Stress and Anxiety in the United States vs. South Korea Education Systems

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ABSTRACT

This study investigates how differences in college processes affect the mental health of high school students in the United States versus South Korea. There were sixty participants involved, thirty participants being rising seniors in the United States and the other thirty being second or third-year high school students in South Korea. Participants in both countries were given the same surveys composed of three parts: The School Burnout Inventory, the Academic Anxiety Scale, and the Education Stress Scale for Adolescents. The analyses showed that students in South Korea and students in the U.S. didn't statistically differ in terms of feeling more or less anxiety. However, it is important to note that South Korean students scored higher point averages on all three measures. Nevertheless, the sample size was not big enough to reveal a statistically significant difference. We conclude that while students in South Korea scored higher in all aspects of the survey, we are unable to conclusively state that South Korean high schoolers feel more stress or anxiety than high schoolers in the United States.

Keywords: Stress, Anxiety, School, Burnout

1. INTRODUCTION

The United States College Process

In the United States (U.S.), the college application process involves standardized tests like the SAT, which is typically taken during a student's junior or beginning of senior year of high school (College Board, 2018). Preparation for these tests often takes months, involving practice tests, tutor sessions, and online or paper resources, all of which can cost hundreds or thousands of dollars (Appelrouth & Zabrucky, 2017). Nevertheless, testing is only a part of the holistic admissions process. Admission officers also look at extracurricular activities, volunteer hours, essays, letters of recommendation, and personal aspects of the application (Bastedo et al., 2016). The holistic review assesses the applicant's credentials, considering the opportunities available to them through their family, neighborhood, and high school resources (Bastedo, 2021).

The South Korean College Process

In contrast to the American education system, the South Korean high school education system leads up to the Suneung, a critical standardized test taken on the third Thursday of November during a student's third year of high school (Kim et al., 2017). Preparation for the Suneung is intense, often starting years in advance, and involves significant financial investment in test prep and private tutoring. Private tutoring includes haweons, which are after-school tutoring sessions in preparation for the Suneung. Even in the midst of the global pandemic wherein many American colleges and universities made tests optional, the Suneung and exam results remain central to admissions for universities (Stewart & Kim, 2021), although there was still a strong focus on grades throughout high school. When compared to the U.S., extracurricular activities and the holistic approach play a lesser role in South Korea (Kim et al., 2014), with testing being the main tenant of their college process. Given that the college application process is a crucial and intense period in an adolescent's life, it is important to

examine the factors that trigger stress and anxiety in the academic environment and to determine whether different college application processes induce varying levels of stress or anxiety for students.

Stress and Anxiety in Academic Environments

Stress and anxiety are common psychological responses that affect individuals across various settings, including academic environments. Shakir (2014) defines anxiety as a state of apprehension, tension, and unease marked by feelings of dread, fear, or uncertainty, which often come from sources that are not fully understood or recognized by the individual. While many individuals experience anxiety, certain life circumstances can cause it to increase. For students in schools, anxiety manifests through problems with academic achievement, studying, and physical and mental health (Mirawdali et al., 2018). This is because students face pressures to excel in exams, sports, or other competitions, which can significantly impact their college applications. Although anxiety is viewed as an undeniable phenomenon in human life, a balance is needed. High levels of anxiety can threaten a student's physical and mental health and also have a negative effect on their personal or academic performances (DordiNehad et al., 2011).

Stress is the body's response to a stimulus, such as an event, object, or person (Jiménez-Mijangos et al., 2023). According to Robinson (1990), the stress response can be an interactive process that triggers immediate psychophysiological reactions and can cause effects lasting up to three weeks after the stressor. In an academic setting, students who encounter stressful educational situations are more likely to exhibit signs of burnout. They may struggle to manage long-term stress and tend to have more intense reactions at the moment (Fariborz et al., 2019). Furthermore, Jiménez-Mijanagoos (2023) defines academic stress as the psychological response of students to demanding school tasks, whether it be related to the environment or assessments. With all that in mind, anxiety, and school burnout are a lower risk factor for school involvement and poor school well-being, which in turn may increase anxiety symptoms (Andriyani, 2017).

