

A Preliminary Exploration of the Sources of Stress among Chinese High School Students: An Analysis from the Perspectives of Parents, Teachers, and the Students

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Abstract

With the advancement of China's social development, the demand for talent is progressively escalating, while the substantial population base exacerbates the issue of social retraction. As a result, academic qualifications are continuously devalued in such a societal context, placing greater learning pressure on every student. These pressures may stem from various factors, with parents, teachers, and self-imposed expectations constituting the primary stressors. In this study conducted in Guangzhou, Guangdong Province, China, data was collected through a questionnaire survey involving 35 students (12 males, 19 females, and 4 others). Repeated measures analysis of variance (ANOVA), paired sample t-test, Pearson correlation analysis were employed to examine the impact of different behaviors on stressors. The survey found that self-imposed pressure generally surpassed that exerted by teachers and parents. No significant correlation was observed between academic ranking and academic pressure. Moreover, a negative correlation existed between students' communication frequency with their parents and parental pressure they experienced. Additionally, a significant positive correlation was found between teachers being called to the office and increased learning pressure encountered by students.

Keywords

Chinese High School Students, Academic Pressure, Mental Health, Stress Source, Self-Imposed Stress

1. Definition and Measurement of Stress

From a physical perspective, stress is defined as an elastic force exerted per-

pendicularly on the surface of an object due to the compression of that object by other objects. However, from a psychological standpoint, stress is characterized as a feeling of emotional tension and oppression (Selye, 1950). Hans Selye introduced the concepts of eustress and distress in 1974. The measurement of psychological stress can be conducted using blood profile assessment methods (Yan et al., 2019).

Additionally, psychological stress can also be measured by assessing cortisol levels. Variations in psychological stress are closely related to fluctuations in cortisol levels, which indicate changes in the functioning of the hypothalamic-pituitary-adrenal (HPA) axis. The HPA system plays a regulatory role within the human body; when an individual perceives stress, the HPA axis activates the central nervous system, prompting the hypothalamus to release corticotropin-releasing hormone (CRH), the anterior pituitary to secrete adrenocorticotrophic hormone (ACTH), and the adrenal cortex to release cortisol (Burke et al., 2005).

Furthermore, sleep quality can also serve as an indicator of stress levels, with an inverse relationship existing between the magnitude of stress and sleep quality (Fortunato & Harsh, 2006). Cortisol binds to mineralocorticoid receptors (MR) and glucocorticoid receptors (GR), and the effects depend on the location and type of these receptors, resulting in excitation and inhibition of the paraventricular nucleus (PVN). Lower cortisol levels during the evening and nighttime are influenced by MR activity and are associated with MR binding. When cortisol levels are elevated, GR activation occurs. During periods of high stress, norepinephrine (NE) preferentially activates GR, leading to increased CRH secretion, which contributes to increased light sleep and frequent awakenings (Fortunato & Harsh, 2006).

2. Sources of Stress

In China, students at all educational levels face significant academic pressure, particularly high school students who bear the burden of intensive daily study tasks. The societal emphasis on education in China is exceptionally high. The expectations placed on students by schools and teachers, as well as the aspirations that parents harbor for their children, contribute to an intangible sense of pressure. High school students specifically contend with the stresses of the National College Entrance Examination (Gaokao) and the competition against a multitude of other candidates, making schools a major source of stress (Sun et al., 2013).

Compared to Western countries, the development of psychological education and psychology in China remains relatively underdeveloped. The presence of school counselors and the implementation of psychological counseling programs in Chinese schools are inadequate. Furthermore, societal awareness and understanding of students' psychological issues are insufficient. Many parents perceive their children's inability to cope with stress as a weakness, rather than recognizing any underlying psychological problems (D'Amato et al., 2013). This misconception significantly contributes to the additional academic pressures and psychological issues faced by students.

In addition to the pressure emanating from schools, parental expectations

cannot be overlooked. China places a strong emphasis on filial piety, leading children to view the fulfillment of their parents' goals and adherence to their directives as measures of filial obedience. This cultural context influences the degree of pressure that students experience from their families (Sun et al., 2013).

