

The Effect of Achievement Goal Orientation on Academic Achievement of Vocational University Students

*Shao Minwei¹ & Suraya Amirrudin¹

Infrastructure university Kuala Lumpur, De Centrum City, Kajang, Selangor Darul Ehsan, Malaysia. (IUKL)

*Email: 152098929@qq.com

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Abstract

In the field of education, it is crucial to understand students' achievement goal orientations and their impact on academic achievement. The purpose of this study was to explore the characteristics of Chinese vocational students' achievement goal orientations (AGO) and analyze their impact on academic achievement. The results showed that there was a close relationship between students' achievement goal orientations and their academic achievement, with mastery goals and performance approach goals positively predicting academic achievement, while the relationship between performance avoidance goals and academic achievement was not significant. Studying the achievement goal orientations of vocational students can provide a better understanding of students' sources of motivation, which in turn can provide educators with more effective interventions to promote students' academic development.

Key Words: Achievement, goal orientation; Academic achievement; Vocational, university student

Introduction

Non-intellectual factors can guide, control and regulate learning activities and play an important role in students' learning activities (Ramos, 2023). Achievement goal is an important non-intellectual factor that can affect the learning process and thus affect academic achievement (Cook & Artino, 2016), which reflects the relationship between different motivational goals and academic behavior of individuals. Under the background of the connotative development of higher education, the influence of achievement goal on students' academic development and academic achievement is receiving more and more attention, and the theory of achievement goal orientation has become a hot spot in the research of achievement motivation.

Vocational undergraduate as a new type of education in China, it cultivates vocational undergraduate students compared with ordinary undergraduate students, should have stronger requirements for practical skills and the pursuit of professional skills (Yang, 2022), based on such a special academic background and learning needs, their academic achievement goal orientation may be different from other types of college students, so this study selected vocational undergraduate students as the object of study. Therefore, this study selects vocational undergraduate students as the research object in order to gain a deeper understanding of the mechanism of the influence of achievement goal orientation on the academic achievement of vocational undergraduate students, also provide a theoretical basis and practical guidance for further understanding and optimizing the academic development of vocational undergraduate students.

Literature review

Achievement Goals and Achievement Goal Theory

The work of Nicholls and Dweck laid the foundation for the study of achievement goals. Their ideas had a profound impact on the field of educational psychology, and achievement goals were recognized as goals or standards that students strive to achieve in an academic or learning environment (Nicholls, 1984; Dweck, 1986). Early research on achievement goals focused on mastery and performance goals. Over time, Elliot and Harackiewicz (1996) proposed a trichotomy that further divided goals into mastery goals, performance-approach goals, and performance-avoidance goals. Since then, the 2 x 2 goals have also become a common framework in achievement goal research, with achievement goals categorized as mastery-approach goals, mastery-avoidance goals, performance-approach goals, and performance-avoidance goals (Elliot and McGregor, 2001). These goals are not monolithic; rather, there is diversity. Based on different achievement contexts, students may pursue different types of achievement goals, and these goal types may have different effects on their learning behaviors and academic performance (Chazan et al., 2021).

Based on these perspectives, researchers have proposed achievement goal theory, which suggests that students' motivation and achievement-related behaviors can be explained by considering the goals they select when engaging in academic activities (Ames, 1992; Dweck, 1986; Urdan, 1997). Individuals with mastery goals emphasize interest and engagement in the learning process itself and pursue personal progress and development. In contrast, performance goals-oriented individuals are concerned with demonstrating their abilities to the best of their ability and with the evaluation of their abilities by others (Harackiewicz et al., 2002). In the trichotomous model, performance-approach goals focus on how to demonstrate greater competence and achieve better outcomes relative to others and tend to make favorable judgments about their own competence. Individuals with performance-avoidance goals tend to avoid mistakes and shortcomings by comparing themselves to others. They typically prefer simpler tasks that require less effort and less challenge to avoid making negative judgments about others' judgments of their abilities (Harackiewicz et al., 2002). The 2 x 2 model adds the concept of mastery-avoidance compare to the trichotomous model, and individuals in this goal type are more focused on avoiding losing the skills and knowledge they have mastered (Elliot & Mc Gregor, 2001), with some studies suggesting that mastery avoidance goals are more likely to be found in older age groups (Khajavy et al., 2018). With the development of times, the achievement goal theory has been greatly revised, and some researchers believe that mastery and performance goals are not completely opposed to each other, and that individuals may hold multiple goal orientations at the same time, and a person-oriented approach to studying achievement goal orientation from multiple goal perspective has emerged (Wormington & Linnenbrink-Garcia, 2016).

