

# **The Influence of Sports/Health Activity on Self-Esteem and Subjective Happiness Related to Delinquency: Focused on Elementary, Middle, and High School Students**

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## **Abstract**

Self-esteem of children and adolescents has been studied as an essential factor influencing juvenile deviance. At this point, this study was examined the effects of sports and health activities on self-esteem and subjective psychological status to prevent juvenile delinquency and deviations. The purpose of this study was to understand the current state of child and adolescent as examining the influence of sports/health activities on self-esteem and subjective happiness. To achieve this purpose, this study was used the National Youth Policy Institute (NYPI) which conducted the subjects of total 10,506 (5,030 female and 5,476 male) by multi-stage stratified cluster sampling method. The survey was conducted from May 22 to July 17, 2017, in South Korea and researcher selected elementary, middle, high school students for this study.

The results were as follows: Firstly, sports/health activities had a statistically significant effect on self-esteem, which meant that more sports/health activities increased the positive self-esteem and decreased the negative self-esteem. Secondly, it was found that the higher the positive self-esteem, the more the subjective sense of happiness. Also, the lower the negative self-esteem, the higher subjective happiness was identified. Lastly, the higher sports/health activities had a statistically significant positive effect on subjective happiness. In other words, the higher sports/health activities increased the subjective happiness.

**Keywords:** self-esteem, sports/health activities, subjective happiness, juvenile delinquency

## **Introduction**

According to the 2018 youth statistics released by the Korean government, the suicide rate for juveniles in 2016 is 7.8 per 100,000 people, and suicide is the top cause of youth deaths. It is not only Korea's problem. In the San Diego County, 18 out of 457 people who committed suicide in 2017 were teenagers [1]. As the majority of the individuals who committed suicide were aged between 10 and 39 years, the mental health of these individuals has emerged as an important social issue [2]. As a solution to these youth problems, we examined the role of sports/health activities on the psychological side with self-esteem and subjective happiness.

Self-esteem is defined as a socio-psychological construct used to assess an individual's attitudes and perceptions of self-worth [3]. Previous researchers have shown that physical activity provides an important to improve self-esteem [3] [4] [5] [6]. The focus of much research indicated that the participation

of sports or physical activity is positively associated with self-esteem. For example, they have investigated a variety of variables proposed to mediate the relationship between sports participation and individual's self-esteem [7] [8] [9] [10] [11]. In this context Liu, Wu and Ming (2015) found that intervention of physical activity is associated with increased self-concept and self-worth in children and adolescents [12].

Most of the previous research reported that sports activity is also related to happiness [13] [14] [15] [16] [17]. Happiness is commonly defined as the status of well-being, associated with experiencing pleasures and feeling good [18]. Subjective happiness is expressed in various terms, however, in the academic level, it is common to represent as happiness including subjective quality of life or life satisfaction [19]. Park and Lee (2017) reported that there was a significant difference in the happiness of students according to the participation frequency of school sports club [20]. Song, Yoon, and Lee examined that the subjective happiness was found to have statistical differences depending on the sports participation frequency [21]. Also, Richards et al. (2015) empirically proved that increasing physical activity volume was associated with higher levels of happiness after 11,637 samples in 15 European countries [22]. Therefore, it can be expected that sports/health activities can be the primary factor that influences the effects of self-esteem and subjective happiness.

Most of the previous studies have dealt with the relationship between self-esteem and subjective happiness [23] [24] [25]. These research demonstrated there was a positive correlation between happiness and self-esteem [18]. Regression showed positive self-esteem to be the most dominant and powerful correlated of happiness [23]. Therefore, this study was assumed that self-esteem is the mediating variable influencing subjective happiness as the independent variable and receiving influence from sports/health activities as the dependent variable.

Based on this assumption, the objective of this study is to explore whether self-esteem has a mediating effect on sports/health activities and happiness. As to say, to extend past research, we empirically investigated the influence of sports/health activities as one of the ways to lower negative self-esteem and increase positive self-esteem, and the effect of happiness to children and adolescents through this. We thus structured a path analysis model based on a theoretical framework previously used, to explore the effect of sports/health activities on positive self-esteem and negative self-esteem, the effect of sports/health activities on happiness and the effect of positive self-esteem and negative self-esteem on happiness.

## Method

### A. Participants

This research was used data from National Children & Youth Policy Institute conducted for survey health, physical and psychological factors of children and adolescents from May 22 through July 17, 2017 [26]. The population of this study was fourth to sixth grade students in elementary school and first to third grade students in middle and high schools and a total of 10,506 students (5,476 boys, 5,030 girls/ 2,950 in elementary school, 3,648 in middle school, 3,908 in high school) were selected by multi-stage stratified cluster sampling all over the countries in South Korea. In case of the economic status of the participants, 43.4%(4,546) answered “the high class,” 42.8 %(4,495) answered “the middle class” and 17.8 %( 1,450) answered “the lower class.”

