THE RELATIONSHIP BETWEEN COLLEGE STUDENTS' LEARNING SELF-EFFICACY AND LEARNING ADAPTATION: A STUDY AT ZHENGZHOU SOFTWARE VOCATIONAL AND TECHNICAL COLLEGE, CHINA

Qiuzhen Sun [1*]

Yanan Yang [2]

[1] Master Candidate in Educational Administration, Stamford International University of Thailand

[2] Stamford International University of Thailand, yanan.yang@stamford.edu

[*] **Corresponding Author, E-mail**: 672510151@qq.com

Abstract: The aim of this study is to explore the relationship between college students' learning self-efficacy and school adaptation at Zhengzhou Software Vocational and Technical College, as well as to analyze the differences in self-efficacy and school adaptation under various demographic background variables. This research adopts a quantitative approach through a questionnaire survey, collecting data from students at the institution, with a total of 364 valid responses. The results indicated that students generally perceived a high level of learning self-efficacy and school adaptation. Significant differences are found in the influence of gender and major on both learning self-efficacy and school adaptation, while grade level and class leader status do not significantly affect these factors. A notable positive correlation exists between learning self-efficacy and school adaptation, particularly between the dimensions of creative, persuasive, and change-related self-efficacy and the academic and interpersonal adaptation dimensions of school adaptation. Finally, the study reflects on and discusses the findings, providing specific recommendations aimed at improving learning self-efficacy and school adaptation for students based on differences in grade level, gender, major, and class leader status.

Keywords: Self-efficacy, School Adaptation, College Students

Introduction

In recent international research, self-efficacy and campus adaptation have emerged as significant topics in education, especially in higher education. Studies consistently show a positive correlation between self-efficacy and academic adaptation, with students possessing higher self-efficacy demonstrating better academic performance, resilience to learning pressures, and a greater commitment to their studies (Chen et al., 2023). Campus adaptation, encompassing academic, emotional, and interpersonal dimensions, plays a crucial role in students' overall university experience,

influencing both their psychological well-being and academic success (Mohzana, 2024).

As international education becomes more diverse and globalized, cross-cultural challenges in academic, emotional, and interpersonal adaptation have drawn attention. Different cultural backgrounds affect students' adaptation to these aspects of university life, underlining the importance of understanding self-efficacy in diverse educational contexts (Pitner, Sakamoto, & Ma, 2020). In China, as higher education expands, concerns about students' psychological health and their ability to adapt to academic and social challenges have become more pronounced. Scholars highlight the influence of self-efficacy on students' emotional regulation, academic performance, and interpersonal relationships, with higher self-efficacy contributing to better campus adaptation and resilience to academic pressures (Yi Fang et al., 2017; Yuan, 2010).

In the context of Zhengzhou, where academic competition is intense, students face unique challenges in adapting to both the academic environment and social dynamics. Zhengzhou Software Vocational and Technical College, which focuses on cultivating technically skilled and innovative talent, emphasizes self-efficacy and campus adaptation. Understanding the relationship between these factors provides valuable insights for improving educational management and fostering student success in vocational education.

This study explores the relationship between academic self-efficacy and campus adaptation among students at Zhengzhou Software Vocational and Technical College. By analyzing these psychological variables and incorporating demographic factors, the research aims to enhance understanding of how self-efficacy impacts students' ability to adapt to their academic environment. The findings aim to inform the development of more effective student support systems, ultimately helping students improve their learning strategies and overall university experience.

Research Objectives

Based on the aforementioned research questions, the main objectives of this study are as follows:

(1) To understand the current status of academic self-efficacy among students at Zhengzhou Software Vocational and Technical College.

(2) To understand the current status of campus adaptation among students at Zhengzhou Software Vocational and Technical College.

(3) To investigate the differences in academic self-efficacy among students at Zhengzhou Software Vocational and Technical College based on different demographic background factors (such as gender, grade level, major, and class leader status).

(4) To investigate the differences in campus adaptation among students at Zhengzhou Software Vocational and Technical College based on different demographic background factors (such as gender, grade level, major, and class leader status).

