

# *The Effect of Psychological Resilience on Academic Burnout among College Students*

Junyou Deng<sup>1</sup>, Yuxi Tao<sup>2</sup>, Hanting Zeng<sup>3,a,\*</sup>, Rui Zhao<sup>4</sup>

<sup>1</sup>*Business School, Macau University of Science and Technology, Macau, China*

<sup>2</sup>*School of Public Administration, Guangdong University of Finance, Guangzhou, China*

<sup>3</sup>*Department of Applied Psychology, Guang Dong Baiyun University, Guangzhou, China*

<sup>4</sup>*Chengdu Yuya Culture Communication Company Limited, Chengdu, China*

*a. jyxy@baiyunu.edu.cn*

*\*corresponding author*

**Abstract:** For the past few years, the overall level of psychological resilience of Chinese college students has been decreasing year by year. During the same period, academic burnout levels among college students have continued to increase. In order to investigate the relationship between college students' psychological resilience and academic burnout, also regarding their individual differences in majors, genders, and grades, this study adopts a quantitative approach to collect data. A total of 154 college students from two colleges in Guangzhou City, Guangdong Province, China, were recruited for this study. The study completed a survey of psychological resilience and academic burnout among college students through questionnaires. Through in-depth analysis, this paper concludes that psychological resilience is significantly negatively related to academic burnout among college students and psychological resilience of college students negatively predicts academic burnout to some extent. Yet, the psychological resilience levels of college students differ by whether they take systematic psychology education, but the differences are not statistically significant. Future studies may collect more data to discover the influential factors for students' psychological resilience and academic burnout.

**Keywords:** Psychological resilience, Academic burnout, Psychology majors, College students

## **1. Introduction**

### **1.1. Research Background**

With the development of technology, higher demands are placed on college students. The spread of higher education has also increased the burden of them. Today's college students face great pressure and challenges. However, college students lack motivation to study, and truancy and absenteeism are common among college students. Therefore, it is evident that academic burnout is presently the norm among the college population. Recently, brittle college students have become a buzzword in public attention, which refers to college students who are psychologically vulnerable to external harm and easily develop negative emotions and behaviors after being harmed. Nowadays, college students are experiencing depression, anxiety and even self-injury and suicide with increased frequency. It appears that the psychological resilience of college students is slowly diminishing. Does psychological

resilience really affect academic burnout in college students? Does this effect differ between psychology and non-psychology college students? Do college students who have systematically taken a psychology course differ in their level of psychological resilience from their peers who have not taken the course? Does the systematic study of psychology courses affect individual levels of academic burnout? In order to answer the above questions, this study will be quantitatively analyzed by means of a questionnaire.

## **1.2. Literature Review**

### **1.2.1. Psychological Resilience and Academic Burnout**

The study of psychological resilience first began in the United States with a focus on its influential factors [1]. A variety of factors can affect an individual's psychological resilience such as genetics, family background, exceptional events in life, individual planning capacity, cognitive-emotional processing of experiences and so on [2]. According to research, depressing states of mind can have a negative impact on individuals. Psychological resilience can be effective in relieving depressing states of mind [2].

In the field of psychology, psychological resilience has a variety of meanings. Scholars do not have a standardized and consistent definition of psychological resilience [3]. Psychological resilience can be described in general terms. For instance, psychological resilience is defined as an individual's ability of self-coping to deal with negative states after a crisis such as stress or adversity [4].

Similarly, there is also no precise and unique definition of academic burnout in the psychology field. International scholars' understanding of academic burnout mostly cites Freuberger and Maslach's evolution of the definition of burnout. For example, academic burnout is a student's falling into a negative state in his or her academics [5].

In recent years, the psychological resilience level of Chinese college students as a whole has been decreasing year by year. The decline in psychological resilience may be related to many factors such as the context of the times, major global events, and the realistic environment [6]. Meanwhile, the level of college students' academic burnout continues to increase in the context of a decline in college students' psychological resilience. The high level of academic burnout seriously interferes with the campus life of college students. Academic burnout even threatens the mental health of students [7]. Studies conducted abroad have shown that academic burnout significantly predicts occupational burnout. Academic burnout can be effectively intervened as early as possible at the university level. The alleviation of academic burnout can prevent burnout to a certain degree. Research on academic burnout is of great importance to the future development of college students [8].

