (6.0%)	
		Expected frequency	734.4	801.6	
	30–39	Frequency	881 (8.7%)	763 (7.6%)	
		Expected frequency	786.0	858.0	
	40–49	Frequency	956 (9.5%)	932 (9.2%)	
		Expected frequency	902.6	985.4	
	50–59	Frequency	829 (8.2%)	1029 (10.2%)	
		Expected frequency	888.3	969.7	
	60–69	Frequency	540 (5.4%)	837 (8.3%)	
		Expected frequency	658.3	718.7	
	Over 70	Frequency	331 (3.3%)	835 (8.3%)	
		Expected frequency	557.5	608.5	
Educational level	Elementary school or below	Frequency	348 (3.4%)	753 (7.5%)	272.712/
		Expected frequency	526.4	574.6	<0.001***
	Middle school	Frequency	413 (4.1%)	654 (6.5%)	
		Expected frequency	510.1	556.9	
	High school	Frequency	1869 (18.5%)	2170 (21.5%)	
		Expected frequency	1931.0	2108.0	
	College or university or above	Frequency	2193 (21.7%)	1688 (16.7%)	
		Expected frequency	1855.5	2025.5	
Marital status	Single	Frequency	1779 (17.6%)	1262 (12.5%)	284.172/
		Expected frequency	1453.9	1587.1	<0.001***
	Married	Frequency	2619 (26.0%)	3094 (30.7%)	
		Expected frequency	2731.3	2981.7	
	Divorce, bereavement, etc.	Frequency	425 (4.2%)	909 (9.0%)	
		Expected frequency	637.8	696.2	
Household income	Less than USD 1,000	Frequency	292 (2.9%)	688 (6.8%)	283.749/
		Expected frequency	468.5	511.5	<0.001***
	USD 1,000 –<2,000	Frequency	340 (3.4%)	583 (5.8%)	
		Expected frequency	441.3	481.7	
	USD 2,000 –<3,000	Frequency	637 (6.3%)	768 (7.6%)	
		Expected frequency	671.7	733.3	
	USD 3,000 –<4,000	Frequency	865 (8.6%)	959 (9.5%)	
		Expected frequency	872.0	952.0	
	USD 4,000–<5,000	Frequency	918 (9.1%)	864 (8.6%)	
		Expected frequency	852.0	930.0	
	USD 5,000–<6,000	Frequency	727 (7.2%)	680 (6.7%)	
		Expected frequency	672.7	734.3	
	Greater than USD 6,000	Frequency	1044 (10.3%)	723 (7.2%)	
		Expected frequency	844.8	922.2	
Total			4823 (47.8%)	5265 (52.2%)	

***$P < 0.001$ (tested by chi-square analysis); USD, United States Dollar

Further, only the group with a college or university degree showed a high participation rate in sports leisure activities. Regarding marital status, the single group had the highest rate of participation in sports leisure activities. The participation rate in non-sports leisure activities was highest for the group with a household income under USD 4,000, whereas those having a greater income showed a higher participation rate in sports leisure activities.

Happiness level and leisure life satisfaction in sports and non-sports leisure activities

An independent *t*-test was conducted to analyze happiness levels and leisure life satisfaction in sports and non-sports leisure activities, as shown in Table 3. There was a statistically significant difference between the two groups ($P < 0.001$); that is, the sports leisure activities group had higher levels of happiness and leisure life satisfaction than the non-sports leisure activities group.

Table 3: Differences in happiness level and leisure life satisfaction

Variables	*Sports leisure activities (n = 4,823)*	*Non-sports leisure activities (n = 5,265)*	*t*	*P*
Happiness level	7.17±1.51	6.75±1.52	13.607	<0.001***
Leisure life satisfaction	4.69±1.14	4.30±1.16	17.191	<0.001***

***$P < 0.001$ (tested by independent t-test)

Satisfaction with participation in sports leisure activities

Table 4 shows the results of a one-way ANOVA to analyze satisfaction with participation in sports leisure activities. Sex and marital status were not statistically significantly different. However, statistically significant differences were found for the type of sports leisure activities ($P < 0.001$), age ($P < 0.05$), educational level ($P < 0.01$), and household income ($P < 0.01$). Regarding age, the post-hoc test analysis showed higher satisfaction for participants in their 20s than those in 10s and 60s, and those in their 30s, 40s, and above 70 showed higher satisfaction than those in their 60s. Regarding educational level, participants with a college or university degree showed higher satisfaction than those with a middle school or high school degree. Regarding household income, high-income participants earning over USD 6,000 showed a higher level of satisfaction than participants with household incomes of USD 2,000 to 4,000. Regarding the type of sports leisure activities, participants engaging in ball sports, golf, seasonal sports, bodybuilding or aerobic dance, yoga or Pilates, fighting sports, and other outdoor sports showed higher satisfaction than those engaging in billiards or pocket-ball, badminton, and running.