(5)　　To analyze the relationship between academic self-efficacy and campus adaptation among students at Zhengzhou Software Vocational and Technical College.

Literature Review

Theoretical Foundation

Self-efficacy, a core concept of Bandura's social cognitive theory (1977), refers to an individual's confidence in their ability to complete tasks. Bandura identified four primary sources of self-efficacy: personal experience, vicarious experience, verbal persuasion, and emotional states (Bandura, 1986). Over time, this concept has been expanded to influence various domains, including education, where it is used to explain academic performance, learning motivation, and emotional regulation (Pajares, 2003). Self-efficacy has been shown to significantly impact academic adaptation, with higher self-efficacy leading to better management of academic stress and greater persistence in the face of challenges (Zimmerman, 2000). The theory underscores the importance of enhancing self-efficacy to support students' academic and social success, particularly in managing emotional regulation and coping with pressures (Schunk & DiBenedetto, 2020).

Research on Self-Efficacy

Self-efficacy is widely recognized as an individual's belief in their ability to accomplish specific tasks, and it has been applied across various fields. Bandura (1997) defined self-efficacy as an individual's belief in their ability to succeed in specific tasks, influencing behavior regulation and task choice. Recent studies have expanded on this, with scholars like Shorey and Lopez (2021) emphasizing the dynamic, contextual nature of self-efficacy, which can vary across different domains such as health and self-control. Ulfert-Blank and Schmidt (2022) introduced the concept of "Digital Self-Efficacy" (DSE), reflecting an individual's confidence in digital environments, including online learning.

Creative self-efficacy, persuasive self-efficacy, and change self-efficacy are dimensions that have recently gained attention. Creative self-efficacy is closely related to problem-solving and learning, particularly in fields such as mathematics (Bicer et al., 2020) and language learning (Waddington, 2023). Persuasive self-efficacy has been shown to affect decision-making and behavior in both educational and social contexts (Haro Soler, 2021). Change self-efficacy, essential for coping with change, has been linked to improved adaptability in various fields, such as nursing (Shorey & Lopez, 2021) and lifestyle changes (Warner & French, 2020).

Studies have also examined self-efficacy in specific contexts such as entrepreneurship (Yeh et al., 2021) and online learning (Getenet et al., 2024). Overall, these studies suggest that self-efficacy plays a key role in motivation, behavior regulation, and adaptability across various domains.

Research on Campus Adaptation

Campus adaptation is the ability to adjust to the academic, emotional, and social demands of the school environment. Scholars agree that campus adaptation is a multidimensional concept, including

academic, emotional, and interpersonal aspects. Allodi et al. (2021) highlighted that campus adaptation involves the relationship between well-being and the school environment, emphasizing emotional and behavioral adaptation. Wu et al. (2024) found that campus adaptation relates closely to psychological resilience and coping strategies, particularly under academic pressure. Sam et al. (2022) focused on immigrant adolescents, noting that campus adaptation also includes sociocultural adaptation, which is crucial for overcoming cultural and language barriers in cross-cultural environments. Academic adaptation is a key component of campus adaptation, involving the ability to cope with academic tasks and pressures, as well as the adjustment of learning strategies (Radzi et al., 2023). Emotional adaptation, on the other hand, refers to regulating emotions in response to stress and life changes, which significantly influences academic and social adaptation (Sezgin & Bilge, 2023). Interpersonal adaptation, as proposed by Rachmad (2022), focuses on adjusting communication and behavior in social interactions to foster effective relationships.

Research on the Relationship Between Self-Efficacy and Campus Adaptation

The relationship between self-efficacy and campus adaptation has been widely explored in educational psychology. Studies have shown that self-efficacy plays a critical role in academic performance, emotional regulation, and social adaptation. Bordás and Robres (2022) found that academic self-efficacy helps students cope with academic challenges and enhances psychological resilience. Wang et al. (2022) revealed that self-efficacy mediates academic procrastination through academic adaptation, emphasizing the role of confidence in student engagement and task completion. Lazarides and Warner (2020) found that teachers' self-efficacy positively impacts students' academic and emotional adaptation, underlining the importance of teacher support in facilitating student adaptation. Furthermore, Yavuzalp and Bahcivan (2020) highlighted the role of online learning self-efficacy in cross-cultural environments, showing that students' confidence in their ability to learn online helps them adapt to virtual learning contexts. Overall, enhancing self-efficacy is crucial for improving students' campus adaptation, helping them better navigate academic pressures, emotional challenges, and social interactions.

