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Educational Quality and Academic Life Satisfaction in Vocational Education: The Mediating Role of Academic Motivation

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Abstract

This study investigates the structural relationships among educational quality, academic motivation, and academic life satisfaction among vocational college students in Anhui Province, China. Educational reforms have significantly expanded vocational pathways. However, empirical evidence remains limited regarding how institutional environments shape students' motivational processes and well-being. Drawing on Self-Determination Theory, Social Cognitive Theory, and Subjective Well-Being theory, this study proposes a structural model. Using a cross-sectional design, data were collected through purposive non-probability sampling from full-time students enrolled in multiple public higher vocational colleges across Anhui Province. A total of 307 valid responses were collected through a structured survey. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to assess both the measurement and structural models. The results provide strong support for all hypothesised relationships. First, educational quality demonstrated a substantial positive effect on academic motivation. This indicates that relevant curricula, supportive teaching, and sufficient learning resources significantly enhance students' perceived competence and engagement. Second, academic motivation functioned as a mediator between educational quality and academic life satisfaction, indicating that educational quality influences academic life satisfaction partly through motivational processes. Finally, educational quality continued to exert a significant direct positive effect on academic life satisfaction, underscoring the importance of institutional structures in shaping cognitive well-being. These results highlight an integrated pathway where institutional quality and motivational processes jointly contribute to academic satisfaction. Practical implications include the need to strengthen

teaching quality and enhance curriculum relevance to cultivate both motivation and student satisfaction.
Keywords: Educational Quality, Academic Motivation, Academic Life Satisfaction, Vocational Colleges, Self-Determination Theory

Introduction

Educational quality, academic motivation, and academic life satisfaction constitute three interrelated dimensions that fundamentally shape students' engagement, learning experiences, and well-being in vocational education. Educational quality encompasses institutional governance, teaching effectiveness, curriculum relevance, and learning support, all of which influence students' perceptions of their academic environment and opportunities for development (Li et al., 2024; Qingyan et al., 2023). Academic motivation, grounded in Self-Determination Theory, reflects the intrinsic and extrinsic forces that drive students' persistence and engagement in learning activities (Deci & Ryan, 1985; Ryan & Deci, 2000). Academic life satisfaction refers to students' cognitive evaluation of their academic experiences and represents a key indicator of subjective well-being, resilience, and adaptive functioning in educational contexts (Diener et al., 1985; Tian et al., 2015). Together, these constructs provide a comprehensive framework for understanding how institutional conditions translate into motivational processes and academic well-being.

Vocational education has gained increasing attention worldwide as countries seek to cultivate technically skilled workers capable of sustaining economic transformation and industrial upgrading. In China, national initiatives such as Made in China 2025 underscore the strategic importance of strengthening vocational talent pipelines to support advanced manufacturing and emerging productive forces (Zheng & Mustappha, 2023; Liu et al., 2025). In response, Anhui Province has expanded and restructured its vocational education system to better align training provision with regional labor market demands (Zhao & Selvaratnam, 2024). Within this policy context, understanding how students perceive educational quality and how such perceptions relate to their motivation and academic life satisfaction has become increasingly important. Empirical studies suggest that supportive learning environments, effective teaching, and adequate resources enhance students' motivation and satisfaction (Zhang, 2023; Chen et al., 2023; Ghozi et al., 2025). However, much of this evidence is derived from general higher education settings, limiting its applicability to vocational colleges, where students often face distinct socio-economic pressures, employability expectations, and motivational structures (Lan & Jimenez, 2025; Chen & Pastore, 2024).

Despite growing scholarly interest, several critical gaps remain in the literature. First, existing studies tend to examine educational quality, academic motivation, and academic life satisfaction in isolation, offering limited insight into their structural interrelationships. Second, although motivational theories suggest that academic motivation may function as a psychological mechanism linking institutional environments to well-being outcomes, empirical tests of this mediating role remain scarce in vocational education contexts. Third, region-specific evidence from underdeveloped or less-studied areas—such as Anhui Province—is limited, despite vocational education serving as a primary pathway for workforce preparation in these regions. As a result, current research provides an incomplete and

fragmented understanding of how institutional quality influences vocational students' motivation and academic well-being.

