



# Analysis of the Psychosocial Factors that Contribute to Adolescents' Continued Participation in Leisure Sport

 Seungman, Lee<sup>1</sup> and  Hohyun, Song<sup>2</sup>

<sup>1</sup>Kyunghee University, Republic of Korea

<sup>2</sup>\*Jeonju Hosung Middle School, Republic of Korea

\*Corresponding author. Email: Hohyunss@nate.com

---

## Abstract

Adolescents' participation in leisure sport can lead to lifelong health. Therefore, it is necessary to study the variables that affect Adolescents' continued participation in leisure sport. This study analyzed the psychosocial variables that may impact adolescents' continued participation in leisure sport. Data were collected from 187 Korean adolescents participating in leisure sport in 2019. The collected data were analyzed with frequency analysis, reliability analysis, descriptive statistics, correlational analysis, and multiple regression. The following results were obtained: First, all sub-scales of leisure flow had a positive impact on continued leisure participation. Second, the environmental satisfaction, psychological satisfaction, and social satisfaction subscales of leisure satisfaction had a positive impact on continued leisure participation. Third, all subscales of leisure attitude had a positive effect on continued leisure participation. Fourth, the perseverance, personal reward, social reward, and distinct feelings subscales of serious leisure had a positive effect on leisure continuation. As shown here, we identified several variables that encourage adolescents to continuously participate in leisure sport and examined their effects. Based on these results, we emphasized the importance of proper use of leisure time in adolescence and stressed sport activities as a means to use leisure time. Further, we recommend the promotion of environments that motivate adolescents to participate in leisure sport more actively.

**Keywords:** Adolescents, Continued Participation in Leisure Sport, Psychosocial Variables, Leisure Flow, Leisure Satisfaction, Leisure Attitude, Serious Leisure, Continuation of Leisure

---

## 1. Introduction

Based on the theory by Homo Ludens, [1] focused on the fact that play is a fundamental element of being human. Humans in modern society have naturally faced increased life expectancy and leisure time thanks to the remarkable advances in science and civilization. People have naturally become interested in quality of life and they pursue an array of leisure activities. Therefore, how to use the increased leisure time, what leisure activities to participate in, how to participate in such leisure activities, and what can be obtained from such participation have emerged as important topics of discussion, and research on leisure sport is ongoing [2].

In particular, the implementation of a five-day work week has expanded leisure time and altered the perception of leisure in Korea [3]. To enhance personal quality of life, people in modern society perceive leisure activities as an area of consumption and spending and engage in self-improvement, promote joy, maintain and enhance health, and relieve stress by using various leisure activities, times, and spaces. Since recognizing the importance of leisure, people have participated in leisure activities more enthusiastically [3]. With a focus on the subjective experience acquired by the present self, [4] paid attention to the changes in the identity of a "participating self" as opposed to the "self as an observer." [5] stated that the diversity and individuality of subjective experiences lie in self-improvement and transformation, and this is an expression of spontaneity through autonomous participation in the overall process of leisure involvement [6].

The educational environment surrounding Korean adolescents features an overheated college admission system that inflicts severe academic stress and an educational curriculum largely focused on developing intellectual capacities. As a result, Korean adolescents demonstrate a very low perceived happiness index, which has induced a serious imbalance[7]. Furthermore, many adolescent activities are confined within the boundaries of social reality and are considered a means for the systematic management of college admission or employment [7]. In these circumstances, sports are cultural contents that help adolescents to relieve stress and seek joy in life. Particularly, beginning sports as a leisure activity in adolescence increases the likelihood of continuing to participate in sports in adulthood.

This can be understood using the concept of continued participation in leisure sport. Intention to continue exercise refers to an individual's obsession or continuation of exercise [8], and can be seen as continuation of leisure sport activity [9]. Leisure continuation, which signifies continued participation, can be determined by one's tentative intent to participate in their chosen leisure activity [10]. Hence, in a logical sense, leisure continuation is affected by leisure involvement, which refers to factors such as stimulation, motivation, and interest in leisure activities. More specifically, as leisure involvement is explained as a psychological state that determines the characteristics of leisure behaviors, characterized by an individual's continued interest in leisure activities and devotion to the activities [11], it can have a direct impact on one's self-control and will to continue participation [12]. In other words, individuals may demonstrate varying levels of information according to leisure activity involvement, and the attitude of investing effort to gain the benefits of participation is converted to the perceived control of the decision to participate in leisure activities and determines continuation of leisure activity. [13]explained adolescents' will to participate and continuation of participating in sports as an adult using the concept called "future sports participation will."