The Relationship Between Achievement Goal Orientation and Academic achievement

Numerous studies have shown that different achievement goal orientations can have different effects on students' motivation to learn and thus on their academic achievement. With mastery goals, students are more likely to use deep learning strategies, such as active thinking, in-depth inquiry, and active participation, to achieve personal growth and learning goals (Guo & Hu, 2021). In contrast, under performance goals, students may be more focused on external rewards and social comparisons and tend to use surface-level learning strategies (Zhang et al., 2022), such as rote memorization and test-taking skills, to gain a competitive advantage over others. Current research suggests that individuals with mastery or mastery-approach goals prioritize internal personal growth and development, have a mindset based on challenge evaluation and task assimilation, and tend to process learning tasks in depth, making mastery (-approach) goals most beneficial for the processes and outcomes associated with student achievement (Chonsalasin & Khampirat, 2022). Performance-approach goals focus on how to demonstrate higher levels of competence and achieve better outcomes relative to others, and tend to make positive judgments about one's own competence. As a result, performance-approach goals sometimes exhibit behaviors similar to mastery goals, such as choosing challenging tasks to demonstrate one's ability. However, because performance-approach goals are focused on getting good grades and proving one's competence to others, once the achievement is not well, the individual's motivation level and persistence in the task will be directly affected. there remains a discrepancy between achievement and mastery goals (Sabouripour et al., 2021). This has also been confirmed in some studies, where the effect of performance-approach goals on academic achievement appears to be more complex, sometimes positively correlated with academic achievement and sometimes showing no effect at all (Guo & Hu, 2021; Hayat et al., 2020). Avoidance goals, both mastery-avoidance goals and performance-avoidance goals, have been found to have a negative effect on academic achievement. Research suggests that avoidance goals may promote negative events such as anxiety and lack of perseverance, which negatively affect students' interest in learning and academic achievement (Chazan et al., 2021; Guo & Leung, 2021), because mastery-avoidance and performance-avoidance goals are often associated with low motivation, confusion, and anxiety, which can lead to poorer learning outcomes for individuals.

Methods

Research Subjects

Through random sampling, 264 students from a vocational university in Guizhou Province were selected to distribute a questionnaire on achievement goal orientation and academic achievement of vocational university students, which was filled online by students clicking on the link provided by their teachers. The number of valid questionnaires was 259, and the response rate was 98.10%.

Instruments

The instruments of the study consisted of two scales, the Achievement Goal Orientation Scale (Elliot & Church, 1997) and the Academic Achievement Scale (Wang, 2011). The reliability and validity of the two scales were tested through a pre-survey before the questionnaire was formally released to the respondents. The Cronbach's α value for each dimension of the scales were greater than 0.7, indicating good reliability for this sample data. Through the confirmatory factor analysis (CFA), the composite reliability (CR) of each dimension of the scale was greater than 0.7, indicating that the measurement items of each latent variable had internal consistency. The average variance extracted (AVE) values for each dimension were greater than 0.7, indicating that each latent variable was internally consistent. The average variance extracted (AVE) values for each dimension are greater than 0.5, indicating that each dimension has good convergent validity.

Data Analysis

The *t*-test was used to analyze the differences between vocational university students' achievement goal orientation and academic achievement in demographic indicators; correlation and regression analyses were used to explore the relationship between achievement goal orientation and academic achievement.

Result

Demographic Information

The mean age of the survey population was 20.04 ± 0.90 , of which 48.26% were male and 51.74% were female, 16.6% students were from urban areas and 83.4% were from rural areas; the proportion of Han Chinese students were 63.3%, and the proportion of ethnic minority students were 36.7%.

Characteristics of Achievement Goal Orientation of Vocational University Students.

General Description of Achievement Goal Orientation - This study evaluates the level of achievement goal orientation of vocational university students from three dimensions: performance-approach goals, mastery goals, and performance-avoidance goals. The higher scores in each dimension indicate higher levels, and the results of the analysis are shown in Table 1.

Table 1: Scores for Each Dimension of the Achievement Goal Orientation Scale

Dimension or Item	Minimum	Maximum	$\bar{X} \pm SD$
Performance-Approach	4	20	13.27 \pm 2.92
Mastery	5	20	15.51 \pm 2.24
Performance-Avoidance	3	15	10.95 \pm 1.91
Total Score of Scale	17	52	39.74 \pm 5.35

Among the three dimensions of achievement goal orientation, respondents had the highest scores for mastery goals and the lowest scores for performance-avoidance goals, with a mean score of 39.74 ± 5.35 for the entire scale.

