

Research on the Relationship between Psychological Capital, Learning Motivation and Academic Burnout among Impoverished College Students in Chinese Higher Vocational Colleges

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Keywords: Psychological Capital, Learning Motivation, Academic Burnout, Impoverished College Students

Abstract: This study investigated academic burnout among 2704 college students, including 1009 impoverished college students, in Chinese higher vocational colleges using a random sampling method. Utilizing psychological capital questionnaire, learning motivation scale, and academic burnout questionnaire, the research explored the interplay between psychological capital, learning motivation, and academic burnout. Findings indicated moderate levels of psychological capital, learning motivation, and academic burnout among impoverished college students in vocational colleges. Strong positive correlations were observed between the overall level and dimensions of learning motivation and psychological capital, indicating high consistency. A significant negative correlation was found between psychological capital and academic burnout, indicating a significant predictive effect. Overall, learning motivation and its dimensions exhibited significant negative correlations with academic burnout, particularly at the organizational level and dimensions.

1. Introduction

Currently, academic burnout prevails among impoverished college students in Chinese higher vocational colleges and universities, marked by diminished enthusiasm, waning interest, and reduced sense of achievement in learning. [1] Manifestations include absenteeism, exam cheating, and excessive engagement in online entertainment, leading to a loss of learning goals and motivation among a significant portion of students. Even many students show cognitive deficiencies and psychological problems, specifically manifested as sensitivity, low self-esteem, isolation, pessimism, negativity and other negative emotions, which in turn affects the learning life, interpersonal communication and ability to improve. Recent years have witnessed numerous extreme incidents in colleges and universities stemming from psychological issues among impoverished college students, prompting significant concern within academic and societal spheres. While colleges and universities provide financial aid to impoverished students through scholarships,

loans, fee waivers, grants, work-study programs, and social subsidies, psychological poverty among these students is frequently overlooked. Therefore, it is of great significance to help impoverished college students in higher vocational colleges to improve their own capital, enhance their learning motivation, and reduce academic burnout.

In this study, psychological capital, learning motivation and academic burnout questionnaire were used as tools, with learning motivation as the independent variable, academic burnout as the dependent variable, and psychological capital as the mediating variable, and demographic variables such as gender, place of origin, grade level, and poverty level were also added. Randomly selected impoverished college students from a higher vocational college in Anhui Province as the study population. Descriptive statistics, analysis of variance (ANOVA), regression analysis and other methods and software (SPSS) were used to analyze the data, to explore the relationship between psychological capital, learning motivation and academic burnout among impoverished college students of China's higher vocational colleges and universities, to further understand the psychological and learning status of impoverished college students and their influencing factors, to deeply explore the real needs and challenges of impoverished college students of higher vocational colleges and universities in the areas of academics, life and psychology, to understand the psychological and economic difficulties faced by impoverished college students, provide them with more effective help and support, and propose targeted solutions.

2. Participants

The study randomly sampled 2730 students from higher vocational colleges and universities for the questionnaire survey. After excluding biased or incomplete responses, 2704 valid questionnaires were retained, yielding a validity rate of 99.05%. Of these, 1695 were ordinary college students, comprising 719 males and 976 females, while 1009 were impoverished college students, with 437 males and 572 females.

3. Methods

Psychological Capital Scale: The Psychological Capital Scale, revised by scholar Song Hongfeng, was chosen for the research [2]. The scale consists of 24 items organized into four dimensions: self-efficacy, optimism, hope, and resilience. Respondents utilize a 5-point scoring system, and the internal consistency reliability coefficient of this scale is reported as 0.844.

Learning Motivation Scale: The Learning Motivation Scale, revised by scholars Chi Liping and Xin Ziqiang, was chosen for the research [3]. This scale comprises 30 items and is divided into two sub-scales: intrinsic motivation and extrinsic motivation. A 4-point scoring system is employed, and the internal consistency reliability coefficient is reported as 0.75.

Academic Burnout Questionnaire: The Academic Burnout Questionnaire, revised by scholars Lian Rong and Yang Lixian, was chosen for the research [4]. This questionnaire consists of 20 items organized into three dimensions: emotional exhaustion, inappropriate behavior, and low sense of achievement. A 5-point scoring system is used, and the internal consistency reliability coefficient is reported as 0.833.

4. Statistical Analysis

SPSS 26.0 was used for descriptive statistics, one-sample t-tests, correlation analysis, and mediation effect analysis of the data.

