

Effects of Sport for Preventing Violence and Computer Game Addiction in Youth

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Abstract

The purpose of this study was to examine whether sport activities can moderate risk and protective factors that may influence youth violent behaviors and computer game addiction. For this study secondary dataset in 2003 was extracted from the Korean Youth Panel Data which has a sample of 3,449 Korean adolescents between the years of 2003 to 2008. The results of the two regression analyses showed that the full models were statistically significant. The significant predictors of youth violent behavior were gender, self-control, attitudes toward violence, attitudes toward school, and delinquent peers. On the other hand, the significant predictors of computer game addiction included gender, attitude toward violence, and parental bonding. Sport as a moderating factor was significant in both violence and computer game addiction.

Keywords: *Youth violence, Computer game addiction, Delinquent peers, Sport*

1. Introduction

Sport activities have been regarded as a very useful tool to prevent a variety of social problems [1, 2]. Such ideas have been supported by some empirical evidence highlighting that sport participants can learn self-discipline [3] or life skills [4]. They contend that sport-related intervention programs can reduce adolescents' antisocial behaviors such as school violence and drug abuse.

However, other researchers have long questioned the effectiveness of sport activities [5-7]. They argue that sport-related intervention programs have failed to provide evidence of causal mechanisms as to how sport activities interact with the risk and protective factors of social problems and what mediating variables and program outcomes are generated by sport activities. That means that sport activities need to be planned using intervention theories and empirical evidence [8, 9]. Thus, we need to provide more consistent results of sport-related intervention by examining in various intervention settings [10].

This study was guided by major social problem theories such as social learning theory [11], social bonding theory [12], and self-control theory [13]. It also reviewed recent literatures on sport-related violence and computer game addiction [14, 15].

The study, in this regard, aimed to examine the effects of sport activities against multiple social problems, youth violence and computer game addiction. There were two research questions. The first research question was to examine whether participating in sport activities can moderate risk and protective factors in youth violent behaviors. Another was to examine the moderating effects of sport activities for computer game addiction. Through the findings of the study, we can better understand how and under what conditions sport activities should be manipulated for preventing youth violent behaviors and computer game addiction.

2. Procedures

For this study, secondary dataset was analyzed. The data in 2003 were extracted from the Korean Youth Panel Data published by Korean government [16]. It consisted of a probability sample of 3,449 Korean adolescents every year between the years of 2003 to 2008. The data in 2003 was selected because the respondents of the 2003 data were second year middle school students who showed the most number of anti-social behaviors than other year students. It includes various adolescents' psychosocial and behavioral variables to understand their psychological, social, and behavioral characteristics.

Guided by major criminal theories (*i.e.*, self-control theory, social bonding theory, social learning theory) and empirical evidence [14, 15], this study selected two dependent variables (*i.e.*, violent behavior, computer game playing) and a total of ten independent variables (*i.e.*, gender, self-control, attitudes toward violence, attitudes toward school, parental bonding, parental control, relations with teachers, relations with peers, number of delinquent peers, and sports participation) from the data set.

The variable of violent behavior was constructed as a binary variable where "1" indicates that the individual has ever been engaged in at least one of the seven different types of aggression such as beating, group fight, teasing, bullying, extorting, and sexual violence during the past year. The variable of computer game playing indicates how frequently the individual used the computer for game playing. A total of 10 independent variables were considered for the final analysis, including lack of self-control (4 measurement items), attitudes toward violence (4 items), attitude toward school (4 items), parental bonding (6 items), parental control (4 items), relations with teachers (3 items), relations with peers (4 items), the number of delinquent peers, and sports participation ("0" indicating no participation in any sport activities during the free time).

3. Results

To explore the first research question, a binary logistic regression was conducted with the dependent variable indicating whether the individual was engaged in some violent behavior during the past one year. Major independent variables included the number of delinquent peers, sports participation, and their interaction. Several psychological and social variables were also entered into the logistic regression for control purposes. Table 1 presents the results.