Moreover, students often impose their own expectations and standards upon themselves. Individuals typically have personal aspirations and self-set goals, and those with intrinsic motivation may experience fluctuations in psychological pressure when facing challenges or achieving academic results. This implies that students who hold themselves to higher standards may encounter greater psychological stress (Karademas & Kalantzi-Azizi, 2004).

Although existing research has explored the sources of stress among high school students, such studies often analyze the issue from a singular perspective—such as that of teachers, parents, or the students themselves—lacking comprehensive comparative analyses. A cross-sectional comparison of stress sources would facilitate a deeper understanding of the challenges faced by students. Therefore, this study aims to investigate the sources of stress among high school students from three perspectives: those of teachers, parents, and the students themselves.

Objectives and Research Hypotheses of the Study

The purpose of this study is to analyze the sources of stress among Chinese high school students, with a particular focus on examining whether the pressures experienced by students from their parents, teachers, and themselves differ. Furthermore, the study aims to investigate whether specific interactions between students and their parents or teachers influence the level of stress experienced.

3. This Research Is Guided by Three Primary Hypotheses

- 1) The stress experienced by Chinese high school students predominantly originates from their teachers, parents, and themselves.
- 2) The pressure that students experience from within themselves is greater than the pressure exerted by their teachers and parents.
- 3) Other relevant factors—such as parents' attitudes toward the importance of academic achievement, the frequency of being called to the teacher's office, and the students' own academic performance—will significantly influence the stress levels perceived by students.

4. Method

4.1. Research Subjects

This study selected a sample of 35 high school students (12 males, 19 females, and 4 other gender identities) from Guangzhou, Guangdong Province, aged between 16 and 18 years. Data were collected using a questionnaire survey.

4.2. Measurement Tools

The study utilized a questionnaire consisting of a total of 12 items. The first three

questions addressed demographic variables. The subsequent four questions employed a 5-point Likert scale (where 1 indicates the lowest degree of agreement and 5 indicates the highest degree) to assess sources of stress. The final five questions measured the impact of related activities (such as parents' attitudes toward the importance of education, the frequency of being called to the teacher's office, and the students' own academic performance) on the perceived sources of stress.

4.3. Research Results

To analyze the differences in stress originating from parents, teachers, and the students themselves, we conducted a repeated measures analysis of variance (ANOVA). The results indicated significant differences in stress levels among these sources, $F = 16.56$, $p < 0.001$, $\eta^2 = 0.50$. Given the observed differences, we performed paired samples t-tests, which revealed no significant difference between the pressure from parents and that from teachers, $t = 0.84$, $p = 0.41$. Furthermore, the stress experienced by students from within themselves was found to be greater than the stress from teachers, $t = -4.52$, $p < 0.001$, and also greater than the stress from parents, $t = -5.16$, $p < 0.001$ (Figure 1).

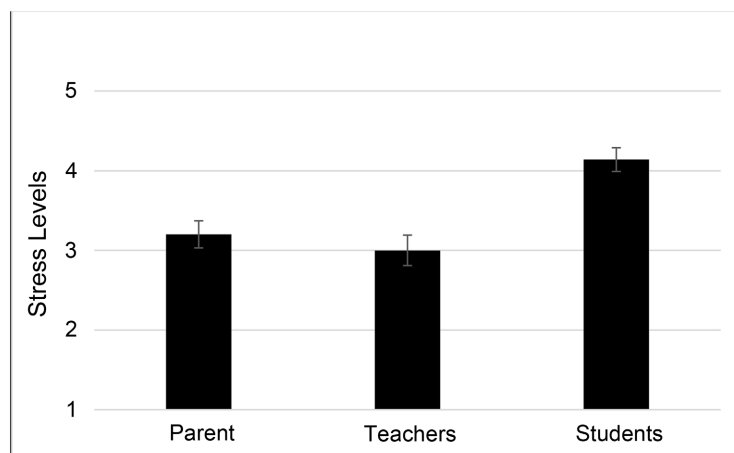


Figure 1. The stress levels associated with different sources of pressure.

