JMS ISSN 2948-4286 Journal of Management Scholarship
June **4, 1 (2025)** https://doi.org/10.38198/JMS/4.1.2025.6

Teacher Support, Achievement Goal Orientation, and Learning Engagement Among Vocational University Students in Guizhou Province, China

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Received: 26 February 2025
Accepted for publication: 3 June 2025
Published: 30 June 2025

Abstract

This study examined the current levels of teacher support, achievement goal orientation, and learning engagement among vocational university students in Guizhou Province, China. By Using stratified random sampling, 421 valid questionnaires were collected from Guiyang Healthcare Vocational University. Adapted instruments were employed to measure perceived teacher support, achievement goal orientation, and student learning engagement. Descriptive statistics indicated that teacher support was perceived at a moderate to slightly low level, with emotional support rated highest and competence support lowest. Achievement goal orientation and learning engagement were both found to be relatively low overall. The findings suggest that many students experience difficulty in maintaining academic motivation and active participation, which may be related to insufficient teacher-student interaction, limited academic challenge, and unclear learning goals. The results underscore the need to improve instructional support, clarify academic goals, and strengthen student engagement in vocational undergraduate education settings.

Keywords: Teacher support, achievement goal orientation, learning engagement, vocational university students

Introduction

As an important index of students' academic performance and teaching evaluation, learning engagement has become a research hotspot in the field of education (Wong & Liem, 2022). However, nowadays, Chinese college students lack endogenous motivation to learn, and students in some undergraduate colleges and universities are absent from class, late, and negative in their studies (Li & Xue, 2023). The student learning engagement in China is not at a satisfactory level. According to a national learning survey conducted by the Research Institute of Vocational and Technical Education under the Ministry of Education, which included responses from 173,671 students across 425 vocational colleges in 31 provinces, the educational environment in vocational institutions has significantly improved. However, issues such as insufficient learning initiative and limited engagement among students remain evident (Research Institute of Vocational and Technical Education, Ministry of

Education, 2020). In 2022, the Research Institute of Vocational and Technical Education under the Ministry of Education conducted a national survey to examine learning patterns in higher vocational colleges. The results showed that only 25.5% of students consistently engaged in pre-class preparation and post-class review, while just 34.9% actively participated in professional practice activities (Research Institute of Vocational and Technical Education, Ministry of Education, 2022).

Furthermore, the NVCSS in 2020 highlighted regional disparities in students' learning engagement levels. Among vocational college students, those in the eastern region scored 61.67%, those in the central region scored 61.67%, and those in the western region scored 60%. This data indicates that vocational college students in western China exhibit lower learning engagement compared to their counterparts in eastern and central China (Research Institute of Vocational and Technical Education, Ministry of Education, 2020).

A substantial number of studies have explored how students' learning engagement is shaped by a combination of internal psychological factors and external environmental conditions (Fredricks et al., 2019; Reeve & Cheon, 2021; Halverson & Graham, 2019; Li & Xue, 2023; Shao et al., 2025). Fredricks et al. (2019) found that students' engagement was strongly associated with the satisfaction of their needs for autonomy, competence, and relatedness and that interpersonal relationships and classroom context influenced these needs. Reeve and Cheon (2021) reviewed a series of autonomy-supportive teaching interventions and noted that when teachers adopted an empathetic and student-oriented stance, students tended to show more initiative and deeper involvement in learning. In the context of blended learning, Halverson and Graham (2019) emphasized that engagement depends not only on behavioral activity but also on cognitive and emotional involvement and called for better alignment between instructional strategies and technological tools. Li and Xue (2023), based on a large-scale meta-analysis, emphasized that both learner-related factors, such as motivation and emotional state, and external conditions, including teacher support and institutional practices, play important roles in sustaining engagement. Echoing this interactional view, Shao et al. (2025) showed that perceived teacher support enhanced engagement through its indirect effects on students' academic self-efficacy and resilience, highlighting the link between external support and internal psychological readiness.

