The Structural Relationship between Adolescents' Participation in Sport, Socialization Agents, and Adolescents' Life Satisfaction

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ABSTRACT

This study aimed to verify the relationship between youth sport participation, socialization agents, and life satisfaction.

Aim and Scope: It is conducted on a pilot study of 181 adolescents residing in Seoul in December 2019 and the main study of 539 adolescents residing in Seoul in February 2020. Data acquired from both the pilot and main study were analyzed using frequency analysis, reliability analysis, validity analysis, descriptive statistics analysis, and path analysis.

Method: These analyses yielded the following results. First, socialization agents were found to influence sport participation positively. Second, sports participation motivation was found to influence sport participation positively. Third, sports participation engagement was found to influence sport participation positively.

Conclusion: Based on these findings, this study discussed the importance of recognizing socialization agents' importance in driving adolescents' motivation to participate in sports and the need to provide adolescents with a variety of sport participation opportunities to raise their life satisfaction.

Key Words: Adolescents, Sports Participation Motivation, Socialization Agents, Life Satisfaction, Structural Equation Modeling

INTRODUCTION

Adolescents' quality of life has been researched extensively. Adolescence is the developmental stage connecting childhood and adulthood; therefore, adolescence is seen as a bright, optimistic time in one's life, and adolescents are often challenged to assert, challenge, and fulfil their potential. However, adolescents in the Republic of Korea have reported the lowest levels of happiness among adolescents in OECD member countries. Education experts have asserted that university entrance exams and the widespread social emphasis on academic achievement, which equates self-worth and academic achievement, are the main reasons for this low level of adolescent happiness.

Some studies have quantified precisely how the social atmosphere, which pressures Korean adolescents to define themselves by their academic achievements, explains their relative unhappiness. For instance, Korean adolescents sleep an average of 7 hours and 23 minutes a night – much lower than the recommended 9 hours of sleep.

Furthermore, Korean adolescents engage in exercise for more than one hour only 3.5 days – much lower than the top rate among OECD countries (country's name here) of 4.5 days. Besides, 23% of Korean adolescents report that they have more than three hours of leisure time on weekdays, and 73% reported that they had less than three hours of leisure time on weekdays.¹

Life satisfaction refers to a subjective assessment of one's quality of life or specific areas therein.² Life satisfaction is an important sociological variable for adolescents' social adaptability and development. Previous studies have shown that adolescents' life satisfaction is associated with several variables. Reference³ reported on the factors that influence adolescent life satisfaction;⁴ identified self-identity, self-resilience, learning activities, and peer relationships as factors that influence adolescent life satisfaction. Furthermore,^{5,6} have indicated that interpersonal relationships, emotional control, and social support have mediating effects on the relationship between youth stress and life satisfaction.

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On the other hand, a variety of studies relating to life satisfaction emphasize the relationship between adolescent health and sport participation. The numerous positive emotional experiences that can be obtained through sport participation.⁷ The relationship between adolescents' perception of their life satisfaction and health-related quality of life.⁸ The relationship between sports activity participation and engagement.⁹ The adolescents who were motivated to participate in sports were more engaged.¹⁰ The participation in various types of sports positively influences high school students' life satisfaction.¹¹ Based on these findings, we can infer that participation in sports may improve adolescents' quality of life and improve their happiness.

Sports participation can be understood as a process of socialization. The term socialization of sports, which refers to an individual's acquisition of values, beliefs, and attitudes shared by a group through interaction with that group's members via participating in sports.¹² Socialization agents play a very significant role in the socialization of sports. Based on the structural theory of socialization and individual internalization models, factors, which influence sport participation include (1) individual capability, character and resources; (2) influence from other key individuals, including parents, siblings, teachers, peers and role models; and (3) the validity of individually satisfying sport participation activities.¹³ Existing studies have reported various findings on the relationship between socialization agents and sport participation. Based on the results of existing studies, we predict that socialization agents influence adolescents' participation in sports.^{14,15,16}

Existing studies have derived meaningful results by identifying relationships between individual variables. However, these studies are limited by the sporadic way in which these relationships are reported. Furthermore, the majority of re-

search on socialization agents, sports participation, and life satisfaction has studied adults, so their findings may not apply to adolescents or other age groups. This study, therefore, fills a gap in the literature by examining the relationship between sport participation and life satisfaction in adolescents and verifying the role of socialization agents in adolescents' sport participation. It provides a significant theoretical basis for further investigating the role and importance of socialization agents vis-à-vis adolescents' sport participation.