To address these gaps, the present study constructs and tests a structural model examining the relationships among educational quality, academic motivation, and academic life satisfaction among higher vocational college students in Anhui Province. Drawing on Self-Determination Theory and the Input–Process–Output framework, educational quality is conceptualized as an institutional input that shapes students' motivational processes by supporting autonomy, competence, and relatedness, which in turn influence academic life satisfaction. Using quantitative data and structural equation modeling, this study aims to (1) examine the direct effects of educational quality on academic motivation and academic life satisfaction, (2) assess the effect of academic motivation on academic life satisfaction, and (3) test the mediating role of academic motivation in the relationship between educational quality and academic life satisfaction. By doing so, the study seeks to advance a more integrated and process-oriented understanding of student development in vocational education and to provide empirically grounded insights relevant to institutional improvement and policy design.

Literature Review

Self-Determination Theory and Academic Motivation

Self-Determination Theory (SDT) offers a comprehensive lens for understanding how academic motivation develops and operates within vocational education environments. SDT conceptualizes motivation along a continuum ranging from intrinsic to extrinsic (Deci & Ryan, 1985; Ryan & Deci, 2000). This continuum is shaped by the extent to which learning environments satisfy three basic needs for autonomy, competence, and relatedness. When students perceive that their educational setting supports their autonomy, provides appropriate challenges, and fosters meaningful social relationships, they are more likely to internalize academic goals and sustain long-term engagement. Empirical work demonstrates that intrinsic motivation predicts deeper learning, better academic performance, and greater psychological well-being, whereas controlled forms of extrinsic motivation tend to weaken persistence and satisfaction over time (Guay et al., 2010; Vansteenkiste et al., 2005).

In vocational contexts, SDT is particularly relevant because students often enter programs with strong external pressures, including employment expectations, societal perceptions, and family obligations (Rui & Xianglong, 2023). These pressures may shape the quality, rather than the quantity, of students' motivation. Research suggests that institutional practices—such as effective teaching, autonomy-supportive instruction, and constructive feedback—can facilitate students' internal motivation by promoting perceived competence and relatedness (Chen et al., 2023; Xiaohui & Wahid, 2023). This highlights the critical role of educational quality in shaping motivational processes. Within the present study, SDT provides the theoretical rationale for examining motivation as a mediating mechanism that links institutional characteristics to students' academic well-being.

Social Cognitive Theory and Educational Quality

Social Cognitive Theory (SCT) expands the explanation of academic behavior by emphasizing the reciprocal interactions among personal beliefs, environmental conditions, and behavioral outcomes. Central to SCT is self-efficacy—the belief in one's capacity to

succeed—which strongly influences students' academic choices, levels of effort, and persistence (Schunk & DiBenedetto, 2020). In vocational education, educational quality—including governance, teaching effectiveness, curriculum relevance, and resource availability—forms a key environmental determinant that shapes students perceived competence and expectations (Li et al., 2024; Qingyan et al., 2023). High-quality environments have been shown to enhance student engagement and confidence, leading to better learning outcomes.

Moreover, SCT emphasizes that learning environments not only influence students' cognitive beliefs but also reinforce behavioral patterns through modeling, feedback, and institutional norms. Studies indicate that structured governance, supportive instructional practices, and strong industry–education partnerships positively influence students' academic perceptions and persistence (Wei, 2019; Ou, 2024). Conversely, inadequate quality assurance systems or weak industry integration may undermine student development and limit their perceived relevance of learning (Guo et al., 2015; Zheng & Tan, 2024). Therefore, SCT positions educational quality as a contextual driver that directly shapes students' expectations and indirectly influences their motivation and satisfaction. This foundation supports the conceptualization of educational quality as a key predictor in the proposed research model.

