

# Effect of Sports Activity on Sustainable Social Environment and Juvenile Aggression

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## Abstract

Sport, as a social institution is one of the most critical extracurricular activities for an adolescent. At this point, it is believed that sports keep adolescents out of problems by teaching the rules and disciplines. But the effect of sports on adolescent is still controversial at the level of theoretical and empirical perspective in sociology and psychology. For this purpose, this study focused on the causal relationship among sports activity, social, environmental factors and juvenile aggression based on empirical research. This research used the Korean Children & Youth Panel Survey (KCYPs) which conducted the subjects of 2,378 adolescents by multi-stage stratified cluster sampling from 98 schools all over the country in South Korea. The data was analyzed by reliability analysis, correlation analysis, exploratory factor analysis, multiple-regression, and path analysis with SPSS Ver. 23.0 Windows Program.

The results were as follows; Firstly, sports activity had a statistically significant effect on the sustainable social environment factors, teacher and friend relationship. Secondly, it was found that sustainable social environment was a statistically significant effect on juvenile aggression toward others and self. Lastly, sports activity showed not a direct impact on juvenile aggression toward others and self. However, sports activity has affected juvenile aggression through a sustainable social environment. In detail, although sports activity was not directly affected on aggression, more sports activity could positively improve the level of teacher and friends relationship then reduce both the aggression toward others and self.

**Keywords:** sustainable social environment, sports activity, juvenile aggression

## Introduction

Society has undergone a rapid change in which adolescents are suffering increasingly from balanced development and social adaptation. As a result of these difficulties, juvenile aggression is becoming a serious social problem [1] [2]. Also, Juvenile aggression is a complex, multifactorial phenomenon, with risk factors in the individual, family, social, and the community / society domain [3] [4]. More recently, youth policymakers have become interested in the use of sports in prevention programs. Sport-based interventions are perceived as low-cost, non-stigmatizing programs that positively influence youth development [5] [6] [7].

Nowadays, local governments and institutions all over the world are offering youth sports activities to prevent juvenile aggression [8] [9].

Despite the significant role of sports in the development of

adolescence, little is known about the relationship between sports participation and juvenile aggression. Sport is a fundamental social component of politics, economy, and culture. Also, physical activity as a kind of sports in a similar vein is now growing up as an important factor in health prevention and psychological problem. The issue of socialization through sport is subject to emerge as the social and educational issue. As Feldman and Matjasko argued, sports are the most popular extracurricular activities and they are socialized through the school [10]. For this reason, the importance of the educational function of the sports has been studied intensively related to the positive and negative effect of sports.

According to prior most researches about the function of sports, generally, it can be said that sports might be the effective way to be positively involved in school society to adolescents as carrying out the role of social control [11] [12]. In this context, Mutz and Baur quoted that sports participation might be of help in preventing adolescents from aggression and violence [13]. It means that well-programmed sports participation helps not only academic knowledge, sociability but also physical, personal and cultural development which are needed for social adaptation. At this perspective, sports are accepted as the necessary social factor.

Another theory focusing on the social domain of juvenile aggression is the sustainable social environment theory which has dealt with the teacher and friend relationships. The higher the friend and teacher attachment, the better the student adapts to school [14]. The positive teacher and friend relationship influence the overall behavior of adolescents including cognitive and emotional aspects [15] [16] [17]. Therefore, it is expected that the teacher and friend relationship is an essential factor influencing juvenile aggression. Based on these assumptions, this study aimed to examine the causal relationship among sports activity, sustainable social environment factor, teacher and friend relationship at school in adolescents, and aggression as a kind of antisocial behavior.

Following are the questions guiding this study:

Is there a significant causal relationship among sports activity, sustainable social environment factors, teacher and friend relationship, and juvenile aggression toward others and self?

Is there the moderating effect of sustainable social environment factors, teacher and friend relationship between sports activity and juvenile aggression toward others and self?

## Method

### A. Participants

This research used data from Korean Children & Youth Panel Survey (KCYPs) by National Children & Youth Policy

Institute. It was conducted for seven years from 2010 through 2016 with a longitudinal design for fourth years in elementary school. 2016 (6th wave) data from the first year of high school students were used in this study. From the sixth wave data, 2378 adolescents from the first year of high school students were selected by multi-stage stratified cluster sampling from 98 schools all over the country in South Korea.

*B. Statistical analysis*

Researchers conducted data analyses to investigate the causal relationship between sports activity, sustainable social environment factors, teacher and friend relationship and juvenile aggression, toward others and self. Descriptive statistics, factor analysis, reliability tests, Person's correlations, and multiple regressions were performed. To test the mediation role of teacher and friend relationship in the association between sports activities and juvenile aggression, researchers conducted a path analysis by using SPSS version 23.