In sum, this study highlights the structural relationships between socialization agents and adolescents' motivation to participate in sports, engagement in sports, and life satisfaction.

Its research questions are as follows.

First, how do socialization agents influence adolescents' motivation to participate in sports?

Second, what influence does adolescents' motivation to participate in sports have on their engagement in sports?

Third, how does participating in sports influence adolescents' life satisfaction?

RESEARCH METHOD

Study subjects

This study utilized the convenience sampling method to select its study participants. The study's participants were 720 Korean adolescents who regularly participate in sports activities (181 students in the pilot study, and 539 in the main). The general characteristics of the study participants are shown in Table 1.

Table 1: General Characteristics of Study Participants

Variable	Classification	Pilot Study		Main Study	
		Number of Cases (Number of Persons)	Percentage (%)	Number of Cases (Number of Persons)	Percentage (%)
Gender	Male	101	55.8	283	52.5
	Female	80	44.2	256	47.5
School grade	Middle school	92	50.8	310	57.5
	High school	89	49.2	229	42.5
The frequency with which participant engages in sports activities	Less than once a week	34	18.8	72	13.4
	2-3 times a week	88	48.6	364	67.5
	4 or more times a week	59	32.6	103	19.1
Duration of sport participation	Less than 6 months	41	22.7	98	18.2
	6 months - 1 year	78	43.1	276	51.2
	1 year or more	62	34.2	165	30.6
Intensity of sport participation (Average participa- tion time per session)	Less than 1 hour	38	21.0	132	24.5
	1 hour - 1 hour 30 minutes	93	51.4	279	51.8
	More than 1 hour and 30 minutes	50	27.6	128	23.7
Total		181	100	539	100

Verifying the study's reliability and the validity of its measurement tools

The measurement tools used in this study are as follows. First, to measure socialization agents, this study used a scale for classifying socialization agents.¹² This scale was composed of five items, each representing a different socialization agent – parents, siblings, friends or senior/junior students, teachers, and the media. Second, this study used a scale to judge adolescents' motivation to participate in sports based on the types of leisure activities classified by¹⁷ and as developed and verified for validity and reliability by.¹⁸ It consists of five sub-variables – health-orientation, self-development orientation, interpersonal orientation, home orientation, and entertainment orientation – and 20 questions that correspond to these variables. Third, we developed a questionnaire consisting of 12 questions relating to adolescents' engagement in sports based on the structure of sport engagement researched by.¹⁹ The items selected for this questionnaire were measured using a scale developed and verified for validity^{20,21} composed of two sub-variables: cognitive engagement and behavioural engagement. Fourth, we measured life satisfaction using questions, which had already been developed and verified for reliability by.²² Specific survey questions on life satisfaction were composed of three sub-variables – home life satisfaction, social life satisfaction, and school life satisfaction – and 15 corresponding questions. Socialization agents and adolescents' motivation to participate in sports, engagement in sports, and life satisfaction were measured using five-point Likert scales (where 5=“Agree strongly” and 1=“Strongly disagree”). Higher scores corresponded with a higher level of perception of the variable.

Table 2 shows the results of the reliability analysis for each variable. Specifically, The Cronbach's α of the scales used in this study are as follows: socialization agents, .670; participation in sports, .924; engagement in sports, .943; and life satisfaction, .927. A Cronbach's α of .6 or higher indicates that a scale is reliable.²³ Therefore, the scales used in this study are highly reliable. Furthermore, there were no items that, once removed, led to higher Cronbach's α when compared to the overall Cronbach's α , and so all items were utilized in the analysis.

Table 2: Reliability analysis for each variable

Variable	Cronbach's α
Socialization agents	0.670
Participation in sports	0.924
Engagement in sports	0.943
Life satisfaction	0.927

Next, we conducted a confirmatory factor analysis to verify the validity of the scales used in this study. The results are shown in Table 3. The fit of the confirmatory factor analysis was verified using an incremental fit index using NFI, IFI, and CFI, and the absolute fit index using χ^2/DF , RMSEA, GFI, and RMR.²⁴ argued that confirmatory factor analyses should consider a variety of fit indices but focus on CFI and RMSEA as key evidence for decisions. We found the confirmatory factor analysis of this study to be acceptable.