Differences in Goal Orientation in Demographic Indicators - Differences in achievement goal orientation in the three demographic indicators of gender, place of birth, and ethnicity were statistically analyzed, and the results are shown in Table 2.

Table 2: Differences in Demographic Indicators for Achievement Goal Orientation

Items	Demographic Indicators	$\bar{X} \pm SD$	t-test	
			t value	P value
Performance-Approach	Male	11.88±2.60	-2.54	0.012*
	Female	13.42±2.92		
	Urban	13.56±2.80	0.70	0.486
	Rural	13.22±2.95		
	Han Chinese	13.40±2.89	0.89	0.377
	Minority	13.06±2.98		
Mastery	Male	14.44±3.15	-2.55	0.011*
	Female	15.63±2.10		
	Urban	15.30±2.34	-0.677	0.499
	Rural	15.56±2.22		
	Han Chinese	15.63±2.21	1.14	0.255
	Minority	15.31±2.28		
Performance-Avoidance	Male	9.76±2.35	-3.35	0.001**
	Female	11.08±1.81		
	Urban	11.21±1.60	0.98	0.329
	Rural	10.90±1.96		
	Han Chinese	10.96±1.94	0.08	0.934
	Minority	10.94±1.86		
Total Score of Scale	Male	36.08±6.95	-3.69	<0.001**
	Female	40.13±5.01		
	Urban	40.07±4.47	0.45	0.656
	Rural	39.67±5.51		
	Han Chinese	39.99±5.28	0.99	0.323
	Minority	39.31±5.46		

Note: * indicates $p < 0.05$, ** indicates $p < 0.01$.

The results of the analysis showed a statistical difference between males and females on the total score of the scale, with females scoring higher on average than males. On all three dimensions, females had higher mean scores than males, and there was a statistical difference between males and females on performance-approach goals, mastery goals, and performance-avoidance goals. However, there was no statistical difference in achievement goal orientation among the place of birth and ethnicity indicators, either in the total scale score or in the remaining three dimensions.

Characteristics of Academic Achievement of Vocational University Students

General Description of Academic Achievement - This study evaluates the level of academic achievement of vocational university students from the two dimensions of learning performance and learning dedication, and the higher scores of each dimension indicate the higher level. The analysis results are shown in Table 3.

Table 3: Scores for Each Dimension of the Academic Achievement Scale

Dimension or Item	Minimum	Maximum	$\bar{X} \pm SD$
Learning Performance	7	15	10.64±1.49
Learning Dedication	4	15	10.39±1.78
Total Score of Scale	12	30	21.03±2.71

The mean score of the academic achievement scale was 21.03±2.71, and the score of the learning performance dimension of the surveyed population was 10.64±1.49, which was higher than the score of the learning dedication dimension.

Differences in Demographic Indicators of Academic Achievement - A *t*-test revealed that there were no statistical differences in the dimensions of academic achievement and the total score of the academic achievement scale on the three demographic indicators of gender, place of birth, and ethnicity.

Correlation Analysis of Achievement Goal Orientation and Academic Achievement

The dimensions of achievement goal orientation were correlated and analyzed with the dimensions of academic achievement, and the results are shown in Table 4.

Table 4: Analysis of the Correlation Between AGO and Academic Achievement

	1	2	3	4	5
Performance-Approach	1				
Mastery	0.39**	1			
Performance-Avoidance	0.40**	0.23**	1		
Achievement Goal Orientation	0.85**	0.71**	0.67**	1	
Academic Achievement	0.36**	0.43**	0.08	0.41**	1

Note: ** indicates $p < 0.01$.

1= Performance-Approach, 2= Mastery, 3= Performance-Avoidance, 4= Achievement Goal Orientation, 5= Academic Achievement.

The results of correlation analysis showed that the achievement goal orientation of vocational university students was positively correlated with academic achievement, with a correlation coefficient is 0.41, $P < 0.01$; the mastery goals and performance-approach goals were significantly ($P < 0.01$) and positively correlated with academic achievement, with correlation coefficients of 0.43 and 0.36 respectively; and the performance-avoidance goals was insignificantly correlated with academic achievement.

Regression Analysis of Achievement Goal Orientation and Academic Achievement

Based on the results of the correlation analysis, a multiple regression analysis was conducted with performance-approach goals and mastery goals as the independent variables and academic achievement as the dependent variable. The results are presented in Table 5.