2. METHODOLOGY

2.1 Aim of the study

The purpose of this study is to better understand the differences in the college application processes of the United States and South Korea and explore how these educational systems impact students' mental health. By comparing the holistic approach of admissions at American colleges with the Korean system, where a single test determines a student's future, this study aims to identify to what extent each system induces stress and burnout.

2.2 Research Design
Participants

The sample included 60 anonymous students studying in the United States and South Korea. There were 30 anonymous students from the U.S. who were rising seniors in high school (graduating class of 2025). Continually, there were 30 anonymous students from South Korea who were in their second or third year of high school. IRB approval was obtained before sending out the survey and participants were informed beforehand that in addition to no identifiable information being collected, all survey data would remain anonymous. Participants must have been rising seniors in high school if living in the United States and in their second or third year of high school if living in South Korea. Participants were selected through random sampling in

each country by approaching high school students walking around public areas to scan a QR code or by sending out an anonymous link to different high schools in the area.

Data Collection

The primary measure of data collection was through a combination of 3 surveys. These surveys were the School Burnout Inventory, Academic Anxiety Scale, and the Educational Stress Scale for Adolescents. The School Burnout Inventory (SBI) was originally developed by Salmela-Aro and Näätänen in 2005 and measures factors of school burnout through three subtopics: exhaustion at school, cynicism towards the meaning of school, and a sense of inadequacy at school (Salema-Aro et al., 2009). In the combined survey, the SBI questions were presented in a multiple-choice format. The Academic Anxiety Scale was developed by Dr. A.K. Singh and Dr. A Sen Gupta in 2009 to measure anxiety due to studies in students (Shakir, 2014). In the combined survey, the Academic Anxiety Scale was presented in a matrix table-style format. Finally, the Education Stress Scale for Adolescents (ESSA) was developed to assess educational stress by five different factors: pressure from study, workload, self-expectation, worry about grades, and despondency (Moustaka et al., 2023). In the combined survey, the ESSA was presented in a multiple-choice format.

Procedure

The combined survey was called the High School Stress Survey. Potential participants were invited to fill out the survey on Qualtrics. The survey was sent through an anonymous link via email and text messages in the United States. Participants were given 10 days to complete the survey. For the South Korean version, an identical version of the survey was adapted into Korean by Joanna Lee. The survey was then sent out via anonymous link to students in South Korea and through QR codes. The study took place over one week in the summer of 2024.

2.3 Hypothesis

Our study aims to assess the levels of stress and anxiety of high school students in the United States versus high school students in South Korea using three scales: The Educational Stress Scale for Adolescents, the Academic Anxiety Scale, and the School Burnout Inventory. We predicted that South Korean students would score higher on all three measures, indicating more stress and anxiety. We also predicted that South Korean students would score higher on all three subcategories of the School Burnout Inventory: exhaustion, cynicism towards the meaning of school, and inadequacy at school.

2.4 Consent and Ethical Considerations

Our study followed ethical considerations. IRB approval was obtained before commencing the study. Additionally, each participant was asked to agree to an informed consent before completing the survey. No demographic or identifiable information was from survey participants and the confidentiality and privacy of respondents were maintained.