Methodology

The study targets university students from Zhengzhou Software Vocational and Technical College, with a total enrollment of 6,441 students. A sample of 364 students will be selected using the convenience sampling method (Krejcie & Morgan, 1970). The sample includes students from various genders, grade levels, majors, and student leadership roles, ensuring a diverse representation. The expected response rate for the survey is over 95%, which will guarantee the representativeness of the sample and data validity. Data will be collected using an online questionnaire survey via the platform "Wenjuanxing." Online surveys offer several advantages over traditional paper surveys, including fast response times, low costs, and the elimination of geographic limitations. Participants will complete the

questionnaires after receiving an explanation of the survey's purpose and requirements. The goal is to collect 364 valid responses. Invalid or duplicate responses will be screened and removed to ensure data quality. The data will be analyzed using SPSS 23.0. Descriptive statistics will provide an overview of the participants' demographic background, such as gender, grade level, major, and student leadership status. The analysis will utilize frequency and percentage methods. Descriptive analysis will also be conducted to assess the overall status of academic self-efficacy and campus adaptation, including the average levels and distribution of each dimension. To test the research hypotheses, t-tests and one-way ANOVA will be applied to examine how different background variables impact academic self-efficacy and campus adaptation. Pearson correlation analysis will explore the relationship between academic self-efficacy and campus adaptation, providing insight into their correlation and differences across various background variables.

The survey questionnaire is based on the "Self-Efficacy Scale" by Ng & Lucianetti (2015) and the "Campus Adaptation Scale" by Yang (2015). The questionnaire was adapted to include demographic questions specific to Zhengzhou Software Vocational and Technical College students. Both scales have been validated for reliability and construct validity, and therefore, a pilot test was not conducted. The questionnaire includes two sections: demographic background information and the scales for self-efficacy and campus adaptation, with all items rated using a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).The reliability of the scales was assessed using Cronbach's Alpha, with coefficients greater than 0.7 for all subdimensions of the self-efficacy and campus adaptation scales, indicating good internal consistency. Construct validity was evaluated through confirmatory factor analysis (CFA). The CFA results showed that both scales meet or exceed the required fit indices, suggesting good construct validity.

Results

Demographic Analysis of Questionnaire Participants

A total of 364 valid responses were collected from students at Zhengzhou Software Vocational and Technical College. The demographic analysis revealed a balanced gender distribution, with 48.9% male and 51.1% female participants. The grade level distribution was fairly even, with 37.9% first-year students, 28% second-year students, and 34.1% third-year students. Regarding leadership roles, 17% of respondents held leadership positions, while 83% were non-leaders. In terms of academic disciplines, 45.3% of students were from the humanities, 36.3% from engineering, 16.2% from science, and 2.2% from the arts. These findings indicate that the sample predominantly consisted of students from humanities and engineering disciplines, with a diverse representation across gender, grade levels, and leadership roles.

Descriptive Analysis of Self-Efficacy and School Adaptation

A statistical analysis of college students' learning self-efficacy and school adaptation at

Zhengzhou Software Vocational and Technical College, conducted using SPSS 23.0, revealed that self-efficacy was generally high (M = 3.57, SD = 0.790), with strong scores in creative self-efficacy (M = 3.62, SD = 0.886) and persuasive self-efficacy (M = 3.53, SD = 0.834). Students also showed confidence in handling change (M = 3.56, SD = 0.833).In terms of school adaptation, overall scores were moderate (M = 3.30, SD = 0.662). The highest scores were observed in professional adaptation (M = 3.75, SD = 0.820) and interpersonal adaptation (M = 3.59, SD = 0.755), both of which were rated high. Academic adaptation was also moderate (M = 3.11, SD = 0.927), while emotional adaptation was the lowest (M = 2.74, SD = 1.150), suggesting that managing emotions and adapting to the school environment remains a challenge for students.