Table 5: Regression Analysis of Achievement Goal Orientation on Academic Achievement

Variable	B	SE	Beta	t value	P value
(Constant)	12.6	1.22		10.4	<0.001
	9			3	
Performance-Approach	0.25	0.06	0.27	4.28	<0.001
Mastery	0.43	0.07	0.35	5.98	<0.001

$R^2=0.24$, Adjust $R^2=0.23$, $F=27.30$, $P < 0.001$.

The regression model had $F=27.30$, $P < 0.001$, indicating that the regression model constructed was statistically significant. The regression coefficients of performance-approach goals and mastery goals on academic achievement were 0.25 and 0.43,

respectively, with $P < 0.001$. The standardized coefficients were positive, indicating that both factors positively predicted academic achievement, with mastery goals having a greater effect on performance-approach goals.

Discussion

The study found that there are significant gender differences in achievement goal orientation, and there are statistically significant differences between females and males in performance-approach goals, mastery goals, and performance-avoidance goals. The mastery goal orientation scores of females are higher than those of males, which indicates that females pay more attention to mastering knowledge and improving their own abilities in the learning process, and in learning and life, females expect to continuously improve their own abilities to cope with increasing social pressures (Giota, 2001; Huang, 2012), and some scholars' studies have also found that females have stronger mastery goals than males (D 'Lima et al. 2014; Giota & Bergh, 2020). The present study also found that performance-approach goals had a greater impact on female students, which may be due to the fact that female students perceive competition as threatening and are more susceptible to the external environment when they are in a competitive atmosphere compared to their male counterparts (Zhao & Chen, 2022), suggesting that they are more susceptible than their male counterparts to being affected by suboptimal grades or performance and experiencing a discouraged state, resulting in some negative behaviors such as aversion to the current task. Balanoff et al. (2022) found that females were more susceptible to performance-avoidance goals, which is consistent with the findings of the present study. Females have to put in more effort than males to meet academic requirements and take on social responsibilities (Giota & Gustafsson, 2016; Spinath et al., 2014), which also makes it likely that females tend to focus on avoiding demonstrating incompetence in comparison to others (Yang et al., 2018).

Correlation and regression analyses revealed that both mastery goals and performance-approach goals positively predicted the academic performance of vocational university students, which is generally consistent with the findings of previous studies (Guo & Hu, 2021; Zhang & Guan, 2020). Previous research has generally concluded that students who pursue mastery goals tend to believe that skills are malleable and can be developed through continuous effort, and that such students are more concerned with improving their own skills and competence and mastering knowledge in the process of completing a task, are open to challenges, and are resilient in the face of adversity. Mastery goals tend to be positively correlated with adaptive motivation, emotions, and behavioral outcomes, promote perseverance and deep learning strategies, and contribute positively to learning behaviors and academic performance, as confirmed by this study. Individuals with performance-approach goals tend to strive to outperform others or to be more talented than others. Numerous studies have found that performance-approach goals are positively correlated with the variables of ability evaluation, achievement aspiration, achievement, and self-efficacy, and negatively correlated with self-doubt, test anxiety and worry, and depression (Wang et al., 2021; Miller et al., 2021), and from this point of view, performance-approach goals are positively predictive of students' academic performance and achievement, which is consistent with the results of this study.

Some previous studies have suggested that performance-avoidance goals are associated with high anxiety, disorganized study habits, self-inhibition, and low achievement and interest (Li & Han, 2020), so performance-avoidance goals are usually a negative predictor of academic achievement. However, the present study found that performance-avoidance goals were not significantly related to the academic achievement of vocational university students in China, which supports the findings of King (2016) and Guo & Hu (2021), who argued that compared with Western individualism, Chinese students live in a collectivist society and are influenced by collectivist values, and performance-avoidance goals do not necessarily lead to negative outcomes. In a collectivist society, the behavior of individuals is often influenced by the overall interests of society and social norms, and this is particularly evident in the student population. In a collectivist culture, students may be more inclined to conform to the expectations of their families and society than to pursue personal academic goals. This may manifest itself in their avoiding overly ambitious academic goals to avoid parental resentment or disappointment. Instead, they may be more inclined to choose academic paths that conform to societal expectations in order to ensure that family honor and dignity are not compromised. Thus, in some cases, avoidance goals may promote their academic engagement and further minimize or reverse the negative effects (Senko et al., 2023).

This study explored the characteristics of vocational university students' achievement goal orientations and academic achievement, and examined the effects of achievement goal orientations on students' academic achievement. The findings reveal the important role of different dimensions of achievement goal orientations on the academic achievement of vocational university students in China, which will help educators to implement more effective goal-oriented interventions during the educational process to improve students' motivation level, thus promoting the development of vocational university students' academic achievement.

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