To analyze the correlation between academic rankings and student learning pressure, we conducted a Pearson correlation analysis, which revealed no significant relationship between academic rankings and learning pressure, $r = 0.13$, $p = 0.45$.

To examine the correlation between the degree of communication with parents and the pressure that students experience from their parents, we also employed Pearson correlation analysis. The results indicated that students who were more willing to communicate with their parents reported lower levels of learning pressure from their parents, $r = -0.35$, $p = 0.04$ (Figure 2).

To analyze the correlation between the frequency of being called to the teacher's office over the past semester and the pressure students experience from their teachers, we conducted a Pearson correlation analysis. The results indicated that a higher frequency of being called to the teacher's office was associated with

greater levels of pressure perceived by students from their teachers, $r = 0.48$, $p = 0.004$ (Figure 3).

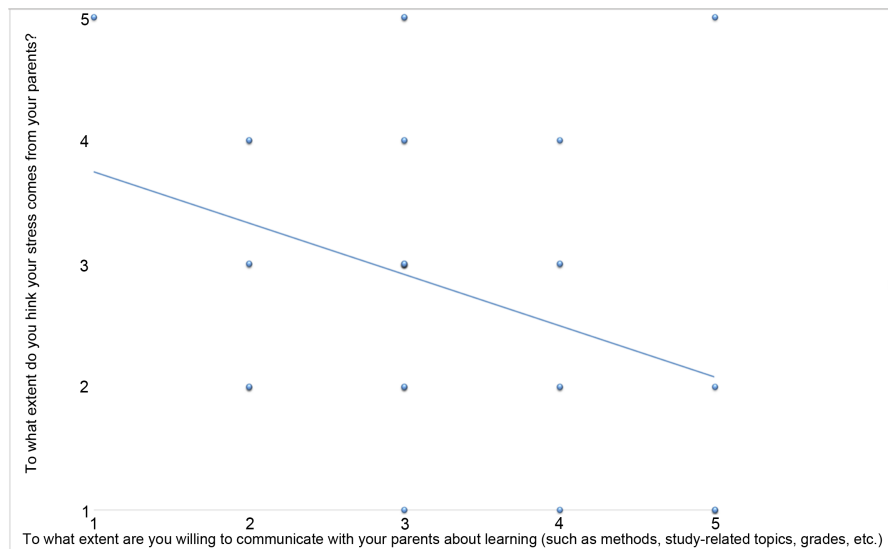


Figure 2. The relationship between study pressure from parents and students' willingness to communicate with their parents.

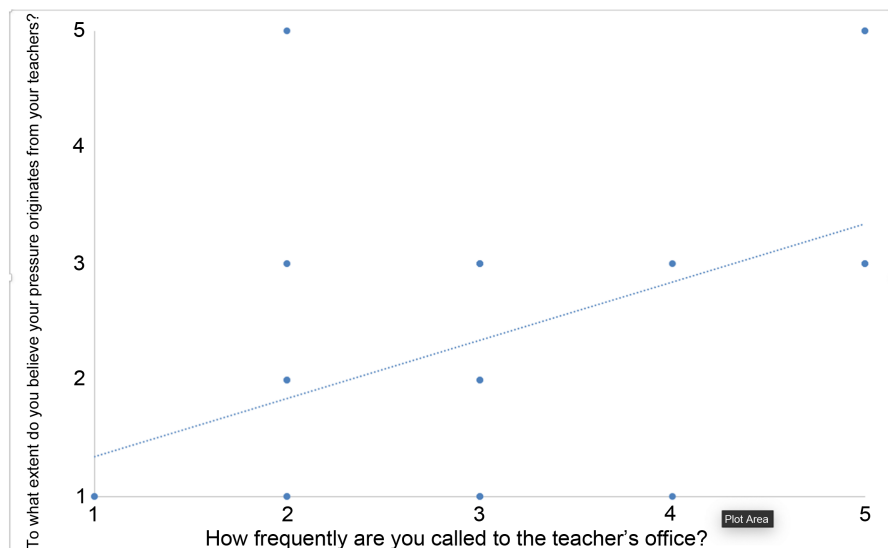


Figure 3. The relationship between learning pressure from teachers and the frequency of being called to the teacher's office by students.

