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THE INFLUENCE OF SELF-REGULATED STRATEGIES ON COMPONENTS IN MOTIVATIONAL BELIEFS

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ABSTRACT

The growing focus on active learning in Malaysian higher education has attracted attention to the need for self-regulated learning (SRL) strategies, which are closely connected to students' motivating beliefs. Three basic motivating elements—self-efficacy, intrinsic motivation, and test anxiety—are investigated in this paper in relation to SRL strategies. Using a quantitative design, 103 students from different institutions answered a structured questionnaire modified from Pintrich and De Groot (1990). The participants were specifically chosen to reflect different spheres of research and blended learning approaches experienced in. The study gauged SRL practices as well as motivation impressions on a 5-point Likert scale. The correlation analysis reveals a strong positive link between SRL and intrinsic motivation (r =.654**), then self-efficacy.

Keywords: Self-regulated learning (SRL), motivational beliefs, self-efficacy, intrinsic motivation

INTRODUCTION

BACKGROUND OF THE STUDY

In the evolution of contemporary educational paradigms from teacher-centered to student-centered learning has emphasized the development of critical thinking, problem-solving, and self-learning skills. This transformation aligns with the demands of 21st-century education, which prioritizes adaptability, collaboration and innovation. Within this context, Self-regulated learning (SRL) strategies play a key role in this paradigm shift, empowering students to take ownership of their learning process through goal setting, strategy selection, time management, self-monitoring, and adaptive behavior (Zimmerman, 2002; Panadero & Romero, 2014).

Motivation becomes a key driver of SRL, influencing students' perseverance and engagement. Motivational belief that includes self-efficacy, intrinsic value, and test anxiety has directly impact students' ability to regulate their academic behavior (Puustinen & Pulkkinen, 2001). However, despite the growing importance on student-centered education, many Malaysian students continue to encounter challenges in practicing SRL effectively and sustaining motivation. According to a national education survey by the Malaysian Ministry of Higher Education (2022),

over 40% of university students reported difficulties in managing their own learning and maintaining motivation especially in blended or online environments. Another study by Yew et al. (2023) highlighted that Malaysian students transitioning back to physical classrooms shows the declining levels of self-efficacy and goal-setting behavior.

The persistence of conventional teaching models in Malaysian higher education has aggravated this issue. While innovations such as blended learning have been introduced (Siew & Muuk, 2015), they often fall short in promoting SRL or addressing students' motivational challenges. Without targeted support, students may struggle to develop effective SRL strategies, thus limiting their academic success, adaptability and preparedness for lifelong learning.

This study addresses this gap by investigating the relationship between SRL strategies and motivational beliefs among Malaysian university students. These findings aim to support the implementation of educational practices that can facilitate independent learning and better enhance student psychology, thereby contributing to improved academic outcomes and personal development.

STATEMENT OF THE PROBLEM

Fostering both cognitive and affective involvement in learning depends on the interaction of SRL with motivating beliefs. Strong self-efficacy students are more likely to participate in self-regulated activities, according to research; successful SRL experiences build confidence and drive (Pintrich & De Groot, 1990). But current research has mostly looked at these ideas separately, without sufficiently looking at their interactions.

Recent data show that SRL and motivation are difficult for Malaysian students moving from online to physical classroom settings to keep (Yew et al., 2023). Furthermore, although past research has underlined the need of foresight, performance monitoring, and self-reflection in SRL (Anuar et al., 2023), there is little empirical data on how SRL shapes several aspects of motivating beliefs. Filling in this void, the current study gathers data from university students using a quantitative research design with a structured questionnaire. The study aims to find the degree to which SRL strategies affect test anxiety, intrinsic motivation, and self-efficacy, so offering a more complete picture of student learning behaviors.

OBJECTIVES OF THE STUDY AND RESEARCH QUESTIONS

The objective is to explore students' perceptions of their self-regulated learning strategies and motivational beliefs. Specifically, it seeks to answer the following research questions:

- How do learners perceive their self-regulated learning strategies?
- Is there a relationship between self-regulated learning strategies and motivational beliefs?

