The Effect of Learning Pressure on the Academic Performance of International Students Studying Chinese in China

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Abstract: The purpose of this study is to investigate the relationship between the learning pressure and academic performance of Chinese language learners studying in China, and to analyze the impact of learning pressure enhancement on academic performance. For this purpose, a questionnaire survey was conducted among 600 Chinese language learners studying in China, and the collected data was analyzed using SPSS 27.0 software. Descriptive statistics, t-tests, analysis of variance, correlation analysis, and regression analysis were mainly used.From the research results, this study empirically analyzed the impact of learning pressure on academic achievement among Chinese language learners studying in China, with learning pressure as the independent variable and academic achievement as the dependent variable. The research results are summarized as follows: Firstly, learning pressure has a significant impact on academic achievement; There is a negative correlation between learning pressure and academic achievement. Secondly, there are significant differences in learning pressure across demographic variables. Based on these results, all hypotheses of this study are supported.This study can provide practical assistance for the education and management of international students studying in China, as well as new research perspectives for the field of Chinese international education, and provide a basis for optimizing future related policies and teaching strategies. In addition, the research results provide reference for the curriculum design of Chinese language majors for international students, promote the rationalization of courses, and it helps to reduce students' learning pressure.

Keywords: International Students; Chinese Language Learners; Learning Pressure; Academic Performance

I. Introduction

1. Reseach Background

In the 1970s, (Chomsky, 1965) introduced the distinction between linguistic competence and linguistic performance, emphasizing the importance of understanding the underlying knowledge of language separate from its practical use. This shift in perspective influenced the way language educators approached teaching. Earlier, educators prioritized developing good textbooks and effective teaching methods, assuming these alone could ensure successful and efficient language learning. However, with Chomsky's influence, the focus shifted toward individual learners, recognizing that language learning is ultimately an individual, not a group process. Each learner has unique psychological traits, which means that in foreign language learning, where the primary goal is cultivating communication skills, research should give more attention to the shared characteristics among learners while addressing their individual differences.

The theory of cross-cultural adaptation points out that international students may face various adaptation problems when studying and living in a foreign country due to differences in culture, language, lifestyle habits, and other aspects. These problems

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often place international students under varying levels of learning pressure, which, in turn, affects their mental health and academic performance. According to (Berry's, 1997) cross-cultural adaptation model, this process is divided into stages such as "cultural shock" and "cultural adaptation." Among these, international students tend to experience the most intense learning pressure during the cultural shock stage.

For international students studying in China, especially non-native Chinese speakers, the complexity of Chinese, cultural differences, and social isolation may lead to additional psychological pressure. Social psychologist (Vygotsky's, 1978) sociocultural theory (such as Vygotsky's theory) holds that language is not only a communication tool, but also related to the development of thinking and cognition. Therefore, the difficulties encountered by Chinese language learners in the language learning process may further exacerbate their learning pressure and affect their academic performance.

Research in educational psychology shows that learning pressure is one of the important factors affecting students' academic performance. Excessive learning pressure can lead to a decline in students' cognitive abilities, weakened learning motivation, and even psychological problems such as anxiety and depression, directly affecting learning efficiency and academic performance. In the context of learning Chinese as a second language, international students often face unique challenges, including adapting to a new linguistic environment and academic expectations. These challenges, compounded by language barriers and academic pressure, may significantly impact their ability to perform well academically. This highlights the importance of understanding how these factors interact to influence the academic outcomes of international students.

With the shift of research focus to individual learners, there have naturally been many studies on the psychological aspects of individual learners in foreign language learning. Many educational scholars have scientifically and systematically demonstrated the importance of learners' psychological factors, with (Gardner, 1972), (Lambert, 1986), and others at the center, whose research results indicate that accurately understanding learners' psychological factors becomes an important factor in determining successful language learning. Learners' learning of a foreign language involves both a sense of expectation and psychological emotions of fear and anxiety, among which anxiety can encourage learners to take on new learning tasks and promote their motivation to learn. In most cases, if a foreign language causes learners to develop a sense of fear, feel a lot of learning pressure, and feel uncomfortable, it will have a negative impact on their foreign language learning.

With the rapid development of the Chinese economy and its increasing influence in international affairs, more and more international students choose to study in China, which has led to a growing demand for learning Chinese as a foreign language year by year. However, Chinese is a language that differs significantly from the mother tongue of most international students, and the difficulty of language learning may directly affect their academic performance. Therefore, studying the pressure faced by international students in the process of learning Chinese and its impact on academic performance is an important topic to address this trend.

Research in the field of psychology has shown that excessive learning pressure can lead to negative emotions such as anxiety and depression, which are significantly correlated with academic performance. Yerkes Dodson's law also states that moderate stress can stimulate optimal performance, but excessive stress can suppress cognitive function, thereby affecting academic performance. This theory provides an important reference for exploring the relationship between learning pressure and academic performance.

Although there have been many studies on Chinese language learning among international students studying in China, there is a lack of research specifically exploring the relationship between learning pressure and academic performance.

While some domestic studies have focused on the mental health of college students, limited attention has been given to their study-related pressures, particularly in the context of academic pressure and its correlation with performance. Understanding how these pressures influence academic aspirations is crucial for addressing the unique challenges faced by international students.

