

An effect of physical activity-based recreation programs on children's optimism, humor styles, and school life adjustment

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This study puts its purpose in identifying the effect of the participation in physical activity-based recreation programs on the optimism of children, humor styles, and school life adjustment. To achieve the study purpose, this study selected 190 subjects as samples were extracted targeting senior students of elementary schools who participated in the physical activity-based recreation in the metropolitan areas as of 2014. As research methods, questionnaire papers were used and reliability analysis, factor analysis, correlation analysis, and multiple regression analysis were conducted by utilizing SPSS 18.0 after inputting analysis data into the computer. The study results, obtained in this study are as follows: First, in terms of the effect of the participation in physical activity-based recreation programs on optimism, participation frequency and participation intensity would have an effect on optimism, while partici-

participation period would have a significant effect on being positive among the sub-factors of optimism. Second, participation in physical activity-based recreation programs might have a significant effect on humor styles. Third, in terms of the effect of the participation in physical activity-based recreation programs on the school life adjustment, it was demonstrated that participation period and participation intensity would have a significant effect on school life adjustment, while participation frequency would have a significant effect on regulation-observance and school life satisfaction.

Keywords: Recreation programs, Optimism, Humor styles, School life adjustment

INTRODUCTION

Due to the complexity of a rapidly changing society and overheated competition in school education, students have been weakened physically and emotionally, causing serious social problems as a result of imbalance in physique and physical strength. To achieve the educational goal titled "the cultivation of prospective Koreans who will lead the future society" under this circumstance, the importance of physical education in pursuit of a whole person through physical activities is growing bigger (Choi and Kim, 2007). In particular, the elementary school period is the critical time because physical, emotional, mental, and behavioral development is made at this time. Above all the values and emotions embedded in this period influence individuals throughout the whole

life (Park, 2013).

Recreation can be effective if it is used appropriately in accordance with different ages and abilities. Group activities in recreation programs improve interpersonal skills, independence, and positive self-esteem which can bring about a lot of benefits in the psychological aspect. Like this, a wide range of activities which can promote physical, psychological, social, and emotional function and improve the quality of personal life. In particular, there is a recreational activity accompanying joy called physical activity-based recreation.

The effect of recreation is extensive. It enhances self-expression, self-fulfillment ability, human relationship skills, techniques and methods of using leisure, physical strength, creative expression, and aesthetic sense. These attributes that recreation holds can have

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a favorable effect on human beings who have limits in everyday life. Therefore, recreation is allowed to be used as a tool of therapy (Lee, 2000). Participation in the physical activity-based recreation helps participants recover from the deteriorated physical strength, caused by the lack of exercise, and develops the latent ability to achieve self-realization. Accordingly, physical activity-based recreation programs which can help children realize physical and emotional development and cultivate optimism are being operated.

A lot of studies about optimism elucidate that the mental state of optimistic people are more stable and positive than critical people and deal with problems more effectively (Chemers et al., 2001). In addition, the study results of optimism and school adjustment reveal that optimism has an important effect on routine conditions such as peer relationships or critical situation like disease, which also has an effect on the peer relationships of optimistic or pessimistic children (Hilsman and Garber, 1995). Put simply, optimism reinforces the internal capacity of children, performs the function of control in the face of environmental crisis and cultivates a sense of humor, leading to a successful life.

Humor has the effect of calming anger, resolves tension arising from the conflicts of relationships, and plays an essential role in promoting personal relationships through relieving stress caused by personal relationships (An et al., 2007). In addition, humor enhances social support, so that people full of humor can hold more social ability, attract more people, maintain fellowship, and develop extensive social support networks (Cohen and Wills, 1985). Ways of using a sense of humor is defined as humor styles. If a sense of humor has the temperament and dispositional tendency, humor styles have the environmental aspect in use of a sense of humor, representing an action (Crailk et al., 1996).

In particular, humor styles have more effect on desirable school life than a sense of humor (An et al., 2007). In this context, participation in physical activity-based recreation programs and the systematic studies regarding optimism, humor styles, and school life adjustment are keenly required.

Studies regarding the participation of children in physical activities have been conducted to complement deficiencies in physical education and the physical activities of children. However, studies on the effect of the length, frequency, and intensity of physical activity-based recreation programs on optimism, humor styles, and school life adjustment leave to be desired. In this regard, this study puts its purpose in identifying the effect of the participation in physical activity-based recreation programs on the optimism of children, humor styles, and school life adjustment.

To achieve the study purpose, it sets questions as follows: First,

optimism can be different depending on the participation in the physical activity-based recreation programs. Second, humor styles can be different, depending on the participation in the physical activity-based recreation programs. Third, school life adjustment can be different depending on the participation in the physical activity-based recreation programs.