Table 3: Confirmatory Factor Analysis Goodness of Fit - Hypothesis Model

	χ^2/DF	RMR	GFI	NFI	IFI	CFI	RMSEA
Hypothesis model	2.174	0.048	0.885	0.881	0.932	0.931	0.081

Next, this study verified the validity of the model based on the results of the confirmatory factor analysis. The results are shown in Table 4. The convergent validity of the model can be verified by measuring its standardized regression coefficient, average variance extracted, and construct reliability.²⁵ The confirmatory factor analysis indicated that the standardized regression coefficients of all variables ranged between .483 and .927, and the significance (CR values) were higher than 1.965. Furthermore, the construct reliability was between .925 and .994, and the average of the variance extracted was between .714 and .938. Each of these three conditions was met, thus verifying the convergent validity of the model.

Table 4: Confirmatory Factor Analysis Results

		Unstandardized coefficient	S.E.	C.R.	p	Standardized Coefficient	Construct Reliability	Average Variance extracted
Socialization agents	→ Media	1			-	0.483	0.925	0.714
	→ Teacher	1.043	0.223	4.673	0.000***	0.528		
	→ Peers	1.025	0.218	4.693	0.000***	0.532		
	→ Siblings	1.161	0.244	4.766	0.000***	0.547		
	→ Parents	1.085	0.215	5.037	0.000***	0.612		

Table 4: (Continued)

			Unstandardized coefficient	S.E.	C.R.	p	Standardized Coefficient	Construct Reliability	Average Variance extracted
Motiva- tion to Par- ticipate in Leisure Sports	→ Social		1			-	0.704	0.987	0.939
	→ Self		1.121	0.109	10.316	0.000***	0.831		
	→ Home		1.073	0.111	9.657	0.000***	0.774		
	→ Health		0.645	0.084	7.67	0.000***	0.609		
Leisure engage- ment	→ Leisure		0.974	0.094	10.325	0.000***	0.832	0.977	0.956
	→ Behav- ioural engage- ment		1			-	0.862		
	→ Cogni- tive engage- ment		0.995	0.072	13.905	0.000***	0.905		
Life Satisfac- tion	→ School satisfac- tion		1			-	0.927	0.994	0.983
	→ Social satisfac- tion		1.055	0.058	18.153	0.000***	0.897		
	→ Home satisfac- tion		0.928	0.058	16.059	0.000***	0.842		

*** $p < .001$

Next, this study compared the correlation between construct concepts and the average variance extracted to verify the study's discriminant validity. The results are shown in Table 5. We verified the discriminant validity between variables by selecting the two most-correlated variables and comparing them with the average variance extracted. The square

of the correlation coefficient of the highest-correlation (between “sports participation motivation” and “sport activity engagement”) is .445; lower than sports participation motivation (.939) and sport activity engagement (.956). These results confirm the discriminant validity of the variables in this study.

Table 5: Verification of Discriminant Validity

Variable Name	Correlation between Construct Concepts				Average Variance Extracted
	1	2	3	4	
Socialization agents	1	-	-	-	0.714
Sport participation motivation	0.526***	1	-	-	0.939
Sport activity engagement	0.523***	0.667***	1	-	0.956
Life satisfaction	0.384***	0.515***	0.429***	1	0.983

*** $p < .001$

DATA COLLECTION AND ANALYSIS METHODOLOGY

We conducted a pilot study with 200 Korean adolescents in December 2019. After excluding 19 responses because they

had missing answers and/or insincere responses, we used a total of 181 surveys in the research. The survey for the main study was distributed to 550 Korean adolescents in February 2020. As with the pilot study, 11 cases were excluded. This left us with a total of 539 surveys for the main study. The

data acquired from the pilot study and the main study were analyzed using SPSS 18.0 and AMOS 18.0. Our specific method of analysis was as follows. First, we conducted a frequency analysis to confirm the general characteristics of the participants. Second, we used the Cronbach's α coefficient to analyze the reliability of the study tools. Third, we used confirmatory factor analysis to verify the study tools' convergent and discriminant validity. Fourth, we used a descriptive statistics analysis to confirm the study participants' perceptions of each variable. Fifth, we verified the hypothesis model's goodness of fit to verify the relationships between each variable and conducted a path analysis.

