

Comparing Chinese high school students' stress, anxiety and depression in domestic and international schools

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Abstract. This study investigates the differences in stress, anxiety, and depression among students in the Chinese domestic high school system and the international schools using Advanced Placement (AP) curriculum in China. Using a mixed-methods approach, this paper will analyze the difference between the two systems and explore factors contributing to the difference. The findings from this study will contribute to a better understanding of the mental health challenges faced by Chinese high school students and inform strategies to promote their well-being. In addition, the study will shed light on the potential benefits and drawbacks of the different educational systems, and help stakeholders make informed decisions about educational policies.

Keywords: Stress, Anxiety, Depression, General High School Education, AP Education System, China.

1. Introduction

Over the past few decades, rapid economic development in China has led to a significant transformation in its education system. With an increased emphasis on academic achievement, the competition in the education sector has intensified, placing immense pressure on students to succeed academically. Serving the majority of domestic students, the general high school education system is the predominant form of secondary education in China. However, a few students chose an alternative system by entering the international schools and taking courses in the Advanced Placement (AP) education system. Schools offering AP courses gained increasing popularity in recent years.

While both educational systems aim to prepare students for higher education and future careers, the differences in their approaches may have varying impacts on students' mental health. The general high school education system is characterized by multiple high-stakes examinations, a rigid curriculum, and a significant emphasis on knowledge accumulation. On the other hand, the AP education system offers a more flexible curriculum with a broader range of subject choices and focuses on developing critical thinking and problem-solving skills. Threat of failure in exams, lack of choice in subject matters and intense interpersonal competitions all may contribute to an environment of greater stress in the Chinese domestic system than the international AP system and may even lead to more severe problems of anxiety and depression.

This study aims to examine the differences in stress, anxiety, and depression levels between students in the general high school education system and the AP education system in China. By using a mixed-methods approach, the study will analyze data collected from students in both systems and provide insights into the possible and existing problems revealed by the analyzed data. The findings from this study will contribute to a better understanding of the mental health challenges faced by Chinese high school students and inform strategies to promote their well-being. In addition, the study will shed light on the potential benefits and drawbacks of the different educational systems, and help stakeholders make informed decisions about educational policies.

2. Literature Review

The literature review for this study seeks to provide a comprehensive understanding of the existing research on stress, anxiety, and depression among high school students in China, particularly in the context of the general high school education system and the Advanced Placement (AP) education system. This review will establish a theoretical framework for understanding the mental health challenges faced by students in both systems.

Many studies worldwide investigated the Stress, anxiety, and depression among high school students, highlighting the increasing prevalence and severity of these mental health issues in this population (Suldo et al., 2014; Viner et al., 2012). In China, several studies have reported elevated levels of stress, anxiety, and depression among high school students. These problems have been attributed to various factors, such as academic pressure, familial expectations, and social relationships (Wang et al., 2016; Zhou et al., 2018). These findings underscore the importance of a deeper understanding of the factors contributing to mental health issues in Chinese high school students. Such contributing factors include academic pressures like challenging exams and assignments, high expectations from families often focused on academic achievement, and issues stemming from social relationships among peers. The general high school education system in China is characterized by a rigorous and competitive academic environment, with high-stakes examinations playing a crucial role in determining students' educational and career prospects (Fang & Wu, 2018). Studies have shown that the pressure to succeed academically in this system can result in elevated levels of stress, anxiety, and depression among students (Chen & Astor, 2017; Liu et al., 2019). Furthermore, the rigid curriculum and lack of flexibility in subject choices have been found to contribute to students' mental health challenges, as these factors limit their ability to explore their interests and to find individualized ways to develop their strengths (Li et al., 2020).

In contrast, the AP education system, offered by international schools in China, adopts a more flexible curriculum that emphasizes critical thinking, problem-solving skills, and a broader range of subject choices (Zhang & Hu, 2015). This educational approach is designed to prepare students for higher education in Western countries, focusing on the development of well-rounded individuals with strong academic and interpersonal skills (Tang & Xu, 2020). While studies on the mental health of students in the AP education system in China are limited, research in other Countries has shown that a more flexible and student-centered educational approach can potentially result in lower levels of stress, anxiety, and depression (Conner et al., 2018).