MATERIALS AND METHODS

Research subjects

To achieve the study purpose, samples were extracted targeting senior students of elementary schools who participated in the physical activity-based recreation in the metropolitan areas as of 2014. As sampling methods, metropolitan areas were classified into four cardinal directions (north, south, east, and west) in Seoul and Incheon. In 6 metropolitan areas, 4 elementary schools were selected. 25 students per school were selected respectively, so that total subjects were 200. Finally, numbers used for the actual analysis were 190 to the exclusion of 10 students who were judged to be incomplete in response to questions and inadequate in some investigation contents among collected data. The characteristics of specific subjects are shown in Table 1.

Investigation tools

The physical activity-based recreation programs which were used in this study were based on leisure education program models in accordance with children-centered principles on the basis of systematic programs by the UCLA Clinical Research Center for Schizophrenia and Psychiatric Rehabilitation, guided by Wallace and Liberman in consultation with the Certificated Therapeutic Specialist (CTRS). In addition, the factors that are fit for attaining goals in view of the characteristics and functions of the subjects

Table 1. The general characteristics of study subjects

Variables	Division	Frequency	%
Gender	Male	105	55.3
	Female	85	44.7
School year	6th	190	100.0
Participation frequency	2 times	54	28.4
	3 times	12	6.3
	4 times	124	65.3
Participation hour	Less than 1 h	36	18.9
	Less than 1 h and a half	40	21.1
	Less than 2 h	114	60.0
Participation period	Less than 1 yr	98	51.6
	Less than 2 yr	60	31.6
	Less than 3 yr	32	16.0

were selected among the programs which have been applied in several institutions at home and abroad. Researchers had visited the research center before 6 months and conducted advance preparations which identify the general matters and the participation of subjects in recreation programs. The program was comprised of 3 stages; introduction, deployment, and conclusion, and the specific programs are shown in Table 2.

The tools for data collection in this study were questionnaire papers. As to concrete questionnaire contents, background variables were 5, which include gender, school year, participation frequency, duration. The questions were composed of 38 items; 9 items in school life ability, 14 items in humor styles, 10 items in optimism.

Each scale was comprised in accordance with the study purpose in consultation with a panel of expert and each questionnaire paper was reconstructed through the preliminary investigation for the utilization. First of all, to measure school life adjustment, the scale of school life adjustment used by Song (2002), Lee (2010) was revised and complemented. This scale was comprised of a total of 9 items with 3 sub-factors; 3 items in peer relation, 3 items in the observance of the rules, 3 items in school life satisfaction.

In terms of humor styles, the scale of humor styles was revised and complemented for the purpose of this study. This scale was comprised of a total of 14 items with 2 sub-factors; 7 items in affiliative humor, and 7 items in enhancing humor. As to the factor of optimism, the Children's Life Orientation Test (CLOT) was re-

vised and complemented for the purpose of this study. This scale was composed of a total of 10 items with 2 sub-factors; 5 items in positive optimism, 5 items in negative optimism. The responses to all items were made by the Likert Scale with 1 point in "not at all" and 5 points in "strongly agree."

Validity and reliability

To test the validity of the questionnaire papers, the meeting of the panel of experts was held with 2 professors in the department of health management, and 1 professor in the department of exercise rehabilitation welfare. Experts discussed the content validity and fitness of items after reviewing the questionnaires to revise and complement the deficient parts. An exploratory factor analysis was conducted to verify the validity of measurement tools. To minimize the number of factors, a principle component analysis was conducted. As a rotation method, varimax rotation was used. The study results are shown in Table 3. To verify reliability, Cronbach's Alpha, which is the reliability coefficient representing internal consistency was calculated. The reliability coefficient appeared to be 0.736-0.935, which was equivalent to the level of previous studies (0.719-0.863). This was judged to be very reasonable.

Research procedures and data analysis

The analysis methods about 190 collected copies of the questionnaire paper by the SPSS 18.0 program suitable for the study

Table 2. The procedures of recreation program execution

Stage	The contents of the activity	Effect	Frequency (time)
Introduction (Greeting with smile Preparation exercise)	Self-introduction Greeting with smile	Creation of atmosphere Sharing in mind Bond of sympathy	16 (10 min)
Deployment (Game activity Gesture activity Expression activity)	Balloon Dodge ball Cup stacked Hwitagu Role play	Personal relationships through the recreation activity, Mutual interchange, Empathy ability	16 (25 min)
Cooling down	Contemplation Gratitude journal	The formation of empathy for problem-solving	16 (10 min)