*C. Variable measure*

All the measures used in this study were based on an individual interview investigation with a self-reported scale. The final collected data were investigated between October and December 2016.

*Control variable.* At this study control variables were income, parent's educational level as social-economic-status. 'Income' was measured by household income during the last one year. Each educational level of mother and father was separately measured by five nominal scales of middle school education, high school education, junior college, college, and graduate level.

*Independent variable.* The involvement of P.E. classes as sports activity was measured by a single observed item that focused on respondent's evaluations of how many hours were actively involved at P.E. classes in a week.

*Mediating variable.* The mediating variable in this study was a sustainable social environment factors which was estimated as friend relationship with five items and teacher relationship with five items on a 4point Likert scale (1=very untrue, 4=very true). The researcher analyzed the mediating variable as the dependent variable to examine the effect of independent variables in Model 1 and 2 after and then, this variable was analyzed as mediating variable at path analysis approach.

*Dependent variable.* Juvenile aggression as the dependent variable was measured by six items at path analysis It was consisted of two sub-variables, toward others and self and measured by 4 points Likert Scale (1=strongly agree, 4=strongly disagree)

**Result**

*A. Descriptive statistics*

Table1 presents the descriptive statistics for this study and response category for each variable. The proportion of male (1,091, 52.9%) and female (970, 47.1%) youth within the study sample was nearly the same. The mean of the sum for

sports activity was 3.14(SD=1.39). The mean of the sum for friend relationship was 10.38(SD=1.76), and teacher relationship was 9.89(SD=2.98) for sustainable social environment. The mean of toward others was 8.90(SD=1.89), and self was 9.50(SD=1.83) for juvenile aggression.

TABLE I  
 DESCRIPTIVE STATISTICS FOR DEMOGRAPHIC VARIABLES

Variables	Range	Mean	SD	Cronbach's $\alpha$
Sports Activity	1-5	3.14	1.39	
Friend relationship	5-20	10.38	1.76	.755
Teacher relationship	1-4	1.81	.635	.871
Toward others	3-12	8.90	1.89	.759
Toward self	3-12	9.50	1.83	.732

*B. The correlation for sports activity, sustainable social environment, and juvenile aggression*

Researchers analyzed correlation among independent, dependent, and mediated variables. This result showed us those variables were statistically related. Friend relationship was positively correlated ( $r=.51$ ,  $p<.001$ ) to teacher relationship and ( $r=.248$ ,  $p<.001$ ) to sports activity. However, it was negatively correlated ( $r=-.354$ ,  $p<.001$ ) toward others and ( $r=-.328$ ) self. Teacher relationship was positively associated with sports activity ( $r=.333$ ,  $p<.001$ ) but negatively related to toward others ( $r=.190$ ,  $p<.001$ ) and self ( $r=-.153$ ,  $p<.001$ ). Sports activity was negatively related ( $r=-.159$ ,  $p<.001$ ) to self. And toward others was positively correlated ( $r=.527$ ,  $p<.001$ ) to self.

TABLE II  
 CORRELATION ANALYSIS

	FR	TR	SA	TO	SF
Friends relationship (FR)	1	.512***	.248***	-.354***	-.328***
Teacher relationship (TR)		1	.333***	-.190***	-.153***
Sports Activity (SA)			1	.033	-.159***
Toward others (TO)				1	.527***
Toward self (SF)					1

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

*C. Effect of sports activity on sustainable social environment*

Table 3 is the result of each model after analysis of multiple regression. At the first stage, the researcher tried to multiple regression to know the influencing sports activity on friends relationship in Model 1 and teacher relationship in Model 2. As the result of this analysis, R square was .038 and F-value was 11.428\*\*\* in Model 1. More concretely, the researcher found that sports activity were significant variables to friends relationship. As the result of this analysis, R square was .018, and F-value was 6.230\*\*\* in Model 2 which shown that sports activity were significant variables to increase the teacher relationship.

TABLE III

MUTIPLE REGRESSION PREDICTING SUSTAINABLE SOCIAL ENVIRONMENT FACTORS

Variable	Model1			Model2		
	B	S.E	$\beta$	B	S.E	$\beta$
Independent variable						
SA	-.205	.031	.163***	-.265	.053	.123***
control variable						
HI	-.005	.000	.032	-.005	.000	-.009
FE	-.095	.058	-.057	-.046	.101	.016
M	.034	.048	.040	-.158	.108	-.052
E	.005	.062	.019*	-.003	.012	-.008
HT	.007	.005	.046	-.009	.008	-.034
WT						
dependent variable	Friends relationship			Teacher relationship		
R <sup>2</sup>	.038			.018		
F value	11.428***			6.230***		

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

Note. SA is a sports activity; HI is household income; FE is father's education; ME is mother's education; HT is height. WT is weight.