By addressing these questions, the study contributes to the understanding of SRL in Malaysian higher education and offers implications for instructional practices that foster independent learning and motivation.

LITERATURE REVIEW

SELF-REGULATED LEARNERS AND HOW THEY LEARN

The students that implement a combination of cognitive, metacognitive and motivational tools to organize, monitor and evaluate their learning process are identified as self-regulated learners (SRL). This SRL are primarily relies on active student involvement in selecting tactics, establishing objectives and modifying behaviors in response to overcomes and feedback. Recent studies indicate that self-regulated learning significantly enhances academic performance and encourages lifetime learning. Almayez et al. (2025) discovered that the students employing self-regulated learning (SRL) techniques recognized about 18% enhancement in academic performance within online leaning contexts. Steinberg et al. (2025) performed a meta-analysis of 42 empirical investigations, reveal that the students with robust SRL skills outperformed their peers by an average of 0.67 standard deviation. This advantage is particularly important in advanced technological environments where the student should independently understand the material. Nevertheless, persistent issues including low self-efficacy, inadequate time management, and procrastination undermine the effectiveness of SRL (Waschle et al., 2014). Dealing with these barriers requires a planned intervention that integrates personalized feedback with motivational assistance.

MOTIVATION TO LEARN

Motivation can be considered as a consistent element and critical predictor of self-regulated learning (SRL). Typically, it can be categorised either as an extrinsic motivation which is driven by the external rewards such as grades or recognition or an intrinsic motivation which driven by personal interest. The findings shown from various academic fields unveil the engagement of the SRL similarly related to intrinsic motivation. For example, Mak et al. (2025) found that intrinsically 23% motivated students prone to choose effective SRL strategies. Closely, especially in longitudinal studies, Hariri et al. (2021) showed that task value, self-efficacy, and expectations are strong predictors of SRL engagement meanwhile 42% of the variance in motivation levels shown by Almayez et al. (2025) in their finding research among EFL students that self-efficacy alone accounted. These studies put forward that the development of self-regulated learners depends on both the cognitive and affective aspects of motivation respectively.

SYNTHESIS OF PAST STUDIES ON SRL AND MOTIVATION

More generally, the research shows that students who have strong SRL skills show better academic resilience, higher achievement, and more flexibility in a variety of learning settings. The most often effective elements of SRL are core strategies including self-monitoring, time management, and goal setting (Adhikari et al., 2025; Chun et al., 2025). Procrastination still is a major obstacle at the same time. Reflecting results from more recent behavioral studies, Wolters (2003) discovered that students who felt their learning assignments were too demanding were twice as likely to put off. Crucially, technology-enhanced learning environments show promise; AI-based feedback systems have been shown to increase academic performance by 27%, so offering organised support for SRL development (Chun et al., 2025).

Although motivation-oriented treatments like coaching and mastery-based feedback have shown encouraging outcomes (Masre et al., 2018), the context influences the strength of these

effects. For example, Lee et al. (2020) found that task value and self-efficacy greatly predicted SRL use (r = .73, p = .001) in online environments, whereas in STEM environments motivating self-systems accounted for 36% of academic performance variance (Wolff et al., 2025). By 19% among Vietnamese university students, Qing & Tran (2025) showed that organised self-regulation training improved writing performance. These differences imply that, although the link between motivation and SRL is strong, its application must be context sensitive.

CONCEPTUAL FRAMEWORK

The conceptual framework for this study is based on Pintrich and De Groot's (1990) model, which posits that SRL strategies influence key motivational beliefs, including self-efficacy, intrinsic value, and test anxiety. Figure 1 illustrates the interaction between SRL and motivational components, highlighting the bidirectional influence between self-regulation and motivation. A recent study by Chan et al. (2025) tested this framework using structural equation modeling (SEM) with n = 1,200 students. Their findings confirmed that SRL had a significant direct effect (β = 0.52, p < .001) on intrinsic motivation and an indirect effect on academic success (β = 0.35, p < .01).