5. Results

5.1 Current State of Academic Burnout among Impoverished College Students in Vocational Institutions

As shown in table 1, the average value of low mood of ordinary respondents is 21.08, the average value of misbehavior is 17.27, the average value of low achievement is 17, and the average value of total academic burnout is 55.35; the average value of low mood of poor respondents is 20.81, the average value of misbehavior is 16.66, the average value of low achievement is 16.21, and the average value of total academic burnout is 53.68.

Table 1: Respondents Academic Burnout (n = 2704)

	Poverty	N	Mean	Std. Deviation	Std. Error Mean
Low mood	N	1695	21.08	5.696	0.138
	Y	1009	20.81	6.061	0.191
Inappropriate behavior	N	1695	17.27	3.995	0.097
	Y	1009	16.66	3.862	0.122
Low achievement	N	1695	17	3.646	0.089
	Y	1009	16.21	3.752	0.118
Total Academic Burnout	N	1695	55.35	11.336	0.275
	Y	1009	53.68	11.222	0.353

Legend: Subscale scores: 7 – 14 (low), 15 – 21 (moderate), 22 – 28 (high)

Total score: 20 – 40 (Low), 41 – 60 (moderate), 61 – 80 (High)

Table 2: Independent Samples Test (n = 2704)

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Low mood	Equal variances assumed	5.334	0.021	1.173	2702	0.241	0.272	0.232	-0.183	0.727
	Equal variances not assumed	-	-	1.155	2015.042	0.248	0.272	0.236	-0.19	0.735
Inappropriate behavior	Equal variances assumed	2.128	0.145	3.89	2702	0.000	0.61	0.157	0.303	0.918
	Equal variances not assumed	-	-	3.924	2175.574	0.000	0.61	0.156	0.305	0.915
Low achievement	Equal variances assumed	1.074	0.3	5.375	2702	0.000	0.788	0.147	0.5	1.075
	Equal variances not assumed	-	-	5.336	2070.713	0.000	0.788	0.148	0.498	1.077
Total Academic Burnout	Equal variances assumed	0	0.99	3.72	2702	0.000	1.67	0.449	0.79	2.551
	Equal variances not assumed	-	-	3.729	2135.612	0.000	1.67	0.448	0.792	2.549

As shown in table 2, descriptive statistics and independent one-sample t-tests were employed to assess the prevalence of academic burnout among impoverished college students. Findings revealed

a negative correlation between family poverty and academic burnout. Impoverished college students exhibited high levels of low mood, misbehavior, and low achievement, correlating with elevated overall academic burnout. Significant disparities were observed between impoverished college students and their peers in terms of misbehavior, low achievement, and overall academic burnout. These findings suggest that impoverished college students exhibit greater resilience in managing academic stress compared to their counterparts, demonstrating enhanced monitoring and regulation of academic behaviors and emotions amidst challenges.

5.2 Demographic Factors and Academic Burnout

As shown in table 3, the results of the study show the comparison of academic burnout among respondents grouped by personal information. In terms of emotional fatigue, the p-value for gender is 0.000, indicating a significant difference among male and female participants in emotional fatigue. This difference may be attributed to various factors such as physiological, psychological, and societal roles. The p-value for grade level is 0.201, suggesting that students from different grades do not exhibit significant differences in emotional fatigue. This could be attributed to students residing and studying in the same campus environment, experiencing similar events and pressures. The p-value for residence location is 0.671, indicating no significant differences in emotional fatigue amid students from different residence locations. This suggests that residence location is not the sole factor affecting emotional fatigue. Family poverty status yielded a non-significant p-value of 0.686, indicating no significant variance in emotional fatigue among students from varying economic backgrounds. This suggests that family economic conditions are not the sole factors influencing emotional fatigue.

Regarding inappropriate behavior, the p-value for gender is 0.000, indicating a significant difference among male and female participants in behavior. This discrepancy may stem from variations in physiological, psychological, and societal roles between male and female participants. The p-value for grade level is 0.035, suggesting that students from different grades exhibit significant differences in behavior. This could be attributed to the gradual development of behavioral habits and styles as students age and accumulate experience. The p-value for residence location is 0.203, indicating no significant differences in behavior amid students from different residence locations. This suggests that residence location is not the sole factor influencing behavior. Family poverty status yielded a non-significant p-value of 0.526, suggesting no significant variance in behavior among students from varying economic backgrounds. This suggests that family economic conditions are not the sole factors influencing behavior.