In a multicultural context, international students from different countries and cultural backgrounds may adopt varying strategies to cope with stress, develop study habits, and meet academic requirements. Therefore, an in-depth analysis of this issue can bridge the gap by uncovering specific coping mechanisms, improving academic support strategies, and enhancing the overall understanding of the interplay between learning pressure and performance.

International students often face multiple pressures, such as cultural adaptation, language barriers, and academic challenges. By examining how learning pressure impacts academic performance, universities can better integrate cultural adaptation strategies, psychological support, and academic coaching into their teaching processes. This approach can help refine cross-cultural education practices and address the critical challenges highlighted in this study.

2. Research Purpose

The purpose of this study is to investigate the relationship between the learning pressure and academic performance of Chinese language learners studying in China, and to analyze the impact of self-identity enhancement on academic performance. Through this study, we aim to alleviate students' learning pressure, enhance their psychological resilience, improve their academic performance, and provide reference for the improvement and development of Chinese language courses for international Chinese language learners.

3. Research Questions

1) Does the learning pressure of international students studying in China have a direct impact on their academic performance?

2) Is the learning pressure of college students negatively correlated with their academic performance?

3) Do the learning pressure and performance of Chinese language learners studying in China vary depending on gender, grade level, and place of birth?

II. Theoretical Background

1. Learning Pressure

1) Definition

Learning pressure, as the main cause of student stress, has been defined differently in both domestic and international research. Student learning has always been a focus and challenge in education and psychology research.

Learning pressure refers to the tension and anxiety that students feel during the learning process due to various factors such as language barriers, academic burden, cultural differences, etc. Related theories, such as (Lazarus' stress theory, 1984), suggest that when an individual perceives external pressure that exceeds their ability to cope, they will develop a stress response. This reaction may have a direct or indirect impact on students' learning motivation and academic performance.

Learning pressure may not only affect academic performance, but also have a negative impact on students' mental health, thereby reducing their learning motivation and quality of life. Through this study, schools and educators can better identify the sources of stress that international students may face during their Chinese language learning process, and provide them with corresponding support and counseling, reducing their anxiety and stress, and improving their learning outcomes and mental health levels.

The stress coping theory was proposed by psychologists Lazarus and Folkman (Lazarus & Folkman, 1984), which suggests that individuals go through two stages when faced with stressors: initial assessment (evaluating whether an event poses a threat) and secondary assessment (evaluating their own resources and abilities to cope with the event). College students learning Chinese may feel pressure when dealing with difficulties, exams, homework, and other tasks in language learning, especially when they believe they lack sufficient language skills or learning resources, which can exacerbate the sense of pressure. Through this theory, researchers can analyze how Chinese language learners perceive their learning tasks and the coping strategies they adopt, such as emotional regulation and problem-solving.

The cognitive load theory was proposed by (Sweller, 1988), which mainly focuses on the cognitive load perceived by learners during the learning process. Chinese, as a complex and unfamiliar language for non-native learners, may bring high cognitive pressure. For example, the grammar structure, tone, writing and memory of Chinese characters may increase learners' cognitive burden. This excessive cognitive load may cause learners to feel pressure, which in turn can affect their learning outcomes. This theory helps to explain the sources of stress felt by Chinese learners in different learning tasks, and provides suggestions for reducing learning burden.

The study of stress can be traced back to the mid-19th century, and related knowledge gradually became richer. Initially, the definition of pressure originated from physics, referring to the force that causes or results in deformation of an object. It was not until 1926 that the concept of pressure began to be applied in the field of human science. (Hans Selye, 1956) first defined stress as the sum of all non-specific changes

caused by specific reasons.

Research by (Li Wentao, 2018) and others has shown that stress syndrome is a general process of interaction between individuals and the social environment in daily life. It is a subjective response that occurs when individuals face various environmental stimuli in social life.

Looking back at the various definitions of "learning pressure" by previous researchers, a consistent conclusion can be drawn: learning pressure is a psychological experience that exceeds an individual's academic capacity and belongs to their subjective perception. In addition, learning pressure can not only have negative impacts, but may also have positive effects. This is consistent with Yerkes Dodson's law, which suggests that moderate learning pressure can promote academic performance. If college students can cope with learning pressure reasonably, they can positively influence the learning process. On the contrary, long-term stress reactions can lead to anxiety, depression, digestive problems, heart disease, headaches, sleep disorders, weight gain, and memory decline, and these damages are sometimes irreversible, seriously affecting the quality of life and learning. (Kong Zhihui, 2020) also pointed out that if individuals do not actively cope with learning pressure, their physical and mental health will be affected.

