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# Exploring How Personal and Environmental Factors Influence Stress Levels Among Chinese Students: The Moderating Effect of Chinese Painting Experience

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## Abstract

The current study explores how personal and environmental factors affect stress levels of students, while also investigating the moderating effect of Chinese painting experience on the relationship between stressors and students' stress levels. Online and self-administered surveys were utilized to collect data from 384 respondents in Shandong Province, China. Data analysis was conducted using SPSS and Smart PLS. The findings revealed a positive correlation among the variables and also shows the moderating effect of Chinese painting experience among them. Theoretical implications, along with identified research gaps in the literature, highlighted a culturally inclusive framework. Findings suggested that engaging in Chinese painting provides mental peace, reduces stress levels, and fosters professional growth among students. Given the rising prevalence of stressors among students, universities should consider implementing Chinese painting experience classes. Such classes have been shown to alleviate stress and promote physical fitness. Hence, it was concluded that culturally relevant artistic practices, for instance Chinese painting, effectively alleviate stress and can inform mental health strategies for students in high-pressure academic settings.

***Keywords*:** Chinese painting experience, stressors, stress level

## Introduction

Academic stress is a significant contributor to the development of depression among university students. Academic stress refers to the pressure individuals experience regarding exams, assignments, educational environments, evaluation, and various academic-related issues (Zhang et al., 2022). Stress is a multifaceted response that encompasses negative emotional, cognitive, behavioral, and physiological processes, which occur when individuals try to cope with stressors (Prabu, 2015; Yumnam, 2022).

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While stress is an inherent and essential part of daily life, as it motivates us and helps us respond to challenges, it can also be overwhelming and debilitating. Notably, stress is an inevitable aspect of life, as it can arise from any external event, whether positive or negative, and can have both agreeable and anxiety-producing consequences.

Stress is a complex phenomenon that encompasses both biological and psychological aspects, characterized by feelings of tension (Kültz, 2020). It occurs when an individual fails to respond effectively to perceived emotional or physical threats, whether real or imagined. In the context of academia, students experience stress due to their own aspirations to excel, as well as expectations from parents and teachers. This academic stress can have a profound impact on both students and their parents, exacerbating feelings of anxiety and pressure. In today's rapid world, students are made to compete in every stage of education, that eventually pressurizes them.

Higher education students, on the other hand, have long been preoccupied with academic performance that is expressed by end-of-term results from the previous semester usually computed into general weighted average (GWA) for more quantifiability of grades (Huntington-Klein & Gill, 2021). Similarly, Study habits refer to the methods and approaches students use to learn, focusing on how effectively and efficiently they manage their studies (Igere & Akporhonor, 2020). Above all, it means that regardless of how systematic, efficient, or inefficient a student's study habits are, the way they study is an essential factor in academic success.

In the fast-growing millennial world where change is hard, every student is expected to be a casualty of the increasingly dizzying bosom of evolution. While we live in a time where everyone has equal access to education among students (Camacho-Morles et al., 2021). This demonstrates that despite being in an era of unequalled access to quality education, the variation between student performances is still influenced by an assortment of individual variations among students.

University life is often considered one of the most thrilling and memorable experiences in an adolescent's life. It offers a vibrant environment, opportunities to form lasting friendships, and a wide range of academic and extracurricular activities that foster growth, nurture talents, and prepare students for adulthood (Acharya et al., 2018). However, upon closer examination, university students face numerous challenges in their

daily lives, which can detract from the excitement and vibrancy of university life. These challenges can lead to stress, which, if left unaddressed, can escalate and negatively impact academic performance, emotional well-being, and social relationships (Kumar & Bhukar, 2013).

