

## Relationships between Middle and High School Students' Experience of Viewing Media Sports Violence and the Imitation Behavior

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### Abstract

*The purpose of this study is to investigate the causal relationship between the variables related to media sports violence viewing experience, negative emotion, aggression and violent imitation behavior of middle school students and high school students. The subjects of 240 middle school students and 240 high school students were surveyed for 2 months. Among the collected data, 64 samples judged to have low reliability were excluded from the analysis, and the final 416 data were used. The questionnaire used in this study consisted of four potential variables including experience of watching media sports violence, negative emotion, aggression, and violent imitation behavior. Among the sub-variables of experience of watching media sports violence, exogenous potential variables except frequency, period and time and questions that are endogenous potential variables were composed of a questionnaire of 5-point Likert scale. results of this study were analyzed using the AMOS statistical program, which was used to identify the causal relationship between watching media sports violence and negative emotion, aggression, and violent imitation behavior. There was no significant difference in violent imitation behavior according to school grade. The causal models for media sports violence viewing experience, negative emotions, aggression and violent imitation behavior were found to be appropriate. It was found that there was a significant causal relationship between the viewing experience of sports violence and the violent imitation behavior. Therefore, in order to reduce the imitation behavior of adolescents, it is necessary to be more careful about the production and viewing of sports violence programs at the institutions and homes that produce media.*

**Keywords:** Media Sports Violence, School Grade, Negative Emotion, Aggression, Imitation Behavior

### 1. Introduction

Korean adolescents seem to have nothing to do with outdoor leisure activities. As for their leisure activities, the proportion of online activities such as watching TV (58.8%), playing games (50.7%), surfing the Internet (32.6%) and SNS (29.2%) is increasing. On the other hand, it was found that about 40% of terrestrial and cable TV programs broadcast during the late night were unsuitable for young people to watch [1].

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It is constantly being debated that violent media negatively affects adolescents who are growing up [2], and sports are combined with commercial media to deliver stimulating and violent scenes to adolescents without filtering [3]. Spectator violence among various forms of media sports violence, which refers to the experience of watching violent actions that are indirectly transmitted to viewers through the media, continues to increase in soccer, baseball, and basketball [4].

Also, mixed martial arts, which is different from traditional sports, is very violent and cruel in that it is an official and legal fight [5]. Some people claim that such media violence viewing experiences offset the anti-American dimension of aggressive impulses [6], but most studies [7-10] have shown emotional excitement, anti-social behavior, lack of sympathy for victims, and aggressive behavior. It is reported that the viewing of such violent scenes is highly likely to lead to imitation behavior [11] by warning that it has a serious effect on strengthening and idolization of the main characters in violent scenes.

The results of a study on the relationship between media violence viewing and inappropriate emotions showed that people who feel bad for any reason are more likely to be angry, and are more likely to become aggressive with hostile thoughts and memories [12]. Also, the increase of aggression due to negative emotion was reported to be high in high school group with high aggression [13], and the more aggressive children, the more violent scene viewing was reported to have the effect of violence [14].

Overall, it is judged that middle school and high school students' media violence viewing experience, inappropriate emotions, and aggression will directly or indirectly affect their violent imitation behavior in any form. The purpose of this study is to investigate the causal relationship of variables related to media sports violence viewing experience, inappropriate emotions, aggression, and violent imitation behavior of middle and high school students.

## **2. Experiment Materials and Methods**

### **2.1 Subject**

The subjects of this study were middle school and high school students located in S city, C province, and G province as the population, and 240 middle school students and 240 high school students were surveyed for 2 months. Among the collected data, 64 samples judged to have low reliability were excluded from the analysis, and the final 416 data were used.