2) Dimension

When studying the impact of Chinese language learning stress on international students, many scholars have proposed different learning stress scales aimed at comprehensively evaluating the sources of learning stress among international students and their impact on academic performance. The Learning Stress Scale for International Students (LSSP) developed by (Zhang, 2018) quantifies multiple dimensions such as language learning stress, academic adaptation stress, and cultural adaptation stress, helping researchers gain a deeper understanding of the overall learning stress of international students. (Li, 2020) proposed the Chinese Language Learning Stress Scale (HSLP), which mainly focuses on language skill anxiety, classroom stress, social stress, and other aspects, with a particular emphasis on the unique impact of cultural differences on learning stress. (Wang, 2019) designed the Intercultural Learning Stress Scale (ICLSS), emphasizing that in cross-cultural environments, learners not only face difficulties in language comprehension, but also multiple pressures such as academic competition and social integration. In addition, the Language Learning Adaptation Stress Scale (LLAPS) proposed by (Liu, 2021) has been refined from multiple aspects such as learners' emotional reactions, social adaptation, and academic performance stress, exploring the psychological burden in the process of cultural adaptation. The above scales all focus on the multidimensional nature of learning stress, helping researchers to more accurately capture the sources of stress faced by international students during their Chinese language learning process and their potential impact on academic performance, thereby providing practical suggestions for improving their academic performance.

2. Academic Performance

1) Definition

Academic performance refers to the evaluation and results obtained by students through various forms such as exams, assignments, experiments, projects, etc. during the learning process. It is usually used to measure students' knowledge mastery, skill application ability, and overall learning performance in a specific course or subject. The definition of academic performance can vary depending on different educational stages, evaluation criteria, and grading methods. Common forms of expression include scores, grades (such as A, B, C, etc.), comments, etc. The role of academic performance is not only to evaluate students' learning outcomes, but also to reflect teaching effectiveness, helping students, teachers, and parents understand the progress and shortcomings of learning, and make improvements accordingly. performance is influenced by various factors, including students' motivation, learning strategies, cognitive abilities, etc. The relationship between motivation and academic performance is particularly important, as motivation inspires and guides students' behavior towards academic goals. The achievement motivation theory suggests that students' academic motivation is highly correlated with their academic performance, especially when they have intrinsic motivation, they are more likely to succeed in academic tasks. (Walberg, 1981) is Theory of Educational Productivity suggests that an individual's psychological characteristics, family environment, and school resources collectively determine their academic performance.

2) Dimension

When studying the impact of Chinese language learning pressure on academic performance among international students, scholars have proposed various

academic performance scales to comprehensively evaluate academic performance and its related factors. The Academic Achievement Scale for International Students (LSGP) proposed by (Zhang, 2018) mainly quantifies academic performance from aspects such as language ability, classroom performance, and exam results, and explores its relationship with academic performance by combining the dimension of learning pressure. This scale focuses on improving language skills and regulating exam anxiety, believing that academic performance is not only influenced by learning engagement, but also closely related to the management of psychological stress. The Chinese Language Learning Achievement Evaluation Scale (HSSE) proposed by (Li, 2020) focuses more on multidimensional evaluation, including not only academic performance, but also factors such as learning motivation, academic adaptability, and learning strategies. This scale emphasizes that academic performance is not only determined by knowledge mastery, but also influenced by emotional and cognitive factors, especially cultural adaptation and psychological state. The Cross Cultural Academic Performance Scale (ICAP) designed by (Wang, 2019) focuses on the impact of cross-cultural adaptation on academic performance, evaluating students' academic confidence, time management ability, learning strategies, and self-regulation ability in cross-cultural environments. This scale highlights the interactive relationship between cultural background and academic performance, suggesting that academic performance is significantly influenced by learners' cultural adaptation in cross-cultural environments. The Academic Stress and Achievement Assessment Scale (APSES) proposed by (Liu, 2021) focuses on exploring the direct impact of academic stressors (such as course burden, exam pressure, etc.) on academic performance. This scale emphasizes that excessive academic pressure can lead to emotional fluctuations, which in turn can affect learning efficiency and academic performance.

These scales use a multidimensional evaluation framework to help researchers comprehensively understand the complex relationship between international students' academic performance and learning pressure, providing theoretical basis and practical guidance for further improving the learning environment and enhancing academic performance of international students.

3. Relationship between Variables

1) Learning Pressure and Academic Performance

The relationship between learning pressure and academic performance has long been a focus of attention in educational psychology, especially in the context of cross-cultural learning, such as the learning of Chinese by international students studying in China, where this relationship is even more complex. When studying Chinese, international students in China often face challenges such as cultural differences, language barriers, and social adaptation. Learning pressure often has a significant impact on students' mental health and academic performance. Research has shown that excessive learning pressure may lead to psychological problems such as anxiety and fatigue in students, which in turn can affect their academic performance. However, moderate pressure may have a motivating effect on some students and enhance their academic performance. Therefore, the impact of stress on academic performance is complex, depending on the intensity of stress and students' coping strategies and support systems. This relationship is particularly evident in the Chinese language learning of international students studying in China.

(1) The Positive Effects of Moderate Stress

Appropriate learning pressure, such as the urgency of exams and the follow-up of learning progress, can stimulate the self-discipline and enthusiasm of international students, and promote them to work harder in Chinese language learning. Research has shown that appropriate pressure can enhance the learning motivation of international students, especially those with higher achievement orientation, who often exhibit stronger focus and learning outcomes under moderate pressure.