One notable gap in the existing literature is the direct comparison of stress, anxiety, and depression levels between students in the general high school education system and those in the AP education system in China. By examining the differences in mental health conditions between these two systems, this study aims to contribute to a better understanding of the factors that influence students' mental health and well-being.

Another area that warrants further investigation is the availability and effectiveness of mental health resources and social support for students in both educational systems. Previous studies have reported a lack of mental health support for students in the general high school education system in China (Chen & Astor, 2017). However, the literature on mental health resources and social support in the AP education system is scarce. By exploring this aspect, this study aims to identify potential areas for improvement in both systems, thereby informing strategies to promote the well-being of students.

3. Survey Questions

This study utilized a self-report questionnaire to gather data on stress, anxiety, and depression levels among high school students in China. The survey included questions on demographic information, academic performance, extracurricular engagement, and social support, as well as validated psychometric measures for stress (Perceived Stress Scale), anxiety (Generalized Anxiety Disorder-7), and depression (Beck Depression Inventory).

Demographic Information:

Age

Gender

Location (urban or rural)

Type of school (general high school education or AP education system)

Academic Performance: 5. Average academic scores

Number of hours spent studying per day

Perception of academic pressure

Importance of high-stakes examinations

Satisfaction with the curriculum and subject choices

Extracurricular Involvement: 10. Participation in extracurricular activities (sports, arts, clubs, etc.)

Hours spent on extracurricular activities per week

Impact of extracurricular involvement on academic performance and mental health

Social Support: 13. Availability of support from family, friends, and teachers

Perception of the school's mental health resources and support services

Frequency of seeking help for mental health issues

Willingness to discuss mental health issues with peers and teachers

Psychometric Measures: 17. Perceived Stress Scale (PSS): A widely used psychological instrument for measuring the perception of stress, including questions related to feelings of stress, coping with stress, and perceptions of life demands.

Generalized Anxiety Disorder-7 (GAD-7): A brief self-report measure designed to assess anxiety symptoms, including restlessness, fatigue, difficulty concentrating, and irritability.

Beck Depression Inventory (BDI): A self-report measure that evaluates the severity of depression symptoms, including feelings of sadness, hopelessness, loss of interest, and changes in appetite and sleep patterns.

The questionnaire was designed to provide comprehensive information on the students' experiences and perceptions of stress, anxiety, and depression in their respective educational systems. The questions covered various aspects of students' lives, including academic performance, extracurricular involvement, and social support. By using these questions, the study aimed to identify the factors that contribute to the differences in stress, anxiety, and depression levels between students in the general high school education system and the AP education system in China.

4. Survey Methods

A mixed-methods approach was employed, incorporating both quantitative and qualitative data collection techniques. The primary method of data collection was self-report questionnaires, which provided valuable quantitative data on stress, anxiety, and depression levels among high school students in China. In addition to the questionnaire's, semi-structured interviews were conducted with students, teachers, and administrators to gather qualitative data that offered a deeper understanding of the students' experiences and perceptions of stress, anxiety, and depression in their respective educational systems.

The stratified random sampling method was employed to ensure a representative sample of students from both the general high school education and AP education systems. This method involved dividing the population of high school students in China into two strata: general high school education and AP education system. From each stratum, a random sample of students was selected, resulting in a total sample of 1,000 students, with 500 from each educational system.

Before administering the survey, informed consent was obtained from all participants, and the confidentiality and anonymity of their responses were ensured. The survey questionnaires were distributed to the students electronically using a secure online platform, and they were given a two-week window to complete the questionnaire at their convenience. Reminder emails were sent to encourage participation and to ensure a high response rate.

To complement the quantitative data, semi-structured interviews were conducted with a smaller, purposive sample of students, teachers, and administrators from both educational systems. The interviews provided an opportunity to explore the participants' perspectives on stress, anxiety, and depression, as well as their experiences with the educational system and mental health resources. Each interview lasted approximately 30-45 minutes and was conducted either in person or via video

conferencing, depending on the participants' preferences and availability. All interviews were audio-recorded and transcribed for analysis.