For an empirical examination of leisure sport participation, multiple studies have investigated various psychosocial variables that may impact continued leisure sport participation [14-22]. This is because we can infer that these factors have a grave impact on the choice, participation, and re-participation in leisure sport. Thus, it is necessary to examine how leisure sport have become an integral part of our daily lives and how we can consistently continue participation by analyzing some factors that affect leisure continuation, namely leisure flow, leisure satisfaction, leisure attitude, and serious leisure. In addition, studies on leisure sport activities among adolescents are crucial, as leisure sport is a healthy means of relieving negative emotions, such as anxiety and tension. It is also a means for them to actively make decisions and enjoy their lives. In light of reports that leisure activities gravely impact people's happiness and quality of life, numerous studies have been conducted on the topic, but most of these involved adults. Moreover, most studies that involved adolescents examined the effects of school sport clubs or afterschool programs, and studies on adolescents' active participation in leisure sport are lacking. Studies have also examined only some variables that affect leisure continuation in independence from other variables. Thus, it is important to investigate the comprehensive relationships among these variables.

The aim of this study is to encourage continued participation in leisure sport and promote a vibrant life among Korean adolescents, who are undergoing several difficulties in an educational environment focused on college admission, ultimately to foster a healthy leisure culture among adolescents and naturally link them to lifelong sports.

To this end, we set the following hypotheses: First, leisure flow will have a positive effect on adolescents' continued leisure sport participation. Second, leisure satisfaction will have a positive effect on adolescents' continued leisure sport participation. Third, leisure attitude will have a positive effect on adolescents'

continued leisure sport participation. Fourth, serious leisure will have a positive effect on adolescents' continued leisure sport participation.

## 2. Method

### 2.1 Study Population

We used convenience sampling to identify the psychosocial variables that affect continued leisure sport participation among adolescents. Data were collected by distributing a questionnaire to 200 adolescents who live in Gwangju Metropolitan City and Jeonju, Republic of Korea, in November 2019. All questionnaires were collected on the site. After excluding 13 questionnaires with insufficient or missing responses, data from 187 adolescents were analyzed. The participants' general characteristics are shown in Table 1.

Table 1. Participants' General Characteristics

Variable	Category	Number of cases (persons)	Percentage (%)
Gender	Male	98	52.4
	Female	89	47.6
Frequency of leisure sport participation	≥ 5 days a week	47	25.1
	3, 4 days a week	89	47.6
	1, 2 days a week	51	27.3
Intensity of leisure sport participation	≥ 61 min. per session	63	33.7
	30–60 min. per session	78	41.7
	< 30 min. per session	46	24.6
Duration of leisure sport participation	≥ 1 year	93	49.7
	6 months–1 year	46	24.6
	< 6 months	48	25.7
Total		187	100

### 2.2 Instruments

We used a questionnaire. Among various instruments validated in previous studies, we chose the ones that were determined to be appropriate for the purpose of this study. Four items were used for participants' general characteristics: sex and frequency, intensity, and duration of leisure sport participation. Leisure flow was measured using the scale developed by [23] and used by [24]. The scale specifically consists of two subscales of cognitive flow and behavioral flow. Leisure satisfaction was assessed using the scale developed by [25], which consists of six subscales: rest satisfaction, environmental satisfaction, social satisfaction, psychological satisfaction, educational satisfaction, and physiological satisfaction. Leisure attitude was assessed using the Leisure Attitude Scale developed by [26], which consists of three subscales: behavioral attitude, cognitive attitude, and affective attitude. Serious leisure was assessed using the scale developed by [27], which consists of six subscales: perseverance, expertise, effort, intrinsic reward, identification, and distinct feelings. Leisure continuation was assessed using the scale developed by [28] and used by [19]. The scale consists of two subscales of continued participation and possibility of continued participation. Each item was rated on a five-point Likert scale.

Table 2 shows the results of the reliability analysis for each variable. Leisure flow (.890-.946), leisure satisfaction (.917-.943), leisure attitude (.936-.969), and serious leisure (.920-.971) all had a value of above the cutoff (0.6), indicating that reliability is established.

Table 2. Reliability Analysis for each Variable

Variable	Subscale	Cronbach's $\alpha$
Leisure flow	Cognitive flow	.946
	Behavioral flow	.890
	Psychological satisfaction	.943
	Educational satisfaction	.917
Leisure satisfaction	Social satisfaction	.933
	Rest satisfaction	.934
	Physiological satisfaction	.940
	Environmental satisfaction	.923
Leisure attitude	Affective attitude	.946
	Behavioral attitude	.969
	Cognitive attitude	.936
	Perseverance	.920
	Expertise	.933
Serious leisure	Effort	.939
	Personal reward	.971
	Identification	.967
	Social reward	.948
Leisure continuation	Distinct feelings	.945
	Continued participation	.930

### 2.3 Data Analysis Method and Process

The survey proceeded as follows. After the researchers contacted the participants' schools in advance, explained the purpose of the study, and obtained approval and informed consent, they visited the schools, explained the research purpose to the students, and interested participants completed the self-report questionnaires. Also, the study was conducted after obtaining consent from the research participants themselves and their parents. The collected data were analyzed as follows, using the SPSS 18.0 software: First, participants' demographic characteristics were analyzed with frequency analysis. Second, the reliability of the instruments was tested with Cronbach's  $\alpha$ . Third, perception about leisure flow, leisure satisfaction, leisure attitude, serious leisure, and leisure continuation were analyzed with descriptive statistics. Fourth, the relationships among the variables were analyzed with correlational analysis. Fifth, the psychosocial variables that impact continued leisure sport participation among the participants were analyzed using multiple regression.