Table 3. The factor analysis on measurement variable and reliability analysis

Items	Main factor	Item number	Eigen value	Variance rate	Accumulation (%)	Reliability
Optimism	Positive	5	5.000	49.997	49.997	0.851
	Negative	5	2.120	21.204	71.201	0.816
Humor styles	Affiliative	7	6.325	45.181	45.181	0.908
	Enhancing	7	4.163	29.738	74.919	0.935
School adjustment	Peer relations	3	3.336	37.064	37.064	0.894
	Regulation-observance	3	2.883	32.03	69.095	0.805
	School life	3	1.022	11.356	80.45	0.736

Table 4. The analysis results of correlation

Division	1	2	3	4	5	6	7	8	9	10
Participation frequency	1									
Participation period	0.331**	1								
Participation intensity	0.259**	0.060	1							
Peer relations	0.108	0.067	0.420**	1						
Regulation-observance	0.375**	0.508**	0.054	0.369**	1					
School life	0.171**	0.017	0.035	0.233**	0.010	1				
Affiliative humor	0.434**	0.281**	0.188**	0.124**	0.052	0.053**	1			
Enhancing humor	0.278**	0.221**	0.366**	0.412**	0.398**	0.661**	0.190**	1		
Positive	0.025	0.018	0.396**	0.225**	0.048**	0.378**	0.453**	0.349**	1	
Negative	0.011	0.161**	0.234**	0.363**	0.206**	0.028	0.116	0.307**	0.584**	1

** $P < 0.01$.

Table 5. The effect of participation in recreation programs on optimism

Variables	Optimism			
	Positive		Negative	
	β	t	β	t
Sports Participation frequency	0.091	2.614**	0.142	3.946***
Participation period	0.023	0.690	0.193	5.529***
Participation intensity	0.418	12.775***	0.260	7.613***
R	0.405		0.306	
R ²	0.164		0.094	
F	54.654***		28.776***	

** $P < 0.01$. *** $P < 0.001$.

purpose are as follows: First, to verify the constructive validity of questionnaire papers, an exploratory factor analysis and a reliability analysis were conducted. Second, to examine the correlation of variables, a correlation analysis was conducted. Finally, to analyze the relationships of children’s participation in physical activity-based recreation programs with optimism and humor styles and school life adjustment, a multiple aggression analysis was conducted.

RESULTS

Correlation analysis

A correlation analysis was conducted to identify multicollinearity which can appear in variables, which is shown in Table 4. The analysis results showed that the correlation coefficient of all factors was below 0.661, which was lower than 80, the criterion of multicollinearity. This reveals that all factors were different composing concepts.

Table 6. The effect of participation in recreation programs on humor styles

Variables	Humor styles			
	Affiliative humor		Enhancing humor	
	β	t	β	t
Sports Participation frequency	0.573	19.452***	0.355	11.180***
Participation period	0.475	16.658***	0.131	4.260***
Participation intensity	0.068	2.453*	0.465	15.502***
R	0.629		0.546	
R ²	0.395		0.298	
F	181.969***		118.131***	

* $P < 0.05$. *** $P < 0.001$.

The effect of participation in recreation programs on optimism

The results about the effect of recreation program participation on optimism are shown in Table 5. Investigating the results, it appeared that participation frequency ($\beta = 0.091$), and participation intensity ($\beta = 0.418$) among the sub-factors of the recreation program participation had a positive effect on optimism, while participation period ($\beta = 0.193$), and participation intensity ($\beta = 0.260$) had a negative effect on optimism. As independent variables, used for the regression analysis, positivity and negativity among the sub-factors of optimism explained 16.4%, and 9.4% of the total variance respectively.

The effect of participation in physical activity-oriented recreation programs on humor styles

The results about the effect of the participation in recreation programs on humor styles are shown in Table 6. Investigating the results, among the sub-factors of the participation in recreation programs, participation frequency ($\beta = 0.573$), participation period ($\beta = 0.475$), and participation intensity ($\beta = 0.068$) had an ef-

Table 7. The effect of participation in recreation programs on school life adjustment

Variables	School adjustment						
	Peer relation		Regulation-observance		School life		
	β	t	β	t	β	t	
Sports	Participation frequency	0.035	0.828	0.273	7.151***	0.222	4.876***
	Participation period	0.104	2.559**	0.426	11.555***	0.085	1.940***
	Participation intensity	0.417	10.525***	0.150	4.153***	0.087	2.019**
R		0.431		0.572		0.206	
R ²		0.186		0.327		0.042	
F		42.321***		89.928***		8.201***	

** $P < 0.01$. *** $P < 0.001$.

fect on affiliative humor, and participation frequency ($\beta = 0.355$), and participation period ($\beta = 0.131$), and participation intensity ($\beta = 0.465$) had an effect on enhancing humor. As independent variables, used for the regression analysis, Affiliative humor and aggressive humor among the sub-factors explained 39.5%, and 29.8% of the total variance respectively.