In the Chinese academic context, learning engagement became a subject of inquiry significantly later than in many other countries, with more structured research appearing more than twenty years after comparable developments abroad (Li, 2022). In the past ten years, however, interest in this area has grown steadily, reflected in both theoretical exploration and empirical studies. Despite this growing attention, a considerable portion of existing research remains descriptive, lacking an in-depth examination of the psychological mechanisms or mediating factors that underlie learning engagement (Yu, 2019). Moreover, current studies tend to focus on specific student populations. Research involving junior high school students has been relatively well developed (Shao et al., 2025; An et al., 2022), and studies on senior high school students are also increasing in number (Chiu, 2021). At the higher education level, recent efforts have begun to explore learning engagement among general university students (Miao & Ma, 2022; Zhao et al., 2021). Although some research has begun to address learning engagement among secondary vocational students, the overall number of studies remains limited, and existing work tends to be narrow in scope and depth (Zhao & Tsao, 2025). In comparison, research specifically focusing on vocational university students is even more scarce, leaving notably scarce. This evident gap calls for more in-depth and systematic research focused on learning engagement within vocational university contexts.

This study, guided by self-determination theory and achievement goal theory, incorporates students' motivation variables and conducts a thorough investigation of how teacher support fosters learning engagement and the underlying mechanisms among vocational university students. The research adds to our understanding of how vocational undergraduate education engages students in learning, helps educators at vocational universities improve the teaching and learning process, and provides useful insights for developing effective educational policy. Ultimately, these efforts aim to increase vocational students' learning engagement while also improving the overall quality of higher vocational education. Finally, it will contribute to the delivery of high-quality technical talents urgently needed by the country.

Methodology

Based on the research objectives of this study, the survey research method is used in this study. Survey research is a methodological approach that is conducted through surveys distributed to targeted respondents. This technique falls within the realm of quantitative research and involves gathering data from a specific group of participants (Creswell, 2015; Zimba & Gasparyan, 2023). The purpose of this study is to obtain the current data of vocational undergraduate students in Guizhou Province, namely, the relationship between teacher support, achievement goal orientation and learning engagement at a certain point in time. Therefore, the use of a survey research method is appropriate. The questionnaire items in this study included closed questions with a Likert-type rating scale. The study uses the questionnaire to aim at students' views on teacher support (Perceived Teacher Support Scale), achievement goal orientation (Achievement Goal Orientation Scale), and learning

engagement (Student Learning Engagement Scale) at Guizhou Vocational Undergraduate University. This study targeted a population of 9,556 students enrolled at Guiyang Healthcare Vocational University, with the exception of those in their final year who were off-campus for internships. To obtain a representative sample, stratified random sampling was used under the framework of probability sampling. Referring to the sample size table developed by Krejcie and Morgan (1970), a sample of at least 370 participants was considered sufficient for a population of this scale. In consideration of possible limitations in response rate and data quality, Zhu and Wang (2020) suggested expanding the initial sample size by 10% to 30%. Based on this recommendation, the planned sample size was set at 481. Upon completion of data collection, 421 valid questionnaires were retrieved, resulting in a response rate of 87.52%. This sample size was l regarded as adequate for conducting reliable statistical analyses.

Teacher Support Scale (TSS)

In this study, teacher support is conceptualized within the framework of self-determination theory, which emphasizes students' basic psychological needs for autonomy, emotional connection, and competence. Taking into account the characteristics of vocational college students, the measurement dimensions were adapted from the scale developed by Belmont et al. (1988). To enhance the scale's reliability and validity, the item wording was revised to better reflect the study context and research focus on the link between teacher support and learning engagement. Based on the results of exploratory factor analysis (EFA) conducted during the pilot phase, the finalized instrument used in the main study contained 12 items: four each for autonomy support, emotional support, and competence support. A 5-point Likert scale was adopted (1 = strongly disagree, 5 = strongly agree), with higher scores representing stronger perceptions of teacher support. The internal reliability of the scale was confirmed using field data, with a Cronbach's alpha coefficient of 0.917, demonstrating excellent consistency.

Achievement Goal Orientation Scale (AGOS)

This study adopts the three-factor framework of achievement goal orientation proposed by Elliot and Church (1997), encompassing mastery goals, performance-approach goals, and performance-avoidance goals. The instrument used to measure this construct was adapted from the Achievement Goal Orientation Scale (AGOS), with revisions made to align with the educational context of vocational university students in China. To enhance item clarity and contextual appropriateness, several wording adjustments were applied. These revisions aimed to better reflect students' goal-oriented behaviours in typical learning environments. The finalized version used in the field survey includes 14 items, comprising four items for mastery goals and five items each for performance-approach and performance-avoidance goals. A 5-point Likert scale was used (1 = strongly disagree, 5 = strongly agree), where higher scores indicate stronger endorsement of the corresponding goal orientation. An overall score was derived by summing the responses across the three subscales. Reliability analysis based on field data yielded a Cronbach's alpha of 0.934, indicating excellent internal consistency.

