THE IMPACT OF SELF-LEADERSHIP ON LEARNING ENGAGEMENT AMONG UNDERGRADUATES STUDENTS: THE MEDIATING ROLE OF ACADEMIC SELF-EFFICACY

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Abstract: This study aims to explore the impact mechanism of self-leadership on learning engagement among undergraduates at Hunan International Economics University and to verify the mediating role of academic self-efficacy. A questionnaire survey method was employed, targeting 366 undergraduates from Hunan International Economics University. Data analysis was conducted using descriptive statistics, t-tests, one-way ANOVA, Pearson correlation analysis, and PROCESS mediation effect analysis. The results show that the overall level of self-leadership among college students is above average, learning engagement is at a high level, and academic self-efficacy is above average. Self-leadership is significantly and positively correlated with academic self-efficacy and learning engagement, with academic self-efficacy playing a partial mediating role between self-leadership and learning engagement. Factors such as gender and experience as class cadre have significant effects on self-leadership, learning engagement, and academic self-efficacy.

Keywords: Self-leadership, Academic Self-efficacy, Leaning Engagement, Mediating Effect, College Student

Introduction

With the increasing demand for higher education quality, cultivating students' autonomous learning abilities and deep engagement in learning has become a crucial direction in global educational reform. This trend reflects a paradigm shift in higher education from a teacher-centered to a student-centered approach. Learning engagement, as a core concept for measuring the quality of student academic participation, has evolved from a singular focus on behavioral engagement to a multidimensional composite activity encompassing behavior, emotion, and cognition. Research has shown a significant positive correlation between student engagement and academic achievement, while self-leadership, as a capability that promotes individual self-awareness, self-motivation, and self-

regulation, has increasingly been incorporated into the core competencies for the 21st century. However, current research is predominantly concentrated in Western and South Korean universities, leaving a significant gap in empirical studies in Chinese local universities. This study focuses on undergraduates at Hunan International Economics University to explore how self-leadership influences learning engagement through the mediating role of academic self-efficacy, filling the empirical research gap in this area for local Chinese universities.

Research Objectives

(1) To understand the current status of self-leadership, academic self-efficacy, and learning engagement among undergraduates at Hunan International Economics University.

(2) To identify differences in self-leadership, academic self-efficacy, and learning engagement among undergraduates at Hunan International Economics University based on demographic background variables (gender, grade, major, place of origin, and student leadership position).

(3) To examine the impact of self-leadership on academic self-efficacy among undergraduates at Hunan International Economics University.

(4) To examine the impact of academic self-efficacy on learning engagement among undergraduates at Hunan International Economics University.

(5) To examine the impact of self-leadership on learning engagement among undergraduates at Hunan International Economics University.

(6) To explore the impact of self-leadership on learning engagement among college students and to investigate the mediating role of academic self-efficacy in this relationship.

Literature Review

Research on Self-leadership

Self-leadership refers to the process by which individuals influence themselves to achieve their goals through self-awareness, self-motivation, and self-regulation strategies (Manz, 1986). This concept has gained significant attention in both organizational management and educational research. The concept of self-leadership was introduced by Manz (1986) as a self-influence process emphasizing individual self-management and self-motivation. It is based on social cognitive theory (Bandura, 1986), which posits that self-efficacy, or the belief in one's ability to perform specific tasks, is a key component of self-leadership. Several instruments have been developed to measure self-leadership. The most widely used tool is the Self-Leadership Questionnaire (SLQ) by Anderson and Prussia (1997), which assesses dimensions such as self-goal setting and self-rewarding. However, the Revised Self-Leadership Questionnaire (RSLQ) by Houghton and Neck (2002) is considered more robust, including additional dimensions like self-observation and self-dialogue. Empirical research consistently shows that self-leadership positively impacts performance and self-efficacy. For example, Carmeli et al. (2006) found

that self-leadership enhances work performance and creativity. Prussia et al. (1998) demonstrated that self-leadership strategies improve academic self-efficacy and performance. Recent studies also highlight the influence of demographic factors on self-leadership effectiveness (Ho & Nesbit, 2018; Bae-Yang & Park, 2019). Self-leadership is crucial for enhancing individual performance and self-efficacy. Future research should explore its role in diverse settings and investigate the moderating effects of demographic variables.

