Effects of Depression, Suicidal Ideation, and Gratitude on Flourishing of High School Students: A Moderated Mediation Model of Growth Mindset

**Introduction.** The subjective well-being index of Korean adolescents has been the lowest among OECD countries. High school students also have the lowest sense of happiness among adolescents. Therefore, this study was to seek a plan to increase the level of happiness of high school students in Korea.

**Study participants and methods.** Participants of this study were 386 high school students enrolled in high schools located in two cities in Chungcheongnam-do. There were 271 (70.4%) males and 114 (29.6%) females. Regarding their grades, there were 245 (63.5%) in the third year of high school, 139 (36.0%) in the first year of high school, and 2 (0.5%) in the second year. For data analysis, SPSS 25.0 and PROCESS macro 3.5.3 were used, and frequency analysis, reliability analysis, correlation analysis, and moderated mediation effect analysis were performed.

**Results.** First, flourishing had negative correlations with depression and suicidal ideation, but positive correlations with a growth mindset and gratitude. The correlation coefficient between depression and suicidal ideation ($r=0.602$, $p<0.01$) was the highest, followed by that between gratitude and flourishing correlation ($r=0.506$, $p<0.01$). Second, a moderated mediation role of growth mindset in the effect of depression on flourishing through suicidal ideation and gratitude was verified. Conditional indirect effects of depression → suicidal ideation → gratitude → flourishing were significant when the growth mindset was low (-0.7390, -0.1323--0.0353), medium (0.0000, -0.1148--0.0311), and high (0.7390, -0.1006--0.0257).

**Conclusions.** We found that the growth mindset plays a moderated mediation role in promoting flourishing by increasing the gratitude of high school students with depression and suicidal ideation. These results will help improve the happiness of high school students who suffer from entering to college and getting a job. In addition, these results will be used as an important academic basis that can be applied to the development and implementation of programs that can increase flourishing for high school students.

**Keywords:** depression, growth mindset, suicidal ideation, gratitude, flourishing, moderated mediation effect, SPSS PROCESS macro

For Reference:
Introduction

The subjective well-being index of Korean adolescents has been reported to be the lowest among OECD countries [1]. High school students also have the lowest sense of happiness among adolescents [2]. The happiness of high school students is a useful resource for reducing stress and depression and increasing life motivation and expectations [3]. Thus, it is necessary to focus on their happiness.

Positive psychologists said that the ultimate goal of human life is not to be happy, but to be flourishing, which refers to a state in which happiness is flourishing while continuing to maintain positive mental health beyond the simple meaning of life and happiness [4]. The flourishing of adolescents greatly contributes to the development of an individual's holistic personality and pursuit of a desirable life [5]. In addition, the happiness of high school students who are about to transition into adulthood has an important impact on their lives throughout their lives [6]. Therefore, a study on the flourishing of high school students is needed.

Variables predicting flourishing include depression, suicidal ideation, and gratitude. In order to flourish, negative emotions such as depression must be removed [4]. Adolescent depression not only causes emotional problems, but also leads to problematic behaviors such as suicide and substance abuse [7]. Thus, depression in adolescents is a problem that requires social attention and professional intervention [8].

Depression in adolescents is a major variable indicative of suicide risk [9]. It has been reported that adolescence is emotionally unstable, leading to impulsive suicide [10; 11]. Because suicidal ideation in adolescence can lead to increased suicide attempts in adulthood [12] and influence actual suicide attempts [13], scholars’ continued attention is required.

Gratitude, along with flourishing, is a concept rooted in positive psychology. The higher the gratitude of adolescents, the higher the happiness [14]. Thus, it can be predicted that gratitude has a positive effect on flourishing.

On the other hand, human intelligence and ability can change through effort. The belief in this is called a growth mindset [15]. People with a high growth mindset tend to strive for achievement when given a difficult challenge, not avoiding it, but as a good opportunity to improve their abilities [15]. In this study, the growth mindset was set as a moderated mediator. Based on studies dealing with a moderating role of growth mindset, the growth mindset could further strengthen positive effects and weaken negative effects. Thus, the purpose of this study was to identify a double mediating role of suicidal ideation and gratitude, and a moderated mediation role of a growth mindset in effects of depression on flourishing in high school students. It could be used as basic data to promote flourishing in high school students.