Discussion

Comparison of sports and non-sports leisure activities

More participants participated in non-sports leisure activities (5,265 people, 52.2%) than in sports leisure activities (4,823, 47.8%). However, given that non-sports leisure activities included a diverse range of activities such as cultural arts, hobbies, entertainment, tourism, relaxation, and social activities, we consider the ratio of people participating in sports leisure activities as very high in Korea. Women's participation in sports leisure activities was lower than that of men. Traditionally, women have been excluded from the sports industry. Although this trend is gradually improving, gender inequality in the sports industry remains (12). Sports leisure activities can also be a cause of these problems. Participation rate in sports leisure activities tends to decrease from the age of 50 years. Given that lack of physical activities contributes to diseases such as diabetes and cardiovascular disease (13-14), this study's results

imply that low participation in sports leisure activities in older age groups may contribute to significant health problems.

Table 4: Satisfaction with participation in sports leisure activities

Variables		***Mean±standard deviation***	***F***	***Post-hoc (Scheffe)***
Sex	Male	5.85±0.88	0.006	
	Female	5.86±0.86		
Age (years)	15–19 (a)	5.80±0.87	2.145*	b>a,f
	20–29 (b)	5.90±0.85		c,d,g>f
	30–39 (c)	5.88±0.86		
	40–49 (d)	5.88±0.89		
	50–59 (e)	5.82±0.86		
	60–69 (f)	5.77±0.89		
	Over 70 (g)	5.89±0.82		
Educational level	Elementary school or below (a)	5.82±0.84	4.581**	d>b,c
	Middle school (b)	5.78±0.89		
	High school (c)	5.82±0.87		
	College or university or above (d)	5.90±0.87		
Marital status	Single	5.88±0.84	1.504	
	Married	5.84±0.88		
	Divorce, bereavement, etc.	5.83±0.90		
Household income	Less than USD 1,000 (a)	5.84±0.92	3.753**	g>c,d
	USD 1,000–<2,000 (b)	5.83±0.94		
	USD 2,000–<3,000 (c)	5.80±0.85		
	USD 3,000–<4,000 (d)	5.79±0.91		
	USD 4,000–<5,000 (e)	5.85±0.82		
	USD 5,000–<6,000 (f)	5.86±0.86		
	Greater than USD 6,000 (g)	5.96±0.88		
Type of sport leisure activities	Ball sports (a)	5.93±0.85	15.146***	a,d,e,f,g,j,l >b,h,i
	Billiards/pocket-ball (b)	5.68±0.92		
	Bowling/table-tennis (c)	5.83±0.92		
	Golf (d)	6.05±0.91		
	Seasonal sports (e)	6.03±0.77		
	Bodybuilding/aerobic dance (f)	5.97±0.82		
	Yoga/Pilates (g)	6.00±0.79		
	Badminton (h)	5.65±0.88		
	Running (i)	5.68±0.90		
	Fighting sports (j)	6.15±0.79		
	Dance sports (k)	5.85±0.84		
	Other outdoor sports (l)	6.02±0.79		

*$P < 0.05$, **$P < 0.01$, ***$P < 0.001$ (tested by one-way analysis of variance)

Typically, the higher the educational level, the higher the household income level. The study results showed that the higher the educational and household income level, the higher the participation rate in sports leisure activities, aligning with studies that have shown that socioeconomic

status and the level of physical activity are significantly related (15-16). Participants in sports leisure activities showed higher levels of happiness and leisure life satisfaction with leisure activities than participants in non-sports leisure activities. This is consistent with research showing that leisure activities involving physical activity positively affect quality of life and satisfaction (7).

It is encouraging that there is a correlation between happiness levels and leisure life satisfaction and participation in sports leisure activities because it provides a basis for promoting participation in sports leisure activities. However, gender inequality issues in sports leisure activities prove to be problematic. Gender inequality in sports is also present at the school level (17), suggesting that such inequality is widespread in all age groups, and if not resolved in school sports, continues into adulthood. Education on gender inequality in school sports is required to establish a suitable leisure culture (18).