Psychological capital is the psychological capacity of an individual. Four factors comprise psychological capital: self-efficacy, hope, optimism, and psychological resilience [9]. Psychological structure indirectly affects academic success via academic adjustment. Psychological capital positively predicts academic success i.e., GPA in college students [10]. Research on the impact of mental health on academic burnout has shown that increasing mental health levels predict a decrease in academic burnout. Individuals' rational interpretations of mental health can reduce burnout levels [11].

### **1.2.2. Psychology and Non-Psychology College Students**

Psychological resilience is one of the components of psychological capital. In educational psychology, academic burnout has received much attention. Whether having systematically studied professional psychology has a variable effect on college students as if psychology majors and non-psychology majors perform differently in the same psychological traits are receiving increasing attention.

Previous studies have shown that psychology students are highly motivated to achieve, and also have a strong desire to succeed. The achievement motivation of female students in psychology is generally higher than male students. Meanwhile, achievement motivation is higher among urban students than rural students [12].

Female college students majoring in psychology who use mature defense mechanisms to cope with difficult situations. However, no negative effects were found in the use of defense mechanisms by psychology majors in the context of poor family upbringing. Poor parenting styles significantly and negatively affect non-psychology students. Most non-psychology majors use immature defense strategies. Systematic study of psychology majors can assist college students in improving their self-defense model. Psychological knowledge teaches college students to reduce the use of immature defense strategies [13].

Psychology majors had lower levels of fear of negative evaluations and social appearance anxiety than non-psychology majors. Psychology majors are not as likely to fall into panic and anxiety when they receive external evaluations [14].

It can be shown that there is a definite difference in the performance of psychology majors and non-psychology majors on four psychological factors: achievement motivation, defense mechanisms, fear of negative evaluation and anxiety about social appearance.

### 1.3. Research Topics

Through reading, understanding and reflecting on the professional literature, this study proposes the following hypotheses:

H1. The level of psychological resilience of college students negatively affects college students' academic burnout.

H2. The level of psychological resilience of college students can predict college students' academic burnout.

H3. Psychological resilience levels vary across gender and grade levels.

H4. There is a significant difference in psychological resilience levels between psychology and non-psychology majors.

Therefore, this study intends to analyze the relationship between the level of psychological resilience and academic burnout among college students, compare the differences in the level of psychological resilience between psychology majors and non-psychology majors, and examine the differences in the level of psychological resilience, among college students of different grades and genders.

## 2. Research Methods

### 2.1. Formal Investigation

The snowball sampling method was used to distribute questionnaires to 216 college students from two universities in Guangzhou City for a formal survey, and 154 valid questionnaires were recovered, with an effective recovery rate of 71.30%. Of these, 43 (27.9 per cent) were male and 111 (72.1 per cent) were female by gender. By major 56 (36.36%) were psychology majors and 98 (63.64%) were non-psychology majors. By year, 31 (20.13 per cent) were freshmen, 52 (33.77 per cent) were sophomores, 50 (32.47 per cent) were juniors, and 21 (13.63 per cent) were seniors.

## 2.2. Scale Description

### 2.2.1. Academic Burnout Scale

The Study Burnout Scale for College Students was used, developed by Lian Rong et al [15]. It consists of 20 questions (8 of which were reverse questions), with the sample question: 'I rarely study after class'. Utilizing a 5-point Richter scale, 1 signified 'not at all' and 5 denoted 'completely', where elevated scores were indicative of increased burnout. The categorization was based on three elements: diminished mood, unsuitable conduct, and a diminished feeling of accomplishment. In this study, the overall Cronbach alpha coefficient was 0.894, which can be used for formal investigations.

### 2.2.2. Psychological Resilience Scale

The Chinese version of the Psychological Resilience Scale was adopted, translated and revised by Xiao Nan and Zhang Jianxin [16]. It contains 25 questions, with a sample question: 'I can adapt to changes.' A 5-point Richter scale was adopted, with 1 meaning 'never' and 5 meaning 'always', with higher scores indicating higher levels of mental toughness. Three factors were included: resilience, self-reliance, and optimism. In this study, the overall Cronbach alpha coefficient was 0.94.