Student Learning Engagement Scale (SLES)

In this study, learning engagement is conceptualized as a multidimensional construct based on the model proposed by Fredricks et al. (2004), which includes behavioral, emotional, and cognitive engagement. The measurement scale was adapted from the instrument developed by Lam et al. (2014), whose structure corresponds well with the theoretical framework adopted in this research. This scale was selected not only because it aligns with the three dimensions emphasized in the study but also due to its suitability for linguistic adaptation. After appropriate modification, the item phrasing was found to be more accessible for Chinese students. In addition, Lam's original scale demonstrated strong internal consistency, with reported coefficient alpha values ranging from 0.80 to 0.89 for the three subscales and 0.78 for the overall instrument. In the present study, the final version of the adapted scale consists of 14 items, including five items for behavioral engagement, four for emotional engagement, and five for cognitive engagement. A 5-point Likert scale was used (1 = strongly disagree, 5 = strongly agree), with higher scores indicating higher levels of learning engagement. The internal consistency of the adapted scale was confirmed through field data, resulting in a Cronbach's alpha of 0.928, which indicates excellent reliability.

Descriptive Analysis

Descriptive statistics serve the purpose of depicting the fundamental characteristics of data within a study. They offer

straightforward summaries of the sample and the measurements taken. When coupled with basic graphical analyses, these statistics constitute the foundation for nearly all quantitative data analyses. In this study, descriptive statistics will compute for all the variables, including frequencies and percentages for the categorical demographic variables, including (a) gender, (b) age, (c) level of education, (d) major, (e) academic year, (f) residential area, (g) academic performance ranking within the class, and (h) parental education background. To answer research question 1, the range, mean, and standard deviation of composite scores for teacher support, achievement goal orientation, and learning engagement will be calculated.

Data Analyses and Results

Demographic Profile of Respondents

The concluding respondents in this field study were 421 students from Guiyang Healthcare Vocational University. Descriptive data of the respondents' backgrounds and demographics are included in Table 1. The results showed that, of all respondents, females make up 60.3%, males make up 39.7%, and the percentage of females is comparatively large. The most common levels of age were 19-22 (87.2%). In terms of educational level, undergraduate students make up the majority of the population, accounting for 75.1%, followed by vocational diploma students at 24.9%. When it comes to majors, nursing had the most students (47.7%), followed by pharmacy 19.2%; clinical and rehabilitation 16.2%; medical technology 10%; and public health had the fewest (6.9%). In terms of grade level, Year 2 had the most students (48.5%), followed by Year 1 (37.1%) and Year 3 (14.5%). Among the surveyed students, 72.7% came from rural areas, while 27.3% came from towns. In terms of the rating of the respondents' academic performance in the previous semester, the majority of respondents (42%) rated 6%-30%, 29.7% ranked 31%-50%, and 17.6% rated bottom 50%, with the least number of responses (10.7%) ranking in the top 5%. From the education level of parents, the father's education level is relatively higher than the mother's education level. The total percentage of fathers' educational background with high school and above was 19,5% (high school 11.6%; higher vocational school and undergraduate 7.4%; postgraduate and above 0.5); Secondary School and below 80.5%. As for the educational background of mothers, only 11.6% had high school and above (7.4% high school; 4% higher vocational and undergraduate; 0.2 postgraduate and above); the vast majority were in Secondary School and below (88.5%).