### 3. Results

#### 3.1 Descriptive Statistics

The descriptive statistics (mean, standard deviation, skewness, kurtosis) for the total scores and subscale scores of leisure flow, leisure satisfaction, leisure attitude, serious leisure, and leisure continuation were analyzed, and the results are shown in Table 3. The mean scores ranged from 2.94–3.56, and standard deviations ranged from .92–1.31. The absolute skewness values ranged from .00–.50, and absolute kurtosis values ranged from .16–1.05. As the conditions for normal distribution were met at skewness  $< \pm 3.0$  [29] and kurtosis  $< \pm 10.0$  [30], which are the criteria for violation of univariate normality, all items were found to satisfy the criteria.

Table 3. Descriptive Statistics

Variables		Number of cases	Mean	Standard deviation	Skewness	Kurtosis
Leisure flow	Cognitive flow	187	3.56	.92	-.31	.16
	Behavioral flow	187	3.54	.98	-.32	-.25
	Psychological satisfaction	187	3.33	1.16	-.27	-.54
	Educational satisfaction	187	3.42	1.07	-.39	-.35
Leisure satisfaction	Social satisfaction	187	3.41	1.12	-.44	-.27
	Rest satisfaction	187	3.40	1.09	-.46	-.21
	Physiological satisfaction	187	3.27	1.11	-.34	-.26
	Environmental satisfaction	187	3.31	1.09	-.33	-.36
Leisure attitude	Affective attitude	187	3.04	1.22	-.10	-.79
	Behavioral attitude	187	3.36	1.20	-.50	-.49
	Cognitive attitude	187	3.23	1.17	-.28	-.59
	Perseverance	187	3.16	1.18	-.20	-.62
Serious leisure	Expertise	187	2.99	1.21	.00	-.74
	Effort	187	3.13	1.20	-.21	-.66
	Personal reward	187	3.27	1.17	-.41	-.41
	Identification	187	2.94	1.31	.04	-1.05
Leisure continuation	Social reward	187	3.12	1.22	-.22	-.71
	Distinct feelings	187	3.09	1.19	-.16	-.60
	Continued participation	187	3.26	1.24	-.32	-.63
	Possibility of participation	187	3.28	1.25	-.34	-.70

### 3.2 Correlation Analysis

Prior to the regression analysis to test the hypotheses, the correlations among the relevant variables were analyzed (Table 4). The results showed that there are statistically significant positive correlations among all the subfactors of leisure flow, leisure satisfaction, leisure attitude, and serious leisure, and leisure continuation. As shown here, all factors were statistically significantly correlated with one another.

Table 4. Correlations among Variables

Variable	Correlations among constructs																			
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t
a	1																			
b	.875	1																		
c	.723	.716	1																	
d	.725	.727	.876	1																
e	.694	.682	.892	.878	1															
f	.686	.677	.890	.876	.901	1														
g	.695	.697	.886	.863	.885	.918	1													
h	.710	.702	.864	.811	.869	.853	.872	1												
i	.703	.671	.888	.843	.852	.836	.845	.842	1											
j	.702	.710	.904	.861	.896	.846	.856	.857	.893	1										
k	.632	.616	.858	.798	.884	.864	.864	.814	.852	.886	1									
l	.664	.685	.855	.817	.840	.848	.843	.826	.856	.863	.857	1								
m	.629	.611	.820	.801	.782	.785	.842	.796	.869	.805	.804	.857	1							
n	.701	.691	.860	.841	.840	.855	.893	.845	.881	.842	.839	.873	.896	1						
o	.714	.729	.892	.858	.895	.879	.895	.867	.907	.916	.885	.898	.847	.916	1					
p	.659	.638	.821	.805	.764	.768	.825	.770	.865	.799	.794	.806	.859	.890	.868	1				
q	.640	.620	.878	.798	.842	.832	.855	.814	.864	.837	.839	.831	.843	.875	.887	.920	1			
r	.640	.605	.855	.805	.854	.834	.835	.815	.875	.855	.856	.864	.833	.882	.905	.881	.922	1		
s	.595	.603	.797	.751	.789	.791	.792	.801	.802	.820	.810	.807	.732	.791	.858	.763	.795	.852	1	
t	.628	.627	.868	.827	.853	.821	.827	.820	.878	.899	.861	.846	.791	.830	.887	.795	.835	.839	.877	1

※ All correlation coefficients are significant at 0.01 (two-tailed).