### B. Statistical analysis

We conducted data analyses to investigate the relationship between self-esteem, sports/health activities, and subjective happiness. Descriptive statistics, exploratory factor analysis, reliability tests, Pearson’s correlations, and multiple regressions were performed. To test the mediation role of positive self-esteem and negative self-esteem in the association between sports/health activities and happiness, we conducted a path analysis by using SPSS version 23 [27].

### C. Variable measure

All the measures used in this study were based on a self-report scale by questionnaire survey, and the detailed description of how each variable was measured is explained below.

*Control variable.* At this study control variables were the participant’s social-economic status and demographic characteristics. “School” level was measured according to grade at elementary, middle and high school. “Area” level was separated residential regions in 17 cities/ provinces all over the country. Lastly, “Education” level of the parent was separately measured. As a result, this study was used four control variables.

*Independent variable.* The variable of sports/health activities was measured by seven items including physical training activities, smoking, drinking, drugs, obesity prevention activities, safety and first-aid activities, school violence prevention activities that focused on respondent’s evaluations of how many times were experiences at these activities in last one year. Response options consisted of 0 to more than 5 times (1=never, 2= 1~2 times, 3= 3~4 times, 4=over 5 times).

*Mediating variable.* To measure the mediating variable in this study, the Rosenberg self-esteem scale was used [28]. The 10items of Rosenberg scale is widely used self-report evaluating individual self- esteem, and in this study, it was estimated as positive self-esteem with five items and negative self-esteem with four items on a point. In case of positive self-esteem, the questions included “ I think I am a worth person like everyone else”, “I think I have a good personality”, “I can work as well as most other people”, “I have a positive attitude towards myself” and “I am generally satisfied with

myself’. On the other hand, the questions of negative self-esteem were composed in “I usually feel like I have failed,” “ I do not have much to be proud of,” “I sometimes feel that I am a useless person” and “I sometimes feel that I am a bad person.” The scale consisted of all self-esteem items on 5 points Likert scale(1=strong disagree, 3=average, 5=strong agree).

*Dependent variable.* Subjective happiness as the dependent variable was assessed by the following seven questionnaires: “I think I am healthy,” “I like school life.” “I am satisfied with my life,” “I feed a sense of belonging to my group,” “I get along well with people around me,” “I feel lonely without any reason (reverse)” and “In many ways, I am happy.” Response scale was used as same as mediating variables.

## Result

### A. Descriptive statistics

Descriptive statistics analysis for this study and response category for each variable are provided in Table 1. The mean of the sum for sports/health activities w 13.94(SD=4.09). The mean of the sum for positive self-esteem was 18.69(SD=4.01), and negative self-esteem was 9.27(SD=3.62). The mean of subjective happiness was 26.77(SD=3.62). To examine the reliability of each variable, the study was conducted Cronbach’s alpha test and confirmed that all Cronbach’s alpha value was over .7(sports/health activites=.834, positive self-esteem=.755, negative self-estee=.871, and subjective happiness=.759).

TABLE I  
 DESCRIPTIVE STATISTICS FOR MAIN VARIABLES

Variables	Range	Mean	SD	Cronbach’s $\alpha$
Sports/Healthactivities	7-35	13.94	4.09	.834/ 7 items
Positive Self-esteem	5-20	18.69	4.01	.755/5 items
Negative self-esteem	4-16	9.27	3.62	.871/4 items
Subjective Happiness	7-49	26.77	3.62	.759/6 items

### B. The correlation between sports/health activity, self-esteem, and happiness

We examined to confirm the significant relationships among the four factors as independent, dependent and mediated variables. Table2 result showed us that sports/health activities were statistically related to positive self-esteem( $r=.125, p<.01$ ), negative self-esteem( $r=-.094, p<.01$ ) and subjective happiness( $r=.163, p<.01$ )

TABLE II  
 CORRELATION ANALYSIS

	SA	PS	NS	SH
Sports/Health Activities (SA)	1	.125**	-.094**	.163**
Positive Self-esteem(PS)		1	-.554**	.665**
Negative Self-esteem(NS)			1	-.587**
Subjective Happiness(SH)				1

\*\*p<.01

### C. Effect of sports/health activity on self-esteem

Many factors may influence the self-esteem of students. This study was carried out a multiple regression analysis to examine the contributions of sports/health activities to positive

self-esteem and negative self-esteem by inserting social demographic variables as control factors. Table 3 was shown that sports/health activities were essential to increase positive self-esteem in Model 1, reduce negative self-esteem in Model2 of students from elementary to high school level.

TABLE III  
 MULTIPLE REGRESSION ANALYSIS PREDICITING  
 SELF-ESTEEM

Variable	Model1			Model2		
	B	S.E	$\beta$	B	S.E	$\beta$
Independent variable						
SA	.121	.010	.124***	-.051	.009	-.058***
control variable						
FE	.059	.022	.032**	-.080	.020	-.048 ***
ME	.028	.023	.015	-.045	.020	-.026*
SL	-.001	.051	.000	-.051	.009	-.058***
RL	-.178	.055	-.032	.094	.049	.067***
dependent variable	Positive self-esteem			Negative self-esteem		
R <sup>2</sup>	.018			.045		
F value	38.982***			97.896***		

\*\*\*p<.001, \*\*p<.01, \*p<.05

Note. SA is sports/health activities, FE is father's education, ME is mother's education, SL is school level, RL is regional level.