(2) The Negative Effects of Excessive Stress

However, when the pressure exceeds a certain limit, international students may experience anxiety, distraction, and learning fatigue, which seriously affect their academic performance. For example, facing complex Chinese character learning and changing pronunciation rules, high learning requirements can lead to frustration among international students, further affecting their confidence. Research shows that high levels of learning pressure are often associated with poor academic performance, and some international students may even give up or drop out of school due to prolonged exposure to pressure.

(3) The Correlation Between Mental Health and Academic Performance

Stress is closely related to mental health, and excessive learning pressure can lead to emotional problems such as anxiety and depression, which in turn can further weaken students' academic performance. For international students studying in China, the dual barriers of language and culture can easily increase their sense of loneliness and psychological burden, affecting their academic performance.

2） Growth Mindset Learning Engagement and Learning Stress Regulation

The concept of stress perception includes multiple fields such as psychology, sports health, mental health, medicine, etc. In medicine, the World Health Organization (WHO) defines the concept of stress perception as "infectious diseases of the 21st century", while in linguistics, stress perception refers to varying degrees of concern arising from real-life problems. In the field of psychological theory, it is generally believed that cognitive interaction theory (Folkman, 1986) states that "stress is a special relationship between a person and their environment, and the interaction between the external environment and the individual. When faced with challenges to individual abilities, such as stimulation, various emotional, psychological, and physical reactions increase.

The concept of growth mindset was first proposed by American psychologist Carol (Dweck, 2006) in her book "New Mindsets in Psychology". Carol Dweck believes that "a person's way of thinking can affect their behavior and expression, and fixed thinking can limit their development and growth

Therefore, he proposed the concept of growth mindset, believing that people can improve their abilities and levels by changing their way of thinking. Subsequently, the concept of growth mindset has been widely applied in the field of education. Educator (Devid Coleman, 2015) believes that a growth mindset is a positive learning attitude that can promote students' interest and motivation in learning, and improve learning outcomes; Meanwhile, a growth mindset can alleviate students' learning pressure, allowing them to focus not only on academic performance, but also on the learning process and outcomes.

Growth mindset, as a positive psychological state and cognitive approach, can promote learning engagement, reduce learning pressure, and thus enhance students' learning outcomes and growth. In educational practice, teachers can cultivate students' growth-oriented thinking, enhance their learning interest and motivation, alleviate learning pressure, and promote comprehensive development. In addition, growth mindset emphasizes that individuals continuously improve their abilities through hard work, learning, and exams. Compared to fixed thinking, growth thinking believes that resilience can be developed and not fixed. The core lies in the belief that abilities can continue to improve, and even when faced with challenges and failures, one will not easily give up, but will persist in learning and striving. The role of growth mindset in learning engagement and stress regulation is mainly reflected in the following aspects:

Firstly, growth mindset can promote learning engagement. People with growth mindset believe that they can continuously improve, so they are more willing to try new methods, actively participate in learning activities, and are more likely to stimulate learning interest and motivation. When faced with learning tasks, individuals with growth mindset place more emphasis on effort and the learning process, rather than overly focusing on results and grades. This way of thinking helps them better understand the learning content, improve learning effectiveness, enhance interest and motivation. In addition, people with a growth mindset are better able to cope with challenges and failures, and will not give up due to failure. Instead, they can find ways to improve through reflection and summarization, thereby enhancing learning outcomes.

Secondly, growth mindset can alleviate learning pressure. People with a growth mindset believe that they can continue to improve. During the learning process, individuals may encounter various challenges and difficulties. If they have a fixed mindset, they may feel limited in their abilities and find it difficult to cope with these challenges, thereby increasing their learning pressure. On the contrary, if individuals have a growth mindset, they will believe that their abilities can continue to improve. This positive attitude can help individuals cope with challenges and difficulties more effectively, and alleviate learning pressure. Therefore, they are better able to cope with learning pressure and will not experience negative emotions and anxiety due to stress. Meanwhile, individuals with a growth mindset are not only able to focus on academic performance, but also have a clear understanding of the learning process and outcomes, reducing excessive pursuit and pressure on grades.

Thirdly, actively cultivate students' growth-oriented thinking. Firstly, provide feedback and

evaluation. The growth mindset of students requires continuous reflection and self-awareness. Teachers should provide targeted feedback and evaluation to provide students with learning directions and opportunities for improvement. For example, Dweck et al. found that information obtained from process feedback rather than evaluation of results can stimulate students to improve their academic performance, continue learning (Dweck & Leggett, 1988), and advocate for deeper learning. To cultivate students' growth mindset, emphasis should be placed on deep learning rather than memorization or purely mechanical learning. Deep learning, as the core of students' self-directed learning, is particularly suitable for today's knowledge rich and rapidly changing society. (Biggs & Collis, 1982) found that students who actively participate in deep learning perform better in terms of exam scores and academic performance. In addition, building a learning community requires students' growth-oriented thinking to achieve common learning and growth through learning, communication, and cooperation with others. Learning communities provide support, inspiration, and motivation for students, promoting learning between individuals and groups. (Lave & Wenger, 1991) proposed the theory of "community practice," which is a method of learning through collaboration and interaction, as well as the sharing of knowledge and experience. In addition, emphasizing individual development, students' growth mindset needs to emphasize their personalized needs and development to adapt to constantly changing environments and demands. Educators should help students discover their interests and potential, and provide them with opportunities for growth and development. (Gardner's,1983) theory of "multiple intelligences" suggests that every student has multiple intelligences and potentials, and therefore should abandon a single learning approach and adopt multiple learning methods

In summary, it can be seen that students' growth mindset should form a developmental learning attitude, achieving the goals of self-inspiration, self-learning, leapfrog learning, and expansion learning. In education, emphasis should be placed on students' subject performance, which means that students should become the leaders of self-education.