Table 1: Descriptive Statistics of Self-Efficacy and School Adaptation

Dimension	N	M	SD	Interpretation
Creative Self-Efficacy	364	3.62	0.886	High
Persuasion Self-Efficacy	364	3.53	0.834	High
Change Self-Efficacy	364	3.56	0.833	High
Total	364	3.57	0.790	High
Interpersonal Adaptation	364	3.59	0.755	High
Professional Adaptation	364	3.75	0.820	High
Emotional Adaptation	364	2.74	1.150	middle
Academic Adaptation	364	3.11	0.927	middle
Total	364	3.30	0.662	middle

Analysis of the Differences in the Relationship Between Self-Efficacy and School Adaptation Under Different Background Variables

Testing of Research Hypothesis H1

1) Testing of Research Hypothesis H1

H1-1: There is a significant difference in learning self-efficacy between male and female students at Zhengzhou Software Vocational and Technical College.

The t-value reflects the degree of difference between the means of the two groups. Typically, if the p-value is less than 0.05, it is considered that there is a significant difference between the means of the two groups. According to the results presented in Table 2, the following conclusions can be drawn: male and female students exhibit significant differences in various dimensions of self-efficacy (p < 0.05), indicating that gender has a significant impact on self-efficacy across different dimensions. Therefore, Hypothesis H1-1, which posits that there are significant differences in learning self-efficacy between male and female students at Zhengzhou Software Vocational and Technical College, is supported.

Table 2: T-test Analysis Results of Self-Efficacy in Students of Different Genders

Dimension	Gender				t	p
	Male (n=151)		Female (n=146)			
	M	SD	M	SD		
Creative Self-Efficacy	3.82	0.946	3.43	0.782	4.277	0.000
Persuasion Self-Efficacy	3.70	0.898	3.37	0.733	3.914	0.000
Change Self-Efficacy	3.72	0.888	3.40	0.746	3.717	0.000
Total	3.75	0.850	3.40	0.688	4.299	0.000

H1-2: There is a significant difference in learning self-efficacy among students of different academic years at Zhengzhou Software Vocational and Technical College.

Table 3: ANOVA Analysis Results of Self-Efficacy in Students of Different Grades

Dimension	Grade	n	M	SD	F	p
Creative Self-Efficacy	Freshman	138	3.58	0.815	0.271	0.763
	Sophomore	102	3.63	0.898		
	Junior	124	3.66	0.956		
Persuasion Self-Efficacy	Freshman	138	3.46	0.710	1.757	0.174
	Sophomore	102	3.50	0.912		
	Junior	124	3.64	0.887		
Change Self-Efficacy	Freshman	138	3.48	0.729	1.680	0.188
	Sophomore	102	3.53	0.926		
	Junior	124	3.66	0.857		
Total	Freshman	138	3.50	0.682	1.209	0.300
	Sophomore	102	3.55	0.854		
	Junior	124	3.66	0.843		

*p<0.05, **p<0.01

This study used one-way analysis of variance (ANOVA) to test the differences in learning self-efficacy scores across different academic years. According to the results presented in Table 3, the differences in learning self-efficacy scores across various dimensions were not significant ($p > 0.05$). These results do not support Hypothesis H1-2, which posited that there would be significant differences in learning self-efficacy among students of different academic years at Zhengzhou Software Vocational and Technical College. Therefore, this hypothesis is not supported.

H1-3: There is a significant difference in learning self-efficacy among students from different

majors at Zhengzhou Software Vocational and Technical College.

According to the results presented in Table 4, this study used one-way analysis of variance (ANOVA) to test the differences in learning self-efficacy scores across different academic majors. The results show that students from different majors exhibited significant differences in creative self-efficacy, persuasion self-efficacy, change self-efficacy, and overall self-efficacy ($p < 0.05$). Therefore, Hypothesis H1-3, which posits that there are significant differences in learning self-efficacy among students from different majors at Zhengzhou Software Vocational and Technical College, is validated.