Research on Learning Engagement

Learning engagement, a pivotal indicator of student academic participation, has evolved from a unidimensional focus on behavioral involvement to a triadic construct integrating behavioral, emotional, and cognitive dimensions (Fredricks et al., 2004). Schaufeli et al. (2002) operationalized this as vigor (energy and resilience), dedication (emotional identification), and absorption (deep concentration), anchoring it within Bandura's (1986) social cognitive framework that foregrounds self-efficacy as a key driver. The Utrecht Work Engagement Scale-Student (UWES-S) remains the dominant measurement tool for its cross-cultural reliability. Empirical studies consistently link higher engagement to academic success (Carini et al., 2006), with self-leadership strategies (e.g., self-goal setting) enhancing daily engagement (Breevaart et al., 2014). Demographic analyses reveal nuanced patterns: while gender differences are inconsistent (Upadhyaya, 2023), applied disciplines (e.g., social sciences, engineering) show stronger engagement, likely due to curricula emphasizing real-world relevance. Notably, the mediating role of academic self-efficacy in such processes remains underexplored in Asian contexts (Huang 2013). This gap motivates our examination of how self-leadership, through academic self-efficacy, sustains engagement among Chinese undergraduates, extending engagement research beyond Western educational systems.

Research on Academic Self-efficacy

Academic self-efficacy (ASE) denotes students' convictions about their ability to master academic tasks and attain desired performance levels. Rooted in Bandura's (1986) social cognitive theory, ASE functions as a dynamic motivational filter that influences goal setting, persistence, and strategic effort deployment. It is typically parsed into two facets: self-efficacy for learning (confidence in acquiring new content) and for performance (confidence in demonstrating mastery). Measurement has progressed from global self-report scales (e.g., Bandura's GSES) to context-specific and even real-time instruments. Meta-analytic evidence (Multon et al., 1991) confirms a moderate-to-strong positive association between ASE and academic achievement; higher ASE predicts better course grades, greater persistence, and adaptive strategy use (Pajares, 1996). In higher education, ASE is further linked to increased satisfaction and retention. Recent work highlights its malleability: mastery experiences, vicarious modeling, and social persuasion all contribute to its development, while demographic variables (gender, discipline) exert modest moderating effects. Collectively, ASE serves as a pivotal psychological lever; interventions that cultivate mastery experiences and constructive feedback loops

can raise efficacy beliefs and, consequently, student success.

Research on the Relationship between Self-leadership, Learning Engagement and Academic Self-efficacy

Self-leadership, academic self-efficacy, and learning engagement are three interrelated constructs rooted in Bandura's (1986) social cognitive theory. Self-leadership refers to individuals' ability to influence themselves through self-regulation and self-motivation (Manz, 1986). It has been shown to positively affect academic self-efficacy—the belief in one's capability to perform academic tasks (Prussia et al., 1998; Gannouni & Ramboarison-Lalao, 2018). Academic self-efficacy, in turn, is a strong predictor of learning engagement, which is characterized by vigor, dedication, and absorption (Schaufeli et al., 2002). Students with higher self-efficacy are more likely to be actively engaged in learning tasks (Honicke et al., 2020). Self-leadership also directly influences learning engagement by promoting proactive behavior and intrinsic motivation (Breevaart et al., 2014). Moreover, academic self-efficacy often mediates the relationship between self-leadership and learning engagement, highlighting its central role in translating self-leadership behaviors into active engagement (Gannouni & Ramboarison-Lalao, 2018; Shao & Kang, 2022). In summary, self-leadership enhances academic self-efficacy, which in turn fosters greater learning engagement. Future research should continue exploring these dynamics in diverse educational contexts.