Life Satisfaction Theories in Positive Psychology and Subjective Well-Being

The study of academic life satisfaction is rooted in Positive Psychology and the broader framework of Subjective Well-Being (SWB). Life satisfaction refers to one's cognitive evaluation of life conditions, guided by personal values and environmental experiences (Diener et al., 1985). Within academic settings, life satisfaction reflects how students assess their educational experiences, including interpersonal relationships, learning environments, institutional support, and academic progress (Pavot & Diener, 2008). Research has shown that environments that provide social support, promote a sense of belonging, and reduce academic stress contribute to higher levels of student well-being (Tian et al., 2015). Because vocational students often navigate additional challenges—such as uncertain career trajectories and societal biases toward vocational pathways—academic life satisfaction becomes a critical indicator of their psychological resilience and educational adjustment.

A growing body of literature also highlights the central role of motivation in shaping life satisfaction. Motivated students tend to engage more deeply with learning, experience fewer negative emotions, and report higher overall academic well-being (Chen et al., 2023). This relationship aligns with SWB theory, which posits that cognitive evaluations of life are shaped by meaningful, goal-directed activities and positive interactions within one's environment. In vocational contexts, the alignment of institutional quality, motivational processes, and student experiences is especially salient, as these learners often rely heavily on academic environments for both skill development and socio-emotional support. These theoretical insights underscore the importance of examining academic life satisfaction as an outcome variable influenced by both educational quality and motivation.

Theoretical Perspectives to the Conceptual Framework

Subjective Well-Being theory contributes the final component by conceptualizing academic life satisfaction as a cognitive evaluation shaped by students' motivational states

and educational experiences (Diener et al., 1985; Tian et al., 2015). Motivated students are more likely to engage meaningfully in learning, interpret academic challenges positively, and experience higher levels of well-being (Pavot & Diener, 2008; Chen et al., 2023). Thus, academic motivation is theorized to serve as the mediating mechanism linking educational quality to life satisfaction. Combining these perspectives, the study proposes a structural model in which educational quality exerts both direct and indirect effects on academic life satisfaction through its influence on motivational processes. Accordingly, these integrated theoretical perspectives form the basis for the study's conceptual framework, which is presented in Figure 1 (Research Model) and visually illustrates the hypothesized pathways among educational quality, academic motivation, and academic life satisfaction.

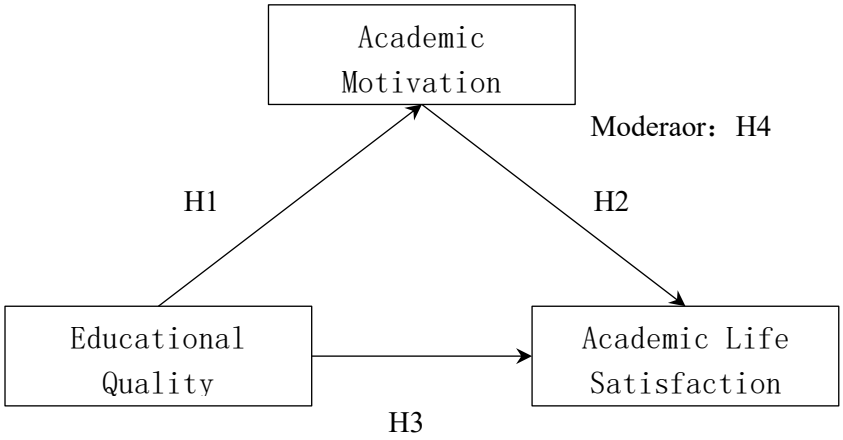

Figure 1. Research model

Research models and hypotheses, theoretical background and hypotheses

Educational Quality and Academic Motivation (H1)

