

# A Double Mediation of Stress and Growth Mindset between School Violence Victimization and Happiness of Adolescents

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## ABSTRACT

**Background/Objectives:** The growth mindset is very important. So this study was done to verify mediating effects of stress and growth mindset between school violence victimization and happiness of adolescents.

**Method/Statistical Analysis:** Subjects were surveyed by purposive sampling method in 7 middle and high schools, and 956 questionnaires were used for analysis. SPSS Win 23.0 was used for descriptive statistics, reliability analysis and correlation analysis, and AMOS 23.0 was used for structural equation modelling analysis.

**Findings:** The main results are as follows. First, the correlation between school violence victimization and stress, and between growth mindset and happiness were significantly and positively correlated. But school violence victimization and stress were negatively correlated with growth mindset and happiness. Second, school violence experience, stress and growth mindset had a direct impact on happiness of adolescents. Third, stress and growth mindset revealed double mediating effects between school violence victimization and happiness of adolescents.

**Improvements/Applications:** Based on these results, we discussed ways to increase the happiness of youths who have suffered from school violence. This can be reflected in policies for students.

**Keywords:** School violence experience, Stress, Growth mindset, Happiness, Adolescent

## Introduction

It has been noted that the incidence of school violence refers to “violence occurring in peer groups at school, when a person is repeatedly and continuously exposed to negative behavior by an individual or group”<sup>1</sup>. It is a concept that encompasses both mental violence and sexual violence as is often directed towards students and their peers, and can include instances such as threats, insults, coercion, and bullying, as well as overt and harmful physical abuse from one student to another. In

a number of studies this violence has been found to be very close to the incidence of one student prone to attack another student both on and off of school grounds<sup>2</sup>. On the psychological side, however, there is a distinction between an attack against a student and the incidence of violence as seen against a fellow student. As it is defined, an attack is an act that hurts another person, regardless of the degree of physical, physical injury, and verbal abuse. On the other hand, the incidence of violence is a state of extreme severity of such attacks. It is important to note that especially violence is different in that intentionality is emphasized in those cases<sup>3</sup>.

According to a recent survey conducted in Korea, 8.2% of adolescents responded that they had experienced school violence victimization<sup>4</sup>. Specifically, it is noted that 10.0% of middle school students and 4.2% of high school students had confirmed living through a high school violence victimization experience. The trend of high school violence for the past 20 years in Korea has

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been steadily declining, but it has been stagnant at around 10% since 2012, and Korea is still the top 10 among the world's top 30 countries<sup>5</sup>. Furthermore, the diversity and complexity of the experienced types of school violence by the students has become more serious in recent years. Therefore, considering these facts, school violence in Korea can no longer be ignored and active measures are needed to resolve this situation for the safety of the school-aged students.

Adolescents who experienced school violence victimization experienced a variety of psychological negative emotions, and for this reason socially it is difficult to establish relationships with their teachers and peers, resulting in the situation that these students may have difficulty adapting to school life. These same students also showed frequent school absences, avoidance of certain places, runaway, suicide, and aggressive behaviors for self-defense as a result of experiencing past violence in the school environment<sup>6</sup>. This can be explained from the viewpoint of social learning theory. The youth who experienced violence learn violence and perform destructive activities in school, and eventually can become students who are less able to learn school and social life rules, which serves to thereby making school adjustment more difficult<sup>7</sup>.

On the other hand, school violence victimization and stress were closely related. After school violence victimization, the emotional problems experienced by adolescents are shown to be: anger, loneliness, depression, and helplessness. These emotional problems, if they are serious, can be extended to other problematic behaviors such as interpersonal difficulties or drinking or can manifest into an Internet addiction<sup>8</sup>. Also, because of low self-esteem and depression, these same students have difficulties in speaking their opinions and are often found in a state of anxiety and atrophy<sup>9</sup>. The serious problem in these cases, is that when the students are violent, they become more isolated because their friends are afraid that they will be bullied together<sup>10</sup>. Therefore, long-term school violence can provide long-term follow-up to stressed students.