### **2.2 Composition of questionnaire**

The questionnaire used in this study consisted of four potential variables including experience of watching media sports violence, negative emotion, aggression, and violent imitation behavior. Among the sub-variables of experience of watching media sports violence, exogenous potential variables except frequency, period and time and questions that are endogenous potential variables were composed of a questionnaire of 5-point Likert scale. The questionnaire consisted of 32 items of interest, exposure, frequency, duration, and time of media sports violence viewing experience, 11 items of depression, anxiety, and displeasure of inappropriate emotions, and verbal attack as a variable to measure aggression. It consisted of 27 items on behavior, physical aggression, anger, and hostility, and 12 items on imitative impulse, performance level, and favorability to measure violent imitation behavior.

### 2.3 Reliability of the questionnaire

To verify the reliability and validity of the questionnaire, a preliminary survey was conducted on 111 male high school students before this study. The Cronbach' coefficient was 0.831~0.908, negative emotion was 0.785~0.907, aggression was 0.534~0.810, and violent imitation behavior was 0.733~0.930.

### 2.4 Statistical Analysis

The results of this study were as follows: First, the results of this study were analyzed using the AMOS statistical program, which was used to identify the causal relationship between watching media sports violence and negative emotion, aggression, and violent imitation behavior.

## 3. Result

### 3.1 School grades and violent imitation behavior

As a result of one-way ANOVA to analyze the difference of violent imitation behavior according to school grade of middle and high school students, there was no significant difference in violent imitation behavior according to school grade. The results of one-way ANOVA analysis for school grades are as shown in Table 1.

**Table 1. Results of one-way ANOVA analysis for school grade**

	Factor	Average	Standard Deviation	F	p
Negative self-evaluation	Middle School <sup>o</sup>	1.94	0.82	0.384	0.536
	High school	2.00	0.83		
	Summation	1.97	0.82		
Hostility	Middle School <sup>o</sup>	2.01	0.67	0.038	0.836
	High school	2.03	0.69		
	Summation	2.02	0.68		
Despair	Middle School	2.25	0.95	0.327	0.568
	High school	2.30	0.92		
	Summation	2.27	0.93		

### 3.2 Correlation analysis between measurement variables in the structural model

The frequency of exogenous potential variables and the measurement variables of endogenous potential variables ( $r=-0.002 \sim -0.024$ ) were not correlated, and the measurement variables of aggression ( $r=-0.024 \sim 0.121$ ) and the measurement variables of endogenous potential variables ( $r=0.269 \sim 0.431$ ) were correlated. The period of media sports violence viewing experience was not correlated with the measurement variables of negative emotion ( $r=0.015 \sim 0.028$ ), and it was found that there was a correlation between the measurement

variables of aggression ( $r=0.022 \sim 0.122$ ) and the measurement variables of violent imitation behavior ( $r=0.228 \sim 0.450$ ). The time, which is a measurement variable of media sports violence viewing experience, was not correlated with the measurement variables of negative emotion ( $r=-0.009 \sim -0.024$ ), and it was correlated with the measurement variables of aggression ( $r=-0.051 \sim 0.125$ ) and the measurement variables of violent imitation behavior ( $r=0.223 \sim 0.461$ ). Depression, a measurement variable of negative emotion, was found to have a correlation with the measurement variables of aggression ( $r=0.054 \sim 0.208$ ), and the measurement variables of violent imitation behavior ( $r=0.013 \sim 0.060$ ) were not correlated. The displeasure, which is a measurement variable of negative emotion, has a correlation with the measurement variables of aggression ( $r=.086 \sim 0.246$ ) and the measurement variables of violent imitation behavior ( $r=0.061 \sim 0.130$ ). The verbal aggression, which is a measurement variable of aggression, was found to have a correlation with the measurement variables of violent imitation behavior ( $r=0.216 \sim 0.261$ ). Physical aggression, a measurement variable of aggression, was found to have a correlation with measurement variables of violent imitation behavior ( $r=0.236 \sim 0.430$ ). Anger, a measurement variable of aggression, was found to have a correlation with measurement variables of violent imitation behavior ( $r=0.195 \sim 0.285$ ). Hostility, a measurement variable of aggression, was found to have a correlation with measurement variables of violent imitation behavior ( $r=0.123 \sim 0.199$ ). The correlation with measurement variables are as shown in Table 2.