Table 4: ANOVA Analysis Results of Self-Efficacy in Students of Different Majors

Dimension	Grade	n	M	SD	F	p
Creative Self-Efficacy	Humanities	135	3.51	0.797	9.954	0.000
	Sciences	86	3.71	0.904		
	Engineering	105	3.89	0.927		
	Arts	38	3.06	0.722		
Persuasion Self-Efficacy	Humanities	135	3.45	0.744	8.258	0.000
	Sciences	86	3.53	0.951		
	Engineering	105	3.80	0.832		
	Arts	38	3.08	0.593		
Change Self-Efficacy	Humanities	135	3.48	0.759	8.715	0.000
	Sciences	86	3.60	0.935		
	Engineering	105	3.81	0.815		
	Arts	38	3.06	0.624		
Total	Humanities	135	3.48	0.696	10.464	0.000
	Sciences	86	3.61	0.863		
	Engineering	105	3.83	0.813		
	Arts	38	3.07	0.554		

*p<0.05, **p<0.01

H1-4: There is a significant difference in learning self-efficacy between student leaders and ordinary members at Zhengzhou Software Vocational and Technical College. According to the results presented in Table 5, there are significant differences in the self-efficacy scores between student leaders and ordinary members in most dimensions of learning self-efficacy ($p < 0.05$). These results partially support Hypothesis H1-4, which posited that there would be significant differences in learning self-efficacy between student leaders and ordinary members at Zhengzhou Software Vocational and Technical College.

Table 5: T-test Analysis of Self-Efficacy in Students with Different Class Leader Statuses

Dimension	Class Leaders (N=62)		Regular Members (N=302)		t	p
	M	SD	M	SD		
Creative Self-Efficacy	3.69	0.929	3.61	0.878	0.647	0.518
Persuasion Self-Efficacy	3.79	0.746	3.48	0.842	2.681	0.008
Change Self-Efficacy	3.76	0.786	3.52	0.838	2.128	0.034
Total	3.75	0.769	3.53	0.790	1.930	0.054

*p<0.05, **p<0.01

2) Testing of Research Hypothesis H2

H2: There are significant differences in campus adaptation among students at Zhengzhou Software Vocational and Technical College based on different background variables (gender, academic year, major, and student leader status).

Table 6: T-test Analysis Results of School Adaptation in Students of Different Genders

Dimension	Male (n=151)		Female (n=146)		t	p
	M	SD	M	SD		
Interpersonal Adaptation	3.69	0.804	3.51	0.696	2.287	0.023
Professional Adaptation	3.92	0.810	3.58	0.797	3.944	0.000
Emotional Adaptation	2.94	1.276	2.56	0.982	3.206	0.001
Academic Adaptation	3.29	1.030	2.94	0.779	3.736	0.000
Total	3.46	0.742	3.15	0.533	4.633	0.000

*p<0.05, **p<0.01

H2-1: There is a significant difference in campus adaptation between male and female students at Zhengzhou Software Vocational and Technical College.

According to the results in Table 6, significant differences in the means between male and female students were found in all dimensions of campus adaptation (interpersonal adaptation, professional adaptation, emotional adaptation, and academic adaptation) (p < 0.05).Therefore,

Hypothesis H2-1, which posits that there are significant differences in campus adaptation between male and female students at Zhengzhou Software Vocational and Technical College, is supported.

H2-2: There is a significant difference in campus adaptation among students of different academic years at Zhengzhou Software Vocational and Technical College.

According to the results presented in Table 7, this study used one-way analysis of variance (ANOVA) to test the differences in campus adaptation scores across different academic years. The results indicate that the differences in scores for interpersonal adaptation, professional adaptation, emotional adaptation, academic adaptation, and overall campus adaptation across academic years were not statistically significant ($p > 0.05$).These results do not support Hypothesis H2-2, which posited that there would be significant differences in campus adaptation levels among students from different academic years at Zhengzhou Software Vocational and Technical College. Therefore, this hypothesis is not supported.