Self-Determination Theory posits that learning environments that support autonomy, competence, and relatedness foster stronger intrinsic motivation, whereas low-quality environments often lead to controlled or externally regulated forms of motivation (Ryan & Deci, 2000). In vocational education, educational quality—such as teaching effectiveness, curriculum relevance, and meaningful feedback—plays a crucial role in shaping students' perceptions of support and capability. High-quality instruction and positive teacher–student interactions have been shown to enhance learners' confidence and engagement, thereby strengthening their motivational intensity (Chen et al., 2023; Xiaohui & Wahid, 2023). SCT further argues that environmental factors influence students' self-efficacy, which subsequently affects their willingness to exert effort and persist in learning tasks (Schunk & DiBenedetto, 2020). Thus, when students perceive higher levels of educational quality, they are more likely to experience enhanced academic motivation.

H1: Educational quality has a positive impact on academic motivation.

Academic Motivation and Academic Life Satisfaction (H2)

Subjective Well-Being theory identifies motivation as a crucial psychological process that shapes individuals' evaluations of their life experiences (Diener et al., 1985). In academic contexts, motivated students tend to engage more deeply, perceive learning as meaningful, and interpret academic challenges more positively, leading to higher levels of satisfaction with their academic life (Tian et al., 2015). Research further suggests that intrinsic motivation

contributes to emotional well-being, resilience, and sustained engagement, all of which foster positive cognitive appraisals of academic environments (Pavot & Diener, 2008). Among vocational students, academic motivation is especially important because learning is closely tied to future employment aspirations and personal development goals. When students feel motivated, they are more likely to view their academic experience as rewarding and aligned with their personal ambitions.

H2: Academic motivation has a positive impact on academic life satisfaction.

Educational Quality and Academic Life Satisfaction (H3)

Educational quality has been widely identified as a significant predictor of students' satisfaction with their academic life. High-quality environments—characterized by competent teaching, supportive services, fair assessment, and relevant curricula—provide students with positive learning experiences and enhance their sense of academic fulfillment (Li et al., 2024; Qingyan et al., 2023). SCT suggests that such environments strengthen students' self-efficacy, reduce perceived stress, and promote adaptive learning behaviors, thereby improving their overall sense of well-being (Wei, 2019). From the perspective of SWB theory, students form satisfaction judgments based on the extent to which their educational experiences align with their expectations and facilitate personal growth. In vocational contexts, educational quality is especially impactful because students' satisfaction is closely tied to their career preparedness and perceived institutional support.

H3: Educational quality has a positive impact on academic life satisfaction.

The Mediating Role of Academic Motivation (H4)

Building on H1–H3, academic motivation is expected to function as a mediating mechanism through which educational quality influences academic life satisfaction. From the perspective of Self-Determination Theory, high-quality educational environments that support autonomy, competence, and relatedness enhance students' motivational processes, which subsequently shape their cognitive evaluations of academic experiences. In vocational education contexts, institutional factors such as effective teaching, relevant curricula, and sufficient learning resources are likely to strengthen students' engagement and goal internalisation, thereby contributing to greater academic life satisfaction. Consistent with Subjective Well-Being theory, motivated participation in meaningful academic activities fosters more positive academic evaluations. Accordingly, educational quality is hypothesised to influence academic life satisfaction indirectly through academic motivation.

H4: Academic motivation mediates the relationship between educational quality and academic life satisfaction.

Methodology

Research Design

This study employed a quantitative, cross-sectional survey design to examine the relationships among educational quality, academic motivation, and academic life satisfaction among higher vocational college students in Anhui Province. The design is consistent with prior research exploring psychological and institutional factors influencing student development in vocational education contexts. PLS-SEM was adopted as the primary analytic technique because it is well suited for exploratory and prediction-oriented research, accommodates complex models with multiple latent constructs, and performs robustly with non-normal data. PLS-SEM also enables the simultaneous estimation of direct and indirect

effects, making it appropriate for testing the theorized mediation relationships in this study. Standard survey procedures were implemented to ensure the reliability and validity of the collected data, including instrument adaptation, expert review, pilot testing, and classroom-based administration.