Recently, research on growth mindset has been actively carried out in relation to the experience of youth violence in school. Dweck divided the mindset theories and factors related to this issue into a growth mindset and fixed mindset<sup>11</sup>. A person with a relatively strong fixed mindset tends to focus only on areas he is familiar

with, and avoids new challenges, because he fears the situation of failure itself. On the other hand, a person with a relatively strong growth mindset tends to think he learns from failure, tries harder, and enjoys the challenge itself without fearing failure<sup>12</sup>. Based on the results of the study that school violence victimization has a statistically significant effect on stress and that stress negatively affects the internal motivation of growth, and for this reason it is considered that school violence victimization and growth mindset are negatively related. Happiness is the psychological function of an individual depending on their personal experience and the resulting psychological consequences. Therefore, the overall level of happiness or the factors that determine happiness may be different according to the identified culture and age of the students reviewed, and may vary depending on the difference of life experience and age during that period<sup>13</sup>. Particularly, Korean youths have very low happiness due to the stress of their continued development in adolescence and the excessive stress of parents on producing excellent marks through the course of academic affairs, family selfishness, unified and competitive school atmosphere, and school life which is specifically centered on preparing for the upcoming college entrance examinations<sup>14</sup>. In the study of Kim<sup>15</sup>, the daily stress and happiness of the adolescents showed a high correlation among stressors experienced by the students.

However, there has not yet been a direct study of the relationship between growth mindset and school violence victimization. Broadly speaking, some studies have found that the growth mindset affects behavioral outcomes by affecting emotional control and optimism<sup>16</sup>. Therefore, the growth mindset is presumed to be negatively correlated with the student's school violence victimization.

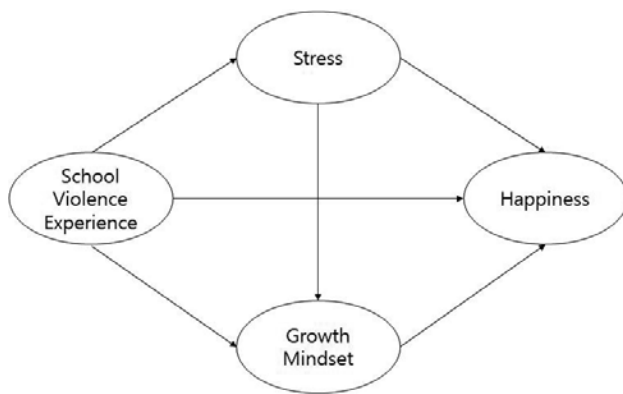
These results suggest that stress and growth mindset may mediate between school violence victimization and happiness in school aged students. Also, given the research that stress is negatively affecting growth mindset, stress and growth mindset are expected to have a dual mediating effect between school violence victimization and happiness as seen in these students. However, previous studies have only partially examined the experience of school violence victimization and the direct role of stress in the happiness of adolescents. Therefore, the purpose of this study was to investigate the role of growth mindset variables, which were not

addressed in the happiness research of adolescents, as a potential mediating variable in the behavior of adolescents at school.

In order to achieve these objectives, research questions were set. First, what is the correlation between the school violence victimization experience, stress, growth mindset, and happiness of adolescents? Second, do the stress and growth mindset between the school violence victimization experiences and happiness of adolescents work as a double mediated effect?

## Method

**Research Model:** Based on the results of previous studies that a school violence victimization experience had a negative effect on growth mindset and happiness<sup>6</sup>, that growth mindset positively affected happiness<sup>11, 12</sup>, and that stress had a negative effect on happiness<sup>15</sup>, the research model in this study was set in [Figure 1].



**Figure 1: Research model**

**Research Subjects:** The subjects of this study were middle and high school students who resided in D city, Chungcheongnam-do, and researchers visited the schools from September to October, 2017 for 2 months. A total of 975 questionnaires were collected and 956 copies were used for the final analysis, except for 19 questions that were unfairly answered.

According to their gender, there were 451 (47.2%) male students and 505 (52.8%) female students who were participants in this study. The school level distribution was 467 (51.3%) for middle school students and 444 (48.7%) for high school students, and thus there were relatively many middle school students. Their ages ranged from 13 to 19 years, with an average age of 14.79 years (SD = 1.89).