In terms of sense of achievement, the p-value for gender is 0.004, indicating a significant difference among male and female participants in this aspect. This difference may be attributed to variations in learning methods and thinking styles among male and female participants. Grade level yielded a significant p-value of 0.031, indicating discernible differences in sense of achievement across different grades. This could be attributed to the escalating difficulty of subjects and learning requirements as grade level increases. Residence location yielded a non-significant p-value of 0.908, suggesting no discernible differences in sense of achievement across locations. This suggests that residence location is not the sole factor influencing sense of achievement. Family poverty status yielded a non-significant p-value of 0.176, suggesting no significant variance in sense of achievement among students from varying economic backgrounds. This suggests that family economic conditions are not the sole factors influencing sense of achievement.

In terms of academic burnout, the p-value for gender is 0.000, indicating a significant difference among male and female participants in academic burnout. This difference may be attributed to variations in learning attitude, learning pressure, and learning environment among male and female

participants. The p-value for grade level is 0.028, suggesting that students from different grades exhibit significant differences in academic burnout. This might be due to as grade level increases, the pressure and tasks of learning also increase. The p-values for residence location and family poverty status are both greater than 0.05, indicating no significant differences in these factors.

Table 3: Differences on the Respondents Academic Burnout when Compared According to Profile (n = 1009)

	Low Mood			Inappropriate behavior			Low achievement			Total Academic Burnout		
	t/F	p-value	Int.	t/F	p-value	Int.	t/F	p-value	Int.	t/F	p-value	Int.
Sex	-1.933	0.000	S	-3.261	0.000	S	-6.244	0.004	S	-4.244	0.000	S
Grade	1.606	0.201	NS	3.362	0.035	S	3.492	0.031	S	3.605	0.028	S
Residence	0.529	0.671	NS	1.307	0.203	NS	1.13	0.908	NS	1.114	0.413	NS
Family poverty status	0.377	0.686	NS	0.643	0.526	NS	1.74	0.176	NS	1.088	0.337	NS

5.3 Correlation among Academic Burnout, Learning Motivation, and Psychological Capital among Impoverished College Students

As shown in table 4, correlation analysis examined the relationships between psychological capital, learning motivation, and academic burnout among impoverished college students. Significant positive correlation was found between psychological capital and learning motivation ($r = .449$, $p < .001$), suggesting that higher psychological capital corresponds to elevated levels of learning motivation. Psychological capital includes positive psychological states like confidence, hope, optimism, and resilience, motivating individuals to confront challenges positively and pursue personal goals, thereby boosting learning motivation.

Additionally, a significant negative correlation exists between psychological capital and academic burnout ($r = -.633$, $p < .001$), suggesting that higher psychological capital associates with reduced academic burnout. Academic burnout encompasses physical and mental exhaustion, negative emotions, and inappropriate behaviors exhibited by individuals under academic pressure and demands. Individuals with higher psychological capital are better equipped to cope with these pressures and challenges, resulting in reduced levels of academic burnout.

Additionally, there is a significant negative correlation between learning motivation and academic burnout ($r = -.193$, $p < .001$), indicating that individuals with higher levels of learning motivation tend to experience lower levels of academic burnout. Learning motivation reflects an individual's inherent drive to pursue goals. Individuals with high motivation are more willing to invest effort in completing tasks and proactively address challenges, leading to reduced levels of academic burnout.

In summary, these data imply that psychological capital exerts a beneficial impact on individuals' learning motivation, with individuals possessing higher psychological capital exhibiting greater drive to pursue goals and face challenges. Moreover, psychological capital serves as a protective factor against academic burnout, empowering individuals to cope better with academic pressure and demands, thereby mitigating feelings of exhaustion and negative emotions. Additionally, learning motivation acts as a protective factor against academic burnout, as highly motivated individuals demonstrate greater willingness to invest effort in tasks and proactively confront challenges, leading to decreased academic burnout.

These findings demonstrate that there are complex relationships between psychological capital, learning motivation, and academic burnout. They mutually influence and collectively shape individuals' mental well-being and academic performance. By cultivating individuals' psychological capital and motivation, and providing appropriate support and resources to alleviate academic

burnout, overall development and success can be promoted. However, it is important to note that factors influencing psychological capital, learning motivation, and academic burnout may vary. Psychological capital may be influenced by personal characteristics such as personality traits, self-esteem, and past experiences. Furthermore, external factors such as social support, work environment, and organizational culture may impact psychological capital. Learning motivation can be impacted by diverse elements, encompassing personal objectives, principles, preferences, internal and external incentives, and the perceived significance of tasks or objectives. It is also susceptible to external influences such as societal demands, expectations, and the availability of resources and support. Academic burnout may be influenced by factors such as academic pressure, time constraints, lack of control or autonomy, inadequate social support, perfectionism, and unrealistic expectations. Additionally, individual factors such as coping strategies, self-regulation skills, and resilience can also impact academic burnout.