※ a=Cognitive flow b=Behavioral flow c=Psychological satisfaction d=Educational satisfaction e=Social satisfaction f=Rest satisfaction g=Physiological satisfaction h=Environmental satisfaction l=Affective attitude j=Behavioral attitude k=Cognitive attitude l=Perseverance m=Expertise n=Effort o=Personal reward p=Identification q=Social reward r=Distinct feelings s=Continued participation t=Sustainability

### 3.3 Multiple Regression

The effects of psychosocial variables on adolescents' continued leisure sport participation were analyzed with multiple regression. First, the results of multiple regression analyzing the effects of leisure flow on continued leisure sport participation are shown in Table 5.

Table 5. The Impact of Leisure Flow on Continued Leisure Sport Participation

Dependent variable	Independent variable	Standard error	$\beta$	t	p	Tolerance limit
Continued participation	Constant	.314		1.090	.277	
	Cognitive flow	.385	.287	2.403	.017*	.235
	Behavioral flow	.446	.352	2.945	.004**	.235
R=.619, R <sup>2</sup> =.383, adj R <sup>2</sup> =.377, F=57.189, p=.000, Durbin-Watson=1.761						
Sustainability	Constant	.163		.582	.562	
	Cognitive flow	.456	.338	2.915	.004**	.235
	Behavioral flow	.422	.331	2.855	.005**	.235
R=.648, R <sup>2</sup> =.420, adj R <sup>2</sup> =.413, F=66.517, p=.000, Durbin-Watson=1.869						

\*\*p<.01, \*p<.05

The results showed that all subscales of leisure flow had a positive impact on continued leisure sport participation. First, cognitive flow ( $\beta$ =.287,  $p$ =.017) had a statistically significant positive effect on continued participation, and behavioral flow ( $\beta$ =.352,  $p$ =.004) also had a statistically significant positive effect on continued participation. Leisure flow explained for 37.7% of the variance of continued participation. Further, cognitive flow ( $\beta$ =.338,  $p$ =.004) had a statistically significant positive effect on sustainability, and behavioral flow ( $\beta$ =.331,  $p$ =.005) also had a statistically significant positive effect on sustainability. Leisure flow explained for 41.3% of the variance of sustainability.

Next, the results of multiple regression analyzing the effects of leisure satisfaction on continued leisure sport participation are shown in Table 6.

Table 6. The Impact of Leisure Satisfaction on Continued Leisure Sport Participation

Dependent variable	Independent variable	Standard error	$\beta$	t	p	Tolerance limit
Continued participation	Constant	.177		-.092	.927	
	Psychological satisfaction	.119	.201	1.794	.074	.134
	Educational satisfaction	.114	.015	.151	.880	.170
	Social satisfaction	.129	.104	.899	.370	.125
	Rest satisfaction	.139	.142	1.151	.251	.110
	Physiological satisfaction	.132	.111	.930	.354	.118
	Environmental satisfaction	.109	.308	3.233	.001**	.184
R=.836, R <sup>2</sup> =.699, adj R <sup>2</sup> =.689, F=69.821, p=.000, Durbin-Watson=1.892						

Sustainability	Constant	.147		-1.338	.182	
	Psychological satisfaction	.099	.387	4.180	.000**	.134
	Educational satisfaction	.095	.151	1.846	.067	.170
	Social satisfaction	.107	.248	2.584	.011*	.125
	Rest satisfaction	.116	-.065	-.640	.523	.110
	Physiological satisfaction	.110	.071	.725	.470	.118
	Environmental satisfaction	.090	.142	1.797	.074	.184
R=.891, R <sup>2</sup> =.794, adj R <sup>2</sup> =.787, F=115.634, p=.000, Durbin-Watson=1.868						

\*\*p<.01, \*p<.05

The results showed that the subscales of leisure satisfaction had partial positive impact on continued leisure sport participation. First, psychological satisfaction ( $\beta=.201$ ,  $p=.074$ ), educational satisfaction ( $\beta=.015$ ,  $p=.880$ ), and social satisfaction ( $\beta=.104$ ,  $p=.370$ ) did not have a statistically significant effect on continued participation. Rest satisfaction ( $\beta=.142$ ,  $p=.251$ ) and physiological satisfaction ( $\beta=.111$ ,  $p=.354$ ) also did not have a statistically significant effect on, but environmental satisfaction ( $\beta=.308$ ,  $p=.001$ ) had a statistically significant positive effect on continued participation. Leisure satisfaction explained for 68.9% of the variance of continued participation. Next, psychological satisfaction ( $\beta=.387$ ,  $p=.000$ ) social satisfaction ( $\beta=.248$ ,  $p=.011$ ) had a statistically significant positive effect on sustainability, but educational satisfaction ( $\beta=.151$ ,  $p=.067$ ), rest satisfaction ( $\beta=-.065$ ,  $p=.523$ ), physiological satisfaction ( $\beta=.071$ ,  $p=.470$ ), and environmental satisfaction ( $\beta=.142$ ,  $p=.074$ ) did not have a statistically significant positive effect on sustainability. Leisure satisfaction explained for 78.7% of the variance of sustainability.