RESULTS

Descriptive statistics analysis

The results of our analysis of each variable (socialization agents, sports participation motivation, sports activity en-

gagement, and life satisfaction)'s score and descriptive statistics of the sub-variables (mean, standard deviation, skewness, and kurtosis) are shown in Table 6. The mean is distributed between 2.92 and 4.15, with a standard deviation distribution between .60 and 1.29. Next, the absolute value of skew is distributed between 0.10 and 1.01, and the absolute value of kurtosis is distributed between .00 and 12.03. The criteria for a violated univariate normality, which is skewness $< \pm 3.0$,²⁶ and kurtosis $< \pm 10.0$,²⁷ satisfy the conditions for a normal distribution. Considering the above, the sub-variable "health orientation" had kurtosis values of 12.03, which exceeded the requirements. As such, it was deleted before proceeding with the study. All other values satisfied the criteria.

Table 6: Descriptive Statistics Analysis

Variable		Mean	Standard Deviation	Skew	Kurtosis
Socialization agents	Parents	3.63	1.05	-0.53	-0.14
	Siblings	2.92	1.29	-0.10	-1.03
	Peers	3.77	1.12	-0.77	0.00
	Teacher	3.19	1.16	-0.27	-0.56
	Media	3.39	1.24	-0.45	-0.63
Total		3.38	0.72	-0.24	0.23
Sports participation motivation	Leisure	30.91	0.80	-0.69	0.31
	Health	30.70	0.78	1.01	12.03
	Home	30.15	0.92	-0.13	-0.28
	Self	30.56	0.91	-0.32	-0.31
	Social	30.22	0.94	-0.11	-0.27
Total		3.51	0.69	-.22	0.28
Sport activity engagement	Cognitive engagement	30.89	0.84	-0.51	0.13
	Behavioral engagement	30.43	0.95	-0.22	-0.32
Total		3.74	0.83	-0.39	0.02
Life satisfaction	Home satisfaction	40.13	0.67	-0.86	0.74
	Social satisfaction	40.03	0.70	-0.32	-0.58
	School satisfaction	40.15	0.62	-0.39	-0.59
Total		4.10	0.60	-0.38	-0.52

Path analysis

This study analysis is on the measurement model, which satisfies the condition of univariate normality, which is skewness $< \pm 3.0$,²⁶ and kurtosis $< \pm 10.0$,²⁷ satisfy the conditions for a normal distribution. Considering the above, the sub-variable "health orientation" had kurtosis values of 12.03, which exceeded the requirements. As such, it was deleted before proceeding with the study. All other values satisfied the criteria.

of this study's initial, proposed model and a modified model. The results are shown in Table 7. The results indicated that the overall fit was poor, and so we covariance the error terms of the measurement variables with high modified index values. The modified measurement variables with high Modi

Table 7: The Goodness of Fit for Both the Hypothesis Model and Modified Model

Model	χ^2/DF	RMR	GFI	NFI	IFI	TLI	CFI	RMSEA
Proposed model	6.229	0.061	0.887	0.878	0.896	0.871	0.895	0.099
Modified model	4.887	0.055	0.914	0.908	0.926	0.904	0.925	0.085

Next, we conducted a path analysis for the modified model. The results are shown in Table 8. First, we analyzed socialization agents' influence on adolescents' motivation to participate in sports; the path coefficient was .789 ($t=8.413$) and had a positive influence, which was under the significance level (H1). Second, we analyzed adolescents' motivation to

participate in sports on their engagement; the path coefficient was .930 ($t=21.638$) and had a positive influence, which was under the significance level (H2). Third, we analyzed adolescents' engagement in sports' influence on their life satisfaction; the path coefficient was .376 ($t=10.685$) and had a positive influence, which was under the significance level (H3).