Table 7: ANOVA Analysis Results of School Adaptation in Students of Different Grades

Dimension	Grade	n	M	SD	F	p
Interpersonal Adaptation	Freshman	138	3.52	0.709		
	Sophomore	102	3.55	0.796	2.320	0.100
	Junior	124	3.71	0.762		
Professional Adaptation	Freshman	138	3.82	0.752		
	Sophomore	102	3.65	0.931	1.248	0.288
	Junior	124	3.74	0.792		
Emotional Adaptation	Freshman	138	2.65	1.054		
	Sophomore	102	2.85	1.165	0.912	0.403
	Junior	124	2.75	1.237		
Academic Adaptation	Freshman	138	3.03	0.846		
	Sophomore	102	3.11	0.971	0.971	0.380
	Junior	124	3.19	0.974		
Total	Freshman	138	3.26	0.563		
	Sophomore	102	3.29	0.707	0.627	0.535
	Junior	124	3.35	0.724		

*p<0.05, **p<0.01

H2-3: There is a significant difference in campus adaptation among students from different majors at Zhengzhou Software Vocational and Technical College.

According to the results presented in Table 8, this study used one-way analysis of variance (ANOVA) to test the differences in campus adaptation scores across different academic majors. The results show that significant differences were found in interpersonal adaptation, professional adaptation,

emotional adaptation, academic adaptation, and overall campus adaptation (p < 0.05).Therefore, Hypothesis H2-3, which posited that there would be significant differences in campus adaptation among students from different majors at Zhengzhou Software Vocational and Technical College, is supported.

Table 8: ANOVA Analysis Results of School Adaptation in Students of Different Majors

Dimension	Grade	*n*	*M*	*SD*	*F*	*p*
Interpersonal Adaptation	Humanities	135	3.60	0.686		
	Sciences	86	3.59	0.863	6.047	0.001
	Engineering	105	3.75	0.752		
	Arts	38	3.15	0.567		
Professional Adaptation	Humanities	135	3.66	0.774		
	Sciences	86	3.76	0.840	8.634	0.000
	Engineering	105	4.01	0.757		
	Arts	38	3.30	0.866		
Emotional Adaptation	Humanities	135	2.77	1.077		
	Sciences	86	2.83	1.189	1.232	0.298
	Engineering	105	2.76	1.281		
	Arts	38	2.41	0.887		
Academic Adaptation	Humanities	135	3.10	0.875		
	Sciences	86	3.15	0.945	1.619	0.185
	Engineering	105	3.19	1.017		
	Arts	38	2.82	0.762		
Total	Humanities	135	3.28	0.592		
	Sciences	86	3.33	0.678	5.834	0.001
	Engineering	105	3.43	0.729		
	Arts	38	2.92	0.523		

*p<0.05, **p<0.01

H2-4: There is a significant difference in campus adaptation between student leaders and ordinary members at Zhengzhou Software Vocational and Technical College.

According to the statistical analysis presented in Table 9, significant differences were found in campus adaptation across various dimensions between student leaders and ordinary members (p < 0.05).These results do not support Hypothesis H2-4, which posited that there would be significant differences in campus adaptation between student leaders and ordinary members at Zhengzhou Software Vocational and Technical College.

Table 9: T-test Analysis Results of School Adaptation in Students with Different Class Leader Statuses

Dimension	Class Leaders (N=62)		Regular Members (N=302)		t	p
	M	SD	M	SD		
Interpersonal Adaptation	3.83	0.736	3.55	0.751	2.670	0.008
Professional Adaptation	3.98	0.758	3.70	0.825	2.485	0.013
Emotional Adaptation	2.62	1.200	2.77	1.140	-0.911	0.363
Academic Adaptation	2.97	1.016	3.14	0.906	-1.277	0.202
Total	3.35	0.654	3.29	0.664	0.676	0.499

*p<0.05, **p<0.01

Hypothesis H3 Testing Results

Table 10: Correlation Analysis of the Relationship Between Self-Efficacy and School Adaptation

	1	2	3	4	5	6	7	8	9
1. Creative Self-Efficacy	1								
2. Persuasion Self-Efficacy	.781**	1							
3. Change Self-Efficacy	.753**	.844**	1						
4. Self-Efficacy	.914**	.941**	.930**	1					
5. Interpersonal Adaptation	.588**	.647**	.660**	.680**	1				
6. Professional Adaptation	.650**	.626**	.678**	.702**	.563**	1			
7. Emotional Adaptation	.198**	.186**	.184**	.204**	.226**	.181**	1		
8. Academic Adaptation	.293**	.288**	.282**	.310**	.363**	.239**	.600**	1	
9. School Adaptation	.558**	.560**	.577**	.609**	.685**	.633**	.765**	.789**	1

Significant correlation at the 0.01 level (two-tailed).