The decline in participation in sports leisure activities with increasing age is a severe problem considering that disease-related risk increases with age. To address this, awareness can be generated at the school level in physical education lectures that emphasize the importance of lifelong physical activity. Suitable social infrastructure that allows older adults to easily access sports leisure activities must also be built. This is also similar for sports leisure activities varying according to educational and household income levels. School-level responses and various types of social support are needed to resolve differences in approaches to sports leisure activities depending on social background.

Satisfaction with participation in sports leisure activities

Participants' satisfaction differed by the type of sports leisure activity. Participants engaging in ball games, golf, seasonal sports, bodybuilding or aerobics dance, yoga or Pilates, fighting sports, and other outdoor sports had higher satisfaction than participants engaging in billiards or pocketball, badminton, and running. This may be due to the spatial and organizational context conditions rather than event characteristics (19). For example, high satisfaction with certain sports may be attributed to the participant's immersion in nature (20) or due to the social aspect of the sport such as with ball games (21).

Participants' satisfaction with leisure activities differed by age. Participants in the 10s and 60s age group were less satisfied with their leisure activities than other age groups. However, a study with adolescents showed that their satisfaction with participation in sports leisure activities was very high (22-23). This study's contradictory results may be due to Korea's cultural background. Put differently, Korean adolescents get very limited leisure time as they spend a large part of their day studying toward extremely competitive school and national exams. Therefore, Korea lacks the infrastructure for sports leisure for young people and satisfaction of young people may not be high due to this reason.

The low level of satisfaction in the 60s group may be due to the coexistence of the middle-aged and older adults in this group. In Korea, the standard age considered for older adults is 65 years, which is when they are eligible for various benefits. For example, people over the age of 65 can participate in facilities and programs provided by the government for the elderly. However, in this study, the 60s group included adults who were ineligible and eligible for such benefits. As a result, participants between 60 and 64 years in our study may have skewed the results concerning satisfaction with leisure activities, perhaps because they are participating in sports not geared toward their physical abilities.

Satisfaction levels differed by educational level and household income, with college or university graduates having higher satisfaction than middle school and high school graduates. Additionally, participants who earned over USD 6,000 were more satisfied than those earning USD 2,000 to 4,000. The findings regarding education level and household income are consistent with studies that have shown that socioeconomic status is significantly related to physical activity (15-16).

Above all, teenagers' low satisfaction with sports leisure activities is a very severe problem. If teen-

agers gain little satisfaction from sports leisure activities, they may be less likely to continue with those activities into adulthood. Therefore, along with the need for leisure education in schools (24), there is an urgent need to secure leisure time for students, expose them to a variety of sports leisure activities to help them identify one or more that they enjoy, and build an infrastructure to support this growth.

Limitations and Applications

This study has several limitations. First, given that this study identified differences between variables related to participation in sports leisure activities, the results do not imply a correlation or causation between variables. Therefore, follow-up studies need to investigate the factors affecting participation in sports leisure activities and the effects of sports leisure activities on emotional factors. Second, only the presence or absence of participation in sports leisure activities was classified, and the frequency, intensity, and participation period were not considered. Thus, future studies should explore the frequency, intensity, and time of exercise. Third, due to survey limitations, teenagers were limited to high school students, and elementary school and middle school students were not included. As a result, it is necessary to expand the study sample to elementary school and middle school students given that elementary and middle school students will be teenagers.

This study's findings provide a scientific basis for factors to be considered when establishing policies for revitalizing sports leisure activities. Additionally, the results can serve as primary data for establishing a physical education plan connecting school physical education and lifelong sports.

Conclusion

This study analyzed the actual conditions of sports leisure activities of Koreans and the level of happiness and satisfaction according to participation in sports leisure activities. There were significant differences in participation in sports leisure activities by sex, age, educational level, marital status, household income, and type of sports leisure activities. Additionally, the satisfaction level of participants in sports leisure activities differed by the type of sports leisure activities, age, educational level, and household income. The results of this study show that participation in sports leisure activities should be encouraged to improve the quality of life, and it is necessary to consider various background factors to increase the participation rate.

Journalism Ethics considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/ or falsification, double publication and/ or submission, redundancy, etc.) have been completely observed by the authors.

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Declaration Statement

The author declares no conflicts of interest.

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