D. Effect of sports/health activity and self-esteem on happiness

In the analysis of Table 3, we examined the effect of an independent variable on mediating variables. Nextly, this study was tried to analyze the influence of the independent variable and mediating variables on the dependent variable. In the first step, sports/health activities were inserted, and the factor significantly influenced happiness( $\beta=.128$ ,  $p<.001$ ). In the second step, positive self-esteem and negative self-esteem were added. As a result, sports/health activities( $\beta=.048$ ,  $p<.001$ ), positive self-esteem( $\beta=.494$ ,  $p<.001$ ) and negative self-esteem ( $\beta=-.282$ ,  $p<.001$ ) were significant(see the below table 4). To examine multicollinearity among variables, VIF was analyzed, and all of VIF did not surpass10.

TABLE IV  
 MULTIPLE REGRESSION ANALYSIS PREDICITING  
 HAPPINESS

Variable	Step1			Step2		
	B	S.E	$\beta$	B	S.E	$\beta$
Independent variable						
SA	.162	-.012	.128***	.061	.009	.048***
PS				.654	.011	.494***
NS				-.404	.012	-.282***
control variable						
FE	.087	.028	.037**	.019	.020	.008
ME	.040	.029	.016	.003	.021	.001
SL	-1.057	.065	-.163***	-.738	.047	-.114
RL	-.194	.070	-.027*	-.052	.050	-.006
dependent variable	Subjective Happiness					
R <sup>2</sup>	.059			.529		
F value	128.308***			1638.021***		

Note. SA is sports/health activities; PS is positive self-esteem; NS is negative self-esteem; FE is father's education; ME is mother's education; SL is school level; RL is regional level.

E. Path analysis approach

The path analysis is a statistical method that starts from the purpose of analyzing the procedure or path, which has a causal order among independent variables [32]. We tried path

analysis to find the effect of self-esteem as a mediating variable and direct or indirect effect of sports/health activities as an independent variable to dependent variable, happiness. As a result of this analysis, figure1 showed that both positive self-esteem and negative self-esteem were statistically significant as partial mediation effect variables. It indicated that the more sports/health activities could improve happiness as increasing positive self-esteem and decreasing negative self-esteem.

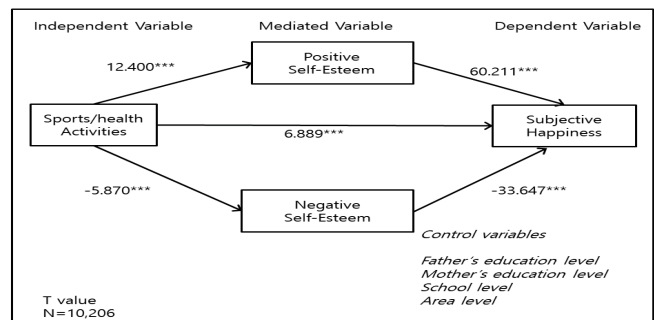


Fig. 1 Path analysis of snorts/health activities and self-esteem on

Discussion

In this study, we examined that influence of sports/health activities and also analyzed how happiness changed, depending on self-esteem. According to this study, sports/health activities were associated with higher positive self-esteem and lower negative self-esteem, a finding that is consistent with those of previous research [3] [4] [5] [7]. It means that students who participated in sports/health activities had lower levels of negative self-esteem than did their peers. Also, we investigated that sports/health activities were directly associated with happiness like previous research [29]. Nevertheless, our findings, which are based on full national students from elementary to high school preparing for their adult, were necessary because we found that sports/health activities were associated with the lower mental problem.

On the other hand, having sports/health activities can increase student's happiness level by reducing negative self-esteem or increasing positive self-esteem. We found that the positive self-esteem of students was associated with greater happiness. Having a positive self-evaluation by developing high self-esteem leads to individuals feeling confident in various fields of their life, and recognizing themselves as indispensable members of society, which leads them to live a happy life, therefore, self-esteem can interpret as a factor that helps to reduce depression and promote living a happy life [2].

This study was statistically verified that sports/health activities were found to be effective in increasing positive self-esteem and reducing negative self-esteem and sports/health activities helped stable emotion and promoted happiness. These findings are essential that we can find solutions for growing problems like suicide. According to Falukner et al (2007), many policy-related reviews of the potential social value of sport and physical activity list the prevention of juvenile delinquency as an issue to which these activities can make a contribution and sports activities are seen as vehicles of social policy aimed at reducing delinquency



among young people in the UK [30]. Thus, our results showed education policy about sports/health should be applied in the field of school [31]. It means an existing education system in South Korea should be changed first to spend much time on nonacademic activities [32]. Therefore, child and adolescents should be helped to live a happy life by improving their positive emotion. This study is meaningful because it was made by the nationwide survey. However, there is a limitation in that it a cross-sectional study design at one specific time point. It is expected future researchers will lead to a study that can measure the policy effect of sports/health activities.

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