III. Research Method

1. Research Model and Hypothesis

1) Research Model

Building upon relevant theoretical foundations, this chapter designs the study, clarifies the research process, constructs the research model, and defines the research subjects for this survey. Additionally, appropriate measurement tools are selected to collect data, including the college students' perceived stress scale and academic achievement scale. The research steps and data analysis methods are clearly outlined. The research model is shown in Figure 1.

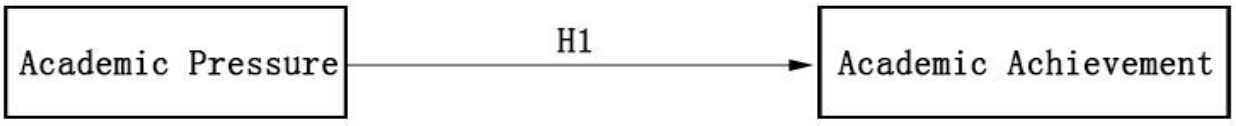

Figure 1. Research Model

2) Research Hypothesis

According to the research model, the research hypotheses are as follows:

H1: Learning pressure has a significant impact on academic performance.

H2: There is a negative correlation between learning pressure and academic performance.

H3: There are significant differences in learning pressure in demographic variables.

2. Research Participants

Since the beginning of this study, 600 Chinese language learners among Chinese international students have been selected as research subjects, using the "Learning Stress Scale" and "Academic Achievement Scale" revised by Chinese psychologists and widely used among college students as research tools. The collected data was processed using SPSS

27.0 using reliability analysis, descriptive statistical analysis, independent sample t-test, one-way ANOVA, correlation analysis, regression analysis, and other methods. Among the 600 selected Chinese language learners studying in China, a class was randomly selected from each grade for survey. A total of 16 classes were surveyed through group sampling, with 600 questionnaires distributed and 551 valid questionnaires collected. The effective questionnaire response rate is 91.8%. The specific situation of the survey subjects is shown in **Table 1.**

1) Demographic Distribution Characteristics

Among the surveyed group, 261 were male, accounting for 47.37%, and 290 were female, accounting for 52.63%. In terms of grade distribution, there were 142 first-year college students, accounting for 25.7%; 206 students in second grade, accounting for 37.39%; 112 students in third grade, accounting for 20.33%; 91 students in fourth grade, accounting for 16.52%. In terms of birthplace distribution, there are 284 urban residents, accounting for 51.54%, and 267 rural residents, accounting for 48.46%.

3. Research Procedures

In the first stage, a substantial amount of research was conducted using literature retrieval platforms such as RISS, CNKI, and Google Scholar. A conceptual model was constructed, and corresponding research hypotheses were proposed. In the second stage, research tools were developed for the variables of this study. In the third stage, Chinese language learners of international students studying in China. College students from four universities in Henan Province use the Wenjuanxing platform for online surveys and data collection. In the fourth stage, the collected data was validated using statistical analysis tools SPSS 27.0. In the fifth stage, research results were obtained, the limitations and shortcomings of this study were discussed, and useful suggestions for future research were provided.

4. Research Instruments

1) Learning Stress Scale

This study refers to (Chen Bangyong's, 2010) "College Student Learning Stress Questionnaire" and, based on the situation of Chinese language learners among international students studying in China, modifies some language and develops the "College Student Learning Stress Questionnaire for Chinese Language Learners Studying in China" as a pilot survey. This tool uses a Likert five point scale, where 5=completely agree, 4=partially agree, 3=neutral, 2=partially disagree, and 1=completely disagree. The higher the score, the greater the learning pressure. This questionnaire aims to assess the stressors experienced by international students during the process of learning Chinese, including academic stress, language barriers, social stress, and other dimensions, providing data support for subsequent research and interventions.

2) Academic Performance scale

The Academic Performance is based on (Yang's, 2022) reference, and has been revised to reflect the situation of Chinese language learners and university students studying in China. The revised language is as follows: mainly based on three grades: first, the average score of the student at the end of the last semester (1=below 60 points, 2=60 points (including 60 points), 3=80 points (including 80 points), 4=above 90 points); The second is the average score at the end of this semester (1=below 60 points, 2=60 points (including 60 points), 3=80 points (including 80 points), 4=above 90 points); The third is the position of the stage average score in the class (1=top 10%, 2=top 30%, 3=top 50%, 4=bottom 50%).