To achieve the purpose of this study, the following research questions are established: 1) what is the correlation between depression, growth mindset, suicidal ideation, gratitude, and flourishing? And 2) does the growth mindset moderate the dual mediating effect of suicidal ideation and gratitude on the link between depression and flourishing?
Theoretical Background

1. Relationship between depression and flourishing

In early days of positive psychology, the level of happiness was measured by life satisfaction, emphasizing that the goal should be to increase life satisfaction by focusing on happiness. However, measuring happiness as a life satisfaction scale has limitations in that the level of happiness can vary depending on mood [4]. The concept of flourishing has emerged from criticism and reflection on returning to an original view that only considers life satisfaction and pleasant mood, not the meaning of happiness originally intended [4]. With the advent of the well-being theory, the subject of positive psychology has shifted from happiness to well-being and the goal has shifted from promoting life satisfaction to flourishing [4].

Flourishing refers to a high level of well-being, that is, a high level of optimality in which there is nothing more to be desired [16]. It is different from temporary happiness [4]. While subjective well-being is happiness from a hedonistic perspective, flourishing includes psychological well-being, which is happiness from a self-actualization perspective, that is, the inner growth and development of human beings [17]. Thus, flourishing refers to the state in which happiness is prosperous [4].

A variable that could affect flourishing is depression. The American Psychiatric Association [18] defines depression as a serious illness that can negatively affect the way an individual feels, thinks, and behaves. In DSM-5 [19], depression is defined as a persistent depressive mood that appears through observation. It is reported by others or oneself.

Adolescence is a period of life with the highest probability of experiencing depression. In particular, adolescents aged 15 to 18 years have been reported to have a high prevalence of depression [20]. Depression in adolescents is also a serious obstacle to peer relationships and school life [21]. In addition, adolescence depression is a major predictor of adult depression [22; 23]. Thus, depression in adolescents should not be overlooked as a phenomenon of puberty. In addition, it is necessary to pay active and continuous attention to depression in adolescents in school field and academia.

Since studies dealing with the relationship between depression and flourishing are insufficient, related studies were reviewed. A happiness promotion program is effective in reducing depression in children and middle school students [24]. Depression has been found to have a negative effect on happiness [25], life satisfaction [26], and subjective happiness [27]. Parental depression also has a negative effect on family function and happiness [28].

Although no previous studies have investigated the relationship between depression and flourishing, it is predicted that depression can affect flourishing based on related studies. Therefore, the objective of this study was to investigate the role of related variables in the relationship between depression and flourishing and explore variables that could reduce negative effects of depression on flourishing.

2. Mediating effects of suicidal ideation and gratitude

Suicide is an active, passive, direct, or indirect murder inflicted on one’s own body [29]. Suicidal ideation means the thought of committing an act that threatens one’s own life [30]. Suicidal ideation is the most powerful predictor of suicide attempt and death [31]. Everything from a temporary thought of dying to the stage of making a concrete plan is included in suicidal ideation [32].
Adolescents often commit suicide due to emotional instability [10]. In particular, depression in adolescents has a positive correlation with suicidal ideation [33; 34]. It is also a representative variable predicting suicidal ideation [35]. It was found that 90% of adolescents who attempted suicide experienced depression [36]. In addition, as depression increases, suicidal ideation increases [37]. Depression can strengthen suicidal ideation [23]. Such cases are more serious in adolescents [38].

On the other hand, gratitude is an indicator of happiness [39]. Feeling and expressing gratitude is a virtue of a happy and prosperous life. Positive psychologists have studied this kind of mind. It is gratitude that has been conceptualized by them. They have defined gratitude as a mental state in which people feel grateful and appreciate life itself [40]. People with high gratitude try to find positive attributes in situations that can be easily interpreted negatively. They have the ability to reinterpret the situation in a way that is favorable to them [41]. In addition, they not only experience fewer psychological problems, but also tend to actively cope with stressful situations by finding positive meaning through reevaluation [42]. They have low levels of stress and depression but high levels of happiness [39].

People who are grateful a lot have higher life satisfaction and well-being than those who are not [43; 44]. Those who are grateful in everyday life are more likely to become happy people [39]. Even when depression is high, it can be controlled. Happiness is determined by gratitude and optimism [45]. These results support close relationships among depression, suicidal ideation, gratitude, and flourishing. Therefore, it could be predicted that depression in adolescents not only induces suicidal ideation, but also lowers gratitude and consequently affects flourishing.