Understanding this relationship is crucial for designing evidence-based educational interventions that promote independent learning and long-term academic success.

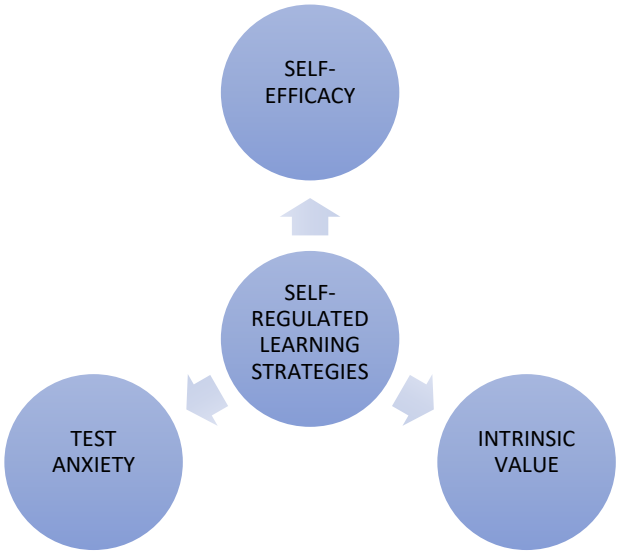


Figure 1. Conceptual Framework of the Study.

RESEARCH DESIGN AND PARTICIPANTS

A cross-sectional survey design was used to collect data from a purposive sample of 103 undergraduate students enrolled in higher education institutions in Malaysia. The purposive criteria included students with prior experience in blended learning, representation from multiple disciplines (e.g., Science & Technology, Social Sciences, Business & Management), and varied levels of academic performance. The final sample included 77% male and 23% female respondents. Although gender was not a selection criterion, the gender imbalance reflects natural enrollment patterns in certain disciplines. This targeted sampling was chosen to ensure meaningful variability in motivational beliefs and learning strategies. To enhance transparency, we acknowledge that data collection was practically facilitated through convenience, but the sample still met purposeful inclusion criteria.

The sample size of 103 was guided by recommendations in survey research literature, which suggests that samples of 100–200 participants are generally adequate for studies employing established instruments like the MSLQ with demonstrated internal consistency (Memon et al., 2020). While a formal power analysis was not conducted, previous studies with comparable analytical approaches have reported reliable results with sample sizes of 80–120 participants. Future studies may consider larger samples and formal power calculations to enhance statistical generalizability.

METHOD

This study adopts a quantitative research design to examine the motivational factors influencing self-regulated learning (SRL) among undergraduates. A structured survey instrument, adapted from Pintrich and De Groot (1990), was employed to assess key variables related to motivational beliefs and SRL strategies.

DATA COLLECTION PROCEDURES

Data collection was conducted using an online survey via Google Form. The survey took 15-20 minutes to be completed. To minimize bias opinion in conventional methods, the responses were collected without respondent details and were confidential.

DATA ANALYSIS TECHNIQUES

The collected data were analysed using the Statistical Package for the Social Sciences (SPSS) to ensure proper statistical evaluation. Both descriptive and inferential statistical methods were used to answer research objectives. The former includes mean (M), standard deviation (SD), and frequency distributions which were measured to assess students' motivational beliefs and self-regulated learning (SRL) strategies. Next, Cronbach's alpha coefficients were employed to assess the internal consistency of the survey items to maintain reliable analyses and a validated instrument.

Besides, Pearson correlation analysis is performed (1) to study the relationship between SRL strategies and motivational beliefs and (2) to identify significant correlations between key variables. Finally, stepwise multiple regression analysis was conducted to determine how

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accurately motivational beliefs predicts SRL, hence offering deeper insights into factors that influence students' learning behaviors.

RESULTS

This section further discusses the analysis results of the collected data, including demographic criteria, SRL strategies, motivational beliefs, and the correlation between these points. Next, each result is supported by statistical analysis, tables, and graphs to ensure clarity. Also, some results are discussed together with previous research work to validate the findings.