University students are constantly exposed to a significant amount of stress, requiring effective and adaptive coping strategies to navigate. These stressors encompass both internal and external pressures, including environmental demands to succeed, economic hardships, uncertainties about the future, societal issues, and opportunities (Rabbi & Islam, 2024). Additionally, university students often meet their future partners and together they must balance academic responsibilities, such as completing homework and performing well on tests across various subjects and disciplines. This can lead to inconsistent outcomes and if not managed properly, can result in ineffective coping mechanisms. As a result, university students may experience anxiety, substance misuse, depression, and other mental health concerns as a result of this (Choi, 2020). For a number of years, stress among college students has been a major worry. According to a research, high levels of stress can have disastrous effects on one's physical and mental well-being, as well as a drop in scholastic ability (Scott et al., 2020). As it can significantly influence promoting students' general well-being and academic success, it is imperative that higher education should look into appropriate coping mechanisms for stress.

## Problem Statement

Chinese students, similar to their global classmates, face a variety of pressures that have a major impact on their academic performance, mental health, and overall well-being (Ridley & Xie, 2024). Academic stress, a common problem across cultures and ethnic groups, necessitates a contextual awareness to effectively manage its impact (Wong & Chapman, 2022). The heavy academic pressure in the high school years, commonly experienced by Chinese adolescents became an unprecedented public health concern for mental health and well-being in recent years (Cheung et al., 2020). These findings demonstrated the significance to explore what personal factors could interact with environmental conditions in eliciting stress and some potential buffers, such as Chinese painting experience, that might be used in relaxation training or mental health promotion among university students.

## Research Questions

RQ1: Do personal factors contribute to stress levels among Chinese students?

RQ2: Does environmental factors impact stress levels among Chinese students?

RQ3: Does Chinese painting experience moderate the impact of personal and environmental factors on stress levels among Chinese students?

## Research Objectives

RO1: To identify and analyze the personal factors that contribute to stress levels among Chinese students.

RO2: To examine the influence of environmental factors on stress levels among Chinese students.

RO3: To determine whether Chinese painting experience moderates the effects of personal and environmental factors on stress levels.

## Significance of Study

### *Practical Significance*

Teachers and mental health specialists can provide focused treatments for Chinese students by having a better understanding of the ways in which environmental and personal factors impact stress levels. Emphasizing the moderating impact of Chinese painting experience raises the possibility that adding creative pursuits to a student's curriculum could be advantageous. Art-based stress-relief classes might be introduced by colleges and universities, giving students a creative way to express their feelings and manage their stress.

The study's conclusions can help shape institutional guidelines meant to lessen students' stress. This could entail addressing both internal and external stressors by establishing supportive surroundings, such as peaceful study spaces, peer support groups, or mental health resources. A happier home can be created by teaching parents about how their involvement and expectations affect their kids' stress levels. Motivating guardians to provide support to their children's creative pursuits may enhance their overall well-being.

### *Sociological Significance*

The current study enhances the knowledge of how cultural elements, such as the emphasis on academic success and creative traditions influence students' stress experiences. Research on the interactions between environmental and personal factors may shed light on the community support and social networks that serve as stress-reduction tools. Gaining an understanding of these processes helps improve student support networks and community involvement. Therefore, the results of this study may affect how Chinese students in the future perceive stress and coping techniques. It can cause a change in the way society views stress and emotional health by encouraging the inclusion of art and mental health awareness in school curricula.

## Literature Review

### Academic Stress

Stress is commonly defined as a psychological and physiological response to perceived challenges or threats. Biggs et al. (2017) conceptualized stress as a process involving an individual's appraisal of environmental demands and their perceived ability to cope with them. According to the transactional model of stress, the perception of stress arises from the interaction between an individual and their environment, and stress responses are influenced by personal resources and coping strategies. Physiologically, stress activates the body's autonomic nervous system, leading to increased heart rate, elevated blood pressure, and the release of stress hormones, namely cortisol (McEwen, 2007). Chronic stress can have detrimental effects on both mental and physical health, contributing to conditions, such as anxiety, depression, and cardiovascular disease (Cohen et al., 2016).

According to Misra and Castillo (2004), academic stress is influenced by factors, such as workload, performance expectations, and interpersonal relationships. Students often face significant stress due to high expectations and competition, which can affect their mental health and academic performance. The World Health Organization has identified 'stress' as the 'Health Epidemic of the 21st Century,' estimating its annual cost to American businesses at up to $300 billion. Therefore, the impact of stress on both emotional and physical well-being is profound.