Table 1. Research Subjects

Project	Distinguish	Frequency	Percentage (%)
Gender	Male	261	47.37
	Female	290	52.63
School Year	1 Year	142	25.77
	2 Year	206	37.39
	3 Year	112	20.33
	4 Year	91	16.52
Birthplace	City	284	51.54
	Countryside	267	48.46
Total		551	100.0

3) Reliability Analysis

The reliability analysis of this data was conducted using Cronbach's alpha, and the results are shown in **Table 2.** Import the data into SPSS software and click on "Analysis Scale Reliability Analysis" to perform reliability analysis. The results show that the Cronbach's alpha coefficient is .991. This indicates that the reliability of this part of the questionnaire is high and meets the requirements of this study. The obtained data is beneficial for subsequent factor analysis.

Table 2. Reliability Analysis

Index	Value
Cronbach's α	. .991
Number of iterations	52

*p< .05 ，**p< .01

4) Feasibility Analysis

The feasibility of the questionnaire was analyzed through KMO test and Bartlett sphericity test in SPSS software, and the results are shown in **Table 3.** According to the table, the KMO value of the questionnaire is .870, the chi square value of Bartlett's sphericity test is 85925.375, the degree of freedom is 1326, and the significance level is p<.001. This indicates that the data has passed validity validation and is suitable for subsequent factor analysis.

Table 3. Feasibility Analysis

	KMO Value	.870
Bartlett's Test	Approximate Chi-square (χ^2)	85925.375
	Degrees of Freedom (df)	1326
	Significance（p）	.000

*p<.05 ，**p<.01

IV . Research Results

1. Differential Analysis

1) Gender Difference Analysis

This study used t-tests to investigate the differences in learning stress and academic performance between genders. It can be seen from **Table 4.** The learning pressure and performance of different genders are significant; (p<0.05), indicating that the learning pressure and academic performance of different gender samples are different. Specific analysis shows that:

The gender difference in learning pressure is .01 (t=-3.287, p=.001), with the average value for males (2.46) being lower than that for females (2.76). The academic performance showed a significant gender difference of. 01 (t=4.361, p=. 000), with an average of (3.07) for males and (2.68) for females.

Table 4. Gender Differences Analysis

Variable	Gender	M	SD	t	p
Learning Pressure	Male	2.460	1.010	-3.287	.001**
	Female	2.760	1.170		
Academic Performance	Male	3.070	0.980	4.361	.000**
	Female	2.680	1.080		

*p< .05 ，**p< .01*

2）Grade Difference Analysis

The samples from different grades showed significant differences (p<.05) in learning pressure and academic performance, indicating that there are significant differences in learning pressure and academic performance among students from different grades. As shown in **Table 5** and **Figure 2**, the study pressure of junior and senior students is significantly higher than that of first-year and sophomore students. On the other hand, in terms of academic performance, freshmen and sophomores perform better than juniors and seniors.

Table 5. Grade Difference Analysis

Variable	Grade	M	SD	F	P	LSD
Learning Pressure	① Freshman	1.900	.750	75.450	.000	①<②<③>④
	② Sophomore	2.390	.900			
	③ Junior	3.420	1.090			
	④ Senior	3.290	1.060			
Academic Performance	① Freshman	3.590	.840	63.858	.000	①>②>③>④
	② Sophomore	2.990	1.000			
	③ Junior	2.230	.730			
	④ Senior	2.240	.990			

**p<.05 , **p<.01*

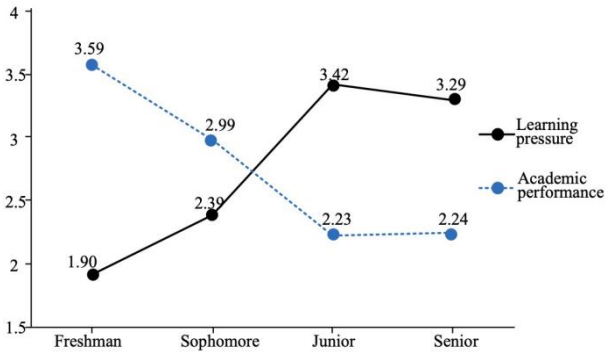

Figure 2. Comparison of the Line between Learning Pressure and Academic Achievement

**p*<.05 , ***p*<.01

3) Analysis of Differences in Birthplace

This study uses t-test to explore the impact of students' place of birth on learning stress and academic performance. **Table 6** shows that samples from different birthplaces of students exhibit significant differences (p<.05) in learning stress and academic performance, indicating that students from different birthplaces have significant differences in learning stress and academic performance. The learning pressure of urban groups is much lower than that of rural groups. The performance of urban groups is also higher than that of groups with rural registered residence.

Table 6. Analysis of Differences in Birthplaces

Variable	Gender	M	SD	t	p
Learning Pressure	City	2.400	.940	-4.896	.000**
	Countryside	2.850	1.220		
Academic Performance	City	3.150	0.950	6.910	.000**
	Countryside	2.560	1.070		

2. Correlation Analysis

This study conducted Pearson correlation tests on factors such as gender, grade level, student's place of birth, learning pressure, and academic performance. The test results are shown in Table 7. The correlation coefficient between learning pressure and academic performance is -0.583 (p<.05), indicating a significant negative correlation between learning pressure and academic performance, that is, groups with higher learning pressure tend to have lower academic performance.