3. Moderating effect of a growth mindset

Since the emergence of a growth mindset [15] as a new psychology of success, research has been conducted in various fields. The concept of a growth mindset begins with incremental theory and entity theory [46]. The incremental theory is the belief that intelligence or ability has changing properties, meaning that intelligence or ability can be changed through effort, whereas the entity theory is the belief that intelligence or ability is fixed and innate. Thus, it cannot be changed even with effort [47]. Since then, Dweck [15], a psychology professor at Stanford University, has called the incremental theory a growth mindset who believes that one’s intelligence and abilities can be changed positively through effort. The entity theory that considers that nothing can be changed is called a fixed mindset.

Students with a growth mindset do not avoid challenging tasks, but rather accept them as opportunities to improve their abilities [15]. However, students with a fixed mindset view challenging tasks as a threat to their abilities. They adopt a defensive attitude toward the task and try to avoid it. They give up easily when they face difficulties [15].

Recently, studies on the moderating effect of a growth mindset are increasing. It has been reported that a growth mindset could buffer the effect of fear of negative evaluation on depression [48] and alleviate pathways of stress and self-esteem in adolescents [49]. Another study has shown that the growth mindset can moderate the relationship between adolescent academic achievement and self-esteem [50].

Therefore, it could be predicted that a growth mindset could moderate the relationship between depression and suicidal ideation and play a moderated mediating role in the relationship between depression and flourishing through mediators of suicidal ideation and gratitude. This study was performed to verify such hypothesis.
Methods

1. Research model
Figure 1 shows the research model applied to the SPSS PROCESS macro model proposed by Hayes [51] to examine the double mediating role of suicidal ideation and gratitude and the moderate mediation role of the growth mindset in the effect of depression on flourishing.

![Research model of this study](image)

2. Research subjects and data collection
Subjects of this study were 400 high school students enrolled in high schools located in C and A cities in Chungcheongnam-do. These subjects were purposively sampled considering survey convenience. For this survey, a self-filling questionnaire was used. The researcher obtained research consent from the respondent, distributed the questionnaire directly to the respondent, and collected it immediately after the respondent filled it out. A total of 386 subjects were used for the analysis.

Regarding the gender of survey subjects, there were 271 (70.4%) males and 114 (29.6%) females. Regarding their grades, there were 245 (63.5%) in the third year of high school, 139 (36.0%) in the first year of high school, and 2 (0.5%) in the second year. As for the residential area, small and medium-sized cities accounted for the most with 220 (57.0%), followed by rural areas with 116 (30.1%) and large cities with 50 (13.0%).

3. Research tool
Survey tools used in this study included depression, suicidal ideation, gratitude, growth mindset, flourishing, and demographic characteristics. Demographic characteristics consisted of gender, grade, and area of residence.

3.1. Depression
For depression, a scale adapted by Choi [52] among sub-factors of SCL-90 (Symptom Checklist-90) was used. This scale has 10 items. Each item was measured using a 5-point Likert method ranging from 1 point of “not at all” to 5 points of “strongly agree”, with higher score indicating higher depression. In this study, Cronbach’s α for depression was 0.894.
3.2. Growth mindset
The growth mindset was measured with eight questions developed by Dweck [15] and adapted by Lee, Park, and Hwang [53]. Each item was evaluated with a 5-point Likert scale ranging from 1 point of “not at all” to 5 points of “strongly agree”, with higher score indicating higher growth mindset. In this study, the reliability of growth mindset had a Cronbach's α value of 0.823.

3.3. Suicidal ideation
Suicidal ideation was measured with the scale developed by Harlow and co-workers [54] and used by Kim and Lee [55]. This scale consisted of a total of five items. Each item was measured on a 5-point Likert scale ranging from 1 “not at all” to 5 “always”, with a higher score meaning more experience with suicidal ideation. In this study, the reliability of the suicidal ideation scale had a Cronbach's α of 0.898.

3.4. Gratitude
Gratitude was measured with the Korean version of gratitude scale developed by McCullough et al. [43] and adapted by Kwon et al. [42]. This scale had a total of six items with a 7-point Likert scale. However, in this study, it was measured on a 5-point Likert scale from 1 point of “not at all” to 5 points of “strongly agree”. The higher the score, the higher the gratitude. In this study, the Cronbach's α of this scale was 0.829.