A recent study in the USA found that over 50% of individuals believed stress had a negative impact on their work productivity. From 1983 to 2009, stress levels increased by 10–30% across all demographic groups in the USA. Ancient philosophers, such as Aristotle and Hippocrates were already aware of the adverse effects of stress. However, it was Claude Bernard who first formally explained how cells and tissues in multi-celled organisms might be protected from stress (Brulé & Morgan, 2018).

Early research on academic stress focused predominantly on college students, particularly freshmen (Bracken & Ludvik, 2014; Misra & Castillo, 2004; Rayle & Chung, 2007; Subramani & Venkatachalam, 2019). Schlossberg (1989) noted that students beginning their college journey directly from high school might encounter stress due to changes in their roles as students, uncertainties about their abilities, and the adaptation to a new educational and social environment (Misra & Castillo, 2004). Freshmen in transition often experience a sense of being "marginalized," feeling insignificant and unimportant within the broader context of their educational institution. This feeling may lead to negative consequences, such as worthlessness, increased self-consciousness, and subsequently, diminished academic performance, lower academic success, and heightened academic stress (Dixon & Kurpius, 2008; Rayle & Chung, 2007).

China's educational system is known for its rigorous standards and competitive environment, which contribute to high levels of academic stress among students. The emphasis on academic success is deeply rooted in cultural values and societal expectations, which often prioritize education as a primary means of achieving social mobility and personal success (Zhao, 2019). While academic stress is a prevalent issue globally among adolescents, Chinese students tend to experience higher levels of academic stress compared to their counterparts in the Western world (Wong & Chapman, 2022). The National College Entrance Exam (NCEE) exacerbates an already competitive academic environment, resulting in increased academic stress, particularly among senior high school students (Li, 2010). In Chinese society, education has been a major way to achieve respect, family pride, social mobility, and self-realization among individuals for thousands of years (Sun et al., 2013) and is linked with social success entities.

One of the most prominent sources of stress for Chinese students is academic pressure. Family norms, societal standards, and the academically/

professionally aggressive surroundings all add to a high level of tension to succeed (Chen et al., 2023). This type of pressure is exponentially increased by the Gaokao (National College Entrance Examination) as it can determine students' future educational and employment opportunities related to academic achievements (Chen et al., 2020). It is common for Chinese students to have tough academic schedules, with 14-hour school days, piles of homework, and exams weeks. This full-time schedule leaves minimal downtime or time for "fun" stuff, thus increasing the amount of stress (Liu, 2013). One educational issue is certainly Chinese parents' heightened investment in their children's education, leading to very high expectations and control over academic performance

**Personal and Environmental Factors**

Personal factors do in fact largely determine various aspects of a student's life, particularly stress. On the other hand, environmental factors can be quite different from one person to another and may give rise to a series of different attitudes, behaviors, and perceptions. Personal factors are a principal determinant of stress levels (and thereby affect various aspects in a student's life).

Moreover, a range of personal factors can greatly affect students' performance and contribute to stress in myriad ways. Identifying and understanding these personal factors is critical for effectively addressing their adverse effects on students' health and academic success.

When students begin the transition from one living space to another, a range of problems can come to the forefront, significantly increasing their stress levels as they attempt to resolve those issues. Disturbances in surroundings can ignite stress and make one uncomfortable to the core. Common cause of environmental stress re noises from cars or nearby factories (Evans, 2003). In particular, for the hostel residents, the need to constantly meet new people and room problems, such as noisy pets or moody mates will make a stressful experience for students (Sikka et al., 2021). Similarly, environmental stressors, such as noise, crowd, and housing conditions, found by Evans (2003) make a significant contribution to the psychological stress levels. In a new environment, students have to cope with situations and environments they are unfamiliar with on top of their already high workloads. Hence, this increases their stress levels and

makes it more difficult for them to keep their heads above water (Evans, 2003).