## 2.3. Data Collection

In this study, online questionnaires were distributed through the Questionnaire Star platform. The questionnaire was filled out using an anonymous method. All respondents followed the principle of voluntary completion. The overall Cronbach alpha coefficient of the whole questionnaire was 0.734. The respondents completed the questionnaires and all of them were returned. After the questionnaires were returned, the valid data were selected and analyzed.

## 2.4. Data Analysis

In this study, SPSS 26.0 was utilized to analyze the organized data as follows:

In Step 1, demographic variables were analyzed using descriptive statistics. Step 2, correlation analysis was conducted to investigate whether there is a correlation between psychological resilience and academic burnout in the overall sample. Step 3, regression analysis was utilized to explore whether psychological resilience had a significant effect on academic burnout in the overall sample. Step 4, mean psychological resilience levels of college students were counted and compared under the demographic variables of gender, grade, and major. In Step 5, an independent samples t-test was used to analyze whether there was a significant difference in the level of psychological resilience between psychology and non-psychology undergraduates.

## 3. Results

### 3.1. General Analysis of Demographics

Table 1: Descriptive statistics of subjects

Variable	Category	Number of persons	Percentage (%)
Gender	Male	43	27.9
	Female	111	72.1
Grade level	Freshman year	31	20.1
	Sophomore	52	33.8
	Third year	50	32.5

Table 1: (continued).

	Senior	21	13.6
Major	Psychology	56	36.4
	Non-psychological	98	63.6
Main upbringing	Urban	80	51.9
	Rural	74	48.1

The demographic variables of the respondents in this study were four dimensions: gender, grade level, major, and main upbringing. The number of people in each dimension, and the proportion of the number of people in a single dimension to the overall sample, are shown in Table 1.

### 3.2. Correlation Analysis Between Psychological Resilience and Academic Burnout

Table 2: Correlation analysis of academic burnout, psychological resilience and its dimensions

	Academic burnout	Downcast	Low sense of achievement	Misconduct
Psychological resilience	-0.543**	-0.250**	-0.676**	-0.487**
Resilience	-0.531**	-0.276**	-0.665**	-0.437**
Strength	-0.406**	-0.107	-0.561**	-0.418**
Optimism	-0.511**	-0.263**	-0.541**	-0.493**

Note: \*\* $p < 0.01$ .

According to the correlation analysis in Table 2, the psychological resilience of college students is significantly negatively correlated with academic burnout ( $r = -0.543$ ,  $p < 0.01$ ). Psychological resilience of college students showed a significant negative correlation ( $r = -0.250$ ,  $p < 0.01$ ) ( $r = -0.676$ ,  $p < 0.01$ ) ( $r = -0.487$ ,  $p < 0.01$ ) with all three dimensions of academic burnout, downcast, low sense of achievement, and misconduct. College students' academic burnout was significantly and negatively correlated with all three dimensions of psychological resilience, resilience, strength, and optimism ( $r = -0.531$ ,  $p < 0.01$ ) ( $r = -0.406$ ,  $p < 0.01$ ) ( $r = -0.511$ ,  $p < 0.01$ ). The above is the conclusion of this study 1. The conclusion 1 of this study completely tests the H1 hypothesis.

### 3.3. Regression Analysis of Psychological Resilience and Academic Burnout

The data from the regression analysis are presented in Table 3: Psychological resilience of college students negatively affects academic burnout ( $\beta = -0.54$ ,  $t = -7.97$ ,  $p < 0.001$ ), which is statistically significant. With  $\Delta R^2 = 0.29$ , 29% of the variance in academic burnout can be explained by psychological resilience. This study leads to Conclusion 2: Psychological resilience of college students negatively predicts academic burnout to a certain extent, but it is not a strong predictive factor. This may be because there are diverse causes of academic burnout among college students, and psychological resilience is only one of them. Conclusion 2 of this study is consistent with hypothesis H2.

Table 3: Results of progressive analysis of psychological resilience on academic burnout

Variable	Categories	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
	1=male	43	87.49	13.25	0.920	0.637
	2=female	111	85.25	13.64		

Table 3: (continued).

Psychological resilience						
$R^2$	0.29					
$\Delta R^2$	0.29					
$F$	63.444***					

Note: B, unstandardized regression coefficient;  $\beta$ , standardized regression coefficient; \*\*\*,  $p < 0.001$ .