5. Discussion

The psychological issues arising from learning pressure must be taken seriously. A proper investigation into the sources of stress can facilitate early interventions for students' mental health issues and help prevent severe consequences, such as suicide. Consequently, the aim of this study is to explore several primary sources of learning pressure among Chinese high school students, specifically from parents, teachers, and themselves.

The findings of this survey indicate that the stress experienced by students from their own academic responsibilities is greater than the stress imposed by teachers and parents. Several factors may contribute to this outcome. First, the learning environment and atmosphere significantly influence students' self-expectations. When students are immersed in a high-intensity learning environment, they tend to set higher standards for themselves. Additionally, when surrounded by peers with higher academic performance and efficiency, students may experience an increase in their own learning pressure (Xu, 2016; Liu & Lu, 2011). Second, external factors such as parental comparisons, lack of recognition, and competition in academic rankings (Du & Li, 2023) can heighten students' self-imposed pressure, leading to self-doubt and anxiety.

Unlike previous research, this study finds that, compared to the learning pressure imposed by parents and teachers, students' stress predominantly originates from within themselves. For instance, prior studies (Wang et al., 2015) utilized convenience sampling methods, surveying a total of 600 middle and high school students from a junior high school and a high school in Jining City, and found that family norms, family conflict, and parental expectations were significantly positively correlated with rumination. According to the analysis by Wang et al. (2015), this phenomenon may be attributed to psychological conflicts arising after arguments with parents, leading to rumination, or to the stringent attitudes towards education that parents impose on their children.

This study also identifies several other factors that influence the pressure students experience. Specifically, the survey revealed an inverse relationship between students' willingness to communicate with their parents and the learning pressure they perceive from their parents; that is, students who are more willing to communicate with their parents report lower levels of pressure from them. Conversely, there is a positive correlation between the frequency with which students are called to the teacher's office and the pressure they experience from teachers; students who are frequently summoned to the office report higher levels of academic stress.

However, this study has several limitations that require improvement. First, the exploration of underlying causes is not sufficiently deep; it only examines the most superficial sources of stress without investigating the fundamental reasons behind each source, such as social factors, historical context, or other complex variables. Second, the sample size of this study is relatively small, which limits the representativeness of the findings and their applicability to broader populations or regions.

In contemporary society, the psychological issues faced by students due to excessive academic pressure urgently require attention. It is hoped that more individuals will recognize the challenges confronting diligent students and provide timely psychological counseling and encouragement.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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Appendix

Part One

Demographic Variables: Gender (Male, Female, Other), Date of Birth (Year, Month, Day), City (Province/City)

Part Two

- 1) What is your academic ranking? (Top 10%)
- 2) At what level do you perceive your academic performance to be?
- 3) To what extent do you feel learning pressure? (1 - 5 scale)
- 4) To what extent do you believe your pressure originates from your parents?
(1 - 5 scale)
- 5) To what extent do you believe your pressure originates from your teachers?
(1 - 5 scale)
- 6) To what extent do you believe your pressure originates from yourself?
(1 - 5 scale)
- 7) Whose evaluations matter most to you?
(Select all that apply: Parents, Teachers, Classmates, Yourself)
- 8) To what extent are you willing to communicate with your parents about academic matters? (1 - 5 scale)
- 9) What is your parents' perspective on the importance of education?
(1 - 5 scale)
- 10) How frequently are you called to the teacher's office? (1 - 5 scale)
- 11) In what situations do you feel anxious? (Select all that apply, rank in order)
Before exams
After returning home
Other: _____