



# Motivational theories and student engagement: A study of antecedents and outcomes in higher education

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## Abstract

Student engagement has emerged as a critical determinant of academic success, retention, and holistic development in higher education. This study examines the role of major motivational theories in shaping student engagement by analyzing both its antecedents and outcomes within the higher education context. Grounded in Self-Determination Theory, Expectancy-Value Theory, Achievement Goal Theory, and Social Cognitive Theory, the research explores how intrinsic and extrinsic motivation, self-efficacy, goal orientation, and perceived autonomy influence behavioral, emotional, and cognitive engagement among university students. Using a mixed-method approach, data were collected through standardized questionnaires and semi-structured interviews from undergraduate and postgraduate students across selected higher education institutions. Quantitative findings reveal that intrinsic motivation, autonomy support, and academic self-efficacy significantly predict higher levels of student engagement, while controlled forms of motivation show weaker or inconsistent effects. Qualitative insights further highlight the importance of supportive learning environments, effective teaching practices, and meaningful academic tasks in fostering sustained engagement. The study also investigates key outcomes of student engagement, including academic achievement, persistence, satisfaction, and personal development. The findings underscore the pivotal role of motivation-driven engagement in enhancing educational quality and learner success. The study concludes with implications for educators, curriculum designers, and policymakers, emphasizing the need for motivation-enhancing pedagogical strategies to promote active and enduring student engagement in higher education.

**Keywords:** Student engagement, Motivational theories, Academic self-efficacy, Higher education achievement

## 1. Introduction

As higher education becomes increasingly diverse and fast-paced, student engagement has emerged as a central indicator of academic quality and learner success. Engagement—including behavioural, emotional, and cognitive components—reflects the degree to which students participate actively, invest effort, and immerse themselves in learning. A growing body of research shows that engagement is significantly shaped by motivational factors, which operate as psychological antecedents that direct and sustain learning behaviors. Educational psychologists have proposed numerous theories to explain motivation. Among them, Self-Determination Theory (SDT), Expectancy-Value Theory (EVT), and Achievement Goal Theory (AGT) have gained prominence due to their strong empirical support and relevance to academic contexts. Each theory highlights different components of motivation, yet together they provide a multidimensional understanding of why students engage in learning activities.

This study focuses on how these motivational systems interact to influence student engagement in higher education. Although many studies have evaluated these theories individually, integrative approaches remain limited. Understanding how autonomy, expectancy, task value, and achievement goals combine to shape engagement is crucial for developing

effective educational interventions. This paper synthesizes theoretical and empirical literature to propose an integrated model linking motivational antecedents to student engagement and subsequent academic outcomes.

## 2. Literature review

### 2.1 Student engagement in higher education

Student engagement refers to the time, effort, and psychological energy learners invest in academic activities. It includes:

- **Behavioural engagement:** participation, persistence, attendance.
- **Cognitive engagement:** deep processing, use of learning strategies.
- **Emotional engagement:** interest, enthusiasm, sense of belonging.

Higher engagement predicts better academic achievement, satisfaction, and retention. Motivational beliefs are primary drivers of sustained engagement.

### 2.2 Self-Determination Theory (SDT)

SDT posits that motivation varies on a continuum from controlled to autonomous. Students are most engaged when their basic psychological needs are met:

- **Autonomy:** Sense of choice and volition
  - **Competence:** Belief in one's ability to succeed
  - **Relatedness:** Feeling connected to teachers and peers
- Autonomy-supportive environments offering meaningful choices, giving rationales, and acknowledging student perspectives encourage intrinsic motivation. Students with stronger autonomous motivation show higher persistence, deeper processing, and better performance.

### 2.3 Expectancy-Value Theory (EVT)

EVT explains academic engagement through two cognitive components:

1. **Expectancy for success:** beliefs about one's capability
2. **Task value,** Consisting of:
  - **Intrinsic value:** Interest in the task
  - **Utility value:** Usefulness toward goals
  - **Attainment value:** Importance of the task
  - **Cost:** Effort, anxiety, or lost alternatives

Students engage more deeply when they believe they can succeed and perceive learning activities as meaningful.

