

# Social Interactions and Mental Health: Addressing Depression in Korean High School Students

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## Abstract

This study investigates the correlation between social interactions, private education, and depression among Korean high school students, focusing on differences between public and private school attendees. Despite existing literature linking high academic pressure to depression, the study found no significant correlation between the time spent on private education and the students' depression levels. However, a strong negative correlation was observed between the students' social interaction and depression, particularly among female students and those in public schools.

These findings highlight the critical role of social support in mitigating depression, suggesting that educational policies should emphasize fostering social connections to improve student mental health.

## Introduction

South Korea's education system is one of the most intense in the world, with high school students facing immense pressure to excel academically. This relentless pursuit of academic success has contributed to the country's troublingly high rates of adolescent depression. Consequently, suicide remains as the leading cause of death among students aged 9-24 since 2011, highlighting the graveness of this issue. (Ministry of Gender Equality & Family, 2023) The drive to succeed is fueled by the competitive college admissions process and the widespread reliance on private educational academies, known as "hagwons," which often extend study hours late into the night. While these additional educational efforts are meant to give students an academic edge, they also contribute to severe mental health issues, including chronic sleep deprivation, anxiety, and depression. Despite the clear link between academic pressure and mental health, not all students are affected equally. Factors such as gender, school type, and the amount of time spent interacting socially can influence how these pressures impact a student's well-being.

This study investigates the relationships between hours spent on private education, physical activity, social interactions, and depression among Korean high school students.

The two groups were divided into those who attend public Korean high schools, and thus prepare for the Korean national college entrance exam known as the suneung (수능) and those attending private high schools in Korea, and thus prepare for college entrance by taking the SATs and take the processes necessary for applying to US colleges. By examining these variables, the research aims to provide insights into how the current educational environment affects student mental health and to inform policymakers of potential solutions that would help balance academic achievement with well-being for all students in Korea. The findings show a positive correlation between social interaction and reported levels of depression, with the effects quite prominent for female and Korean high school students. The study also showed a surprising non-correlation between the time devoted to private education and reported levels of depression and thus creates opportunities for more extensive research to investigate

why these findings do not match many studies in the existing literature.

## Literature Review

### Korean Students' Reliance on Private Education

The South Korean education system, characterized by its highly competitive nature and reliance on private education, has profound effects on the mental health of middle and high school students. Research indicates that the intense pressure associated with preparing for college admissions, exacerbated by the necessity of private education, significantly contributes to mental health issues among students. Xu and Lee (2023) explore the complexities of the Korean college admissions process, noting that the system's frequent changes and high demands often leave public schools insufficiently equipped to prepare students. As a result, students resort to private education to meet these demands, leading to extended study hours and substantial financial burdens on families. Their study highlights severe mental health issues such as depression, anxiety, and suicidal tendencies among students, suggesting a strong correlation between the high academic pressures and these mental health challenges.

Jarvis et al. (2020) also investigate the academic stress experienced by South Korean students, particularly in the context of social capital. Their findings suggest that while family support can mitigate some stress, the overall intensity of the educational environment continues to pose significant risks to student mental health. They emphasize that the extreme academic pressure in South Korea is a leading cause of suicidal ideation among youths, reflecting the broader societal implications of the current educational practices.

### Sleep Patterns, Private Education, and Depression

Sleep patterns of adolescents have also been observed to have a significant impact on depression rates of adolescents by prior research. Koo et al. (2020) examine how morningness-eveningness preferences and sleep duration impact depressive symptoms among Korean high school students. Their research shows that students with an eveningness preference, who typically have irregular sleep schedules, are at a higher risk of depression. Additionally, insufficient sleep during weekdays and the compensatory phenomenon of weekend catch-up sleep (CUS) are significant predictors of depressive mood. Students who manage to get at least two hours of additional sleep on weekends tend to exhibit lower depression rates, highlighting the importance of adequate sleep for mental health. Such irregular sleep schedules can reasonably be presumed to have been caused by private education, which are structured to take up the students' times later into the night.

For a much clearer correlation between private education and depressive levels, Koo et al. also tested their subjects on the number of private education classes they attended. Unsurprisingly, they found that those who spent more hours in private education classes reported higher levels of depression. This finding aligns with other findings that extensive private education contributes to sleep deprivation and increased stress, both of which are closely linked to higher depression rates among students.

### Depression Screening and Measurement

The Center for Epidemiological Studies Depression Scale (CES-D) is widely used for screening depression across various populations, including adolescents. Park and Yu (2021) discuss the effectiveness of the CES-D screening tool, noting its high diagnostic accuracy and applicability in diverse settings. The CES-D helps identify the severity of depressive symptoms, enabling early intervention and better management of

mental health issues. Their study reinforces the importance of using reliable screening tools to address the high prevalence of depression among South Korean students. Due to limitations in our data collection, this study uses the CES-D questionnaire to assess students' depressive levels.