## Research Tools

**School Violence Victimization:** The school violence victimization was measured using the identified 7 items of victimization experience modified and supplemented by Cho et al.<sup>17</sup>. This scale consists of questions related to language violence, money laundering, bullying, physical violence, coercion, sexual violence, cyber violence, and a total of 5 point Likert scale from “1=not at all” to “5=very agree.”

**Stress:** Stress was measured using the Korean version of the Brief Encounter Psychological Instrument (BEPSI-K)<sup>18</sup>. This scale consists of 5 items such as “I have felt uncertain or anxious about the future,” “I have forgotten very important things because I have too much work to do,” and a 5-point Likert scale from “1=not at all” to “5=very agree.” In this study, the reliability of the scale was the Cronbach’s  $\alpha$  of .878.

**Growth Mindset:** The growth mindset was measured using the scale developed by Dweck<sup>19</sup>. This scale consists of a total of eight items, four items of belief in intelligence change and four items of belief in personality change. Each item is a Likert scale with a total of 5 points ranging from “1=not at all” to “5=very agree.” In this study, the Cronbach’s alpha of this scale was recorded at .755 in total, .755 in intelligence, and .668 in personality.

**Happiness:** Happiness was measured in the study using the shortened happiness scale developed by Seo and others<sup>20</sup> as well as modified and supplemented by Lee et al.<sup>21</sup>. This scale is composed of a total of 9 questions which are composed of 3 items measuring the satisfaction of individual (achievement, health, personality), relationship (family, friend, peer), and group (school, work, community), 3 positive items, and 3 negative items asking the feelings experienced during the past month. Each item is a 7 point Likert scale from “1=not at all” to “7=very strongly.” The computation formula for this scale is determined after summing the 3 satisfaction and 3 positive items, subtracting the 3 negative items and calculating the total score.

**General Characteristics:** We measured the subject’s sex, age, family type, and economic status of the subject’s family.

**Data Analysis:** In this case, SPSS Win 23.0 was used for descriptive statistics analysis, reliability analysis, and correlation analysis of major variables. Additionally, AMOS 23.0 was used for structural equation modeling analysis.

**Results and Discussion**

**Correlation between the main variables and descriptive statistics:** [Table 1] shows the results of correlation analysis among the main variables. The correlation between the measured and recorded happiness and growth mindset was statistically and

positively correlated. In this case, the school violence victimization experience and stress also were positively correlated with each other. It was shown that the growth mindset intelligence and growth mindset personality showed the highest correlation ( $r = .562, p < .01$ ). The overall correlation coefficient ranged from  $.562$  to  $-.191$ , indicating that there was no multicollinearity problem.

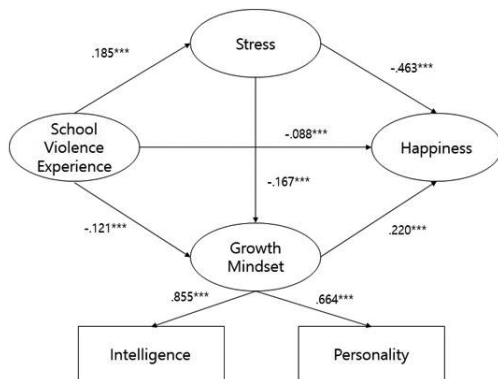
**Table 1: Correlation between the main variables and descriptive statistics**

		<b>1.</b>	<b>2.</b>	<b>3.</b>	<b>4.</b>	<b>5.</b>
1. School Violence Experience		1				
2. Stress		.174**	1			
Growth Mindset	3. Intelligence	-.113**	-.114**	1		
	4. Personality	-.077*	-.088**	.562**	1	
5. Happiness		-.191**	-.479**	.259**	.200**	1
M		1.17	2.80	3.56	3.38	19.31
SD		.37	.99	.79	.75	10.09

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

**Hypothetical Model Path Verification Results:** The overall fit of the study model was  $\chi^2 = 41.783, df = 15, \chi^2/df = 2.786, TLI = .944, CFI = .970, \text{ and } RMSEA = .069$ . Therefore, the research model was accepted without modification. The verification results of the path coefficient are shown in [Figure 2] and [Table 2]. The results of verification for each path are as follows.