Table 4: Correlation Matrix of the Variables of the Study (n = 1009)

	Psychological Capital			Overall Motivation			Academic Burnout		
	r	p-value	Int.	r	p-value	Int.	r	p-value	Int.
Psychological Capital	-	-	-	.449	.000	S	-.633	.000	S
Overall Motivation	.449	.000	S	-	-	-	-.193	.000	S
Academic Burnout	-.633	.000	S	-.193	.000	S	-	-	-

Legend: Relationship is significant at 0.05 alpha level. S – Significant, NS – Not Significant.

5.4 Mediating Role of Psychological Capital in the Relationship between Learning Motivation and Academic Burnout among Impoverished College Students

As shown in table 5, regression analysis was utilized to investigate the mediating role of psychological capital in the association between learning motivation and academic burnout. Firstly, a regression analysis was performed using the overall level of learning motivation as the independent variable. Subsequently, another regression analysis was conducted, with psychological capital as the dependent variable and learning motivation as the independent variable. Lastly, a final regression analysis was conducted, with academic burnout as the dependent variable and learning motivation and psychological capital as independent variables.

The results indicate that the regression coefficients in the first step regression equation ($t=-6.249$, $p<0.001$), the second step regression equation ($t=15.966$, $p<0.001$), and the regression coefficient of the mediating variable in the third step regression equation ($t=4.218$, $p<0.001$) were all statistically significant, confirming the presence of a mediating effect. Upon including psychological capital, the regression coefficient of learning motivation on academic burnout remains statistically significant. This suggests a meaningful regression coefficient, indicating a partial mediating effect, implying that the influence of learning motivation on academic burnout among impoverished college students is partially mediated by psychological capital.

Table 5: The mediating role of psychological capital between motivation and academic (burnoutn = 1009)

Independent Variable	Dependent Variable	R	R ²	F	β	T
Academic Burnout	Motivation	0.193 ^a	0.037	39.05**	-0.193	-6.249**
Psychological Capital	Motivation	0.449 ^a	0.202	254.919**	0.449	15.966**
Academic Burnout	Motivation Psychological Capital	0.641 ^a	0.411	350.706**	0.114 -0.684	4.218** -25.252**

6. Conclusion

6.1 Basic Situation of Academic Burnout among Impoverished College Students

The academic burnout of impoverished college students, along with its various dimensions, is generally at a moderate level, with a predominant manifestation of emotional exhaustion. This aligns with previous research findings, although there are slight variations in the scoring order of the three dimensions. For instance, in a study by Zhang Wei (2022) on 800 rural students from three vocational colleges in Henan Province, the overall level of academic burnout and its dimensions were reported to be slightly above the moderate level. [5] Zhang Wei (2023) discovered that 55.5% of rural vocational students experienced a moderate or higher level of overall academic burnout, with proportions of 55.1%, 54.2%, and 57.6% for the three dimensions [6]. However, Wang Yuting (2019) found that although the overall level of academic burnout among financially challenged students is not high, the proportions of "moderate" (22.9%) and "severe" (1.4%) academic burnout are still noteworthy [7].

6.2 Relationships among Psychological Capital, Learning Motivation, and Academic Burnout among Impoverished College Students

Psychological capital significantly influences learning motivation positively ($r = 0.441$, $p < 0.001$). The overall level of learning motivation and its dimensions among impoverished college students in higher vocational colleges are highly positively correlated with both the overall level and dimensions of psychological capital ($\beta = 0.437$, $p < 0.001$). This suggests that students with strong learning motivation tend to possess higher levels of psychological capital, this is in agreement with Abdi Güngör et al [8]. The reverse is also true. That is, students with high levels of psychological capital also have high levels of learning motivation. This highlights the significant influence of psychological capital on the learning motivation of impoverished college students. Learning motivation and psychological capital are interconnected and mutually reinforcing. The self-efficacy of impoverished college students fosters confidence in overcoming challenges and achieving academic success, while hope serves to stimulate their intrinsic motivation, fostering a positive pursuit of academic goals [9]. Additionally, optimism and resilience equip these students to better navigate life's challenges and pressures, maintaining a positive outlook. Improving the psychological capital and learning motivation of impoverished college students in higher vocational education is an effective approach to enhancing learning outcomes and academic performance, thereby fostering the personal development of higher vocational students. Higher vocational impoverished students with higher psychological capital can better cope with the sense of inferiority and anxiety, positively face the challenges in learning and life, and thus inspire stronger learning motivation.