Methodology

This study adopts a survey research method, targeting 366 undergraduate students from Hunan International Economics University. Data were collected through questionnaires to explore the impact mechanism of self-leadership on learning engagement and to verify the mediating role of academic self-efficacy. In terms of research design, the study first clarifies the research variables and theoretical framework through a literature review. Self-leadership is identified as the independent variable, learning engagement as the dependent variable, and academic self-efficacy as the mediating variable. Control variables include gender, grade, major, place of origin, and student leadership position. Subsequently, a stratified convenience sampling method was employed, distributing questionnaires according to the university's disciplinary distribution. A total of 366 valid questionnaires were collected, with an effective response rate of 96.57%. Data collection instruments include three standardized scales: the Revised Self-Leadership Questionnaire (RSLQ) developed by Houghton and Neck (2002), the Utrecht Work Engagement Scale-Student (UWES-S) developed by Schaufeli et al. (2002), and the Academic Self-Efficacy Scale developed by Liang (2000). All scales were pre-tested and demonstrated good reliability and validity. Data analysis methods include descriptive statistical analysis, independent samples t-tests, one-way analysis of variance (ANOVA), Pearson correlation analysis, and mediation effect testing using the PROCESS macro (Model 4). Data were processed using SPSS 26.0 software to ensure accuracy and reliability of the analysis results.

In summary, this study is characterized by a rigorous design, scientific methodology, and standardized data collection and analysis procedures, providing a solid foundation for the reliability of the research conclusions

Results

Demographic Analysis of Questionnaire Participants

Table 1: Demographic Background Statistics for Official Questionnaire

Variables	Options	Frequency	Percentage（%）
Gender	Male	124	33.88
	Female	242	66.12
Grade	Freshman	125	34.15
	Sophomore	122	33.33
	Junior	107	29.23
	Senior	12	3.28
Academic Discipline	Science and Engineering	76	20.77
	Humanities	118	32.24
	Social Sciences	109	29.78
	Arts	63	17.21
Place of Origin	Rural	232	63.39
	Urban	134	36.61
Whether Serving as a	Yes	96	26.23
Class Cadre	No	270	73.77

The study involved a total of 366 valid participants from Hunan International Economics University. The demographic characteristics of the participants are as follows:

- Gender: Among the participants, 124 were male (33.88%) and 242 were female (66.12%), indicating a higher proportion of female students in the sample.

- Grade Level: The distribution across grade levels was relatively balanced, with 125 first-year students (34.15%), 122 second-year students (33.33%), 107 third-year students (29.23%), and 12 fourth-year students (3.28%). The lower number of fourth-year students is likely due to their graduation and internship commitments during the survey period.

- Academic Discipline: The participants were from four major disciplines: 76 from Science and Engineering (20.77%), 118 from Humanities (32.24%), 109 from Social Sciences (29.78%), and 63 from Arts (17.21%). The sample distribution aligns with the university's

overall student population.

- Place of Origin: A majority of the participants (232, or 63.39%) were from rural areas, while 134 (36.61%) were from urban areas, reflecting the university's student composition.

- Student Leadership Position: Among the participants, 96 (26.23%) had experience as class cadre, while 270 (73.77%) did not. This distribution is consistent with the typical class structure in higher education institutions.

Overall, the demographic profile of the participants is diverse and representative of the student body at Hunan International Economics University, providing a solid foundation for the generalizability of the study's findings.

Descriptive Statistics on Self-leadership, Learning Engagement and Academic Self-efficacy

Table 2: Overall Level of Self-Leadership Among Undergraduates at Hunan International Economics University (N=366)

Dimensions	Mean	Standard Deviation
Visualizing Successful Performance	3.72	0.74
Self-Goal Setting	3.76	0.71
Self-Talk	3.67	0.78
Self-Reward	4.06	0.88
Evaluating Beliefs and Assumptions	3.76	0.82
Self-Punishment	3.23	0.83
Self-Observation	3.67	0.81
Natural Rewards	3.73	0.72
Self-Cueing	3.50	0.85
Self-Leadership	3.67	0.78

The study assessed three key variables—self-leadership, learning engagement, and academic self-efficacy—among 366 undergraduates at Hunan International Economics University. Below is a summary of the descriptive statistics for each variable.

Self-Leadership

Overall Level: The mean score for self-leadership was 3.67 (on a 5-point scale), indicating an above-average level.

Dimensions:

Self-Reward scored highest (M = 4.06), suggesting students effectively use positive reinforcement.

Self-Punishment scored lowest (M = 3.23), indicating weaker self-corrective strategies.