Table 1. Descriptive Analysis of Teacher Support

Profile	Frequency	Percent (%)
Gender		
Male	167	39.7
Female	254	60.3
Age		
18 and below	15	3.6
19-22	367	87.2
23 and above	39	9.3
Level of Education		
Vocational Diploma	105	24.9
Undergraduate	316	75.1
Major		
Nursing	201	47.7
Pharmacy	81	19.2
Medical Technology	42	10
Public Health	29	6.9
Clinical and Rehabilitation	68	16.2
Academic Year		
Year 1	156	37.1
Year 2	204	48.5
Year 3	61	14.5
Residential Area		
Rural	306	72.7
Urban	115	27.3

Last semester, your academic performance ranking in class is		
Top 5%	45	10.7
6%-30%	177	42
31%-50%	125	29.7
Bottom 50%	74	17.6
Your Father's Education Background		
Secondary School and below	339	80.5
High School	49	11.6
Higher Vocational School or Undergraduate	31	7.4
Postgraduate and above	2	0.5
Your Mother's Education Background		
Secondary School and below	372	88.4
High School	31	7.4
Higher Vocational School or Undergraduate	17	4
Postgraduate and above	1	0.2

Current Levels of Teacher Support, Achievement Goal Orientation, and Learning Engagement among Vocational University Students

Descriptive statistics were applied to summarize the main characteristics of the collected data, offering an overall view of the distribution, central tendency, and variability across the core variables in this study. While such analysis does not allow for generalization beyond the sample, it provides valuable insights into response patterns and serves as a basis for further statistical exploration.

In this research, descriptive analysis was conducted on responses to the 40-item questionnaire completed by vocational university students. These items were designed to assess perceptions of teacher support, achievement goal orientation, and learning engagement. Each construct was broken down into its specific sub-dimensions to capture a more detailed picture of students' learning experiences and motivational tendencies. The outcomes are reported using mean scores and standard deviations, which help identify overall trends and the degree of variation in responses. These results offer an initial understanding of students' academic perceptions and form the basis for subsequent inferential analyses.

Descriptive Analysis of Teacher Support

According to the descriptive analysis results, the mean scores and standard deviations for each item within the sub-constructs of teacher support were summarized in Table 2. These values provide insights into how vocational university students perceive different aspects of teacher support, including autonomy support, emotional support, and competence support.

Table 2. Descriptive Analysis of Teacher Support

Dimension	Item Label	N	Mean	Std.Deviation
TAS	TAS1	421	2.677	.995
	TAS2	421	2.625	1.043
	TAS3	421	2.627	1.096
	TAS4	421	2.715	1.102
TES	TES5	421	2.651	1.004
	TES6	421	2.708	.982
	TES7	421	2.838	.930

	TES8	421	2.675	1.159
TCS	TCS9	421	2.584	.988
	TCS10	421	2.572	1.081
	TCS11	421	2.523	1.092
	TCS12	421	2.501	1.090
TS		421	2.641	.758

Based on the standard deviation values presented in Table 2, it was observed that the range of values fell between 0.930 and 1.159, which is within two standard deviations. This suggests that the data points were relatively close to the mean, indicating a low level of dispersion. Such clustering around the mean reflects a high degree of consistency in students' responses, suggesting that their perceptions of teacher support were relatively stable across the sample. The relatively small variation further implies that the measurement items within this construct demonstrated a high level of reliability (McGrath et al., 2020).

Additionally, Table 3 presents the mean scores and standard deviations for the sub-dimensions of teacher support. Teacher Emotional Support (TES) had the highest mean score (M=2.718, SD=0.849), followed by Teacher Autonomy Support (TAS) (M=2.661, SD=0.875), while Teacher Competence Support (TCS) had the lowest (M=2.545, SD=0.907). All three sub-dimensions were rated at a moderate level, with relatively small standard deviations (all less than 1), indicating that students' responses were closely clustered around the mean and reflecting a generally consistent perception of teacher support among vocational university students.

Table 3. Descriptive Statistics of Teacher Support Sub-Constructs

No	Sub-Constructs	Mean	Std.Deviation
1	TAS	2.661	.875
2	TES	2.718	.849
3	TCS	2.545	.907

Several studies have utilized mean score analysis to categorize responses into different levels, such as low, moderate, and high, to facilitate data interpretation. For example, Kajentheran (2023) applied a classification system where mean values between 1.00 and 2.33 indicate a low level, 2.34 to 3.67 represent a moderate level, and 3.68 to 5.00 correspond to a high level. Similarly, Saad and Bakar (2022) adopted a comparable approach in their study, using the same range to classify mean scores when analysing factors influencing student achievement. By following this established classification system, this study ensures consistency in data interpretation, allowing for meaningful comparisons of teacher support, achievement goal orientation, and learning engagement among vocational university students.