Significant correlation at the 0.05 level (two-tailed).

H3: There is a significant positive correlation between learning self-efficacy and campus adaptation among students at Zhengzhou Software Vocational and Technical College.

This study used Pearson correlation analysis to explore the linear relationships and significance between various dimensions, quantifying the relationships between the variables. According to the analysis results presented in Table 10, significant positive correlations (p < 0.01) were found between

the dimensions of learning self-efficacy and campus adaptation.

Discussion

This study explored the impact of demographic background variables on learning self-efficacy and campus adaptation, as well as the relationship between these two factors.

Impact of Demographic Background Variables on Learning Self-Efficacy

The study found that gender significantly influenced various dimensions of learning self-efficacy. Male students scored higher than female students in creative self-efficacy, persuasion self-efficacy, and change self-efficacy, aligning with previous research (Carmen & Beatriz, 2022) which highlighted the role of demographic factors in shaping self-efficacy. Male students tend to exhibit higher self-confidence in competitive or challenging situations. Additionally, students from different academic majors showed significant variations in self-efficacy, particularly in creative, persuasive, and change-related tasks, confirming the findings of Xiong et al. (2020) regarding the influence of academic discipline on self-efficacy. However, academic year and student leadership status did not significantly impact overall self-efficacy. Student leaders exhibited higher self-efficacy only in persuasion and change, but no significant differences were found in creative self-efficacy, contradicting the hypothesis that student leader status would significantly affect self-efficacy.

Impact of Demographic Background Variables on Campus Adaptation

Gender also played a significant role in campus adaptation, particularly in emotional and academic dimensions. Male students generally adapted better, consistent with Xue and McMunn (2021), who noted that female students often face greater academic and psychological stress, hindering adaptation. Significant differences were found in campus adaptation among students from different academic majors, especially in interpersonal and professional adaptation, with art students scoring lower. This could be due to the unique demands of their field, which often combines creativity with academic rigor, leading to higher stress and adaptation difficulties. Academic year did not show significant effects on campus adaptation, suggesting that adaptation perceptions remain consistent across years. Student leaders performed better in interpersonal and professional adaptation but did not show significant differences in emotional or academic adaptation, possibly due to the pressures of leadership roles.

Relationship Between Self-Efficacy and Campus Adaptation

Finally, the study confirmed a significant positive correlation between self-efficacy and campus adaptation, supporting Hypothesis H3. This finding is consistent with Bordás and Robres (2022), who highlighted that strong self-efficacy enhances students' ability to cope with academic tasks, emotional challenges, and interpersonal relationships. Students with higher self-efficacy are better equipped to adapt to academic pressures and social challenges, demonstrating stronger overall adaptability.

In summary, the findings highlight the importance of demographic variables in shaping both

learning self-efficacy and campus adaptation, with a particularly strong relationship between self-efficacy and adaptation outcomes. However, some hypotheses regarding student leader status and academic year were not supported, suggesting that these factors may not have as significant an impact as initially assumed.

Conclusions

This study explored the relationship between learning self-efficacy and campus adaptation among students at Zhengzhou Software Vocational and Technical College. The findings revealed that learning self-efficacy is significantly influenced by demographic variables such as gender and academic major, with male students generally exhibiting higher self-efficacy in creative, persuasive, and change-related tasks, and art students showing higher self-efficacy in creative and change dimensions. Campus adaptation was similarly influenced by gender and academic major, with male students demonstrating better adaptation in academic, interpersonal, and professional areas. Additionally, a significant positive correlation between self-efficacy and campus adaptation was found, indicating that higher self-efficacy enhances students' ability to adapt to various campus challenges. However, limitations in sample representativeness, data collection methods, and variable selection were noted, suggesting the need for broader samples, more comprehensive data collection, and the inclusion of additional factors such as family background in future research.

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