Other dimensions (e.g., Self-Goal Setting, Success Anticipation) ranged from 3.50 to 3.76, reflecting moderate competency in self-management.

Learning Engagement

Overall Level: The mean score was 4.49 (on a 7-point scale), indicating a high level of engagement.

Dimensions:

Dedication scored highest (M = 4.77), showing strong emotional commitment to learning.

Vigor scored lowest (M = 4.20), suggesting challenges in sustaining energy during prolonged study.

Absorption (M = 4.51) indicated moderate ability to focus deeply on tasks.

Academic Self-Efficacy

Overall Level: The mean score was 3.42 (on a 5-point scale), reflecting an above-average belief in academic capabilities.

Dimensions:

Learning Ability Self-Efficacy (M = 3.55) was higher than Learning Behavior Self-Efficacy (M = 3.28), indicating stronger confidence in innate ability than in executing effective study strategies.

Key Takeaways

Students demonstrated solid self-leadership skills, particularly in self-motivation, but showed room for improvement in self-discipline.

High learning engagement was driven by emotional investment (Dedication), though physical/mental stamina (Vigor) lagged.

Academic self-efficacy was moderately high, with a gap between perceived ability and strategic execution.

These findings highlight areas for targeted interventions, such as enhancing self-regulatory strategies and sustaining energetic engagement in learning.

Differences Analysis on Self-leadership, Learning Engagement and Academic Self-efficacy

The study examined variations in self-leadership, learning engagement, and academic self-efficacy across key demographic variables. Below is a summary of the findings:

Gender Differences

Self-Leadership: No significant differences between male and female students ($p > 0.05$).

Learning Engagement: Males scored significantly higher than females in overall engagement ($p = 0.013$), particularly in Vigor ($p = 0.011$) and Dedication ($p = 0.008$). No significant difference in Absorption ($p = 0.099$).

Academic Self-Efficacy: No significant gender differences ($p > 0.05$), though males showed slightly higher Learning Ability Self-Efficacy ($p = 0.054$).

Grade-Level Differences

Self-Leadership: No significant differences across grades (p > 0.05), except for Natural Reward (p = 0.022), where fourth-year students scored lower than other grades.

Learning Engagement: No significant differences (p > 0.05), though third-year students showed slightly higher engagement.

Academic Self-Efficacy: No significant differences (p > 0.05).

Academic Discipline Differences

Self-Leadership: No significant differences overall (p > 0.05), but Natural Reward was higher for Social Science majors (p = 0.044).

Learning Engagement: Significant differences in Dedication (p = 0.027) and Absorption (p = 0.029), with Social Science and Science/Engineering majors scoring higher than Humanities and Arts majors.

Academic Self-Efficacy: Social Science majors reported higher efficacy (p = 0.049) than Humanities and Arts majors.

Place of Origin (Rural vs. Urban)

Self-Leadership: No significant differences overall (p > 0.05), but rural students scored higher in Self-Goal Setting (p = 0.013).

Learning Engagement: No significant differences (p > 0.05).

Academic Self-Efficacy: No significant differences (p > 0.05).

Student Leadership Position

Self-Leadership: Class cadres scored significantly higher overall (p = 0.005) and in Success Anticipation (p = 0.006), Self-Talk (p = 0.007), Self-Punishment (p = 0.005), and Self-Observation (p = 0.002).

Learning Engagement: Class cadres scored higher in all dimensions (p < 0.05), including Vigor (p = 0.045), Dedication (p = 0.033), and Absorption (p = 0.007).

Academic Self-Efficacy: Class cadres reported higher overall efficacy (p = 0.033) and Learning Ability Self-Efficacy (p = 0.021).

Key Takeaways

Gender: Males showed higher learning engagement, but no differences in self-leadership or self-efficacy.

Grade: Fourth-year students had lower intrinsic motivation (Natural Reward).

Discipline: Social Science and Science/Engineering students outperformed Humanities and Arts students in engagement and self-efficacy.

Place of Origin: Minimal differences, with rural students slightly better at goal-setting.

Student Leadership Position: Strong positive impact on all three variables, highlighting the benefits of leadership experience.

These findings suggest that demographic factors—particularly major and leadership

experience—significantly influence students' self-regulation, confidence, and engagement in learning.