Demographic Profile

Figure 1 (a) presents the male and female ratio of the 103 undergraduate participants (77:23) where male students make up 77%, while 23% were female. This means the collected data relies heavily on male students in the study sample. These findings are consistent with UNESCO (2021) reports on STEM education, where male students tend to dominate technical and science-related fields. Similarly, Zimmerman (2013) found that male students tend to exhibit higher engagement in self-regulated learning behaviors compared to female students. The academic backgrounds of participants are summarized in Figure 1 (b) with 85% from Science & Technology, 6% from Social Sciences, and 9% from Business & Management. This trend aligns with Almayez et al. (2025), who found that students in STEM fields tend to adopt structured learning strategies more frequently due to the analytical nature of their coursework.

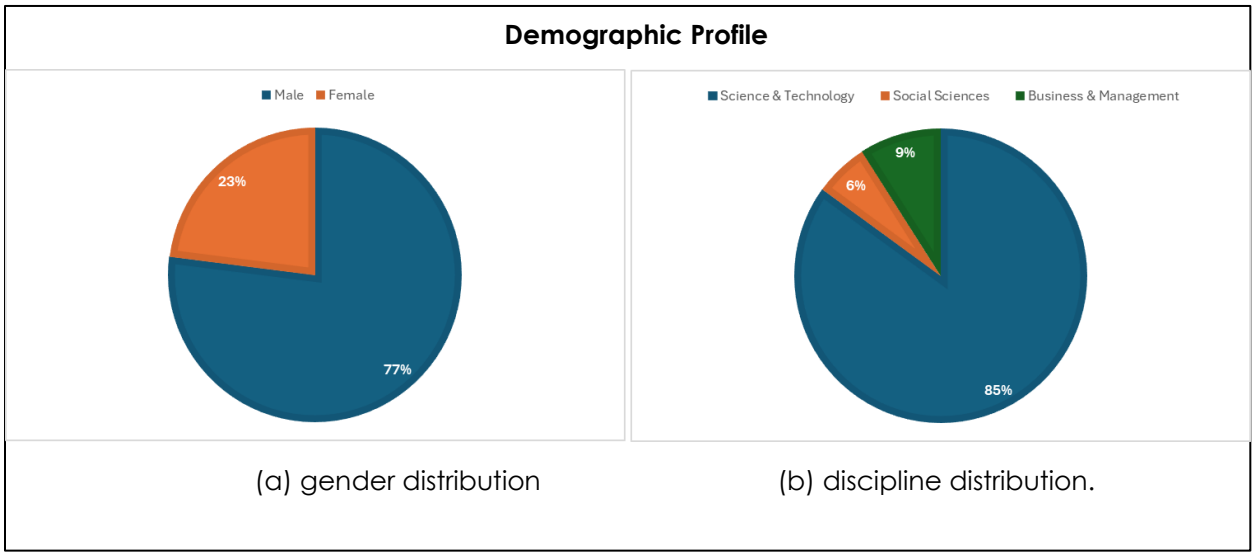


Figure 1.Provides a graphical representation of (a) gender distribution and (b) discipline distribution.

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To provide further insights into the impact of demographic variables on learning behaviors, an exploratory subgroup analysis was conducted based on gender and academic discipline. Male students reported slightly higher mean scores in self-regulated learning (M = 3.92) compared to female students (M = 3.80), particularly in cognitive strategy use. Although not statistically significant ($p > .05$), this trend is consistent with Zimmerman's (2013) findings regarding male engagement in SRL. Meanwhile, students from Science & Technology fields demonstrated higher intrinsic motivation (M = 4.1) compared to those in Business & Management (M = 3.7) and Social Sciences (M = 3.8). These findings reflect the structured and outcome-driven nature of STEM education, which often encourages goal setting and perseverance (Almayez et al., 2025). These subgroup patterns offer valuable context for tailoring pedagogical strategies, although further research with larger samples is recommended to assess statistical significance.