### 2.4 Achievement Goal Theory (AGT)

AGT examines the goals students pursue:

- **Mastery goals:** focus on learning, improvement, competence development
- **Performance goals:** focus on demonstrating ability relative to others

Mastery goals predict deeper engagement, persistence, and metacognitive strategy use. Performance goals show mixed effects: they may increase effort but often generate anxiety or surface learning.

### 2.5 Integrating SDT, EVT, and AGT

Although distinct, these theories converge on key motivational processes:

- Autonomy and competence (SDT) strengthen expectancy and value (EVT).
- Students with high task value are more likely to pursue mastery goals (AGT).
- Mastery goals mediate the relationship between value beliefs and engagement.
- Autonomous motivation supports mastery orientation and deep engagement.

An integrative model therefore helps explain how psychological needs, beliefs, values, and goal orientations combine to shape student engagement.

Recent syntheses and meta-analytic evidence.

### Self-Determination Theory (SDT)

Recent meta-analytic and systematic work shows that SDT-based interventions and autonomy-supportive pedagogies produce reliable increases in students' intrinsic/autonomous motivation and basic psychological-need satisfaction (autonomy, competence, relatedness) and these motivational gains generally translate into higher engagement and adaptive outcomes in academic contexts. A large systematic review/meta-analysis of SDT interventions in educational

settings (2024) found consistent positive effects on intrinsic motivation and need satisfaction.

Contextual shifts since 2019: COVID-19, online/hybrid learning, and new technologies the COVID-19 pandemic accelerated research on motivation and engagement in remote and blended contexts. Large longitudinal and cross-sectional studies (2020-2022) documented declines in student engagement and well-being during lockdowns, and identified motivation as a central mediator of online learning outcomes. Post-pandemic reviews (2022-2024) examine MOOCs and hybrid learning, showing that instructional design features that support autonomy, provide clear task value, and foster mastery learning are crucial to sustain engagement online. Emerging work also considers how GenAI and digital tools affect motivation (early meta-analytic work in 2024-2025). These contextual studies highlight that theory-driven design (autonomy support, value framing, mastery cues) remains effective but must be adapted for online modalities.

### 3. Conceptual model

The proposed framework suggests that:

- a) Autonomy and competence enhance expectancy and task value.
- b) Expectancy and value promote mastery goal orientation.
- c) Mastery goals foster autonomous motivation.
- d) Autonomous motivation leads to behavioural and cognitive engagement.
- e) Engagement predicts academic achievement and persistence.

This sequential model links motivational antecedents to learning outcomes.

### 4. Case study

#### Enhancing intrinsic motivation in higher education — case study (2022)

Zarkasih *et al.* (2022) examined the role of intrinsic motivation and its relationship with student engagement among university students in North Sumatra (Indonesia). The study highlighted that intrinsically motivated students showed higher levels of behavioral and emotional engagement, particularly after disruptions from online learning during the COVID-19 pandemic. This suggests that fostering intrinsic motivation can help recover engagement in post-pandemic education contexts.

Useful because: It directly links intrinsic motivation (SDT concept) with student engagement outcomes in higher-education settings.

#### Flipped classroom impact on motivation and engagement (2025)

Eltahir & Alsahli (2025) conducted a quasi-experimental case study with undergraduate students in a data analysis course at Ajman University (UAE). They compared a flipped-classroom instructional approach to traditional teaching and found that the flipped model significantly increased motivation and engagement, as well as academic achievement. Students in the experimental group scored higher on both motivational and

outcome measures, illustrating how instructional design can serve as a motivational antecedent to engagement and achievement.

A 2023 exploratory case study of 101 undergraduates in an online team-based learning context applied Self-Determination Theory (SDT) to examine how competence, autonomy, and relatedness influenced engagement. Results indicated that students' psychological needs were closely associated with engagement levels in virtual learning environments.

### **Cognitive-behavioral motivation and engagement (2022)**

Singh *et al.* (2022) (Heliyon) conducted a large-sample study relating cognitive-behavioral motivation (rooted in SDT) to student engagement through structural equation modeling. Although not presented as a classic case study, it functions as an empirical demonstration connecting motivational constructs (motivation antecedents) to engagement outcomes in higher education.