Correlation Analysis among Three Main Variables

Table 3: Pearson Correlation Coefficients Among Variables

	1. t (p)	2. t (p)	3. t (p)
1. Self-Leadership	1	0.668(0.000)	0.704(0.000)
2. Learning Engagement	0.668(0.000)	1	0.777(0.000)
3. Academic Self-Efficacy	0.704(0.000)	0.777(0.000)	1

The study examined the interrelationships among the three core variables using Pearson correlation analysis. The results revealed significant positive correlations among all three constructs:

Self-Leadership & Academic Self-Efficacy

Strong positive correlation (r = 0.704, p < 0.01).

Students with higher self-leadership (e.g., goal-setting, self-reward) reported greater confidence in their academic abilities.

Self-Leadership & Learning Engagement

Moderate-to-strong positive correlation (r = 0.668, p < 0.01).

Self-leadership strategies (e.g., self-observation, self-talk) were associated with higher levels of vigor, dedication, and absorption in learning.

Academic Self-Efficacy & Learning Engagement

Very strong positive correlation (r = 0.777, p < 0.01).

Students who believed in their academic competence were more likely to exhibit sustained engagement in their studies.

Key Takeaways

Self-leadership and academic self-efficacy are closely linked, suggesting that self-regulated learners develop stronger confidence in their abilities.

Academic self-efficacy has the strongest association with learning engagement, reinforcing its role as a key driver of student motivation and persistence.

The correlations support the theoretical framework: self-leadership enhances self-efficacy, which in turn fosters deeper engagement in learning.

These findings lay the groundwork for further regression and mediation analyses, confirming the interconnected nature of these variables in predicting student success.

Regression Analysis among Three Main Variables

The study employed regression analysis to examine the predictive relationships among the three key variables. The results are summarized below:

Self-Leadership → Academic Self-Efficacy

Table 4: Regression Coefficients of Self-Leadership on Academic Self-Efficacy

Model		Unstandardized Coefficients		Standardized Coefficients			
		B	SE	β	R^2	t	p
1	(Constant)	0.947	0.132	-	-	7.175	<.001
	Self-Leadership	0.672	0.036	0.704	0.495	18.905	<.001

Note. N=366. SE=standard error. Dependent variable: Academic Self-Efficacy.

Significant positive prediction ($\beta = 0.704$, $p < 0.001$).

Self-leadership explained 49.5% of the variance in academic self-efficacy ($R^2 = 0.495$).

Higher self-leadership (e.g., goal-setting, self-reward) strongly predicted greater confidence in academic abilities.

Academic Self-Efficacy → Learning Engagement

Table 5: Regression Coefficients of Academic Self-efficacy on Learning Engagement

Model		Unstandardized Coefficients		Standardized Coefficients			
		B	SE	β	R^2	t	p
1	(Constant)	-1.28	0.248			-5.154	0.000
	Academic Self-Efficacy	1.691	0.072	0.777	0.603	23.522	0.000

Note. N=366. SE=standard error. Dependent variable: Learning Engagement.

Significant positive prediction ($\beta = 0.777$, $p < 0.001$).

Academic self-efficacy accounted for 60.3% of the variance in learning engagement ($R^2 = 0.603$).

Students with stronger academic self-beliefs showed higher vigor, dedication, and absorption in learning.

Self-Leadership → Learning Engagement

Table 6: Regression Coefficients of Self-Leadership on Learning Engagement

Model		Unstandardized Coefficients		Standardized Coefficients			
		B	SE	β	R^2	t	p
1	(Constant)	-0.602	0.301			-1.997	0.047
	Self-Leadership	1.387	0.081	0.668	0.446	17.105	0.000

Note. N=366. SE=standard error. Dependent variable: Learning Engagement.

Significant positive prediction (β = 0.668, p < 0.001).

Self-leadership explained 44.6% of the variance in learning engagement (R² = 0.446).

Self-regulated behaviors directly enhanced students' active participation in learning.