INSTRUMENTATION AND MEASURES

The survey instrument consisted of a structured questionnaire divided into three key sections, measuring motivational beliefs and SRL strategies using a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The items were adapted from Pintrich and De Groot's (1990) Motivated Strategies for Learning Questionnaire (MSLQ), which has been widely validated in educational research. Table 1 outlines the distribution of items across the different components of the survey.

Table 1 . Survey Instrument Structure and Reliability Analysis

Component	Subscale	No. of Items	Total Items	Cronbach's Alpha
Demographic Profile	-	-	-	-
Motivational Beliefs	A. Self-Efficacy	9	22	0.880
	B. Intrinsic Value	9		
	C. Test Anxiety	4		
Self-Regulated Learning Strategies	D. Cognitive Strategy Use	13	22	0.903
	E. Self-Regulation	9		
Total		44		0.934

RELIABILITY ANALYSIS

- The Motivational Beliefs subscale demonstrated high internal consistency with a Cronbach's alpha of 0.880.
- The Self-Regulated Learning Strategies subscale exhibited strong reliability, with a Cronbach's alpha of 0.903.
- The overall survey reliability was 0.934, confirming the instrument's consistency and construct validity.

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SELF-REGULATED LEARNING STRATEGIES

To address Research Question 1 (How do learners perceive their self-regulated learning strategies?), data on cognitive strategy use and self-regulation behaviors were analyzed. Table 2 presents students' cognitive strategy use scores. The highest-rated cognitive strategy was memorizing facts before assignments and tests (M = 4.2). The lowest-rated strategy (M = 3.4) was determining the main ideas when reading. These results align with Wolff et al. (2025), who found that STEM students tend to rely heavily on memorization rather than conceptual understanding. However, effective SRL strategies should emphasize deep learning methods such as summarization and elaboration (Wäschle et al., 2014).

Table 2. Students' cognitive strategy

Cognitive Strategy	Mean Score (M)	Standard Deviation (SD)
Memorizing facts before tests	4.2	0.78
Determining main ideas in reading	3.4	0.95
Overall mean (13 items)	3.9	0.84

Table 3 presents students' self-regulation strategy scores. The highest-rated self-regulation behavior was striving for good grades even in uninteresting courses (M = 3.9, SD = 0.81). The lowest-rated self-regulation behavior was listening attentively during lectures (M = 3.1, SD = 1.02). Research by Chun et al. (2025) suggests that digital distractions and passive learning methods contribute to lower engagement during lectures, reinforcing the need for interactive pedagogical approaches.

Table 3.Students' self-regulation strategy

Self-Regulation Strategy	Mean Score (M)	Standard Deviation (SD)
Striving for good grades	3.9	0.81
Engagement in lecture content	3.1	1.02

RELATIONSHIP BETWEEN SRL STRATEGIES AND MOTIVATIONAL BELIEFS

To address Research Question 2 (Is there a relationship between SRL and motivational beliefs?), a Pearson correlation analysis was conducted to assess the relationships between self-regulated learning strategies and motivational beliefs. The present study examines the relationship between self-regulated learning (SRL) and key motivational factors, including self-efficacy, test anxiety, and intrinsic value in Table 4.

Table 4.Correlation between Self-Regulated Learning and Motivational Factors

Variable	SELF_REGULATED	SELF_EFFICACY	TEST_ANXIETY	INTRINSIC_VALUE	Sig.	N
SELF_REGULATED	1.000	0.476	0.316	0.654	-	103
SELF_EFFICACY	0.476	1.000	-	-	0.000	103
TEST_ANXIETY	0.316	-	1.000	-	0.001	103
INTRINSIC_VALUE	0.654	-	-	1.000	0.000	103

The present work examined the relationship between self-regulated learning (SRL) strategies and motivating beliefs—more especially, self-efficacy, intrinsic value, and test anxiety. After self-efficacy (r = 0.476), SRL was most strongly linked with intrinsic value (r = 0.654), followed by test anxiety (r = 0.316). These findings provide many theoretical and pragmatic consequences since they reflect the complicated interaction between cognitive strategies and motivating elements.