Table 4 presents the distribution of teacher support levels among vocational university students based on the established mean score classification system. The results indicate that 46.08% of students perceived teacher support at a moderate level (M=2.34-3.67), suggesting that while students receive a reasonable degree of support, there is still room for improvement. Additionally, 42.52% of students rated teacher support as low (M=1.00-2.33), indicating that a significant portion of students may not feel adequately supported in their learning environment. In contrast, only 11.40% of students rated teacher support at a high level (M=3.68-5.00), suggesting that relatively few students experience strong and consistent support from their teachers. These findings highlight the need for further enhancements in teacher support strategies, particularly in addressing the concerns of students who perceive lower levels of support.

Table 4. Levels of Teacher Support

Mean Score Range	Level	Frequency	Per cent
1.00~2.33	Low	179	42.52
2.34~3.67	Moderate	194	46.08
3.68~5.00	High	48	11.40
Total		421	100.0

Descriptive Analysis of Achievement Goal Orientation

According to the descriptive analysis results, the mean scores and standard deviations for each item within the sub-constructs of achievement goal orientation (AGO) are presented in Table 5. These values offer valuable insights into vocational university students' perceptions of different aspects of achievement goal orientation, specifically mastery goal (MG), performance-approach goal (PA), and performance-avoidance goal (PAG). By analyzing these descriptive statistics, it is possible to identify patterns in students' learning motivation and goal-setting behaviors, which serve as the foundation for further discussion.

Table 5. Descriptive Analysis of Achievement Goal Orientation

Dimension	Item Label	N	Mean	Std.Deviation
MG	MG1	421	2.684	0.960
	MG2	421	2.639	1.061
	MG3	421	2.663	1.085
	MG4	421	2.713	1.035
PA	PA5	421	2.608	1.080
	PA6	421	2.686	0.879
	PA7	421	2.558	0.966
	PA8	421	2.546	0.981
	PA9	421	2.644	0.962
PAG	PAG10	421	2.732	1.056
	PAG11	421	2.596	1.099
	PAG12	421	2.637	1.082
	PAG13	421	2.584	1.124
	PAG14	421	2.703	1.078
AGO		421	2.642	0.760

Based on the standard deviation values presented in Table 5, it was observed that the range of values fell between 0.760 and 1.124, indicating a relatively low level of dispersion from the mean. This suggests a consistent pattern in students' responses to achievement goal orientation (AGO) items across the sample. Overall, the standard deviation values remained within an expected range, reflecting the stability of students' perceptions of achievement goal orientation.

Additionally, Table 6 presents the mean scores and standard deviations for the sub-constructs of achievement goal orientation (AGO). Mastery Goal (MG) recorded the highest mean score (M=2.675, SD=0.876), followed by Performance-Avoidance Goal (PAG) (M=2.650, SD = 0.912), while Performance-Approach Goal (PA) had the lowest (M=2.609, SD = 0.800). All three sub-constructs were categorized at a moderate level, with standard deviation values remaining below 1, suggesting that students' responses were relatively uniform and concentrated around the mean. These findings indicate that vocational university students demonstrate comparable tendencies across different achievement goal orientations.

Table 6. Descriptive Statistics of AGO Sub-Constructs

No	Sub-Constructs	Mean	Std.Deviation
1	MG	2.675	.876
2	PA	2.609	.800
3	PAG	2.650	.912

Table 7 presents the distribution of achievement goal orientation (AGO) levels among vocational university students based on the established mean score classification system. The results show that 43.23% of students exhibited a low level of AGO (M=1.00-2.33), indicating that a substantial portion of students may have weaker goal-setting tendencies in their academic pursuits. Meanwhile , 42.04 % of students fell into the moderate category (M=2.3-3.67), suggesting that a considerable number of students maintain a balanced but not strongly defined achievement goal orientation. In contrast, only 14.73% of students demonstrated a high level of AGO (M=3.68-5.00), implying that relatively few students possess a strong and consistent drive toward academic achievement.