Table 7. Correlation Analysis

	Gender	School Year	Birthplace	Learning Pressure	Academic Performance
Gender	1				
School Year	.267**	1			
Birthplace	.607**	.349**	1		
Learning Pressure	.138**	.504**	.206**	1	
Academic Performance	-.182**	-.485**	-.284**	-.583**	1

*p<.05 ; **p<.01

3. Regression Analysis

The main subject described in this regression analysis is Chinese language learners of international students studying in China. The results in **Table 8** show the impact of learning pressure on the academic performance of international students. Specifically, as an independent variable, learning pressure has a non standardized coefficient of -.426 and a standardized coefficient of -.449, indicating that learning pressure has a significant negative impact on academic performance, meaning that the greater the learning pressure, the lower the academic performance. The standard error is 0.036, the t-value is -11.690, and the corresponding significance *P*-value is .000, indicating that the regression coefficient is highly significant and excluding chance. The F-value of the model is 91.134, indicating that the regression model is significant overall, and the coefficient of determination R^2 is .400. The adjusted R^2 is .396, indicating that learning pressure can explain 39.6% of the variation in academic performance of international students. It can be seen that learning pressure is an important negative factor affecting the academic performance of international students studying in China.

Table 8. The Impact of learning pressure on Academic Performance (N=551)

Regression coefficient		*t*	*p*	*F*	R^2	*Adj* R^2
Non-standard	Sandard					

Independent variable	B	SE	Beta					
Learning Pressure	-.426	.036	-.449	-11.690	.000	91.134	.400	.446
	0.025	0.005	0.210	5.000	.000			

*p<.05 ; **p<.01

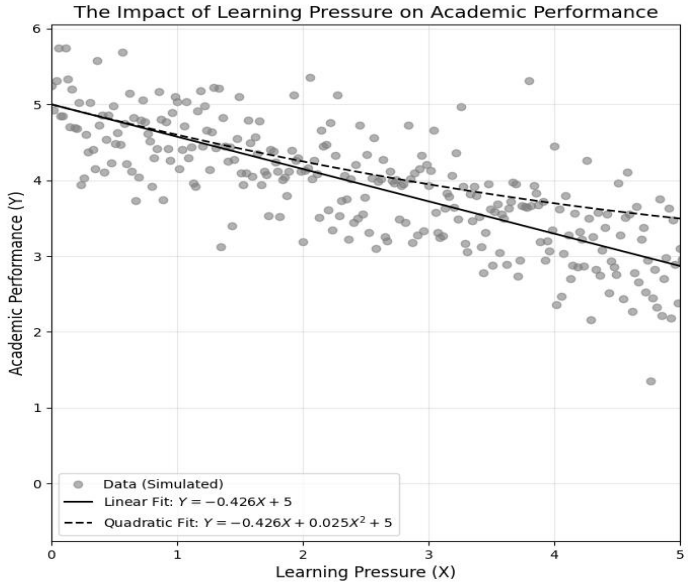

Figure 3. The Impact of learning pressure on Academic Performance

This **Figure 3** demonstrates the regression analysis results of learning pressure on academic performance, incorporating both a linear regression model and a quadratic regression model.

The scatter plot (gray dots) represents the simulated data, illustrating the actual distribution between learning pressure and academic performance. The linear regression model (black solid line) is expressed by the equation: $Y=-0.426X+5$. This indicates that academic performance decreases linearly as learning pressure increases, with each unit increase in learning pressure resulting in a reduction of approximately 0.426 in academic performance.

The quadratic regression model (black dashed line) is expressed by the equation: $Y=-0.426X+0.025X^2+5$. This suggests a non-linear relationship, where moderate learning pressure may enhance academic performance, while excessively low or high learning pressure leads to a decline in academic performance.

In summary, the Figure 2 visually reveals the negative impact of learning pressure on academic performance while supplementing with a quadratic regression model to explain potential non-linear trends. The black solid line and dashed line represent the linear and quadratic regression fits, respectively, both aligning well with the data points.

V. Conclusion

1. Summary

Building upon prior research, this study empirically analyzed the impact of learning pressure on academic achievement among Chinese language learners studying in China, with learning pressure as the independent variable and academic achievement as the dependent variable. The research results are summarized as follows: Firstly, learning pressure has a

significant impact on academic achievement; There is a negative correlation between learning pressure and academic achievement. Secondly, there are significant differences in learning pressure across demographic variables. Based on these results, all hypotheses of this study are supported.

2. Discussion and Conclusion

The online questionnaire required for conducting the research was distributed or retrieved in this survey; A total of 600 questionnaires were distributed and 551 questionnaires were collected, with an effective rate of 91.8%. The proportion of males and females among the recycling objects is balanced, with the survey grade mainly being the second year of university, followed by the first and third year of university, and the proportion of the fourth year of university is relatively small. In natural sources, the proportion of rural and urban populations is comparable.