Participants and Sampling

Based on G*Power analysis and Green's (1991) recommendations, a minimum of 100 respondents was deemed sufficient to detect medium-sized effects. This study utilized four predictors in a standard multiple regression model. Although the G*Power calculation indicated that 85 cases would meet the required power level, a more conservative threshold of around 100 participants was adopted to ensure stable parameter estimation and to accommodate potential non-response or data loss. Ultimately, a total of 307 valid respondents were obtained, far exceeding both the G*Power requirement and the conservative benchmark, thereby providing strong statistical power for the analyses.

Common Method Bias

As the data for educational quality, academic motivation, and academic life satisfaction were collected from the same respondents at a single point in time using a self-report questionnaire, the potential for common method bias (CMB) was examined. First, Harman's single-factor test was conducted by loading all measurement items into an exploratory factor analysis. The results showed that the first factor accounted for 33.4% of the total variance, which is below the commonly accepted threshold of 40%, indicating that common method bias is unlikely to be a serious concern. In addition, a full collinearity assessment was performed following Kock (2015) to further evaluate common method bias. All inner variance inflation factor (VIF) values were below the recommended threshold of 3.3, suggesting that multicollinearity is not a concern and that the model is free from common method bias issues.

Data Analysis

The measurement model was evaluated for reliability and convergent validity following the guidelines of Hair et al. (2022). Indicator reliability was assessed using outer loadings, with values above 0.708 considered acceptable, as they indicate that the construct explains at least 50% of the indicator variance. All indicators met this criterion, except for EQ11, which exhibited a slightly lower loading (0.703). Given its marginal contribution to the construct and its conceptual overlap with other educational quality indicators, the removal of EQ11 did not compromise the content validity of the Educational Quality construct. On the contrary, excluding EQ11 resulted in improved composite reliability (CR) and average variance extracted (AVE) values. Therefore, EQ11 was removed from the final measurement model to enhance overall construct reliability while preserving theoretical coherence.

Internal consistency reliability was assessed using Cronbach's alpha and composite reliability. Cronbach's alpha values for Academic Life Satisfaction (ALS), Academic Motivation (AM), and Educational Quality (EQ) ranged from 0.926 to 0.932, indicating strong internal consistency. Composite reliability (CR) values for all constructs exceeded the recommended threshold of 0.70, further confirming the reliability of the measurement scales.

Convergent validity was evaluated using the average variance extracted (AVE). The AVE values for ALS (0.573), AM (0.552), and EQ (0.579) all exceeded the recommended threshold

of 0.50, indicating that each construct explains more than half of the variance in its indicators. Overall, these results demonstrate that the measurement model exhibits satisfactory reliability and convergent validity, providing a robust foundation for subsequent structural model analysis.

Table 1
Measurement model assessment

Construct	Items	Loadings	Cronbach's alpha	CR	AVE
Academic Life Satisfaction (ALS)	ALS1	0.737	0.932	0.942	0.573
	ALS10	0.753			
	ALS11	0.788			
	ALS12	0.73			
	ALS2	0.736			
	ALS3	0.777			
	ALS4	0.751			
	ALS5	0.779			
	ALS6	0.768			
	ALS7	0.767			
	ALS8	0.733			
	ALS9	0.763			
Academic Motivation (AM)	AM1	0.712	0.926	0.937	0.552
	AM10	0.768			
	AM11	0.773			
	AM12	0.774			
	AM2	0.725			
	AM3	0.753			
	AM4	0.758			
	AM5	0.724			
	AM6	0.774			
	AM7	0.746			
	AM8	0.709			
	AM9	0.716			
Educational Quality (EQ)	EQ1	0.788	0.930	0.940	0.579
	EQ10	0.773			
	EQ12	0.784			
	EQ2	0.737			
	EQ3	0.760			
	EQ4	0.787			
	EQ5	0.786			
	EQ6	0.757			
	EQ7	0.786			
	EQ8	0.748			
	EQ9	0.753			