Previous studies have clearly shown how closely self-regulated learning and self-efficacy correlate. Self-regulated learning behaviors have repeatedly been associated with self-efficacy, which reflects a person's belief in their capacity to succeed in academic tasks. This study's modest positive correlation (r = 0.476) fits past results by Zimmerman & Schunk (2001), who noted relationships ranging from 0.40 to 0.55 in many student populations. In line with this, Pintrich (1999) discovered a correlation of 0.45, so supporting the idea that students who have more self-efficacy are more prone to use self-regulated learning techniques. Recent studies by Hariri et al. (2021) and Mak et al. (2025) also underline how important self-efficacy is still in determining SRL involvement. This implies that, particularly in Malaysian higher education environments, encouraging self-efficacy through focused interventions may improve students' capacity to control their learning.

In this study, the weak to moderate negative association between self-regulated learning and test anxiety (r = -0.316) suggests that students who participate in self-regulated learning typically have reduced test anxiety. A similar but somewhat stronger negative correlation has been found in earlier studies with (1) values ranging from -0.30 to -0.40 as reported by Pekrun et al. (2020), and a correlation of -0.35 as reported by Zeidner (2007). Based on these data, it is safe to conclude that students who apply metacognitive techniques and set goals are better able to manage stress and anxiety during tests. This hypothesis is also similar to the work by Chun et al. (2025), stating that good time management and metacognitive awareness contribute to less stress.

In the meantime, SRL and intrinsic value showed the strongest correlation of r = 0.654, indicating the significance of internal motivation's role in the learning process. This is supported by previous works such as Wolters (2003) with r = 0.58 and Pintrich and De Groot (1990) with r = 0.60 between these two variables. To compare with more recent works, Adhikari et al. (2025) and Wolff et al. (2025) reported that students who perceive learning to be meaningful and enjoyable are more likely to engage more effectively in self-directed learning activities. In comparison, self-efficacy may change with experience and outcomes, while intrinsic value is typically more consistent and enduring. This is in line with self-determination theory, which states that autonomous motivation supports effective learning and continued engagement.

Although this study does not show a clear link between test anxiety and self-efficacy, earlier studies have found a notable negative link between these ideas. With values between -0.40 and -0.50, Bandura (1997) discovered that test anxiety and self-efficacy were negatively linked. New research supports this link even now. For university students in China, Tang & Sun (2018) found, for instance, a notable negative correlation between general self-efficacy and test anxiety. In paramedical students, Asayesh et al. (2018) also found that higher self-efficacy greatly predicted reduced test anxiety. More recently, Berg et al. (2024) verified that test anxiety in digital assessment environments was more experienced by inexperienced computer science students with lower self-efficacy (Berg et al., 2024). Higher self-efficacy students seem to be less prone to have test anxiety since they believe more confident in their capacity to pass. Future research utilizing this dataset could investigate this link to offer a more complete knowledge of how self-efficacy influences anxiety levels in academic environments given this established and continuous relationship.

The results of this study generally match those of earlier studies and support the need of motivating elements in self-regulated learning. The great correlation between intrinsic value and SRL emphasizes the need of teachers stressing the personal relevance and enjoyment of learning activities in order to help their natural motivation. In a same vein, the favorable correlation between self-efficacy and SRL emphasizes the possible advantages of confidence-building programs. Furthermore, although the link between SRL and test anxiety is weaker than in previous studies, it still implies that learning self-regulation techniques could help to reduce academic stress. This study stands out because of its focus on Malaysian students, which emphasizes how even more important intrinsic value might be in this cultural and educational environment. This special contribution invites future studies into context-specific motivating interventions and increases the cross-cultural relevance of SRL research.

CONCLUSION

The results of this study confirm the important part self-regulated learning (SRL) approaches play in forming students' academic participation, intrinsic motivation, and self-efficacy. With intrinsic value ($r = 0.654$) showing the strongest association, followed by self-efficacy ($r = 0.476$), the results show that SRL strategies, especially cognitive strategy use and self-regulation, favorably correlate with key motivating beliefs, with intrinsic value. Test anxiety ($r = 0.316$) follows. These interactions emphasize the need of teaching students' good self-regulation techniques in order to improve their whole academic performance and learning environment.