Mediation effect analysis

Table 7: Path Coefficients of the Mediation Model

| Path	Estimate (β)	SE	t	p	95% CI
a	0.6649	0.0356	18.6814	<.001	[0.5949, 0.7349]
b	0.6038	0.0443	13.6207	<.001	[0.5167, 0.6910]
c' (Direct)	0.2192	0.0421	5.2053	<.001	[0.1364, 0.3020]
a*b (Indirect)	0.4015	0.0354	—	—	[0.3345, 0.4725]
c (Total effect)	0.6207	—	—	—	—

Notes.

SE = Standard error.

Bootstrap sample size = 5,000.

Dashes (—) indicate not applicable.

The mediation analysis using Hayes' (2022) PROCESS macro (Model 4) revealed that academic self-efficacy played a significant partial mediating role in the relationship between self-leadership and learning engagement. Specifically, self-leadership exhibited a strong positive predictive effect on academic self-efficacy (β = 0.6649, p < 0.001), explaining 49.02% of its variance (R² = 0.4902). When academic self-efficacy was introduced as a mediator, self-leadership remained significantly associated with learning engagement (direct effect: β = 0.2192, p < 0.001), while academic self-efficacy itself demonstrated a robust positive prediction on learning engagement (β = 0.6038, p < 0.001). The combined model accounted for 62.82% of the variance in learning engagement (R² = 0.6282). Crucially, the indirect effect of self-leadership through academic self-efficacy was statistically significant (β = 0.4015, 95% CI [0.3345, 0.4725]), as evidenced by the bias-corrected bootstrap analysis with 5,000 resamples. These findings confirm that while self-leadership directly enhances learning engagement, it also exerts substantial indirect influence by strengthening students' beliefs in their academic capabilities. This dual-path mechanism aligns with social cognitive theory, wherein self-regulatory behaviors (self-leadership) foster performance outcomes (engagement) both directly and through efficacy beliefs. The results provide empirical support for the hypothesized mediation model (H5), suggesting that interventions targeting both self-leadership skills and academic self-efficacy could synergistically improve student engagement in higher education contexts.
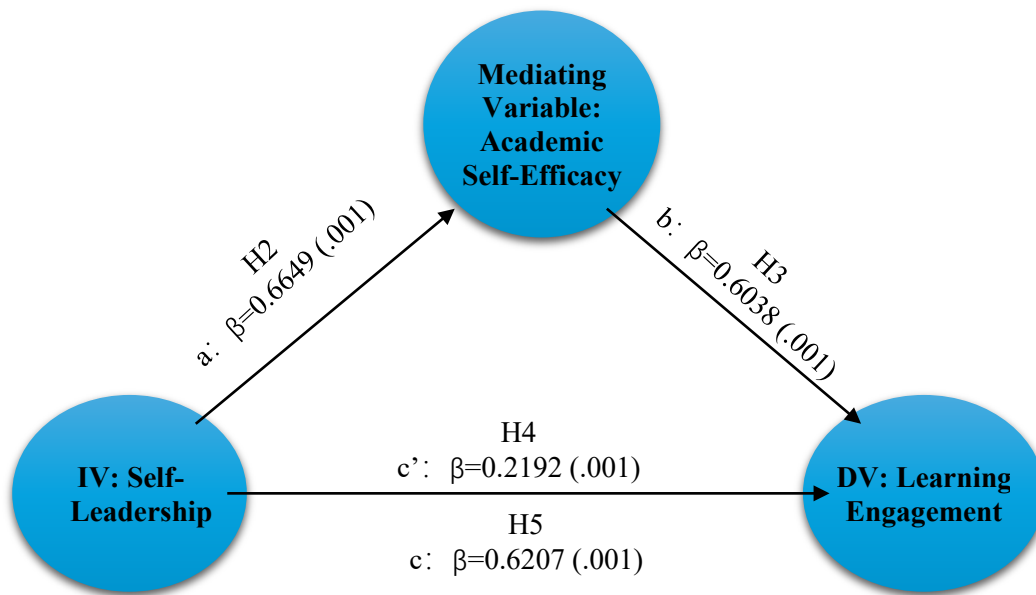
Figure 1 Schematic Diagram of Regression Analysis Results

Key Takeaways

Self-leadership is a strong predictor of both academic self-efficacy and learning engagement.

Academic self-efficacy has the strongest influence on learning engagement, highlighting its central role in motivating students.