Discriminant validity was assessed using two complementary approaches. First, the Fornell–Larcker criterion was applied by comparing the square roots of the AVE values with the inter-construct correlations. As shown in Table 3, the square roots of the AVE for ALS (0.757), AM (0.743), and EQ (0.761) were all greater than their corresponding inter-construct correlations. This indicates that each construct shares more variance with its own indicators than with other constructs, thereby demonstrating satisfactory discriminant validity (Fornnell & Larcker, 1981).

Second, the Heterotrait–Monotrait (HTMT) ratio was used to further examine construct distinctiveness. According to Henseler et al. (2015), HTMT values below 0.85 confirm discriminant validity. As presented in Table 2, all HTMT ratios (ALS–AM = 0.671, ALS–EQ = 0.629, AM–EQ = 0.610) were below the recommended threshold, indicating that the constructs are empirically distinct. This conclusion is further supported by evidence showing that HTMT is a more reliable method for detecting discriminant validity issues compared to traditional criteria (Franke & Sarstedt, 2019).

Table 2
Discriminant Validity via HTMT criterion

	ALS	AM	EQ
ALS			
AM	0.671		
EQ	0.629	0.610	

Table 3
Discriminant Validity via Fornell and Larcker Criterion

	ALS	AM	EQ
ALS	**0.757**		
AM	0.626	**0.743**	
EQ	0.590	0.571	**0.761**

Table 4 presents the results of the hypotheses testing based on the structural model estimates. All hypothesised relationships were found to be statistically significant, as indicated by their path coefficients, t-values and p-values. For H1, the effect of EQ on AM was positive and substantial ($\beta = 0.571$, $t = 15.762$, $p < .001$). The 95% percentile confidence interval (PCI LL = 0.502, PCI UL = 0.642) did not include zero, confirming the robustness of the effect. The effect size was large ($f^2 = 0.483$), indicating that EQ is a strong predictor of AM. For H2, AM demonstrated a significant positive influence on ALS ($\beta = 0.429$, $t = 8.830$, $p < .001$). The confidence interval (PCI LL = 0.333, PCI UL = 0.525) further supports this relationship. The effect size was moderate ($f^2 = 0.235$), suggesting that AM contributes meaningfully to explaining variation in ALS. For H3, EQ also exhibited a strong direct positive effect on ALS ($\beta = 0.590$, $t = 18.177$, $p < .001$). The 95% percentile confidence interval ranged from 0.527 to 0.654, confirming the stability of the finding. The effect size was small to moderate ($f^2 = 0.152$), indicating that EQ has a meaningful influence on ALS. For H4, the indirect effect of EQ on ALS via AM (EQ → AM → ALS) was also statistically significant ($\beta = 0.245$, $t = 7.471$, $p < .001$), with the confidence interval (PCI LL = 0.185, PCI UL = 0.315) excluding zero, supporting

the mediating role of AM. Overall, all hypotheses (H1–H4) were supported. EQ emerged as a strong predictor of AM, and both EQ and AM significantly contributed to ALS.

Table 4
Hypotheses Testing

Hypothesis	Relationship	Std. Beta	Std. Dev.	t-value	p-value	PCI LL	PCI UL	f^2	Decision
H1	EQ→AM	0.571	0.036	15.762	0	0.502	0.642	0.483	Supported
H2	AM→ALS	0.429	0.049	8.83	0	0.333	0.525	0.235	Supported
H3	EQ→ALS	0.59	0.032	18.177	0	0.527	0.654	0.152	Supported
H4	EQ→AM→ALS	0.245	0.033	7.471	0	0.185	0.315		Supported

Discussion and Conclusion

Discussion

The purpose of this study was to examine the structural relationships among educational quality, academic motivation, and academic life satisfaction among vocational college students in Anhui Province. The structural equation modelling results provide robust empirical support for all four hypotheses. These findings offer critical insights into how institutional factors shape students' motivational processes and academic well-being.