**Table 2. Correlation with measurement variables**

Factor	x3	x4	x5	y1	y3	y4	y5	y6	y7	y8	y9	y10
x3												
x4	0.614***											
x5	0.568***	0.706***										
y1	-0.002	0.028	-0.024									
y3	-0.024	0.015	-0.019	0.760***								
y4	0.084	0.122*	0.125*	0.168**	0.190***							
y5	0.121*	0.079	0.082	0.094	0.106*	0.495***						
y6	0.119*	0.047	0.045	0.054	0.086	0.482***	0.446***					
y7	-0.024	0.022	-0.051	0.208***	0.246***	0.461***	0.319***	0.123*				
y8	0.431***	0.450***	0.461***	0.013	0.061	0.216***	0.236***	0.195***	0.123*			
y9	0.316***	0.289***	0.307***	0.037	0.116*	0.261***	0.430***	0.285***	0.154**	0.566***		
y10	0.269***	0.228***	0.223***	0.060	0.130**	0.246***	0.389***	0.273***	0.199***	0.542***	0.761***	

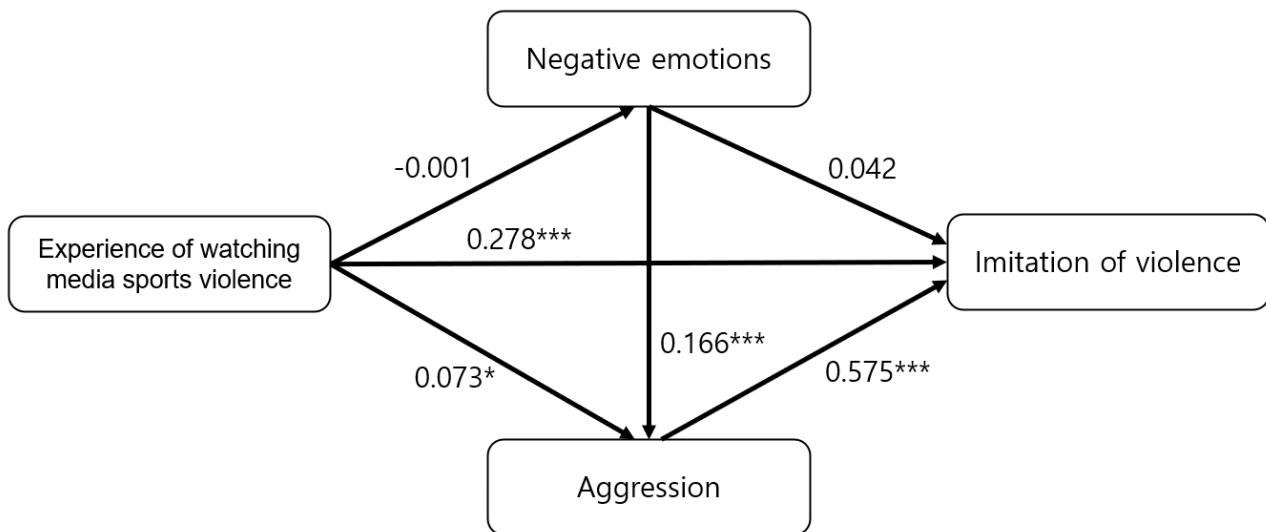
\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

x3: Frequency, x4: Term, x5: Time, y1: Depression, y3: Displeasure, y4: verbal aggression, y5: Physical aggression, y6: Anger, y7: Hostility, y8: Favorable level, y9: Imitation level, y10: Trial degree