School violence victimization experience had a significant effect on happiness ( $\beta = -.088, p < .001$ ), stress ( $\beta = .185, p < .001$ ) and growth mindset ( $\beta = -.121, p < .001$ ), respectively. In addition, it was confirmed in this study that the factor of stress had a significant effect on happiness ( $\beta = -.463, p < .001$ ) and also had a significant effect on growth mindset ( $\beta = -.167, p < .001$ ). Finally, growth mindset also had a statistically significant effect on happiness ( $\beta = .220, p < .001$ ).



\*\*\*  $p < .001$

**Figure 2: Structural path model among variables**

**Table 2: Results of path analysis**

Path	B	$\beta$	S.E	C.R
School Violence Experience → Happiness	-2.575	-.088	.702	-3.670***
School Violence Experience → Stress	.536	.185	.080	6.710***
School Violence Experience → Growth Mindset	-.233	-.121	.061	-3.802***
Stress → Happiness	-4.687	-.463	.244	-19.183***
Stress → Growth Mindset	-.111	-.167	.021	-5.223***
Growth Mindset → Happiness	3.359	.220	.500	6.712***

\*\*\*  $p < .001$

**Verification of Mediation Effect:** [Table 3] shows the results of the bootstrapping in order to verify the significance of indirect effects. As a result, the mediating effect was verified because there is no 0 between the upper and lower limits of the bootstrap at the 95% confidence interval.

These results show that school violence victimization has definite negative effects on the happiness of school aged students through various paths. In other words, the school violence victimization experience directly affects the victim's happiness, but affects their internal

psychological stress, growth mindset, and ultimately lowers happiness. The results are consistent with various previous studies<sup>8, 9, 10</sup>. When adolescents face difficulties in adapting to school life, they will show constant endeavors and endurance when their growth mindset level is high, and will potentially learn to actively cope with the progressive and challenging attitudes in

the future. Therefore, adolescents who have negative emotions due to school violence victimization and stress can judge that their recurring growth mindset will have a buffering effect. For this reason, it is suggested that a program of prevention education against school violence at school should be organically coordinated with the program to grow growth mindset.

**Table 3: Bootstrap test of multiple mediating effects**

Path	Estimate	p	95% Interval
School Violence Experience → Stress → Growth Mindset	-.031	.004	(-.046 ~ -.018)
Stress → Growth Mindset → Happiness	-.037	.003	(-.058 ~ -.021)
School Violence Experience → Stress → Growth Mindset → Happiness School Violence Experience → Stress → Happiness School Violence Experience → Growth Mindset → Happiness	-.119	.007	(-.145 ~ -.093)

### Conclusion

The purpose of this study was to investigate the mediating effects of stress and growth mindset on school violence and happiness of school aged students. As a result, both stress and growth mindset were found to have indirect effects as well as direct effects on these students, which may influence their behaviors both in and outside of the school environment. Stress and growth mindset were also found to be dual mediated. Based on the results of these studies, we discussed ways to reduce the negative effects of school violence to offer a safer school environment for the enjoyment of the students enrolled at schools in the region.

Based on the limitations of this study, suggestions for follow-up research are as follows. First, this study was conducted only for young people in some parts of North Chungcheong Province, Korea. Therefore, there are clear limitations of the study due to its regional specificity. In the future, it would be valuable and useful for a nationwide sampling of similarly situated students, which will be necessary to review the results, and it is hoped that continued regional comparative studies will also be conducted. Second, this study deals with stress and growth mindset as mediators. However, there are some variables that are expected to mediate between the incidence of the school violence victimization experience and happiness. In the future, a combination of studies involving these variables and the mediators identified in this study should be conducted.

Despite these limitations, this study is meaningful in that it is the first study to identify the role of growth

mindset between school violence victimization experience and happiness, which are environmental variables at school for students who attend schools in Korea. Therefore, this study has enough suggestions for the development of a new policy that enhances the happiness of adolescents, and can determine new ways to prevent negative variables from affecting students while enrolled at school in Korea.

**Ethical Clearance:** Not required

**Conflict of Interest:** The authors declare no conflict of interest.

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