### 3.4. Comparison of the Mean Psychological Resilience of College Students by Demographics under Three Variables: Gender, Grade, and Major

Table 4: Comparison of mean values of psychological resilience and academic burnout among college students under gender, grade, and major variables

Variables		Number of people	Mean of psychological resilience	Mean of academic burnout
			M+SD	M+SD
Gender	Male	43	87.49±13.25	57.74±9.80
	Female	111	84.71±13.52	57.53±9.05
Grades	Freshman year	31	85.87±14.57	58.90±10.17
	Sophomore	52	83.71±12.05	59.48±8.42
	Third year	50	85.42±13.35	55.94±9.81
	Senior	21	92.33±14.74	54.19±9.08
Majors	Psychology	56	87.95±13.19	56.30±8.69
	Non-psychological	98	84.69±13.64	58.17±9.86

Table 4 compares the mean values of psychological resilience and academic burnout on gender, grade, and major of college students. The average measure of psychological resilience stands at 87.49 for male students and 85.25 for female students. On average, male students exhibit greater psychological resilience compared to female students. This may be related to the difference in traditional social perceptions of what is required of males and females. In terms of grade demographic variables, sophomores had the lowest mean psychological resilience and the highest mean academic burnout. Academic stress is higher among sophomores. Sophomores are more likely to hold positions and be involved in organizations such as student unions. The richer college life of sophomores requires individuals to be better able to allocate their time. All the above reasons may lead to a lower mean value of psychological resilience for sophomores. Senior students had the highest mean value of psychological resilience and the lowest mean value of academic burnout. The reason may be: senior students are more mature in age and mental development. Senior students need social practice and participate in learning in more diverse ways. The data of students of different grades laterally reflect that the psychological resilience of college students is negatively correlated with academic burnout. Through the above analyses, this study draws Conclusion 3: Psychological resilience levels do vary among college students of different genders and grades. Conclusion 3 argues for hypothesis H3 of this study.



### 3.5. Test of Significant Differences in Psychological Resilience of College Students on Psychology and Non-Psychology Majors

On the demographic variable of being a psychology major or not, there was a relatively large difference in psychological resilience between psychology majors ( $87.95 \pm 13.19$ ) and non-psychology majors ( $84.69 \pm 13.64$ ). Psychology majors had more academic burnout ( $56.30 \pm 8.69$ ) than non-psychology majors ( $58.17 \pm 9.86$ ). It can be seen from the psychological resilience mean that psychology majors performed better. This study was conducted to test hypothesis H4. The study utilized an independent samples t-test to further verify whether there was a significant difference in the level of psychological resilience between psychology and non-psychology colleges students.

Table 5: Test of difference between psychological and non-psychological psychological resilience among college students

Variables	Categories	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Psychological resilience	1=psychology	56	87.95	13.19	1.44	0.66
	2=non-psychology	98	84.69	13.64		

Based on the results of the independent samples t-test in Table 5, this study draws Conclusion 4: The level of psychological resilience of university students does not differ significantly ( $p > 0.05$ ) in terms of specialization. Conclusion 4 is not consistent with the H4 hypothesis of this study.

T-tests showed that there was no significant difference in the mean psychological resilience of college students in terms of whether they were psychology majors. The reasons may be: First, the limited sample capacity of this study leads to the present conclusions may not be of general significance. Second, the factors affecting the psychological resilience of college students are diversified, and the influence of a single factor is limited. Finally, the geographic convergence of the study sample may also be a reason.

## 4. Discussion

Differences between the conclusions of this study and those of previous studies.

Difference 1. The psychological resilience of junior and senior students in this study gradually increased with grade level, which is different from previous studies in which the psychological resilience of college students decreased with grade level [17]. On the one hand, it may be that the sample size of senior students in this study is limited. On the other hand, it may be due to the geographical difference between this study and the above-documented studies.

Difference 2. Under this study, the strength of psychological resilience was not significantly correlated with academic burnout's low mood, and all other dimensions were significantly negatively correlated. In previous scholarly studies, psychological resilience overall and all three dimensions were not significantly correlated with the depressed mood factor [18]. This may be due to the limited capacity of the sample of the current study. It may also be because of the significant regional centralization of the sample in the current study. In addition to this, it may also be related to the fact that the demographic variables in the current study were different from previous studies.