#### D. Path analysis approach

The researcher tried path analysis to find the effect of teacher and friends relationship as a mediating variable to dependent variable and direct or indirect effect of sports activity as independent variables to the dependent variable, juvenile aggression toward others and self. As a result of this analysis shown that both teacher and friends relationship was statistically significant as a partial mediation effect variables. It indicated that although sports activity was not directly affected on aggression, more sports activity could positively improve the level of teacher and friends relationship then reduce both the aggression, toward others and self.

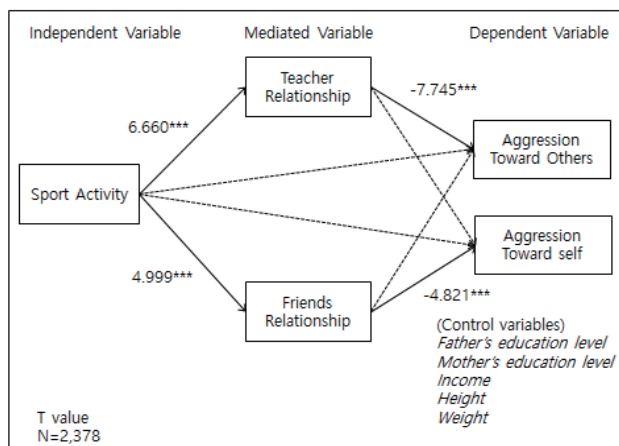


Fig. 1 Path analysis of sports activities and sustainable social environment on aggression toward others and self

#### Discussion

This study attempted to compare functional and conflict theoretical perspectives. It means to investigate the positive or negative effect of sports activity as a kind of sports participation. For this purpose, this study focused on sports activity and its relationship to sustainable social environment factor with variables from psychological and social factors. Sustainable social environment is caused by a variety of factors, including family, school, community and so on. This study also examined whether sustainable social environment served as a moderating effect of sports activity on juvenile

aggression or not. For those reasons, This study used the KCYPS which conducted a survey of 2,378 adolescents all over the country in South Korea. As a result, several noteworthy findings were observed.

First, Analysis indicated that sports activity was significantly related to sustainable social environment, teacher and friends relationship. It is identified that the more sports activity, the higher level of teacher and friends relationship occurred. In other words, the social necessity of sports activity is the positive socialization of adolescence as increasing teacher and friends relationship. It is also supported by research findings that sports activity can be adopted as a policy for aggression. Sport can prevent anomie and foster a safe environment for people to release negative emotions [18] [19]. At this point, modern sport was exported worldwide as an integral part of the educational system [20] [21] [22] [23]. Also, sport promotes traditional values and societal arrangements because sport helps to maintain societal integration [24] [25] [26] [27]. As this perspective, sports can use the successful mechanism to solve adolescent's emotion problem including aggression according to this empirical support to explain the positive aspects of sports participation.

Second, it indicated that the teacher relationship has the moderating influence on aggression toward others. These results show that the role of teachers in schools is essential to ensure psychological growth for adolescents. This result is supported by findings that it could be possible to reduce the behavioral problem like juvenile aggression, toward others and self when a student has a positive relationship with a teacher [1] [28] [29] [30]. In another word, it is important to develop positive teacher relationships to intervene effectively. Thus, the policy maker, school officials, teachers, and school counselors should find various ways to improve teacher relationships. This study was also statistically verified that the moderating effects of friends relationship on aggression toward self was identified. As to say, friends relationship were found to be effective in reducing aggression toward self. These findings partially support other studies that adolescents with experience of being ignored or rejected by peers were more anxious and more aggressive than adolescents who do not [30] [31] [32]. In other words, school becomes the center of adolescent's lives and spends the most time with their peers because of the social environment characteristics of adolescents. For these reasons, the development of programs that facilitate interactions with peer groups and provide positive feedback is also necessary.

Despite the practical implications of this study, there are some limitations of this study that need to be addressed. First, the lack of control over the environment in which the participants completed the survey may have affected the finding of this study. Second, moderating effects of sports activity on sustainable social environment factors and juvenile aggression toward others and self were identified. However, this study more focused on the school situation factors. Thus, future research with longitudinal designs should focus on contextual factors to understand mechanisms that contribute to positive developmental outcomes in adolescents.

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