There is a significant negative correlation between psychological capital of impoverished college students and academic burnout, and there is a significant negative correlation between psychological capital of impoverished college students and academic burnout ($r = -0.622$, $p < 0.001$). Notably, all four dimensions of psychological capital—self-confidence, hope, optimism, and resilience—exhibited significant negative associations with the three dimensions of academic burnout. Additionally, psychological capital emerged as a significant predictor of academic burnout ($\beta = -0.243$, $p < 0.001$), suggesting that higher levels of psychological capital correspond to lower levels of academic burnout among impoverished college students. This result suggests that improving the psychological capital of impoverished college students can help reduce their academic burnout. This is because individuals with higher psychological capital exhibit enhanced coping abilities and a positive outlook, enabling them to effectively navigate life's challenges and

academic setbacks, thereby mitigating negative emotional experiences such as exhaustion, diminished sense of achievement, and interpersonal disconnection. Impoverished college students in higher vocational programs who possess higher levels of psychological capital demonstrate improved stress management skills, maintain positive attitudes toward learning, and experience reduced instances of academic burnout.

Furthermore, the overall level and dimensions of learning motivation among impoverished college students exhibited a significant negative correlation with academic burnout and its dimensions ($r=-0.232$, $p < 0.001$). Additionally, academic burnout, characterized by persistent negative psychological states associated with learning, was significantly predicted by learning motivation ($\beta = -0.193$, $p < 0.001$). Higher vocational impoverished college students with strong learning motivation can inspire impoverished college students' motivation and initiative, make them more focused and engaged in their studies, help impoverished college students better cope with academic pressure and difficulties, and enhance their self-regulation ability and learning perseverance. As a result, they can better overcome difficulties and setbacks, maintain their enthusiasm and commitment to their studies, and reduce the emergence of academic burnout.

Psychological capital significantly impacts both learning motivation and academic burnout, while learning motivation similarly exerts a significant influence on academic burnout. Learning motivation and psychological capital complement each other, mutually influencing one another; this is in line with the findings of scholars Abaid Ur Rehman et al [10]. Both learning motivation and psychological capital play a predictive role in academic burnout. Psychological capital serves as a partial mediator in the relationship between learning motivation and academic burnout [11]. As a positive psychological state, psychological capital enhances individuals' confidence and self-efficacy, thereby stimulating stronger learning motivation. Simultaneously, psychological capital reduces the level of academic burnout by influencing individuals' cognition, emotions, and behaviors.

7. Recommendations

Carry out theme activities: In this way, various forms of themed activities such as organizing psychological lectures and psychological expansion training can guide college students to establish a positive and upward attitude, and move towards personal growth and development.

Setting an example: Colleges and universities invite outstanding graduates and successful people to campus to give speeches or share experiences, students can draw strength from the example, and enhance the learning confidence of poor vocational students.

Emotional regulation: Through lectures, psychological counseling and other methods, colleges and universities help students understand the source and impact of stress, and teach methods of emotional regulation, so that students can effectively regulate their emotions [12].

Optimize the curriculum: Colleges understand the interests and needs of students, provide a variety of courses and teaching modes such as case analysis, group discussion, role play, case analysis, etc., encourage students to actively participate in the classroom, and enhance students' interest in professional knowledge.

Guided learning strategies: Colleges guide students to objectively analyze their own abilities and potentials, enable them to set goals and expectations that meet their actual needs, formulate reasonable learning plans and strategies, improve learning efficiency and ability, enhance self-efficacy, and thus enhance learning motivation [13].

Carry out extra-curricular activities: Colleges organize extra-curricular activities related to their major, such as production practice, social practice, vocational skills competition, etc., so that students can experience the fun of applying what they have learned.

Physical activity: physical activity also reduces academic burnout, and the more athletic participation there is, the less academic burnout college students experience [14].

Reward guidance: The state, local governments, and schools have established scholarships, motivational scholarships, scholarships, and other forms of academic rewards to recognize outstanding students and encourage them to achieve good academic results. However, we must pay attention to the guiding role of rewards, and through issuing certificates, medals, and other means, make students feel that their efforts and contributions are recognized and respected, and enhance their sense of honor. Various awards should be established for different fields and skills, such as science and technology innovation awards, social practice awards, etc., to encourage students to develop comprehensively.

Employment support: This can provide employment support for impoverished college students, including employment guidance, vocational training, internship opportunities, etc., to help them better adapt to society and improve their employment competitiveness [15].

Establish a good academic atmosphere: This can strengthen the construction of school culture and academic atmosphere, create a positive, healthy, and orderly learning atmosphere, and enable students to be subtly influenced in a good learning environment.

Cognitive-behavioral intervention: academic burnout intervention for college students through cognitive-behavioral interactive group therapy (CBIGT) is considered to be more effective [16].

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