Table 7. Levels of Achievement Goal Orientation

Mean Score Range	Level	Frequency	Per cent
1.00-2.33	Low	182	43.23
2.34-3.67	Moderate	177	42.04
3.68-5.00	High	62	14.73
Total		421	100.0

Descriptive Analysis of Student Learning Engagement

According to the descriptive analysis results, the mean scores and standard deviations for each item within the sub-constructs of Student Learning Engagement (SLE) are summarized in Table 8. These values offer insights into how vocational university students perceive different aspects of learning engagement, including Behavioral Engagement (BE), Emotional Engagement (EE), and Cognitive Engagement (CE). The standard deviation values ranged from 0.837 to 1.045, indicating that students' responses were generally clustered around the mean, suggesting a reasonable level of reliability. These findings provide a clearer understanding of students' engagement levels and highlight variations across the different dimensions of learning engagement.

Table 8. Descriptive Analysis of Student Learning Engagement

Dimension	Item Label	N	Mean	Std.Deviation
BE	BE1	421	2.470	0.815
	BE2	421	2.416	0.846
	BE3	421	2.356	0.837
	BE4	421	2.404	0.886
	BE5	421	2.356	0.876
EE	EE6	421	2.392	0.984
	EE7	421	2.340	0.976
	EE8	421	2.297	1.012
	EE9	421	2.344	1.045
CE	CE10	421	2.380	0.935
	CE11	421	2.437	1.039
	CE12	421	2.439	1.016
	CE13	421	2.435	1.044
	CE14	421	2.494	0.982
SLE		421	2.397	0.685

Furthermore, Table 9 presents the mean scores and standard deviations for the sub-constructs of Student Learning Engagement (SLE). Cognitive Engagement (CE) had the highest mean score (M=2.437, SD=0.818), followed by Behavioral Engagement (BE) (M=2.400, SD=0.706), while Emotional Engagement (EE) had the lowest (M=2.343, SD=0.842). The standard deviation values for all three sub-constructs remained below 1, indicating that students' responses were generally consistent and closely distributed around the mean. These results suggest that vocational university students exhibit similar engagement levels across different dimensions, with cognitive engagement being slightly more prominent.

Table 9. Descriptive Statistics of SLE Sub-Constructs

No	Sub-Constructs	Mean	Std.Deviation
1	BE	2.400	.706
2	EE	2.343	.842
3	CE	2.437	.818

Student Learning Engagement (SLE) levels were classified into three categories: low, moderate, and high (Table 4.23). The majority of respondents (51.54%) reported a low level of SLE, suggesting that more than half of the students face

challenges in maintaining active participation in their learning. Additionally, 42.28% of students exhibited a moderate level of engagement, indicating that while many students are somewhat engaged, there is still room for improvement. In contrast, only 6.18% of students demonstrated high engagement, suggesting that a very small proportion exhibited sustained strong involvement in their academic activities. These findings underscore the importance of implementing strategies to foster greater student engagement, particularly for those exhibiting lower levels of participation.

Table 10. Levels of Student Learning Engagement

Mean Score Range	Level	Frequency	Per cent
1.00~2.33	Low	217	51.54
2.34~3.67	Moderate	178	42.28
3.68~5.00	High	26	6.18
Total		421	100.0

The majority of vocational university students reported their level of Teacher Support (TS) as moderate (46.08%) or low (42.52%), indicating that while many students receive some degree of support from their teachers, a substantial proportion perceive it as insufficient. Regarding Achievement Goal Orientation (AGO), most students exhibited low (43.23%) or moderate (42.04%) levels, suggesting that a significant number demonstrate weak to moderate goal-setting tendencies, which may influence their overall academic motivation. Furthermore, a majority of students reported low (51.54%) to moderate (42.28%) levels of Student Learning Engagement (SLE), highlighting potential challenges in maintaining active participation in learning.

Conclusion

This study aimed to examine the current levels of teacher support, achievement goal orientation, and learning engagement among vocational university students in Guizhou Province. The findings revealed an overall pattern of moderate to low levels across the three constructs, suggesting that students in this educational context may face certain limitations in terms of motivation and academic involvement. Compared with findings from other higher education settings, the results of this study appear less favourable.

In the domain of teacher support, 42.52 percent of students reported a low level, while 46.08 percent perceived support at a moderate level. Although students generally acknowledged moderate degrees of autonomy support, emotional support, and competence support, their overall perceptions were lower than those reported in existing studies such as Liu et al. (2023) and Chiu et al. (2023). Factors such as student type, regional disparities in educational resources, and institutional orientation may help explain this discrepancy.