Table 8: Model Parameter Estimation Results

Path	Path			Estimate	S.E.	C.R.	p
H1	Socialization agents	→	Sports participation motivation	0.789	0.094	8.413	0.000***
H2	Sports participation motivation	→	Sport activity engagement	0.930	0.043	21.638	0.000***
H3	Sport activity engagement	→	Life satisfaction	0.376	0.035	10.685	0.000***

*** $p < 0.001$

DISCUSSION

This study examined the relationship between socialization agents and adolescents' sport participation and life satisfaction to complement and develop the results of existing research. Its three main findings are discussed below.

First, this study analyzed the relationship between socialization agents and adolescents' motivation to participate in sports. The results indicated that socialization agents had a positive influence on adolescents' motivation to participate in sports. Previously,^{16,28} have reported on the variables that influence adolescents' participation in sports and mentioned the importance of socialization agents. Furthermore,¹⁴ reported that socialization agents influence adolescents' participation in sports.^{29,30} Therefore, this first result of this study is supported by the literature. These results can be partially explained by common sense: humans are influenced by those around them to adapt to groups and situations.³¹ argued that athletes decide to participate and concentrate on their chosen sport based on a self-assessment of whether they have the potential to succeed in that particular sport and based on the individual relationships they have formed with people through that particular sport. As such, socialization agents play a critical role in adolescents' motivation and decision to participate in sports. Therefore, sports and educational institutions should devise methods to actively spur various socialization agents to encourage adolescents to participate in sports.

Second, this study analyzed the relationship between adolescents' motivation to participate in sports and their en-

gagement in sports. It found that adolescents' motivation to participate in sports positively influenced their engagement in sports. Several studies have reported that adolescents' motivation to participate in sports has a positive influence on their engagement in sport across multiple sports. Thus, this second finding of this study is also supported by the literature.³²⁻³⁵ These results can be interpreted to mean that adolescents participate in sports for various reasons – e.g., the enjoyment of engaging in new things, the potential for individual achievement, the experience of sensory enjoyment and physical activity, and enjoying sports themselves. Which in turn leads them to higher levels of focus and engagement.

Third, this study analyzed the relationship between adolescents' engagement in sports and their life satisfaction. It found that adolescents' engagement in sports positively influenced their life satisfaction. Other studies have found that students participating in sports clubs report high levels of life satisfaction – thus, this third finding of our study is supported by the literature.^{36,37} These results can be interpreted as meaning that adolescents can effectively manage stress from university entrance exams and other stresses related to their future by engaging in sports activities during their leisure time. Therefore, we suggest that schools and other institutions provide the physical environment and social conditions required to encourage and help adolescents select and participate in sports.³⁸

This study examined the relationships of variables of this study comprehensively and found that socialization agents influenced adolescents participating in sports, and active sports participation could raise life satisfaction. Particu-

larly, given the nature of youth who are heavily influenced by those around them, socialization agents can be seen as important variables that motivate the adolescents to participate in sports.^{39,40} For adolescents who are sensitive to social trends and have clear responses toward changes of the times, sports activities will help them through physical, mental and social development, and ultimately to become holistic human beings that are needed in the society.^{41,42} Furthermore, this study is expected to help in understanding the comprehensive relationship between various predictor variables to raise the life satisfaction of adolescents who are stressed from their academically focused lifestyles.

CONCLUSIONS AND RECOMMENDATIONS

This study confirmed the structural relationship between socialization agents and adolescents' participation in sports and life satisfaction. It found that socialization agents positively influenced adolescents' motivation to participate in sports, which in turn positively influenced their engagement in sports, which in turn positively influenced their life satisfaction.

This study considered the functional aspects of socialization agents and how they can contribute to the healthy development and life satisfaction of adolescents. While this study produced some meaningful results, it has its limitations. Future studies should extend this study's findings and methods in the following three ways. First, because the study's participants were all adolescents living in a certain part of South Korea, it is difficult to generalize the results of the study. Second, this study focused on a small set of loosely defined socialization agents; future studies should study a broad variety of agents and factors that might influence adolescents' motivation and decision to participate in sports. Third, we performed a cross-sectional study on the abovementioned relationships; however, because participation in sport and life satisfaction can change continuously, depending on circumstances, future researchers should plan and execute a longitudinal study to better examine the relationships between these and other variables.

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