### Change in Sleeping Habits

Benham (2021) discovered through research that students who felt stressed by their studies reported shorter sleep duration and lower sleep quality. This phenomenon is attributed to several factors. In particular, students often worry about their academic performance or have an irregular study schedule. As the night goes on, activities like playing online games and texting contribute to the issue.

When students encounter more and more demands in their lives, the development of their sleep patterns go awry and they end up having unstable and inadequate sleep. Seoane et al. (2020) elaborated this connection further showing that a lack of sleep also impacts students' academic grades adversely as does irregular sleep patterns. The study highlighted the impact of sleep on accumulating learning and memory; thus, concluded that disturbed sleep can foil students' attempts to comprehend and use what they have learned.

### New Responsibilities

Academic stress can compound as students adjust to new responsibilities that require more time and energy. The research of Misra and Castillo (2004) showed that students more likely to experience stress while performing extra roles, such as part time job or lead the other students' organizations, since balancing requirements of these are too hard to match the academic requirements. Adding new responsibilities puts pressure on a student's ability to juggle time, which can make them feel more overwhelmed.

This is stressful for students in different ways like, trying to balance work and school during a time of financial uncertainty. Moreover, the responsibilities of extracurricular activities introduce new responsibilities that may or may not alleviate academic stress. Participating in those activities may be rewarding and fulfilling with a sense of accomplishment, social support, and fewer academic stress, but they also add to the daily activities.

Barber et al. (2005) study found that students who participated in extracurricular activities reported higher levels of enjoyment and lower

levels of academic stress. This shows that the consequences of extracurricular activities may vary according to the circumstances. Students must learn to juggle these numerous responsibilities as they progress through their academic careers.

**Financial Difficulties**

Students who have both financial and academic restraints may find it very tough to cope with challenges. Financial troubles, such as falling behind on bill payments, have a substantial influence on students' well-being, causing greater stress and despair. Cheng et al. (2014) discovered that students experiencing financial difficulties have poorer GPAs and greater rates of academic withdrawal. The need to earn money for school expenditures frequently leads in decreased time and attention on academic work, which can further affect academic performance.

For many students, financial concerns are a major source of stress. According to Guan et al. (2022), financial stress is associated with increased levels of anxiety, despair, and overall psychological distress. Stress and emotions of uncertainty may escalate when one is burdened with living expenses, textbook fees, and tuition. Furthermore, Summer et al. (2023) found that students who are struggling financially typically take on full- or part-time jobs, which can interfere with their study time and significantly affect their academic performance.

The combination of financial difficulty and academic requirements can intensify stress and harm students' emotional and intellectual health. Students may find it more difficult to maintain their academic standing as they try to balance their academic and work responsibilities, which can lead to a cycle of stress and underperformance. These conditions underline the urgent need for support networks that can effectively address students' financial and academic issues.

Work-Study Balance Taking on a job in addition to studying might have a significant impact on grades. Yasmin et al. (2020) found that students who work while studying struggle to maintain their academic performance due to time constraints and higher stress levels. When compared to their non-working peers, working students frequently report worse grades and trouble meeting academic deadlines. Many students work part-time or do temporary jobs while being in school to supplement their income or gain experience that will be valuable in their future careers. Although working and studying

simultaneously provides numerous benefits, there are some severe negatives as well. Students typically endure worry, weariness, and a loss in study time due to their inability to manage their employment and academic obligations.

As a result, students may miss lectures, fail to prepare for examinations, and become fatigued. These findings are corroborated by Beal et al. (2005) who found that balancing career and academic duties had a detrimental impact on mental health. This battle may cause decreased attention, social disengagement, and an overall decrease in well-being.

## Health Problems

Health concerns are widespread since a person's health may have a substantial influence on their quality of life and can be challenging for them. Stress can exacerbate existing health problems, creating a vicious cycle that jeopardizes the well-being. Health issues can have a substantial impact on students' academic performance by limiting their capacity to focus, attend classes, and complete assignments. According to Chen et al. (2023), students with long-term health concerns, such as diabetes or asthma, frequently encounter disruptions in their academic routines. These disruptions may cause an increase in absenteeism and a drop in academic outcome.