The combination of quantitative and qualitative data collection methods allowed for a more comprehensive understanding of the differences in stress, anxiety, and depression levels between students in the general high school education system and the AP education system in China. Moreover, the mixed-methods approach provided a richer context for interpreting the findings and allowed for the identification of potential underlying factors contributing to the observed differences in mental health outcomes among students in the two educational systems.

5. Research Data

Responses from 1,000 participants showed significant differences in levels of stress, anxiety, and depression between students in domestic high schools and those in international schools in China. The quantitative analysis revealed that students attending international schools reported higher levels of stress, anxiety, and depression compared to their domestic high school counterparts. On average, students in international schools scored notably higher on the Perceived Stress Scale (PSS), Generalized Anxiety Disorder-7 (GAD-7), and Beck Depression Inventory (BDI) than those in domestic high schools.

The qualitative data, obtained from semi-structured interviews, shed light on potential reasons for these differences. International school students cited higher academic pressure, primarily due to high-stakes exams, a demanding curriculum, and elevated success expectations. They also mentioned studying for longer hours each day, which often resulted in less time for extracurricular activities including after-class exercise, book reading and social interaction.

On the other hand, students in domestic high schools reported experiencing less academic pressure and maintaining more balanced lifestyles, allocating more time for extracurricular activities and social support networks. However, they also voiced concerns about the limited availability of mental health resources and support services within their schools. This implies a need for a careful examination of these findings, as they seem to contradict common perceptions about educational stress levels in different school settings.

In summary, the data collected in this study highlights the differences in stress, anxiety, and depression levels among students in the general high school education system and the AP education system in China. The findings suggest that the AP education system's demanding academic requirements and high-stakes examinations may contribute to elevated stress, anxiety, and depression levels among students. This research underscores the need for increased attention to mental health support and resources in both educational systems to promote the well-being of Chinese high school students.

6. Data Analysis

The data collected in this study aimed to identify the differences in stress, anxiety, and depression levels among students in the general high school education system and the Advanced Placement (AP) education system in China. A mixed-methods approach was employed to gather quantitative data through self-report questionnaires and qualitative data through semi-structured interviews.

Quantitative Data Analysis:

The quantitative data analysis compared the scores on the Perceived Stress Scale (PSS), Generalized Anxiety Disorder-7 (GAD-7), and Beck Depression Inventory (BDI) between the students in the general high school education system and the AP education system. The results indicated that AP students scored significantly higher on all three measures, suggesting higher levels of stress, anxiety, and depression compared to their general high school counterparts.

To further examine the factors contributing to these differences, additional analysis was performed to investigate the relationships between the psychometric scores and the students' academic

performance, extracurricular involvement, and social support. This analysis revealed that AP students reported spending more time studying per day, experienced higher academic pressure, and evaluated high-stakes examinations as more important.

On the other hand, students in the general high school education system reported lower levels of academic pressure and a more balanced lifestyle, with more time dedicated to extracurricular activities and stronger social support networks. However, they also expressed concerns about the limited availability of mental health resources and support services in their schools.

Qualitative Data Analysis:

The qualitative data gathered through semi-structured interviews provided valuable insights into the experiences and perceptions of students, teachers, and administrators in both educational systems. The interviews revealed that students in the AP education system felt overwhelmed by the demanding academic requirements, high-stakes examinations, and the pressure to succeed. Many AP students shared experiences of long study hours, resulting in less time for extracurricular activities, socializing, and self-care.

Conversely, students in the general high school education system described lower levels of academic pressure and a more balanced lifestyle. They shared positive experiences related to their involvement in extracurricular activities, which they perceived as contributing to better overall well-being. However, these students also highlighted concerns regarding the lack of mental health resources and support services in their schools, which may have an impact on their mental health outcomes.

7. Results

The data analysis reveals significant differences in stress, anxiety, and depression levels among students in the general high school education system and the AP education system in China. The findings suggest that the demanding academic requirements and high-stakes examinations in the AP education system may contribute to elevated mental health challenges among students. Conversely, students in the general high school education system reported lower levels of academic pressure but expressed concerns about the limited availability of mental health resources.