The literature consistently points to a significant correlation between the time spent on private education and the prevalence of depression among South Korean students. The demanding educational environment, coupled with insufficient sleep and high academic pressure, creates a fertile ground for mental health issues. Addressing these challenges requires a comprehensive approach, including educational policy reforms, better support systems within families and schools, and effective screening and intervention strategies. These steps are crucial to mitigating the adverse effects of the current educational practices on student mental health.

## **Methodology**

### **Participants**

The study included 65 participants, comprising 35 males, 29 females, and 1 participant who identified as non-binary. Participants were aged between 15 and 19 years ( $M = 16.75$ ,  $SD = 0.81$ ). A random selection of 50 private school students and 50 public school students in Korea were invited to participate, resulting in 23 public school students and 42 private international school students participating in the study. Of the participants, 64 were attending high school and 1 was in middle school. Participants provided implicit consent by filling out and submitting the survey, and all responses were anonymous.,

### **Materials**

This study utilized a survey-based design to investigate the correlation between various weekly activities and self-reported depression scores among Korean high school students. The survey was administered online via Google Forms, a free survey administration software, and participants completed it individually on their own devices.

### **Procedure**

Participants received an email invitation to participate in the study, which included a link to the Google Forms survey. They were informed that submitting the survey indicated their consent to participate. Participants completed the survey independently, and responses were collected and stored anonymously.

The survey consists of 27 questions divided into two sections.

Section 1 includes 7 questions regarding age, grade, gender, type of school (private or public), hours spent on private education, physical activities, and social interactions per week.

Section 2 includes the 20-item Center for Epidemiologic Studies Depression Scale (CES-D), a self-report measure using a 4-point Likert scale (1 = rarely or none of the time, 4 = most or all of the time). Scores of the CES-D scale range from 20 to 60, with higher scores indicating higher levels of depression.

The survey is available in both Korean and English to accommodate participants' language preferences.

## Data Analysis

Data were analyzed using Stata 18. The analysis focused on calculating correlations between the following 4 variables:

1. Hours spent on private education in a week.
2. Hours spent on physical activities in a week.
3. Hours spent with acquaintances in a week.
4. Reported depression score.

The data were analyzed in three phases. In the first phase, an overall analysis was conducted, in which all data were analyzed collectively. In the second phase, data were split between public school students and private school students, and the same analyses were conducted for each group. In the third phase, data were split by gender, and the same analyses were conducted for each group.

## Ethical Considerations

Participants were informed that their participation was voluntary and that they could withdraw at any time without penalty. Implicit consent was obtained through survey submission, and all responses were anonymized to ensure confidentiality. The study was conducted in accordance with ethical guidelines for research with human participants.

## Results

The overall correlation analysis, which included all participants regardless of school type or gender, revealed a statistically significant negative correlation between hours spent on social interactions (SocialInteractionHour) and depression scores (DepressionScore), with a correlation coefficient of  $-0.2816$  ( $p = 0.0231$ ). This suggests that increased social interaction is associated with lower levels of depression among the students. Other correlations, such as those between hours spent on private education (PrivateEducationHour), physical activities (PhysicalActivityHour), and depression scores, were not statistically significant. The relationship between private education hours and depression scores showed a weak positive correlation ( $r = 0.0639$ ), but this was not statistically significant ( $p = 0.6131$ ).

To further investigate the impact of school type, the data were split into two groups: public school students (SchoolType = 0) and private school students (SchoolType = 1).

For public school students (SchoolType = 0), a significant negative correlation was found between social interaction hours and depression scores ( $r = -0.5693$ ,  $p = 0.0046$ ). This finding reinforces the importance of social interactions in mitigating depression, particularly in the public school environment. No other correlations among the variables were statistically significant in this group. In contrast, the analysis for private school students (SchoolType = 1) did not reveal any significant correlations between the variables. The relationship between social interaction hours and depression scores was weak and not statistically significant ( $r = 0.1207$ ,  $p = 0.4464$ ). This suggests that the protective effect of social interactions against depression may be less pronounced in private school students compared to their public school counterparts.

The data were also analyzed separately by gender to explore potential differences in the relationships between the variables.

Among male students (Gender = 0), none of the correlations between the variables reached statistical significance. The negative correlation between social interaction hours and depression scores was observed ( $r = -0.2123$ ), but it was not statistically significant ( $p = 0.2208$ ). Among female students (Gender = 1), a significant negative correlation was found between social interaction hours and depression scores ( $r = -0.4378$ ,  $p = 0.0175$ ). This indicates that female students who spend more time engaging in social interactions tend to report lower levels of depression. No other significant correlations were identified in this group.