2.5 Scales Used

The survey used in this study draws upon the questions from three commonly used psychological instruments: The Educational Stress Scale for Adolescents (Sun et al., 2011), the Academic Anxiety Scale (Shakir, 2014), and the School Burnout Inventory (May et al., 2020). The Educational Stress Scale uses a 5-point Likert scale to assess agreement with questions on

despondency, workload, academic pressure, worry about grades, and self-expectation. The measure is used to better understand educational (or academic) stress that students may experience with excessive pressure to succeed, achieve high grades, or ensure their entry into higher education (Moustaka et al., 2023). The Academic Anxiety Scale is used to measure the negative correlation between academic achievement and academic anxiety (Shakir, 2014). It asks students to rate how typical certain behaviors or experiences are for them on a scale of 1 (not at all typical of me) to 4 (very typical of me). These include questions like if they are less confident around their classmates or if they often worry about not doing assignments properly. Finally, the School Burnout Inventory is measured based on three parts: exhaustion at school, cynicism toward the meaning of school, and a sense of inadequacy at school (Salema-Aro et al., 2009). It is measured on a six-point scale ranging from completely disagree (1) to completely agree (6). Each question is split into one of the three categories above, with questions ranging from whether students feel overwhelmed with schoolwork (exhaustion at school) or if students often think of giving up at school (cynicism toward the meaning of school).

3. RESULTS

3.1 Academic Anxiety Scale (U.S. vs South Korea)

On the Academic Anxiety Scale, students in the United States on average scored 22.66 with students in South Korea scoring on average, 23.83. There were eight questions on the scale, ranging from 1 (not at all typical of me) to 4 (very typical of me). The highest possible score would be 32, which demonstrates that a student feels high anxiety due to their academic environment. The lower the score, the less anxiety felt by the student. While there is a difference between the values, (-1.166), after comparing the means using a two-sample T-test, the results were not statistically different (p=0.5144).

3.2. Educational Stress Scale for Adolescents (U.S. vs South Korea)

On the Educational Stress Scale for Adolescents, students in the United States on average scored 55. In South Korea, students on average scored 57.83. The stress scale contains sixteen questions which are measured on a 5-point Likert-type scale with 1 being strongly disagree and 5 being strongly agree. The highest possible score would be 90, which indicates that a student feels extreme stress due to their educational environment. This means that students report more feelings of academic pressure, despondency, and worry about grades. While there is a difference between the values, (-2.833), after comparing the means using a two-sample T-test, the results were not statistically different (p=0.3573).

3.3 School Burnout Inventory (U.S. vs South Korea)

When looking at the School Burnout Inventory, on average, the students in the United States scored 35.33. In contrast, the students in South Korea on average scored 38.93. The total number of questions for the School Burnout Inventory was nine, measured on a 6-point scale. The highest score would be 54, which indicates that a student feels extreme school burnout; this would mean students report more exhaustion, cynicism, and inadequacy due to their academic setting. While there is a difference between the values (-3.6), after comparing the means using a two-sample T-test, the results were not statistically different (p=0.0720).

3.4 Relationships between U.S. and South Korea in School Burnout Inventory Subcategories

While the differences for the School Burnout Inventory scale overall were not statistically different, the School Burnout Inventory is broken up into three sub-categories: exhaustion at school, cynicism towards the meaning of school, and sense of inadequacy at school. Given the 3.6-point difference in average scores, a two-sample T-test was run to evaluate if there were statistically significant differences between the scores for any of the sub-categories. After running a two-sample T-test to evaluate these measures, it was determined that there was a statistically significant difference between scores on the questions pertaining to a sense of inadequacy at school. The average student from the United States (M= 7.83) scored lower than that of students in South Korea (M= 9.1). This yielded a result of statistical difference (p= 0.021). When assessing exhaustion at school in the United States (M = 15.7), the score was lower than that of students in South Korea (M= 16.96). However, the difference was not statistically different (p= 0.19). Similarly, the sense of cynicism in the United States (M = 11.8) was lower than that of students in South Korea (M= 12.86). However, this difference was not statistically significantly different (p= 0.22).

4. DISCUSSION

The topic of mental health and stress in the academic sphere has started to gain more attention in recent years. While the stress and anxiety that emerge with applying to college is not new, an interesting comparison can be drawn between how those problems fluctuate between two different school systems in two different countries: the United States and South Korea. The present study reveals that there are some differences in stress and anxiety levels between students in these countries.