This study underscores the need for increased attention to mental health support and resources in both educational systems to promote the well-being of Chinese high school students. Policymakers and educators should consider implementing strategies to reduce academic pressure and provide adequate mental health resources for students in both general high school and AP education systems. Such strategies may include revising the curriculum to promote a more balanced lifestyle, offering stress management workshops, and improving access to mental health services and support networks. By addressing these concerns, the mental health outcomes of Chinese high school students can be improved, leading to a healthier, more successful future generation.

8. Analysis of Potential and Existing Problems

The study conducted on the differences in stress, anxiety, and depression levels among students in the general high school education system and the Advanced Placement (AP) education system in China revealed several potential and existing problems. These problems can have significant implications for the mental health and overall well-being of high school students in both educational systems. This analysis will discuss the key issues identified in the research and their potential consequences.

Demanding Academic Requirements and High-Stakes Examinations in the AP Education System:

The study found that students in the AP education system experienced higher levels of stress, anxiety, and depression compared to their peers in the general high school education system. One of the primary contributing factors was the demanding academic requirements and high-stakes examinations associated with the AP system. These factors often led to long study hours, increased

academic pressure, and limited time for extracurricular activities and socializing. The high expectations placed on AP students to succeed can have detrimental effects on their mental health, resulting in burnout, increased stress, anxiety, and depression levels.

Imbalanced Lifestyles and Limited Extracurricular Involvement:

The research data showed that AP students were more likely to have imbalanced lifestyles, with limited time for extracurricular activities and socializing. In contrast, students in the general high school education system reported a more balanced lifestyle, with increased involvement in extracurricular activities. A lack of balance between academic and non-academic pursuits can exacerbate mental health issues and hinder the overall well-being and development of students in the AP education system.

Limited Mental Health Resources and Support Services:

Although students in the general high school education system reported lower levels of academic pressure, they expressed concerns about the limited availability of mental health resources and support services in their schools. This issue can prevent students from receiving the help they need to cope with mental health challenges and may exacerbate existing problems. The lack of mental health support is a problem that affects both the general high school and AP education systems and can have significant consequences for students' mental health and well-being.

Stigma Surrounding Mental Health Issues:

The study also highlighted the issue of stigma surrounding mental health, as students reported a reluctance to discuss mental health issues with peers and teachers. Such reluctance may prevent students from seeking help and support when they need it, contributing to greater mental health challenges. Breaking down the stigma surrounding mental health is crucial to ensuring that students feel comfortable discussing their concerns and seeking help when necessary.

Need for Comprehensive Mental Health Support:

The findings from this study underscore the need for comprehensive mental health support in both the general high school and AP education systems in China. To address the existing and potential problems, it is crucial for policymakers and educators to implement strategies that promote mental health and well-being among high school students. These strategies may include reducing academic pressure, encouraging a balanced lifestyle, increasing access to mental health resources, and promoting open dialogue about mental health issues.

In conclusion, this analysis highlights several potential and existing problems among Chinese high school students, which may have significant consequences for students' mental health and well-being. By addressing these issues, policymakers and educators can improve the mental health outcomes for high school students in both general and AP education systems, fostering a healthier, more successful future generation.

9. Conclusion and Recommendations

This study provides valuable insights into the differences in stress, anxiety, and depression levels among students in China's general high school education system and the AP education system. The findings highlight the need for immediate actions to address the existing problems in the general high school education system and promote the mental health and well-being of students.

To tackle these issues, several recommendations can be proposed:

Review and reform the curriculum in the general high school education system to incorporate more flexibility in subject choices, fostering a more balanced and engaging learning experience for students.

Implement measures to reduce academic pressure, such as reconsidering the weight of high-stakes examinations in college admissions or adopting a more holistic evaluation approach that taking into account students' extracurricular activities.

Mental health resources and social support within schools also need to be provided in the forms of school counselors, psychologists, and peer support programs. This will enable students to receive the help they need to cope with stress, anxiety, and depression.

Foster a school culture that prioritizes students' well-being and personal growth, rather than solely focusing on academic achievement. Encourage open communication about mental health issues and create an environment where students feel comfortable seeking help when needed.

Further research is necessary to monitor the effectiveness of these recommendations and explore additional strategies for improving the mental health and well-being of students in China's high school education system.

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