These findings are corroborated by Gjerstad et al. (2011), who discovered that students with health concerns frequently report difficulty with attention, memory, and cognitive function. These cognitive difficulties may have a significant impact on their academic performance, resulting in lower grades and a lack of motivation to study. Physical symptoms of stress may include headaches, nausea, elevated blood pressure, chest pain, and difficulty in sleeping. Furthermore, studies showed that stress can induce or worsen a variety of illnesses and conditions, including anxiety, depression, diabetes, obesity, gastrointestinal issues, and cardiovascular problems. Therefore, maintaining overall health and well-being requires proper stress management.

## Chinese Painting Experience

Since its inception in the early 20th century as a means of examining the application of art as a mental health treatment, the Chinese painting experience has undergone significant transformation. Initially examined by Freud and Jung within the framework of psychoanalysis, this method was

formally included into psychotherapy and started to garner more interest in China throughout the 1990s. Chinese painting experiences, which were first popularized by trailblazers, namely Dr. Yan Hu, are now widely employed in therapeutic and educational settings.

The lateralization hypotheses of the brain and projection theory are the two basic psychological ideas upon which this therapy approach is predicated. The left hemisphere of the brain is in charge of abstract cognition and logical analysis, whereas the right hemisphere is in charge of perception, spatial orientation, and image-based reasoning, according to neurophysiologist Sperry's (1994) study. The involvement of the right hemisphere in emotion regulation and artistic processes has been highlighted by research showing that dysfunction of the right hemisphere can affect emotional functioning.

Tipple (2003) an art experience specialist, believed that the bulk of psychological processes are visual and painting experiences help clients perceive and understand their inner sensations. Painting allows people to express emotions that are sometimes difficult to put into words, which aids in the processing and release of hidden feelings. Painting serves as a neutral medium that encourages more confident and comfortable self-expression, hence lowering psychological barriers. This treatment technique tackles inner conflicts and desires by bringing emotional expression and creative creation into harmony (Bao et al., 2016).

It has been shown that learning to paint in Chinese reduces stress since it provides a way to communicate feelings and encourages reflection. Students who paint can improve their mental health, better handle personal and environmental concerns, and better manage and minimize stress.

## Theoretical Framework

In order to look into stress among Chinese students, the framework synthesizes concepts from cultural psychology, stress theory, and art therapy. Stress levels, according to the stress theory, depend on environmental and personals factors, particularly, social relations, studies, coping behavior patterns, and traits. Cultural values, including art of China, are the significant factors, which influence the manner of emotional reactions and coping mechanisms and explain cultural psychology. As stated by art therapy principles, creativity can be seen as a helping method in dealing with stress.

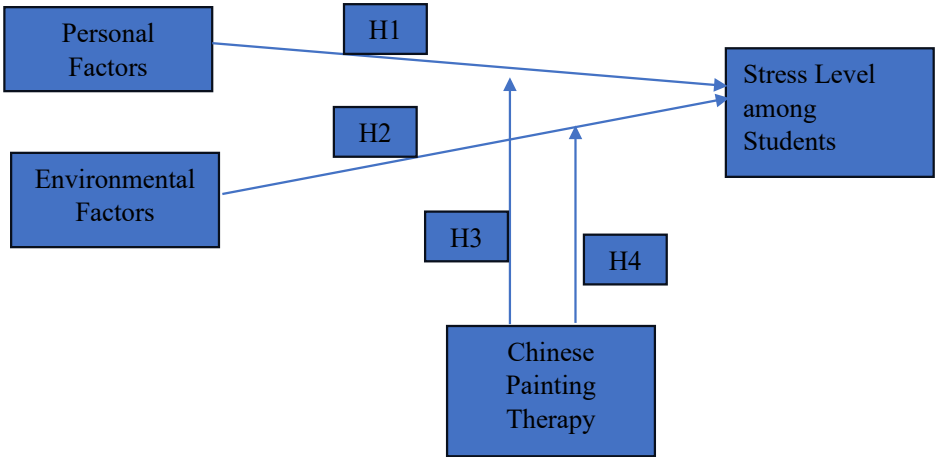
As per this view, environmental and personal stressors interact with the levels of stress a person experiences in relation to their experience of painting in China. For children who are under pressure due to academic achievement pressures, it is suggested that painting can improve well-being and promote resilience as it can be seen as a culturally fitting way of coping. The approach in question intends to raise the level of understanding of stress management in a culturally specific context by carrying out interventions and offering supportive techniques oriented to the particularities of Chinese students.