### 3.3 Relative Influence of Factors Affecting Violence Imitative Behavior

As a result of confirming the causal relationship between media sports violence watching experience and

violent imitation behavior in order to confirm the path within the structural model of media sports violence watching experience, negative emotions, aggression and violent imitation behavior, the media sports violence watching experience and violence imitation behavior were statistically showed a significant relationship (path coefficient 0.278). Media sports violence watching experience and negative emotions did no significant relationship (path coefficient -0.001), and media sports violence watching experience and aggression showed a significant relationship (path coefficient 0.073). Negative emotion and violent imitation behavior did no significant causal relationship (path coefficient 0.042), and negative emotion and aggression showed a significant relationship (path coefficient 0.166). It was found that there was a significant causal relationship between aggression and violent imitation behavior (path coefficient 0.575). Figure 1 shows the results of examining the hypothetical pathway coefficients by checking the pathways in the structural model of media sports violence viewing experience, inappropriate emotions, aggression, and violent imitation behavior.



**Figure 1. Causal model for violence imitative behavior**

## 4. Discussion

### 4.1 Differences in violent imitation behavior according to school grades

In this study, there was no significant difference in violent imitation behavior. Judging from previous studies that reported that more violent behaviors were observed in the high school group than in the middle school group, after watching a violent movie, it is thought that it could have an effect on minimal violent imitation behavior [2].

### 4.2 Suitability of causal model for media sports violence viewing experience, negative emotion, aggression and violent imitation behavior

In this study, in order to investigate the causal relationship between middle and high school students' media sports violence viewing experience and negative emotions, aggression, and violent imitation behavior, a hypothetical structural model was first established through confirmatory factor analysis, and then a structural equation model was used. As a result of verification, it was found to be suitable.

### **4.3 Relative Influence of Factors Affecting Violence Imitative Behavior**

In this study, as a result of examining the causal relationship between media sports violence viewing experience, inappropriate emotions, aggression, and violent imitation behavior of middle and high school students, it was found that there was a significant causal relationship between sports violence viewing experience and violent imitation behavior. Such a result becomes a behavioral model of the audience who sees the specific behavioral pattern of the actors described by the media. That is, seeing violent scenes in the media is consistent with a previous study that claimed to be a determinant of basic behavior in certain social behaviors in the audience [15]. In addition, since adolescents are sensitive and respond sensitively to a small amount of information, there is a high possibility that their thoughts or emotions will be translated into action according to the influence of the media.

Media sports violence viewing experience and aggression were found to have a significant causal relationship, which is consistent with the results of previous studies that watching violent images has an effect of increasing aggression between middle school students and high school students[7]. Invalid emotion and violent imitation behavior did not show causal relationship, but there was a significant difference in the study model fit evaluation. This means that even if adolescents have high depression or discomfort, they are more interested in violent media due to mental and physical symptoms or lack of desire than going straight to violent imitation behavior, and they are more likely to imitate violent media for a lot of time[11]. Negative emotion and aggression showed significant causal relationship, which suggests that those who feel bad for any reason are likely to be angry and have hostile thoughts and memories, which can eventually become aggressive. The result of this study suggests that the person with high aggression acts more impulsively on the same stimulus situation than the person with low aggression and causes the aggressive behavior by interpreting the action cues of others more hostilely[12, 16]. Therefore, in order to reduce the imitation behavior of adolescents, it is necessary to be more careful about the production and viewing of sports violence programs at the institutions and homes that produce media.

## **5. Conclusion**

We analyzed the factors related to violent imitation behavior of 416 students using the cluster sampling method for middle and high school students. There is no difference in violent imitation behavior according to school grade, and the causal model proposed by media sports violence viewing experience, negative emotion, aggression and violent imitation behavior is suitable as a result of structural model analysis. Also, the relative influence of factors affecting the violent imitation behavior of middle and high school students is in the order of media sports violence viewing experience and aggression. In conclusion, it is necessary to be careful about the production and viewing of sports violence programs at institutions and homes that produce media to reduce the violent imitation behavior of adolescents.

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