Achievement goal orientation was also found to be limited, with 43.23 percent of students indicating a low level and 42.04 percent reporting a moderate level. This suggests that a large proportion of students lacked strong internal motivation and clear learning goals. Compared with the result of Li et al. (2021), who found relatively stronger achievement goal orientations among students in other types of institutions, vocational university students in this study demonstrated weaker academic drive. The low level of perceived teacher support and the absence of a strong academic identity may be contributing factors.

In terms of learning engagement, the results showed that 51.54 percent of students reported low engagement, with only a small percentage demonstrating high involvement. Across behavioral, emotional, and cognitive dimensions, students' engagement remained limited. Compared with studies conducted in other regions, such as those by Tseng (2021) and Olivier et al. (2021), the students in this study appeared to have more difficulty maintaining interest, sustained effort, and reflective learning. This could be associated with factors including limited instructional interaction, a focus on technical training rather than academic exploration, and weak academic identity.

In conclusion, vocational university students in Guizhou Province tend to perceive teacher support at a moderate to slightly low level while showing relatively low levels of achievement goal orientation and learning engagement. These findings may be understood in light of the practical orientation of vocational education, the lack of individualized academic support, and social expectations surrounding vocational pathways. Recognizing these factors is essential for improving the quality of teaching and learning support in vocational institutions and for enhancing students' motivation and participation in the academic process.

Implications

The results of this study provide several implications for improving vocational university students' motivation and engagement. First, the findings reinforce the importance of teacher support in shaping students' learning experiences. With a significant proportion of students perceiving low to moderate levels of support, especially in emotional and competence dimensions, there is a need to strengthen teacher-student interaction in vocational settings. As noted by Liu et al. (2023), students who feel supported by their teachers are more likely to stay engaged and make sustained academic efforts. This highlights the necessity of promoting instructional practices that are both academically and emotionally responsive.

Second, the study confirms that students' achievement goal orientation is influenced by their educational context. The relatively low motivation observed in this research contrasts with more positive findings from other institutional types, such as those reported by Li et al. (2021). This suggests that practice-oriented programs, limited academic pressure, and unclear achievement expectations may hinder students' development of meaningful learning goals. Strengthening academic challenges and clarifying goal structures may help students form stronger motivational tendencies.

Lastly, the low engagement levels identified in this study point to the importance of improving learning environments. Compared with students in other university settings who benefit from supportive instructional design and structured learning tasks (Olivier et al., 2021; Tseng, 2021), vocational students may lack sufficient academic stimulation. Teaching strategies that foster reflection, participation, and relevance may serve to improve engagement across behavioral, emotional, and cognitive domains. In sum, enhancing teacher support, refining instructional design, and attending to the academic needs of vocational students are essential for fostering a more engaging and motivating learning environment.

Limitations

This study has several limitations that should be considered when interpreting the findings. First, the sample was drawn from a single vocational university in Guizhou Province. Although stratified random sampling was applied, the results may not fully represent students from other institutions or regions with different educational conditions. Second, the cross-sectional design limits the ability to observe changes over time. The data reflect students' perceptions at a specific point, making it difficult to assess how teacher support, motivation, and engagement may shift during different stages of their academic journey. Finally, the study focused only on three core variables. Other potentially influential factors, such as peer relationships, learning environment, and prior academic performance, were not included and may further explain variations in students' engagement and motivation.

Recommendations for Future Directions

Future studies may consider involving multiple vocational universities from different regions to improve the sample's representativeness. Comparative analyses across institutions or provinces could help reveal regional or institutional differences in students' perceptions and behaviours. It is also advisable to adopt longitudinal research designs to examine how teacher support, achievement goal orientation, and learning engagement evolve throughout students' academic development. This approach would allow for a clearer understanding of the changes that occur over time. In addition, future research should include other relevant factors such as peer relationships, classroom climate, or prior academic achievement. Including these variables may help explain additional influences on students' motivation and engagement within vocational education.

Collectively, the findings of this study shed light on the challenges vocational university students face in terms of motivation and engagement. The results underscore the influence of teacher support and achievement goal orientation on students' learning experiences, particularly within the context of practice-oriented higher education. By focusing on a group often underrepresented in motivational research, this study contributes to a clearer understanding of how institutional and social factors interact with student development. These insights may serve as a reference for future teaching reforms and support strategies aimed at strengthening learning outcomes in vocational settings.

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