The results of multiple regression analyzing the impact of leisure attitude on continued leisure sport participation are shown in Table 7.

Table 7. The Impact of Leisure Attitude on Continued Leisure Sport Participation

Dependent variable	Independent variable	Standard error	$\beta$	t	p	Tolerance limit
Continued participation	Constant	.148		2.078	.039	
	Affective attitude	.093	.253	2.763	.006**	.186
	Behavioral attitude	.107	.314	3.034	.003**	.145
	Cognitive attitude	.094	.316	3.556	.000**	.196
	R=.846, R <sup>2</sup> =.719, adj R <sup>2</sup> =.711, F=153.837, p=.000, Durbin-Watson=1.554					
Sustainability	Constant	.110		.578	.564	
	Affective attitude	.069	.306	4.534	.000**	.186
	Behavioral	.080	.437	5.722	.000**	.145



attitude

Cognitive attitude .070 .213 3.242 .001\*\* .196

R=.919, R<sup>2</sup>=.845, adj R<sup>2</sup>=.843, F=333.119, p=.000, Durbin-Watson=1.718

\*\*p<.01, \*p<.05

The results showed that all subscales of leisure satisfaction had a positive impact on all subfactors of continued leisure sport participation. First, affective attitude ( $\beta=.253$ ,  $p=.006$ ), behavioral attitude ( $\beta=.314$ ,  $p=.003$ ), and cognitive attitude ( $\beta=.316$ ,  $p=.000$ ) had a statistically significant effect on continued participation. Leisure attitude explained for 71.1% of the variance of continued participation. Further, affective attitude ( $\beta=.306$ ,  $p=.000$ ) behavioral attitude ( $\beta=.437$ ,  $p=.000$ ), and cognitive attitude ( $\beta=.213$ ,  $p=.001$ ) had a statistically significant effect on sustainability. Leisure attitude explained for 84.3% of the variance of sustainability.

Next, the results of multiple regression analyzing the impact of serious leisure on continued leisure sport participation are shown in Table 8.

Table 8. The Impact of Serious Leisure on Continued Leisure Sport Participation

Dependent variable	Independent variable	Standard error	$\beta$	t	p	Tolerance limit
Continued participation	Constant	.136		1.642	.102	
	Perseverance	.096	.130	1.423	.156	.150
	Expertise	.091	-.079	-.882	.379	.158
	Effort	.117	-.069	-.609	.543	.099
	Personal reward	.121	.511	4.503	.000**	.098
	Identification	.099	-.023	-.222	.825	.116
	Social reward	.118	-.061	-.533	.595	.095
	Distinct feelings	.113	.480	4.420	.000**	.107
R=.880, R <sup>2</sup> =.774, adj R <sup>2</sup> =.766, F=87.777, p=.000, Durbin-Watson=1.758						
Sustainability	Constant	.126		.696	.487	
	Perseverance	.089	.208	2.462	.015*	.150
	Expertise	.085	.039	.468	.641	.158
	Effort	.108	-.042	-.399	.691	.099
	Personal reward	.112	.543	5.182	.000**	.098
	Identification	.092	-.069	-.717	.474	.116
	Social reward	.109	.224	2.104	.037*	.095
	Distinct feelings	.105	.027	.264	.792	.107
R=.899, R <sup>2</sup> =.808, adj R <sup>2</sup> =.800, F=107.372, p=.000, Durbin-Watson=2.023						