## Research Framework

The framework, which serves as the primary reference point for the whole investigation, is the foundation of every research plan (Ennis, 1999). This framework, also known as the theoretical framework, is made up of interconnected concepts that provide the study direction and structure (Creswell, 2014; Tasleem et al., 2023). In the current research study, influencing factors are independent which are personal and environmental factors, stress level is dependent variable, and Chinese painting therapy is moderator.

**Figure 1**

*Research Framework*




## Research Methodology

A quantitative research methodology was employed, utilizing a self-administered questionnaire to gather the data. The survey explored variables

related to stressors (including relational, personal, and environmental factors), experience in Chinese painting, and stress levels among students. Participants used a five-point Likert scale to provide feedback on these variables.

The study focused on students from several Chinese universities, specifically Qufu Normal University, Shandong University of Art and Design, University of Jinan, and Linyi University in Shandong Province. Data was collected from a purposive sample of 384 students who completed a self-administered survey. This sample size followed the guidelines established by Krejcie and Morgan (1970). The research utilized Structural Equation Modeling (SEM), specifically PLS-SEM, to evaluate and test the study's hypotheses. As outlined by Shmueli (2016) SEM is a statistical method designed for developing and estimating complex models.

## Results

### Respondent Profile

Among the 384 respondents from various universities in China, 34.2% had bachelor's degrees, 28.1% graduate degrees, 24.5% master's degrees, and 13.2% were doctorates. The universities represented were Qufu Normal University (24.0%), Shandong University of Art and Design (28.4%), University of Jinan (32.4%), and Linyi University (15.2%). The age distribution was predominantly between 18 and 23 years (55.98%), with fewer participants in the 24-28 age range (28.12%), and even fewer aged 29-33 (9.89%) or over 34 (5.98%). Gender distribution showed a majority of female respondents (63%) compared to male respondents (37%).

Table 1 provides the descriptive statistics, a summary of four variables based on 384 respondents. The average score for the variable personal factor is 3.7587 with a standard deviation of 0.68267. The mean score for the variable environmental factor is 3.6437, indicating a slightly lower average compared to PF. The standard deviation is 0.56974, suggesting that the responses are moderately spread around the mean. The mean score for the variable stress level among students is 3.6742. The standard deviation of 0.69432, which shows a relatively high level of variability in responses. Variable CPE (Chinese painting experience) has the highest mean score of 3.8512 among the variables, suggesting it is rated most favorably on average. The standard deviation of 0.53671, which indicates that responses are less variable around the mean compared to other variables.

**Table 1**
*Descriptive Statistics*

| Variables | *N* | Minimum | Mean | Std. Deviation |
|---|---|---|---|---|
| PF | 384 | 1.00 | 3.7587 | .68267 |
| EF | 384 | 1.00 | 3.6437 | .56974 |
| SLS | 384 | 1.00 | 3.6742 | .69432 |
| CPE | 384 | 1.00 | 3.8512 | .53671 |

## Path Coefficient

The structural model is evaluated through its measurement coefficients. When assessing the significance and impact of interactions between new attributes, the weight values of these coefficients are analyzed. The Smart PLS method, specifically using "bootstrapping," is employed to generate values for assessing the linkages (paths) among dependent and independent variables.