The regression results support the hypothesized model: self-leadership fosters academic self-efficacy, which in turn drives learning engagement.

These findings provide empirical evidence for the theoretical pathways linking self-regulation, confidence, and engagement in academic settings.

Discussion

Current Self-leadership, Learning Engagement and Academic Self-efficacy among College Students

Students report above-average self-leadership (3.67/5), strongest in self-reward (4.06) and weakest in self-punishment (3.23), indicating effective use of positive reinforcement but limited self-correction. Engagement is high overall (4.49/7), driven by strong dedication (4.77), yet vigor lags (4.20), pointing to energy-sustainability issues. Academic self-efficacy is moderate (3.42/5); students trust their learning ability (3.55) more than their strategic execution (3.28). These patterns confirm the centrality of the three constructs and highlight targets—self-discipline, sustained vigor, and strategy confidence—for university interventions.

Differences in Self-leadership among Colleges Students with Different Demographic Backgrounds

The data reveal meaningful, selective demographic variations in self-leadership. Gender exerts little overall impact; males and females perform similarly, though females show a modest edge in self-reward, suggesting a slightly stronger preference for positive reinforcement. Grade level matters most in the final year: seniors score significantly lower on natural reward, presumably because job-search and graduation anxieties crowd out intrinsic motivation—a finding that calls for tailored support to sustain internal drive as students approach graduation. Academic discipline also shapes specific dimensions. Social-science majors outperform peers in natural reward and self-observation, plausibly because their coursework emphasizes reflective and social-awareness skills. Rural students unexpectedly surpass urban students in self-goal setting; higher external pressures may cultivate more deliberate planning habits. The most consistent boost, however, comes from holding a class-cadre position. Student leaders score higher on nearly every sub-dimension—especially success anticipation, self-dialogue, self-punishment, and self-observation—demonstrating that practical leadership experience is a powerful incubator for self-management skills. Taken together, these patterns indicate that self-leadership is not fixed but responsive to contextual forces. Interventions should therefore combine discipline-specific training, senior-year motivation support, and expanded, structured leadership opportunities.

Differences in Learning Engagement among Colleges Students with Different Demographic Backgrounds

Males outperformed females in overall engagement, especially in vigor and dedication—contrary to some prior studies—hinting at institution-specific dynamics. Grade level produced no meaningful gaps; only juniors scored marginally higher. By discipline, social-science and engineering students showed stronger dedication and absorption than humanities and arts peers, likely because applied or problem-focused coursework heightens relevance. Rural versus urban origin made no difference, suggesting campus life levels prior disparities. Consistently, class cadres scored higher across all engagement dimensions, underscoring how leadership roles deepen commitment. Interventions should therefore energize female students, redesign humanities/arts curricula for relevance, and broaden access to leadership experiences.

Differences in Academic Self-efficacy among Colleges Students with Different Demographic Backgrounds

The study highlights key demographic variations in academic self-efficacy (ASE). While gender differences were minimal, males showed slightly higher confidence in learning *ability*, whereas females excelled in belief about learning *strategies*—suggesting divergent efficacy focuses. Grade level had little impact, indicating ASE requires active cultivation beyond mere university exposure.

Discipline played a significant role: social science and engineering students outperformed

humanities/arts peers, likely due to clearer competency benchmarks in applied fields. Geographic background showed no effect, underscoring higher education's equalizing potential. Most strikingly, class cadres exhibited markedly higher ASE, particularly in learning ability, as leadership roles provide visible mastery experiences. These findings suggest interventions should: (1) tailor confidence-building for humanities/arts students through structured feedback, and (2) expand leadership opportunities to foster efficacy across disciplines.

Relationship between Self-leadership, Learning Engagement and Academic Self-efficacy among College Students

The study reveals significant positive correlations among self-leadership, learning engagement, and academic self-efficacy. Self-leadership demonstrates a strong positive correlation with academic self-efficacy ($r = 0.704$, $p < 0.01$), indicating that students with higher self-leadership tend to have greater confidence in their academic abilities. This relationship aligns with Bandura's social cognitive theory, which posits that self-regulatory behaviors enhance self-efficacy beliefs. Similarly, self-leadership shows a moderate-to-strong positive correlation with learning engagement ($r = 0.668$, $p < 0.01$), suggesting that self-regulated learners are more likely to be actively engaged in their studies. The strongest correlation exists between academic self-efficacy and learning engagement ($r = 0.777$, $p < 0.01$), highlighting the crucial role of confidence in driving student engagement.