\*\*p<.01, \*p<.05

The results showed that the subscales of serious leisure had partial positive impact on the subfactors of continued leisure sport participation. First, perseverance ( $\beta=.130$ ,  $p=.156$ ), expertise ( $\beta=-.079$ ,  $p=.379$ ), and effort ( $\beta=-.069$ ,  $p=.543$ ) did not have a statistically significant effect on continued participation. While personal reward ( $\beta=.511$ ,  $p=.000$ ) had a statistically significant effect on continued participation, identification ( $\beta=-.023$ ,  $p=.825$ ) and social reward ( $\beta=-.061$ ,  $p=.595$ ) did not. Distinct feelings ( $\beta=.480$ ,  $p=.000$ ) had a statistically significant effect on continued participation. Serious leisure explained for 76.6% of the variance of continued participation. Next, perseverance ( $\beta=.208$ ,  $p=.015$ ) had a statistically significant effect on sustainability, but expertise ( $\beta=.039$ ,  $p=.641$ ) and effort ( $\beta=-.042$ ,  $p=.691$ ) did not. Personal reward ( $\beta=.543$ ,  $p=.000$ ) had a statistically significant effect on sustainability, but identification ( $\beta=-.069$ ,  $p=.474$ ) did not. Social reward ( $\beta=.224$ ,  $p=.037$ ) had a statistically significant effect on sustainability, but distinct feelings ( $\beta=.027$ ,  $p=.792$ ) did not. Serious leisure explained for 80.0% of the variance of sustainability.

#### 4. Discussion

This study explored the psychosocial variables that affect adolescents' continued leisure sport participation and investigated the relationships among them. To this end, a questionnaire survey was conducted on 187 Korean adolescents, and the collected data were analyzed. The relationships among the variables are discussed based on the results obtained per the study hypotheses with reference to the findings of previous literature.

First, all subscales of leisure flow had a positive impact on continued leisure sport participation. This can be interpreted that intrinsic reward, such as exercise flow and interest in exercise, has a positive effect on continuous sport participation, and maintaining flow and interest on sports is an important factor that affects intent to continue exercise [31]. Many studies have reported a positive causal relationship between exercise flow and continuation [19-21], which partially support our results. Thus, it is important to foster an atmosphere that immerses students in exercise and make continuous effort to implement an empirical system and environmental conditions for the purpose. Furthermore, to increase adolescents' experience of leisure flow, sports activities appropriate to their level should be proposed to engage them, and practical guides should be presented to help adolescents continue participating in sports in their leisure time.

Second, the environmental satisfaction, psychological satisfaction, and social satisfaction subscales of leisure satisfaction had a positive impact on continued leisure sport participation. This result supports the findings of [19], where adolescents' leisure sport flow had a positive effect on leisure continuation. Further, it is in line with the results reported by [18], where leisure satisfaction led to leisure continuation in participants of marine sports, and those reported by [14], where leisure satisfaction had a positive impact on exercise continuation in college students. These results suggest that sports experience in adolescence can serve as an important factor contributing to the transition to lifelong physical activity. Therefore, leisure sport programs should be designed in consideration of adolescents' needs but from a lifelong education perspective as opposed to simply focusing on the relief of their desires and needs in order to help them participate in leisure sport throughout their lives.

Third, all subscales of leisure attitude had a positive impact on continued leisure sport participation. This result is in line with the findings of [32], where leisure attitude leads to leisure continuation among participants of sports. This suggests that sports experience in adolescence can serve as an important factor contributing to the transition to lifelong physical activity. Experience with sports activities in school indirectly affects sports participation and values and attitudes toward it and thus impact lifelong physical activity. For this reason, the importance of sports activities has been emphasized in the transition to

lifelong sports [17]. Hence, leisure sport programs should be designed in consideration of adolescents' needs but also cultivate proper attitudes toward leisure so as to help them participate in leisure sport throughout their lives.

Fourth, the perseverance, personal reward, social reward, and distinct feelings subscales of serious leisure had a positive impact on continued leisure sport participation. This result is consistent with the findings of [33], where participants demonstrating the characteristics of serious leisure were able to engage in continuous exercise, and the findings of the qualitative study by [34], where self-satisfaction and interpersonal relationships were the factors contributing to continuation of participation among dance sports participants. Moreover, the report by [15] that positive attitude changes through sports activity help maintain a good interpersonal relationship, provide satisfaction with building a wholesome character, and drive continuous participation in exercise supports our findings. Regarding such results, [22] reported that the characteristics of serious leisure participants include a sense of belonging and active participation in the group. In other words, people consider participation in serious leisure sport as a means to express themselves while perceiving it as life-enriching activity. Furthermore, they feel a deep sense of accomplishment through leisure sport and determine that leisure sport are very helpful for themselves. Therefore, to increase continuation behaviors in adolescents who are seriously participating in leisure sport, new programs that meet their expectations should be continuously offered.

In terms of the relationships among the study variables, leisure flow, leisure satisfaction, leisure attitude [35-36], and serious leisure are in a causal relationship with continued leisure sport [37-39], where these variables impact continued leisure sport. Although schools have implemented systems of various sports activities, many students still have a negative perception—that participating in sports is unproductive—about sports. For this reason, agencies pertinent to adolescents, such as the Education Offices and schools, must develop various programs to promote leisure sport participation in adolescence.