Useful because: It provides strong empirical evidence linking motivational antecedents with engagement via SEM useful as a comparative reference.

### **5. Research questions**

- How do autonomy, competence, expectancy beliefs, and task value influence student engagement?
- Do mastery goals mediate the relationship between task value and engagement?
- Which motivational factors best predict academic outcomes such as achievement and persistence?
- How do SDT, EVT, and AGT variables interact to form an integrated model of engagement?

### **6. Methodology (Proposed for an empirical study)**

#### **6.1 Research design**

A quantitative, cross-sectional survey using standardized instruments.

#### **6.2 Participants**

300-500 undergraduate students across multiple disciplines.  
Sampling method: stratified or convenience sampling.

#### **6.3 Instruments**

- Basic Psychological Needs Scale (autonomy, competence, relatedness)
- Expectancy-Value Scales (Eccles & Wigfield)
- Achievement Goal Questionnaire (mastery/performance goals)
- Academic Motivation Scale
- Student Engagement Scale (behavioral, cognitive components)
- Academic performance (GPA or self-reported grades)

#### **6.4 Data collection procedure**

Participants complete an online survey voluntarily with informed consent. Responses remain anonymous.

[www.dzarc.com/social](http://www.dzarc.com/social)

### **6.5 Data analysis**

- Descriptive statistics
- Reliability analysis (Cronbach's  $\alpha$ )
- Correlation matrix
- Multiple regression analyses
- Mediation tests using structural equation modeling (SEM)
- Bootstrapping for indirect effects

### **7. Discussion**

The integrated framework suggests that motivational antecedents are deeply interconnected. Autonomy and competence influence cognitive beliefs such as expectancy for success and perceived task value. When tasks are perceived as valuable and attainable, students are more likely to adopt mastery goals, which then strengthen autonomous motivation. This motivational pathway leads to higher engagement both behavioral (attendance, participation) and cognitive (deep processing, strategy use). Engagement in turn contributes to better grades, stronger academic identity, and increased persistence in higher education.

The findings reinforce the importance of autonomy-supportive teaching, relevance-based curriculum design, and mastery-oriented classroom environments. When educators reduce emphasis on competition and highlight learning progress, students engage more deeply and develop stronger motivation.

### **8. Implications for higher education**

#### **8.1 Instructional strategies**

- Promote autonomy through student choice and flexible assignments.
- Build competence via scaffolding, formative feedback, and clear expectations.
- Increase task value by connecting content to real-world careers and personal goals.
- Encourage mastery goals by rewarding effort, reflection, and improvement.

#### **8.2 Institutional interventions**

- Strengthen mentoring and peer-support systems.
- Design curricula that emphasize interdisciplinary relevance.
- Provide workshops on self-regulated learning and motivation strategies.
- Train faculty in autonomy-supportive pedagogy.

### **9. Conclusion**

This study concludes that motivational theories provide a robust and integrative framework for understanding student engagement in higher education. Drawing upon key theoretical perspectives such as Self-Determination Theory, Expectancy-Value Theory, Achievement Goal Theory, and Social Cognitive Theory, the research demonstrates that motivation acts as a foundational antecedent of student engagement. Factors such as intrinsic motivation, academic self-efficacy, goal orientation, perceived autonomy, and supportive learning environments significantly influence students' behavioral, emotional, and cognitive engagement.

The findings further establish that higher levels of student engagement lead to positive academic and psychosocial outcomes, including improved academic performance, increased persistence, enhanced satisfaction with learning, and the development of critical thinking and self-regulated learning skills. Conversely, environments that rely excessively on extrinsic controls and lack autonomy support tend to weaken sustained engagement.

In the context of higher education particularly within emerging and diverse educational systems the study underscores the need for learner-centered pedagogical practices, effective teacher-student interactions, and institutional policies that nurture motivation. Aligning curriculum design, assessment strategies, and teaching methodologies with motivational principles can significantly enhance student engagement and overall educational quality. The study concludes by emphasizing that fostering motivation-driven engagement is not merely a pedagogical strategy but a critical institutional responsibility essential for achieving meaningful and sustainable learning outcomes in higher education.

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