According to Hair et al. (2014), the current study reports a t-value of 0.95 at a significance level of 0.05. In PLS-SEM, as detailed by Hair (2014), bootstrapping, a nonparametric statistical technique, is used to estimate the significance of path coefficients. Typically, coefficient values range between -1 and +1, where values closer to +1 indicate stronger relationships and values near -1 suggest weaker or inadequate relationships. The precise *p*-values, t-values, and path coefficients for the study are provided in the table below. Hypothesis acceptance or rejection depends on these path coefficients.

Based on the results, all hypotheses are supported at the 0.05 significance level, indicating that the proposed relationships between variables are statistically significant and substantiated by the data analysis.

**Table 2**
*Path Coefficients (Direct Path with Moderation)*

| Relationship | Path coefficients | *t* | *p* | Decision |
|---|---|---|---|---|
| PF ->SLS | 0.558 | 2.864 | 0.000 | Accepted |
| EF->SLS | 0.021 | 6.028 | 0.001 | Accepted |
| PF x CPE->SLS | 0.020 | 0.444 | 0.038 | Accepted |
| EF x CPE->SLS | 0.050 | 1.319 | 0.045 | Accepted |

The path coefficient of 0.558 indicates a strong positive relationship between PF (personal factors) and SLS (stress levels of students). The *t*-statistic of 2.864 is well above the threshold for statistical significance, and the *p*-value of 0.000 is below the standard significance level of 0.05. This confirms that the relationship is statistically significant and thus the hypothesis that PF affects SLS is accepted.

The path coefficient of 0.021 suggests a very small positive effect of EF (environmental factors) on SLS. Despite this small effect size, the high *t*-statistic of 6.028 and a *p*-value of 0.001 indicate that this relationship is statistically significant. Therefore, the hypothesis that EF influences SLS is accepted.

The interaction term PF x CPE (Chinese painting experience) has a path coefficient of 0.020, showing a small positive interaction effect on SLS. The *t*-statistic of 0.444 is relatively low, but the *p*-value of 0.038 is below 0.05, indicating that this interaction effect is statistically significant. Thus, the hypothesis that the interaction between PF and CPE affects SLS is accepted.

The interaction term EF x CPE has a path coefficient of 0.050, suggesting a small positive interaction effect on SLS. The *t*-statistic of 1.319 is moderately significant, and the *p*-value of 0.045 indicates statistical significance at the 0.05 level. Therefore, the hypothesis that the interaction between EF and CPE influences SLS is accepted.

The above findings suggest that all of the hypotheses are accepted, indicating that the proposed relationships and interactions between the variables (PF, EF, CPE) and SLS are statistically significant based on the provided path coefficients, t-statistics, and *p*-values.

## Conclusion and Recommendations

The outcomes of this study underscore the status of implementing stress management programs tailored to the requirements of campus students. Orientation activities for incoming students should integrate training related to stress management and provide targeted coping strategies. Moreover, scholars should be informed about the resources available to support them in effectively managing stressors.

Implementing stress reduction programs can foster adaptive coping behaviors that are beneficial in daily life and serve as preventive measures to mitigate the long-term impacts of chronic stress. By addressing stressors

and enhancing coping mechanisms, universities can encourage the inclusive well-being and student academic success.

To gain a comprehensive understanding of the effects of variables and raised stress level among students, upcoming studies should delve into the influence of social support systems, coping strategies, and students' response to stressors. Whereas, the current research focused on Shandong Province, China, future research should include universities across the whole of China to offer a more comprehensive viewpoint.

Furthermore, examining gender differences in stressors among youth would be valuable for understanding how stress affects individuals differently based on gender. These differences can help to inform the development of tailored interventions and support systems to address the specific needs of male and female students. By escalating the scope of research to include a broader geographical range and considering gender differences, future studies can contribute significantly to our considerate of student stress and notify targeted interventions to promote student well-being.

## Conflict of Interest

The authors of the manuscript have no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

## Data Availability Statement

The data associated with this study will be provided by the corresponding author upon request.

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