Table 1. Effects of Delinquent Peers and Sport Activities on Violent Behavior

| Variables | b (S.E.) | Exp(b) |
|--------------------------------|--------------------|--------|
| Gender (female) | -.511*** (.091) | 0.6 |
| Lack of self-control | .256***(.061) | 1.291 |
| Attitudes toward violence | -.731*** (.079) | 2.077 |
| Attitudes toward school | -.256*** (.067) | 1.292 |
| Parental bonding | -.037 (.065) | 1.038 |
| Parental control | -.066 (.057) | 0.936 |
| Relations with teachers | -.099† (.054) | 0.906 |
| Relations with peers | -.002 (.066) | 0.998 |
| No. of delinquent peers | .064*** (.008) | 1.067 |
| Sports participation (1 = yes) | .113 (.109) | 1.12 |
| Delinquent peers*sports | .032† (.019) | 1.032 |
| Cox & Snell R2 | | 0.156 |
| Nagelkerke R2 | | 0.222 |
| N | | 3298 |

Note: Entries are logistic regression coefficients with standard errors in parentheses. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Consistent with the previous findings, peer effects were confirmed; relations with anti-social peers significantly increased the likelihood that a teenager committed an aggressive behavior. The odds of being engaged in some violence increase by 6.7% when one gets one more delinquent friend ($b = 0.064$, $SE = .008$, $p < .001$, $\exp(b) = 1.067$). Such peer effects appeared somewhat greater when the individual had ever participated in some sport activities during the leisure time than otherwise; the interaction between delinquent peers and sports participation showed a marginally significant impact on youth violent behavior ($b = 0.032$, $SE = .019$, $p = .089$).

That is, it is possible that sports participation may rather facilitate anti-social behavior among the youth when sport activities provide more chances to interact with other deviant peers. Among various control variables, such psychological variables as lack of self-control, attitudes toward violence, and attitudes toward school appeared to be significant predictors of violent behavior. Male adolescents were much more likely to get involved in some violence than female teenagers.

To examine the second research question, an OLS (Ordinary Least Squares) regression was conducted with the dependent variable being the frequency of computer game playing. Here, it was assumed that the time devoted to game playing is one of the important quantitative indicators of game addiction. Table 2 displays the results.

Table. 2. Effects of Delinquent Peers and Sport Activities on Computer Game Playing

| Variables | b (S.E.) | β |
|--------------------------------|---------------------|---------|
| | -1.445*** (.039) | -0.582 |
| Gender (female) | | |
| Lack of self-control | .030 (.026) | 0.02 |
| Attitudes toward violence | .140*** (.032) | 0.076 |
| Attitudes toward school | .034 (.029) | 0.018 |
| Parental bonding | .057* (.028) | 0.036 |
| Parental control | -.033 (.024) | -0.023 |
| Relations with teachers | -.029 (.023) | -0.019 |
| Relations with peers | -.000 (.028) | 0 |
| No. of delinquent peers | -.004† (.002) | -0.027 |
| Sports participation (1 = yes) | -.088† (.047) | -0.028 |
| Delinquent peers * sport | -0.00006 | -0.037 |
| Adjusted R2 | | 0.331 |
| N | | 3261 |

Note: Entries are logistic regression coefficients with standard errors in parentheses. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Interestingly, the number of delinquent peers showed a negative impact on game playing although the effects were marginally significant ($b = -0.004$, $SE = .002$, $p = .092$). That is, more interactions with problematic peers might reduce the likelihood that young adolescents become addictive to computer games. These effects appeared more prominent among the teenagers who had participated in some sport activities than those with no such experience ($b = -0.012$, $SE = .005$, $p = .019$).

Sports participation also revealed a somewhat significant and negative influence on the probability that one plays computer games. These results altogether indicate that playing computer games may replace the time teenagers spend with their deviant peers. It needs further explications, however, whether this kind of replacement can be positive or negative, or what implications this phenomenon bears on anti-social behavior among the youth.

4. Conclusion

This study aimed to identify the risk and protective factors in youth violence and computer game addiction through major social problem theories and empirical evidence. Then, it attempted to examine whether sport activities can moderate delinquent peers who are one of the most critical factors influencing youth-related social problems.

As a result, this study suggests that the risk and protective factors identified here may be critical to solve youth violence and computer game addiction problem. It also contends that sport activities may be effective to moderate some of risk and protective factors in multiple problems. This study shows that the risk factors identified are coherent with the findings in major criminal theories such as social learning theory, social bonding theory, and self-control theory. Further study would be needed to see how and when sport can be treated to not only reduce the risk factors but also increase protective factors in multiple social problems.

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