## 5. Conclusion

This study conducted a questionnaire survey on psychological resilience and academic burnout among 154 college students from two colleges in Guangzhou City, Guangdong Province, China. Based on the above data analysis, this study concluded that if Chinese colleges can effectively improve the level of psychological resilience of college students, it should be able to significantly

relieve college students' academic burnout. Chinese colleges and universities should focus on the physical and mental health of sophomores and do a good job of psychological counselling and other related work in a timely manner. It may be helpful for sophomore students to discuss their studies or participate in activities with their fellow sophomores. Learning psychology may have a positive effect on psychological resilience, but this needs to be further verified by scholars.

### Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

### References

- [1] Xi, J., & Sang, B. (2002) *A review of resilience research*. *Journal of Health Psychology*, 10(4), 3.
- [2] Yu, X., & Zhang, J. (2005) *Resilience - a psychological mechanism for resilience and growth under stress*. *Advances in Psychological Science*, 13(5), 658-665.
- [3] Friedland, N. (2005) *Introduction – The 'elusive' concept of social resilience*. In N. Friedland, A. Arian, A. Kirschnbaum, A. Karin, & N. Fleischer (Eds.), *The Concept of Social Resilience* (pp. 7–10). Haifa: The Technion. Samuel Neaman Institute.
- [4] Liu, W., Wang, H., Li, M., & Huang, L. (2017) *Review and prospect of domestic and international research on psychological resilience*. *Journal of Ningbo University (Education Science Edition)*, (01), 18-23.
- [5] Schaufeli, W. B., Martínez, I. M., Pinto, A. M., Salanova, M., & Bakker, A. B. (2002) *Burnout and engagement in university students: A cross-national study*. *Journal of Cross-Cultural Psychology*, 33(5), 464-481.
- [6] Shi, L., Jiao, J., & Mu, D. (2023) *A cross-sectional historical study on the variation of mental toughness levels among Chinese college students*. *Chinese Journal of Mental Health*, (10), 894-898.
- [7] Yu, X., Yue, Y., Zhao, Y., & Xin, S. (2020) *A cross-sectional historical study on the variation of study burnout among Chinese college students*. *Psychological Technology and Applications*, (02), 74-83.
- [8] Robins, T. G., Roberts, R. M., & Sarris, A. (2018) *The role of student burnout in predicting future burnout: Exploring the transition from university to the workplace*. *Higher Education Research & Development*, 37(1), 115-130. <https://doi.org/10.1080/07294360.2017.1344827>
- [9] Nolzen, N. (2018) *The concept of psychological capital: A comprehensive review*. *Management Review Quarterly*, 68(3), 237-277.
- [10] Raza, S. A., Qazi, W., & Yousufi, S. Q. (2021) *The influence of psychological, motivational, and behavioral factors on university students' achievements: The mediating effect of academic adjustment*. *Journal of Applied Research in Higher Education*, 13(3), 849-870.
- [11] Rehman, A. U., Bhutta, T. M., & You, X. (2020) *Linking burnout to psychological well-being: The mediating role of social support and learning motivation*. *Psychology Research and Behavior Management*, 545-554.
- [12] Xing, F. (2015) *Exploration of achievement motivation of college students - Taking psychology major as an example*. *Journal of Jilin College of Education (Mid)*, (07), 54-56.
- [13] Wang, Z., & Huang, X. (2009) *A study on the differences in defense styles between psychological and non-psychological female college students*. *Journal of Capital Normal University (Social Science Edition)*, (S4), 209-215.
- [14] Zhang, Z., & Wang, X. (2023) *A study of social appearance anxiety differences between psychology and non-psychology college students: The mediating role of fear of negative evaluations*. *Campus Psychology*, (06), 449-452.
- [15] Meng, F. (2015). *The influence of parental rearing style on mental toughness of college students*. Master's Degree (Dissertation, Jilin University).
- [16] Cheng, W. (2016). *Research on the relationship between psychological capital, professional identity and academic burnout of college students*. Master's Degree (Dissertation, Northeast Normal University).
- [17] Wang, X., & Zhang, H. (2023) *The current situation of college students' psychological resilience and their intervention strategies - A case study of Taishan College of Teacher Education*. *Journal of Taishan College*, (03), 118-124.
- [18] Wang, F., Ye, B., & Tang, Y. (2015) *A study on the correlation between psychological resilience and academic burnout among college students*. *Journal of Nanchang College of Education*, (03), 52-54.