In the scale test, the reliability of this questionnaire was .991, and the confidence in data analysis was above 0.9, indicating that the reliability is very effective and the questionnaire has high reliability. In the feasibility analysis, the KMO value of the questionnaire section is .870, the chi square value of Bartlett's sphericity test is 85925.375, the approximate degree of freedom is 1326, and the significance is .000 (p<.05), indicating that the data has been validated and is suitable for subsequent factor analysis.

The differences in gender and learning pressure were analyzed, and it was found that there was a significant difference in learning pressure between genders (p<.05). This means that there are differences in learning pressure between samples of different genders, and there is a significant difference in learning pressure between genders (t=-3.287, p=.001). The average learning pressure of males (2.46) is significantly lower than that of females (2.76).

The analysis of the differences in learning pressure among different grades shows that different grade samples have a significant effect on learning pressure (p<.05), indicating that grade samples have differences in learning pressure, with third grade (3.42) being greater than fourth grade (3.29).

There were significant differences (p<.05) in learning pressure among different sources of students, indicating that there were differences in learning pressure among different birthplaces. The learning pressure score of urban population (2.40) was lower than that of rural population (2.85).

The analysis of gender and academic performance differences shows that there are significant differences (p<.05) in academic performance between genders, which means that there are differences in academic performance between samples of different genders. The gender difference in academic performance is significant at 0.01 (t=4.361, p=.000), and the average score of males (3.07) is significantly higher than that of females (2.68).

The analysis of differences in grades and academic performance shows that there are significant differences (p<.05) in academic performance among samples from different grades, with grades in grade one (3.59) being higher than those in grade two (2.99), while grades three (2.23) and four (2.24) have lower scores.

The difference between the birthplace and academic performance of different students is also significant (p<.05), indicating that the region of origin of students has an impact on academic performance. The academic performance of the urban group (3.15) is higher than that of the rural registered residence group (2.56).

The variables in this paper were analyzed, and Pearson correlation tests were conducted on gender, grade, place of birth, academic stress, and academic performance. The results showed that the correlation coefficient between academic stress and academic performance was -.583 (p<.05), indicating a significant negative correlation between academic stress and academic performance.

Regression analysis was conducted with gender, grade level, and student origin as control variables, learning pressure as an independent variable, and academic performance as the dependent variable. The results showed that the regression coefficient of learning stress was -0.426 (t=-11.690, p=.000), indicating that learning stress has a significant negative impact on academic performance.

3. Limitations and Suggestions

1) The Study Pressure and Causes of Chinese Language Learners Among International Students Studying in China and College Students

Firstly, Chinese language learners studying in China face significant learning pressure. These students not only need to master theoretical knowledge, but also need to practice professional content. The reason for the current Chinese language learning pressure among international students studying in

China is not only the influence of environmental factors, but also the result of the combined effects of personal factors, peer influences, and higher education. For student groups, moderate learning pressure may not cause serious negative effects, but excessive learning pressure may lead to adverse consequences. Therefore, how to effectively control this learning pressure has become a key factor.

Secondly, from a gender perspective, women experience significantly greater learning pressure than men. (Liang Ying, 2022) conducted a multidimensional survey on the relationship between high school freshmen's learning pressure and academic performance, as well as intervention measures. The results showed that most studies confirmed that women's learning pressure was higher than men's, which is consistent with the findings of this study.

Thirdly, in the analysis of the differences in learning pressure among different grades, this paper believes that the learning pressure of third year students is the highest, followed by fourth year students, while the learning pressure of first and second year students is significantly lower. The research results of (Zhou Jun, 2021) on the study pressure of college students show that the study pressure of fourth grade, third grade, and second grade students is higher than that of first grade students, with fourth grade students experiencing the greatest pressure. This is consistent with the distribution trend of the research results in this paper, although there are some differences, it can still be seen that the learning pressure of senior students is generally higher.

Fourthly, in the analysis of the differences in learning pressure among students from different origins, the learning pressure of rural groups is significantly higher than that of urban groups. Relatively speaking, the economic income level of the rural group is lower, while the urban group has more opportunities to receive Chinese language education, so there is a certain gap in learning ability between the two.

2) Differences in Academic Performance Among Chinese Language Learners and College Students Studying in China

Firstly, researchers attempt to explore the impact of external and internal factors on students' academic performance. More attention is paid to the role of external factors in the research process abroad. Parental emotional support has a significant positive predictive effect on children's academic performance and plays an important role in promoting their emotional and cognitive development. Domestic research suggests that self-control is an intrinsic psychological factor that is often closely related to the academic performance of young people. The academic performance of Chinese language learners studying in China is influenced by factors such as learning pressure and individual characteristics of the students.

Secondly, in terms of gender among Chinese language learners studying in China, male students generally have higher academic performance than female students. This difference is related to the individual gender characteristics of males and females. The research results of this paper show that men have better academic performance than women. In the changes in academic performance caused by grade differences, students' academic performance decreases with the increase of grade, which may be related to the increased academic difficulty brought about by grade advancement. In terms of differences in academic performance among students from different origins, (Saeed, 2021) reported that students living in rural areas have poorer grades compared to those living in affluent areas, such as lower standardized exam scores and relatively poor reputation. Despite their efforts, even the most diligent students still have lower academic performance due to poor social conditions and economic levels.

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