The results of the correlation analysis highlight the critical role of social interactions in reducing depression among Korean high school students. The significant negative correlation between social interaction hours and depression scores was consistently observed in the overall analysis, among public school students, and among female students. However, no significant relationships were found between hours spent on private education and depression scores across any of the analyses, suggesting that the impact of private education on mental health may not be as direct or uniform as initially hypothesized.

## Discussion

Contrary to expectations, this study did not find significant correlations between the hours spent on private education and depression scores. This is surprising given the extensive body of research suggesting that the intense academic pressure and long hours associated with private education in South Korea are significant contributors to mental health issues among adolescents. For instance, Xu and Lee (2023) highlighted that the demanding nature of the Korean education system, particularly the reliance on private education, is a major factor leading to heightened levels of depression, anxiety, and even suicidal tendencies among students. Similarly, Jarvis et al. (2020) identified extreme academic stress in South Korea as a primary cause of suicidal ideation among youths.

The lack of significant findings in this study could be attributed to the smaller sample size than the studies mentioned above, which limits the generalizability of the results. Specifically, the number of public school students was less than 30, which may have reduced the statistical power needed to detect significant correlations. Future studies with larger and more balanced samples must explore these relationships more robustly.

This study found strong negative correlations between time spent with friends and family and lower levels of depression, a finding that is consistent with previous research. Social support has long been recognized as a protective factor against depression. For example, studies by Finan et al. (2018) have shown that adolescents who engage in more frequent social interactions with peers and family members are less likely to experience depressive symptoms. However, other studies such as Pössel et al. (2018) suggests that social interactions specific to family members and teachers, but not specific to peers, are effective in reducing depressive symptoms in adolescents. While the present study reinforces these findings, emphasizing the importance of social interactions in the mental health of Korean adolescents, there is room for further research in the positive effects of social interaction with distinct groups of acquaintances on depression.

The results of this study also revealed that the positive effects of social interactions on reducing depression were more pronounced in female students than in males. This finding aligns with Jessie Bernard's concept of "relational deficit," which suggests that women are more vulnerable to depression due to the erosion of strong, supportive female-to-female relationships. (Bernard, 1976) Bernard's research indicates that females are more sensitive to social stressors and derive greater benefit from robust social support networks, particularly during adolescence when peer relationships are especially significant. This

underscores the importance of addressing the "relational deficit" in interventions aimed at reducing depression among adolescents, suggesting that these interventions should be tailored differently for boys and girls. For females, there should be a stronger emphasis on fostering social connections and rebuilding the supportive networks that Bernard identified as crucial to emotional well-being. The underlying cause of the aforementioned finding could also be the greater susceptibility of female adolescents than males to depression, as found in a study by Allgood-Marten et al. (1990). As the this research was a correlational study, the exact cause of the finding cannot be ascertained. Further research is needed to clarify the effect of social support on female adolescents with depression.

Interestingly, we found that Korean public school students were more positively affected by social interactions than their private school counterparts. This finding could be related to the unique pressures faced by public school students in Korea, particularly the notorious focus on the national college entrance exam, known as the 수능 (Suneung). As emphasized in a study by Xu and Lee (2023), the intense preparation for this exam often consumes all of a student's free time, leaving little opportunity for social interactions. Consequently, the limited time that Korean public school students do spend with friends and family may have a particularly strong negative impact on their mental health.

This has significant implications for educational policy. Lawmakers should consider strategies to normalize and encourage social interactions among students as a way to mitigate the negative mental health impacts of academic pressure. An example of such an initiative can be seen in Finland, where the government has successfully reduced academic stress while maintaining high educational standards. Finland's education system emphasizes balanced life and learning, shorter school days, and less homework, which allow students more time to engage in social activities and family interactions, contributing to their overall well-being. Study by Adaskina (2022) highlights how the Finnish educational system serves qualitative education and maintain the physical and mental health of students by consolidating teachers, professional consultants, nurses, health education teachers, and psychologists in special working groups to address certain problems. Adopting similar approaches in South Korea could help address the mental health challenges associated with the current educational environment.

## **Conclusion**

This study explored the relationships between hours spent on private education, physical activities, social interactions, and depression among Korean high school students in private and public schools. The findings revealed a significant negative correlation between time spent on social interactions and depression, particularly among female students and those attending public schools. These results underscore the critical role of social interactions in promoting mental health and suggest that interventions to reduce depression should prioritize fostering social connections. Surprisingly, no significant correlation was found between hours spent on private education and depression, which contradicts much of the existing literature. This discrepancy may be due to the small sample size, particularly the limited number of public school students, which highlights the need for further research with larger and more representative samples.

Future research should aim to clarify the relationship between private education and mental health by expanding the sample size and including a more diverse group of participants. Additionally, longitudinal studies could provide deeper insights into how these relationships evolve over time. There is also a need to explore the impact of different types of social interactions, such as online versus face-to-face interactions, on mental health outcomes.

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