Students in the United States scored lower than those in South Korea in all three aspects of the survey. However, while the survey as a whole demonstrates that overall stress and anxiety levels may not differ significantly, South Korean students experience a higher sense of inadequacy at school compared to their U.S. counterparts in the School Burnout Inventory subsection. In conclusion, this study examined the impact of different college processes in South Korea and the United States on the mental health of second/third years and rising seniors in high school. Although South Korean students had higher mean scores across all three survey components, the small sample size and self-reporting nature of the data significantly limited the conclusions that could be drawn. The findings indicate that South Korean students may experience a greater sense of inadequacy at school; however, when comparing the total levels of stress and anxiety, there were no considerable differences. Future research with larger sample sizes is crucial to achieve a more comprehensive understanding of how academic pressures impact students' mental health in different educational systems. On the School Burnout Inventory, U.S. students scored an average of 35.33, while South Korean students scored around 38.93. For the Academic Anxiety Scale, students in the U.S. scored 22.66, compared to 23.83 for South Korean students. Finally, on the Educational Stress Scale for Adolescents, students in the U.S. scored around 55, whereas students in South Korea scored around 57.83. Despite South Korean students scoring 1-3 points higher on average in each component of the survey, the data did not show any statistically significant differences.

However, the School Burnout Inventory measures three subcomponents: exhaustion at school, cynicism towards the meaning of school, and a sense of inadequacy at school. While the mean differences for exhaustion and cynicism were not statistically significant between the two countries, the sense of inadequacy was. The U.S. students scored an average of 7.38, while South Korean students scored an average of 9.1, indicating a statistically significant

difference (p = 0.021). This means that students in South Korea have feelings of not being good enough or competent in academic settings, more so than students in the United States.

5. CONCLUSIONS

This study aimed to explore the differences in stress and anxiety levels among high school students in the United States and South Korea, particularly in relation to their respective college application processes. The primary findings indicated that these differences were not statistically significant overall except for a notable sense of inadequacy at school among South Korean students compared to their U.S. counterparts. When understanding how different educational systems and college admission processes impact students' mental health, a larger study with a bigger sample size can help. The South Korean academic setting centered around one exam may contribute to a greater sense of inadequacy among students. Future studies done with a more diverse sample size should also consider longitudinal designs to better capture the ongoing stress and anxiety experienced by students throughout their academic journey. Additionally, educational policymakers might consider these findings when designing support systems for students, aiming to mitigate the negative psychological impacts of high-stakes testing and academic anxiety.

6. LIMITATIONS

Taking into consideration the population sizes of South Korea and the United States, the sample sizes for both countries were very small. Therefore, any conclusions drawn from the data should be approached with caution. The sample size of 30 participants from each country limits the generalizability of the findings and does not provide an accurate portrayal of the countries as a whole. Additionally, the sampling method involved an anonymous survey, where the only demographics collected were the students' year or grade level. The lack of demographic information limits the ability to assess the representativeness of the study. The sampling method also meant that the data collected was self-reported. While surveys were done separately from each other, they are subject to bias when reflecting the answers.

Furthermore, the measurement tools used for the survey were limited to three different surveys. Although these surveys captured measures for stress and anxiety within a school setting, other external factors could have affected the data and results. The design of the study was over a single period, during the summer when students were not in school, which can impact the stress and anxiety that students were experiencing at that specific moment of their college process. The college process lasts for months in the United States and years in South Korea. Therefore, a single-period study cannot accurately represent the ongoing levels of stress and anxiety experienced by high school students in these countries.

Considering these limitations, the results of this study should be interpreted with caution. Further research with larger sampling sizes and an extended time frame is needed to present a more accurate depiction of whether stress or anxiety levels differ between high school students in the U.S. versus South Korea due to their differing academic paths.

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