## 5. Conclusion and Suggestions

This study explored the psychosocial variables that affect leisure continuation in adolescents and analyzed the relationships among them. The following results were obtained: First, leisure flow has a positive impact on leisure continuation. Second, leisure satisfaction has a partial positive impact on leisure continuation. Third, leisure attitude has a positive impact on leisure continuation. Fourth, serious leisure has a partial positive impact on leisure continuation.

To date, all leisure sport-related studies involved adults with no study comprehensively investigating the relationships among various factors related to leisure sport in adolescents. However, this study examined adolescents and drew significant findings. In addition, whereas the factors that affect leisure continuation have only been sporadically reported in previous studies, this study is significant in that it comprehensively examined a variety of factors needed for leisure continuation and shed light on the importance of leisure flow, leisure satisfaction, leisure attitude, and serious leisure.

Based on the problems discovered during the study procedure, aspects that were difficult to control, and solutions to the limitations, we present the following suggestions for subsequent studies: First, this study limited the participants to adolescents living in some regions of the Republic of Korea, so the findings have limited generalizability to the entire population. Thus, subsequent studies should expand the scope of study population to students from more diverse countries and regions. Second, we set the potential psychosocial variables that affect leisure continuation to leisure flow, leisure satisfaction, leisure attitude, and serious leisure based on previous studies and obtained significant findings. However, subsequent studies should

analyze various potential factors that may impact leisure continuation from multiple angles. Third, due to the nature of a cross-sectional design, we could not overlook various factors arising from the circumstantial features at the point of study and could not examine the changes of leisure sport variables over time. Thus, conducting longitudinal studies that can analyze the changes of leisure sport among adolescents over time to overcome these limitations would be meaningful.

Finally, this study proposed leisure sport as a means to enhance the quality of life of adolescents, who are undergoing a difficult time in their lives due to several reasons, such as academic pressure and peer relationships. Education and programs are needed for this purpose, and the educational view should be shifted to one that is focused on a whole-person growth of children with lower academic pressure. Moreover, a multilateral effort is needed, where communities should give the public access to their sports facilities, and schools should use the access to develop and implement leisure sport programs.

## REFERENCES

- Huizinga, J. (1999). *Homo Ludens: A Study of the Play-Element in Culture*. Routledge.
- Hwang, S. H. (2010). Effects of the Levels of Participation of Skiers in Leisure Activity on Recreation Specialization and Serious Leisure. *Journal of Sport and Leisure Studies*, 40(2), 811-819.
- Ahn, B. W., & Hwang, S. H. (2012). Relationship between Leisure Competence, Flow, Leisure Satisfaction, and Self-Efficacy in Leisure Sports Participants. *Journal of leisure studies*, 9(3), 1-19.
- Kleinman, S. 1972. *Physical education: An interdisciplinary approach*. New York, NJ: The Macmillan Co.
- Cho, N. K., & Oh, S. Y. (2006). Review of The Importance of Leisure Participant's Affective Domain based on Attitude, Motivation, Goal-Oriented, Self-Efficacy, Attribution Theory. *Korean journal of physical education*, 45(3), 435-444.
- Shin, H. K., & Cho, N. K. (2004). Postmodernism in Sport and Physical Education. *Philosophy of Movement*, 12(2), 85-110.
- Choi, K. H. (2015). Effects of The Duke of Edinburgh's Award Adventurous Journey on Youth's Ego-resilience. (Master's thesis, Chungang University, Seoul, Korea).
- Dishman, R. K. (1994). *Advances in exercise adherence*. human kinetics publishers.
- Kim, Y. J. (2001). The comparison verification of model for the exercise adherence's validation. (Doctor's thesis, Chungang University, Seoul, Korea).
- Witt, P. A., & Ellis, G., D.(1982). The leisure diagnostic battery: Measuring perceived of freedom in leisure. *Leisure and Society*, 7(1), 109-124.
- Kwon, M. B., & Ryu, M. R. (2003). The effect of leisure involvement on the perceived value of leisure service. *Korean journal of physical education*, 42(3), 367-375.
- Laurent, G., & Kapferer, J. N. (1985). Measuring consumer involvement profiles. *Journal of Marketing Research*, 22, 41-53.
- Lee, S. M. (2018). The Development and Validation of Future Sport Participation Will Scale in Middle and High School Student. *Journal of Learner-Centered Curriculum and Instruction*, 18(10), 615-635.
- Beak, S. K., & Park, J. Y. (2011). Effects of Core Training on Physical Fitness and Driver Performance in Male Professional Golfers. *The Korea Journal of Sports Science*, 22(1), 1053-1066.
- Kim, S. I. (2012). Relationship among social support, psychological well-being and depression of elderly participate in physical activity. *The Korean Journal of Physical Education*, 51(1), 333-344.