Regression Analysis among Self-leadership, Learning Engagement and Academic Self-efficacy

The mediation analysis confirms that academic self-efficacy partially mediates the relationship between self-leadership and learning engagement. The indirect effect ($a \times b$ path) is 0.4015, with a 95% confidence interval of [0.3345, 0.4725], which does not include zero, indicating a significant mediation effect. This finding supports the theoretical framework that self-leadership enhances learning engagement not only directly but also indirectly by boosting academic self-efficacy. Specifically, self-leadership strategies such as goal-setting and self-reinforcement foster a sense of competence and control, which in turn increases students' belief in their ability to succeed academically. This heightened self-efficacy then translates into greater vigor, dedication, and absorption in learning activities.

The partial mediation suggests that while academic self-efficacy is a key mechanism, self-leadership also influences learning engagement through other pathways, such as intrinsic motivation or behavioral regulation. This dual pathway underscores the complexity of student engagement and the multifaceted nature of self-leadership's impact. The findings align with previous research by Prussia et al. (1998) and Gannouni and Ramboarison-Lalao (2018), who identified self-efficacy as a critical mediator in the relationship between self-leadership and performance outcomes. The study extends this understanding to the context of Chinese higher education, demonstrating the universality of these psychological processes while highlighting the importance of culturally tailored interventions to enhance student success.

Conclusions

This study explored the impact of self-leadership on learning engagement among undergraduates at Hunan International Economics University, with a focus on the mediating role of academic self-efficacy. The findings are summarized below.

The results indicate that undergraduates exhibit above-average levels of self-leadership (M=3.67/5), high learning engagement (M=4.49/7), and moderate academic self-efficacy (M=3.42/5). Self-reward and dedication emerged as the strongest dimensions, while self-punishment and vigor showed room for improvement.

This study revealed notable demographic variations in self-leadership, learning engagement, and academic self-efficacy. While male students demonstrated significantly higher learning engagement—particularly in vigor and dedication—no gender differences emerged for self-leadership or academic self-efficacy, suggesting that engagement patterns may be influenced by social or institutional factors unique to the university context. Senior students exhibited lower natural reward scores compared to their peers, likely due to external pressures like job searches and graduation requirements diminishing their intrinsic motivation over time. Disciplinary differences were also apparent, with social science and engineering majors outperforming humanities and arts students in both engagement and self-efficacy, possibly because their curricula emphasize practical problem-solving and real-world applications that foster confidence and active participation. Most strikingly, students with leadership experience as class cadres consistently scored higher across all three variables, underscoring how organizational roles cultivate self-management skills, academic confidence, and deeper engagement through hands-on responsibility. These patterns collectively highlight how demographic and institutional contexts shape students' psychological and behavioral trajectories in higher education.

Regression analysis confirmed a strong positive relationship (β=0.704, p<0.001), with self-leadership explaining 49.5% of the variance in academic self-efficacy. This underscores the role of self-regulation strategies in fostering academic confidence.

Academic self-efficacy significantly predicted learning engagement (β=0.777, p<0.001), accounting for 60.3% of its variance. Students with higher self-efficacy showed greater vigor, dedication, and absorption in learning.

Self-leadership directly enhanced learning engagement (β=0.668, p<0.001), explaining 44.6% of its variance. Proactive self-management behaviors were linked to active academic participation.

Academic self-efficacy partially mediated the relationship between self-leadership and learning engagement (indirect effect=0.4015, 95% CI [0.3345, 0.4725]). This suggests that self-leadership bolsters engagement both directly and by strengthening students' belief in their academic capabilities.

These findings advocate for educational interventions targeting self-leadership (e.g., goal-setting workshops) and academic self-efficacy (e.g., mentorship programs), especially for disciplines

and demographics with lower scores. Future studies should explore longitudinal effects and cross-cultural generalizability. By integrating these insights, universities can better support student success in evolving academic landscapes.

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