3.5. Flourishing
Flourishing was measured using a scale developed by Diener et al. [16]. This scale consisted of 8 items using questions about purpose and meaning, supportive relationships, participation, contributing to others, competence, good people, optimism, and respect. Each item was evaluated with a 7-point Likert scale ranging from 1 for “not at all” to 7 for “always”, with a higher score indicating a higher level of flourishing. Cronbach's α was 0.878 for the reliability of the flourishing scale used in this study.

4. Data Analysis
All collected data were analyzed using SPSS 25.0 and PROCESS macro 3.5.3. Frequency analysis, reliability analysis, correlation analysis, and moderated mediation effect analysis were performed. For the moderated mediation effect, bootstrap method was applied with a confidence level of 95% and number of samples set to be 5,000. Depression and growth mindset were mean-centered.

Results

1. Correlation and descriptive statistics
Pearson's bivariate correlation analysis was performed to understand correlations among depression, growth mindset, suicidal ideation, gratitude, and flourishing. Analysis results are shown in Table 1.

There were statistically significant correlations among depression, growth mindset, suicidal ideation, gratitude, and flourishing. Specifically, flourishing had negative correlations with depression and suicidal ideation, but positive correlations with a growth mindset and gratitude. A growth mindset had negative correlations with depression and
suicidal ideation, but positive correlations with gratitude and flourishing. Suicidal ideation had a negative correlation with gratitude, but a positive correlation with depression. In this study, the correlation coefficient between depression and suicidal ideation (r = 0.602, p < 0.01) was the highest, followed by that between gratitude and flourishing correlation (r = 0.506, p < 0.01).

As a result of descriptive statistics of major variables, suicidal ideation (M = 1.7394) and depression (M = 2.4557), which were negative variables, did not exceed the median score of 3. However, positive variables such as growth mindset (M = 3.2487), gratitude (M = 3.8204), and flourishing (M = 4.5527) exceeded the median value.

### Table 1

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**p < 0.01

### 2. Moderated mediation effect of a growth mindset

Model 83 of the SPSS PROCESS macro was applied to investigate the moderated mediation effect of the growth mindset on the relationship between depression, suicidal ideation, gratitude, and flourishing. Depression and growth mindset were average-centered with 5,000 bootstrap samples and 95% confidence interval. Analysis results are shown in Table 2.

Depression had a significant effect on suicidal ideation (0.6799, p < 0.001), gratitude (-0.2804, p < 0.001), and flourishing (-0.4579, p < 0.001). Suicidal ideation had a significant negative effect on gratitude (-0.1784, p < 0.001). However, it had no significant effect on flourishing (0.0866, p > 0.05). Gratitude had a significant positive effect on flourishing (0.5674, p < 0.001). The interaction term of depression and growth mindset had a significant negative effect on suicidal ideation (-0.1426, p < 0.05). The amount of increase in $R^2$ according to the interaction term ($\Delta R^2 = 0.0097$, p<0.05) was also significant. Therefore, the growth mindset moderated the relationship between depression and suicidal ideation.

Since the moderating effect of growth mindset on the relationship between depression and suicidal ideation was confirmed, the conditional effect of depression was analyzed. Three conditions (M-1SD, M, M+1SD) were given according to the value of the growth mindset. The conditional effect of depression according to the growth mindset value was low (-0.7390), average (0.0000), and high (0.7390), all of which were significant (p<0.001). In all three conditions of the growth mindset value, the effect of depression on suicidal ideation decreased as the growth mindset increased.

The Johnson-Neyman method was applied to specifically identify areas where the conditional effect of the depression was significant. There was no statistically significant
turning point in the growth mindset value in the entire range from -2.2487 to 0.17513. That is, the conditional effect of depression in all areas of the growth mindset was significant. All subjects (386 persons) were included in the significance region.

Depression can affect suicidal ideation. This relationship varies depending on the growth mindset. The conditional effect of depression on suicidal ideation decreases when the growth mindset increases.