First, educational quality exerts a significant positive effect on academic motivation (H1). This aligns with Self-Determination Theory, which posits that learning environments supporting autonomy, competence, and relatedness foster intrinsic motivation (Ryan & Deci, 2000). In the context of this study, high-quality features like effective teaching and relevant curricula will enhance students' perceptions of competence. Consequently, this strengthens their willingness to engage in learning. Previous research in vocational contexts similarly suggests that high-quality instruction and responsive institutional support increase students' motivational strength (Chen et al., 2023; Xiaohui & Wahid, 2023). This finding is vital for vocational education, where external pressures often dominate students' initial learning dispositions.

Second, academic motivation significantly predicts academic life satisfaction (H2). This supports Subjective Well-Being theory and suggesting that cognitive evaluations of life are influenced by meaningful engagement (Diener et al., 1985; Pavot & Diener, 2008). Motivated students are more likely to view academic challenges positively and experience a greater sense of purpose. This sustained engagement contributes directly to enhanced academic satisfaction. Empirical studies have similarly demonstrated that intrinsic motivation fosters deeper learning, emotional well-being, and satisfaction across educational settings (Tian et al., 2015; Chen et al., 2023). The findings extend this evidence to the vocational college

context, showing that motivation operates as a central psychological mechanism in students' educational experiences.

Third, educational quality directly predicts academic life satisfaction (H3). Consistent with Social Cognitive Theory, this confirms that environmental structures like teaching effectiveness, governance, and resource availability will shape students' academic beliefs and emotional responses (Schunk & DiBenedetto, 2020). When students perceive their learning environment as fair, supportive, and well-organized, they report higher satisfaction. Prior research has similarly noted that high-quality educational environments increase students' sense of belonging, reduce stress, and enhance cognitive evaluations of their academic progress (Li et al., 2024; Qingyan et al., 2023). The emphasizes that institutional quality is not merely a backdrop for learning but a substantive determinant of student academic well-being.

Taken together, the results suggest a coherent and theoretically meaningful pattern: educational quality shapes motivational processes, which in turn contribute to students' satisfaction, while also exerting a direct influence on satisfaction independently of motivation. This supports the conceptualisation of academic motivation as both a psychological outcome of institutional conditions and a mediator linking environmental quality to students' subjective well-being. It also highlights the importance of adopting integrated institutional strategies that enhance both environmental quality and motivational support mechanisms. The findings reinforce the relevance of SDT, SCT, and SWB frameworks in vocational college contexts and provide a more comprehensive understanding of how institutional environments shape student development in regions undergoing educational reform.

Theoretical Implications

The first theoretical implication relates to SDT. The significant positive effect of educational quality on academic motivation confirms SDT's proposition that learning environments shape students' motivational regulation through the satisfaction of autonomy, competence and relatedness needs. The findings show that when vocational colleges provide structured instruction, supportive teacher–student interactions and relevant learning tasks, students experience enhanced competence and perceive learning as personally meaningful, which strengthens autonomous motivation. This empirical evidence extends SDT by demonstrating that institutional-level quality indicators—rather than only interpersonal variables—can play a decisive role in shaping motivational processes among vocational students, a population often characterised by externally regulated motives. The mediation pathway supported in this study suggests that educational quality operates not merely as a contextual factor but as a catalyst that accelerates internalisation of academic goals, thus enriching the theoretical understanding of SDT within applied educational settings.