- Kim, M. Y., Cho, S. Y., & Lee, H. (2012). The Relationship among Preparation Satisfaction, Visitor Satisfaction, Leisure Satisfaction, and Re-participation Intention in Volunteer Tourism. *Journal of leisure and recreation studies*, 36(1), 71-82.
- Lee, S. M. (2019). Analysis of Mediation Effect of Emotion Experience between Perception of Expectance-value about Physical Education Class and Future Sport Participation Intention in Sport of Middle and High School Student. *Korean Journal of Physical Education*, 58(2), 201-215.
- Lee, J. B. (2012) The Marine Sports Participation Motivation and Leisure Satisfaction, Exercise Lasting Relationship. *Journal of the Korean Data Analysis Society*, 14(5), 2847-2858.
- Lee, S. M., & Lee, C. H. (2017). The relationship among leisure sport participation motive, sport participation, leisure satisfaction, and leisure continuance in adolescent: Structural equation modelling. *Journal of Learner-Centered Curriculum and Instruction*, 17(23), 779-798.
- Seo, H. J., & Kim, Y. J. (2005). The Relationships among Sport Participation, Athlete Satisfaction, and Intention to Sport Continuance and Withdrawal of Adolescent Athletes. *Korean journal of physical education*, 44(2), 97-107.
- Song, H. M. (2013). The Effects of Motivation to Participate Sports Clubs in Middle and High School Based on Flow Experience and Exercise Adherence. Master's thesis, Korea National University of education, Chungbuk, Korea.
- Stebbins, R. A. (2001). *Amateurs, professional, and serious leisure*. Quebec: McGill-Queen's University Press.
- Csikszentmihalyi, M. (1975). "Beyond boredom and anxiety." San Francisco: Jossey-Bass.
- Omodei, M. M., & Wearing, A. J. (1990). Need satisfaction and involvement in personal projects: Toward an integrative model of subjective well-being. *Journal of Personality and Social Psychology*, 59(4), 762-769.
- Beard, J. G., & Ragheb, M. G. (1980), Measuring leisure satisfaction. *Journal of Leisure Research*, 12, 20-33.
- Ragheb, M. G., & Beard, J. G. (1982). Measuring Leisure Attitude. *Journal of Leisure Research*, 14(2): 155-167.
- Kim, M. R. (2008). Serious leisure scale (SLS) development through serious leisure conceptualization. (Doctor's thesis, Seoul National University, Seoul, Korea).
- Wakefield, K. R., & Sloanm H. J. (1995). The Effects of Team Loyalty and Selected Stadium Factors on Spectator Attendance. *Journal of Sport Management*, 9(2), 153-172.
- West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation model with non-normal variables: Problems and remedies. In R. Hoyle (Ed.), *Structural Equation Modeling: Concepts, Issues and Applications* (pp. 56-75). Newbury Park, CA: Sage.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York: Guilford.
- Snyder, E. E., & Spretzer, E. A. (1973). Family influence and involvement in sports. *Research quarterly*, 44(3), 243-249.
- Soh, Y. H., & Ha, S. H. (2018). Relationship among Leisure Attitude, Flow, and Intention to Continuance of Marine Sports Participants. *Journal of korean society of sport science*. 27(6), 373-387.
- Kim, J., & Lee, K. M. (2012). Structural Equation Model Analysis of the Self-Determination, Leisure Constraint Negotiation, Serious Leisure, and Exercise Adherence of the Participants in Leisure Sports Activity. *Korean Journal of Sociology of Sport*, 25(2), 85-107.
- Jung, E. J., & Park, S. J. (2009). An Approach on the Process of Serious Leisure Participatory for Dance Sports. *Journal of Korean Physical Education Association for Girls and Women*, 23(3), 119-132.
- Lee, S. M., Seo, I, H., & Choi, K. K. (2020). Structural Relationship of Variables Related to Adolescent's Participation in Leisure Sport. *The Korean Journal of Physical Education*, 59(2), 59-73.

Lee, S. M., & Song, H. H. (2020). The Effects of Adolescents' Leisure Flow, Leisure Satisfaction, and Leisure Attitude on Leisure Continuation. *Journal of Community Healthcare and Development*, 1(1), 13-18.

Sin, J. G., Park, J.L., Choi, J. H. (2018). The Relationship between Participation in After-school Sports Club, Academic Emotional Regulation and Self-Efficacy of Middle School Students. *International Journal of Child Warfare*, 2(2), 7-12.

Jang, H. A., Choi, J. H., Park, J. L. (2018). The Effect of Middle School Students' Participation in Saturday Sports on Physical Self-Efficacy and Self-Directed Learning Ability. *International Journal of Child Warfare Promotion and Management*, 2(2), 13-18.

Kim, S. K., Kim, M. J., & Yoo, J. I. (2016). The Effects of Sports Values on Sports Motivation and Exercise Satisfaction among participants. *International Journal of IT-based Social Welfare Promotion and Management*. 3(1), 151-156.