The effect of participation in physical activity-based recreation programs on school life adjustment

The results about an effect of the participation in the recreation programs on school life adjustment are shown in Table 7. Investigating the results, among the sub-factors of the participation in recreation programs, participation period ($\beta = 0.104$), participation intensity ($\beta = 0.417$) had a significant effect on peer relations, participation frequency ($\beta = 0.273$), participation period ($\beta = 0.426$), and participation intensity ($\beta = 0.150$) had a significant effect on regulation-observance, and participation frequency ($\beta = 0.222$), participation period ($\beta = 0.085$), and participation intensity ($\beta = 0.087$) had a significant effect on school life satisfaction. As independent variables used for the regression analysis, peer relations, regulation-observance, and school life satisfaction among the sub-factors explained 18.6%, 32.7%, and 4.2% of the total variance respectively.

DISCUSSION

This study puts its purpose in elucidating the relations of physical activity-based recreation programs with optimism, humor styles, and school life adjustment. It attempts to discuss the issue based on the study results.

First, in terms of the effect of the participation in physical activity-based recreation programs on optimism, participation frequency and participation intensity would have an effect on optimism, while participation period would have a significant effect

on being positive among the sub-factors of optimism. This indicates that long or ardent participation of children in recreation programs result in an increase in confidence and optimism because children can foster cohesion and they make fun. Participation of children in leisure sports plays a positive role in highly evaluating the physical self-concept and enhancing recovery resilience. In addition, these results show that longer participation in leisure sports activities and more frequent participation would make optimism increase. To sum up, it is judged that the regular participation of children in recreational activity reinforces the internal capability of children, making them have the ability of control in the face of environmental crisis and leading an increase in optimism for a successful life. Therefore, it is considered that to help children have a habit of participating in physical activity-based recreation is important for the development of optimism.

Second, participation in physical activity-based recreation programs might have a significant effect on humor styles. This helps children participate in recreational activities for a longer period and more often, making them closer to their friends and creating a positive atmosphere because affiliative humor and enhancing humor can minimize stress and obstacles under any stressful event circumstance. The findings, mentioned above are partially consistent with those of Cohen and Wills (1985), showing that humor styles attract more people, and help them maintain fellowship, and develop social networks, leading to psychological and physical benefits. The study results of Bell et al. (1986) also prove that those who are full of a sense of humor would gain more social support and show more competent social skills. Likewise, the results of this study indicate that affiliative humor and enhancing humor would reduce depression and improve self-esteem. Therefore, it is considered that to make children have a habit of participating in physical activity-based recreation on a regular basis is very crucial for humor styles which make it possible for children to accept

themselves and others at the same time.

Third, in terms of the effect of the participation in physical activity-based recreation programs on the school life adjustment, it was demonstrated that participation period and participation intensity would have a significant effect on school life adjustment, while participation frequency would have a significant effect on regulation-observance and school life satisfaction. This shows that round peer relationships and law-abiding spirit are enhanced through the ardent participation in recreation programs for a long period, making students adjust to school life. It is judged that a low-abiding spirit is enhanced and satisfaction in school life can increase by frequent participation in recreation programs. These results reveal that the participation of children in leisure sports would have a positive effect on regulation-observance, good-manners, and pro-social behaviors. The research on the participation of children in leisure sports after school shows that physical activity would have a positive effect on self-esteem, self-efficacy and school life. Therefore, it is judged that making children have a habit of regular participation in recreation is considered important for school life adjustment.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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REFERENCES

- An JY, Choi MS, Choi TS. The relationships of the youth' humor sense with humor style and personal relationship skills. *J Korean Asso Play Thera* 2007;10(4):97-108.
- Bell NJ, Duffey NS, McGhee PE. Inter personal competence, social assertiveness and the development of humor. *British J Dev Psychol* 1986;4:51-55.
- Butzer B, Kuiper NA. Humor use in romantic relationships: the effects of relationship satisfaction and pleasant versus conflict situations. *J Psychol* 2008;142(3):245-260.
- Chemers MM, Hu L, Garcia BF. Academic self-efficacy and first-year college student performance and adjustment. *J Educ Psychol* 2001;93(1): 55-64.
- Choi WY, Kim MJ. A study on the elementary school students' participation in private weekend physical education institution and the recognition about school physical education class. *Korea Sports Res* 2007;18(4):757-766.
- Cohen S, Wills TA. Stress, social support, and the buffering hypothesis. *Psycho Bull* 1985;98(2):310-357.
- Hilsman R, Garbrt JA. Test of the cognitive diathesis-stress model of depression in children: a cademic stressors, attributional style, perceived competence and control. *J Person Social Psychol* 1995;69:370-380.
- Park MK. The relationships of the elementary school students' motivation to participate in weekend physical education with exercise immersion, self-efficacy and school life satisfaction. *J Sport Leis Stud* 2013;51:435-448.