The second implication concerns SCT. The positive association between educational quality and academic life satisfaction indicates that environmental structures contribute to students' cognitive evaluations of their academic experience by shaping their perceived self-efficacy. High-quality teaching, relevant curricula and sufficient learning resources enhance students'confidence in their ability to meet academic demands, which translates into more favourable satisfaction judgments. This finding affirms SCT's assertion that environmental affordances interact with personal beliefs to influence behavioural and emotional outcomes.

Moreover, the study broadens SCT by illustrating that institutional governance and instructional design—traditionally less emphasised in SCT—are critical components of the environmental system that significantly shape students' cognitive and affective responses. As such, the results emphasise the need to incorporate institutional-level variables when applying SCT to the study of student development in vocational contexts.

The third theoretical implication is grounded in SWB theory. The strong effect of academic motivation on academic life satisfaction validates SWB's claim that individuals' cognitive evaluations of life domains are shaped by their engagement in meaningful, goal-directed activities. Motivated students interpret academic challenges more positively, derive greater meaning from their learning processes and report higher satisfaction with their academic lives. This study extends SWB theory by demonstrating that motivation functions as a psychological mechanism linking environmental inputs (educational quality) to well-being outcomes (academic life satisfaction). The integrated results of H1–H3 suggest that satisfaction is not solely a reflection of institutional conditions but is mediated through students' motivational states, thereby offering a more dynamic and process-oriented account of how SWB develops in educational settings. This reinforces the theoretical importance of incorporating motivational constructs into SWB frameworks, particularly within vocational education where satisfaction is closely tied to future employability and personal identity formation.

Practical Implications

The findings of this study offer actionable strategies for vocational institutions aiming to enhance student motivation and academic life satisfaction. Based on the structural model, three key areas for intervention are identified. First, the strong predictive role of educational quality demonstrates that effective teaching is a foundational condition for fostering internal motivation. Vocational colleges must prioritize continuous professional development for instructors. Training should emphasize pedagogical methods that promote student agency, such as constructive feedback and collaborative learning. When instructional approaches are interactive and aligned with developmental needs, learners experience greater competence and autonomy. In turn, this significantly strengthens their engagement and academic persistence.

Second, the results indicate that educational quality directly enhances academic life satisfaction. This highlights the critical importance of institutional structures that extend beyond the classroom. Administrators should strengthen academic advising systems, improving access to learning resources and streamline administrative processes. Ensuring adequate facilities and efficient support services is essential. These features contribute to students' perceptions of fairness, relevance and institutional care. A supportive campus climate serves as a direct driver of students' cognitive evaluation of their academic experience.

Finally, the mediating role of academic motivation underscores the need to design learning environments that cultivate a strong sense of purpose. Institutions should implement policies that integrate real-world applications, industry collaboration and competency-based learning pathways. By connecting academic content to future employability, institutions help

students recognize the long-term value of their education. This approach ensures that students feel empowered, capable and satisfied rather than merely compliant.

Conclusion

This study advances the understanding of vocational education by integrating educational quality, academic motivation, and academic life satisfaction within a unified structural model. The findings confirm that educational quality is a decisive determinant of vocational students' academic life satisfaction, operating both directly and indirectly through academic motivation. By empirically validating the mediating role of academic motivation, the study extends motivational and well-being theories to the vocational education context and underscores the importance of process-oriented mechanisms through which institutional environments shape student outcomes.

The implications are actionable across multiple levels. At the classroom level, teachers can enhance students' motivation by adopting autonomy-supportive pedagogical practices and providing constructive feedback. At the institutional level, administrators should prioritize curriculum relevance, teaching quality assurance, and access to learning support services. At the policy level, vocational education reforms should emphasize instructional quality and student-centered environments to promote both employability and psychological well-being. Several limitations should be acknowledged, including the cross-sectional design, reliance on self-reported data, and the context-specific focus on Anhui Province, which may limit generalisability. Future research is encouraged to employ longitudinal or mixed-method designs and extend the model to diverse vocational settings to further examine the developmental dynamics of motivation and academic well-being.

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