Table 2
Results of analysis of moderated mediation effect of growth mindset

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<th>p</th>
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Conditional effects of depression at values of growth mindset

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Conditional effects of depression at values of growth mindset by the Johnson-Neyman method

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*LLCI = Lower limit within the 95% confidence interval of boot
**ULCI = Upper limit within the 95% confidence interval of boot

Figure 2 shows results of visualizing the conditional effect of depression by dividing the growth mindset into three groups: low, middle, and high. In all three conditions (M-1SD, M, M+1SD) of the growth mindset, as depression increased, suicidal ideation also increased. However, the slope of increase in suicidal ideation in people with a high growth mindset was moderate as depression increased, the slope of increase in suicidal ideation was steeper.
in those with a low growth mindset as depression increased. That is, when depression increases, suicidal ideation also increases. People with a low growth mindset have a more rapid increase in suicidal ideation when depression increases.

The direct effect on the relationship between depression and flourishing was significant at -0.4579 (p<0.001). However, the conditional indirect effect on depression → suicidal ideation → flourishing was not significant when the growth mindset value was low (-0.7390, -0.0371~0.1735), medium (0.0000, -0.0321~0.1538), and high (0.7390, -0.0263~0.1341) because there was a '0' between the lower and upper bounds of the bootstrap within 95% confidence interval. The non-conditional indirect effect on depression → gratitude → flourishing was -0.1591 (-0.2400~0.0881), which was significant because there was no '0' between lower and upper limits of the bootstrap value within the 95% confidence interval.

Conditional indirect effects of depression → suicidal ideation → gratitude → flourishing were significant when the growth mindset was low (-0.7390, -0.1323~0.0353), medium (0.0000, -0.1148~0.0311), and high (0.7390, -0.1006~0.0257) because there was no '0' between lower and upper limits of bootstrap within the 95% confidence interval. Moderated mediating index was also significant (0.0144, 0.0006~0.0317). Therefore, the moderated mediation role of growth mindset in the effect of depression on flourishing through suicidal ideation and gratitude was verified.
Direct and indirect effects of growth mindset

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Indirect effect of depression → gratitude → flourishing

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<th>BootSE</th>
<th>BootLLCI*</th>
<th>BootULCI**</th>
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Conditional indirect effect of depression → suicidal ideation → gratitude → flourishing

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Index of moderated mediation

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*LLCI=Lower limit within the 95% confidence interval of boot
**ULCI=Upper limit within the 95% confidence interval of boot

Discussion and Conclusion

This study was conducted to examine the moderated mediation role of growth mindset in effects of depression on flourishing through suicidal ideation and gratitude of high school students. The discussion and conclusion of the study are as follows.

As a result of correlation analysis of major variables, there were significant correlations among depression, growth mindset, suicidal ideation, gratitude, and flourishing. When the depression level of adolescents increases, suicidal ideation also increases, which can reduce gratitude and eventually inhibit flourishing. Results of this study are in line with results of previous studies showing that depression and subjective well-being are negatively correlated [27] and that suicidal ideation is positively correlated with depression [34] and negatively correlated with happiness [56].

Second, the moderated mediation role of growth mindset in the effect of depression on flourishing via suicidal ideation and gratitude was verified. That is, the effect of depression on flourishing via suicidal ideation and gratitude depended on the growth mindset. In the end, as growth mindset increases, the conditional indirect effect of depression on flourishing gradually decreases.

In this study, it was confirmed what when suicidal ideation was increased but gratitude was decreased, depressed adolescents could not flourish. High school students can have a flourishing life when depression is reduced. Thus, it is no exaggeration to say that high school students who experience stress and psychological burden in entrance exams, academics,
and careers are exposed to environments prone to depression. This circumstance disproves that the focus should not be solely on reducing depression for the flourishing life of high school students. That is, although a high level of depression lowers flourishing, a growth mindset could moderate such negative effect of depression.

Results of this study verified the relationship between depression and flourishing and the role of related variables. However, recently, the view that depression and flourishing are separate concepts rather than being an extension of the extremes is dominant. Therefore, psychological strategies and approaches based on the model of this study are needed in the field of counseling and education for adolescents. In other words, the development and diffusion of counseling programs to promote youth flourishing using gratitude and growth mindset, which are variables of human strength, should follow. Nevertheless, this study has academic significance in that it provides empirical data on flourishing by proposing a new model for flourishing enhancement in high school students.

REFERENCES


24. Koh, Y. M. (2010). The effects of happiness enhancement counseling program based on positive psychology on children’s happiness and depression. Major in Elementary Counseling Education Department of Elementary Education Graduate School of Education Seoul National University of Education.


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