According to the study, rather than using more advanced cognitive strategies like spotting main ideas while reading, students mostly rely on memorization methods. This trend is consistent with earlier studies by Zarei & Gilanian (2014), who found that whereas meta-cognitive and affective strategies helped most importantly for elaboration learning, memory-based strategies were the strongest predictors of rehearsal-based SRL techniques. The study also reveals that students who aim for high grades even in unpleasant courses show perseverance and goal-directed learning behaviors, so indicating self-regulation. This observation supports the results of Yew et al. (2023), which show that despite their degree of natural interest in the topic, students remain dedicated to academic performance.

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In terms of motivating ideas, self-efficacy is clearly a major factor influencing student involvement since students who believe they can perform well are more likely to use self-regulated learning approaches. This result supports Al Khatib (2010), who underlined the need of self-efficacy in persistence and effort control since she found it to be among the strongest predictors of academic success. Furthermore, intrinsic value is quite important for learning engagement since students report more motivation when they see learning as personally relevant and see mistakes as useful learning opportunities. On the other hand, test anxiety still presents a difficulty for students who mostly suffer from stress related to problems remembering courses and worries on academic performance. Although the relationship between SRL strategies and test anxiety is weaker than that of self-efficacy and intrinsic value, the results nonetheless point to self-regulated learners being more suited to control academic stress by means of organized learning practices. Previous studies by Pekrun et al. (2002) and Zeidner (2007) have shown that test anxiety reduces cognitive performance by interfering with working memory and concentration, so stressing the need of efficient academic support structures.

By implying that cultural and contextual variables, such as academic expectations and exam-oriented learning cultures typical of Malaysian or Southeast Asian education systems, should be included into future frameworks, this study theoretically offers possible improvements to current SRL models—especially Pintrich's. These localized components might affect the way self-regulation and intrinsic drive show and interact. Future SRL models could thus gain from including cultural elements such collectivism, teacher authority dynamics, or exam-oriented pressures that mold students' learning activities in this area.

These results provide several pedagogical ramifications for legislators and teachers. Given the favorable link between SRL and motivating beliefs, educational institutions should apply instructional plans that support self-directed learning, intrinsic motivation, and stress management. By using active learning strategies including flipped classrooms, project-based learning, peer-led tutoring sessions, and weekly self-assessment reflections—all of which enable students to track their own learning processes—instructors can improve SRL. Furthermore, fostering self-efficacy are confidence-building activities including peer mentoring programs, mastery-based grading, and cooperative goal setting. Guided mindfulness sessions, cognitive restructuring methods, and organized exam preparation seminars—among other stress-reducing programs—may help students more successfully control test anxiety.

Above all, there are some limitations presented in this work that are commendable topics for future research. The lack of direct measurement of academic performance limits the potential to find possible correlations between SRL and success. Moreover, the participants were from relevant academic backgrounds to fit with the purpose of this study. However, this specific selection limits the overview of more general populations of students. This can be solved with future studies that include GPA statistics or standardized test scores to further validate the conclusions. Besides, longitudinal studies are important to investigate how these topics change overtime and can influence academic performance in the longer run.

These results discuss how SRL influences student motivation and performance. The strong relation between intrinsic value and SRL suggests that students should be learning based on their own interest rather than relying on rewards. This awareness is specifically significant for local students (Malaysian), where they are currently taught with strict teaching strategies and are graded solely by their academic performance. Thus, the curriculum should be revised to prioritize personal values. The SRL techniques that are effective will guide the teacher to encourage better

academic resilience, and students can learn by themselves, resulting in better lifelong learning. Future studies should build on these insights by looking at how instructional design and learning environments might improve self-regulated learning behaviors, so ensuring that students acquire the skills required to succeed in ever challenging educational and professional environments.

SIGNIFICANCE OF THE STUDY

Theoretically, this study offers potential refinements to existing SRL models—particularly Pintrich's—by suggesting that cultural and contextual variables, such as academic expectations and exam-oriented learning cultures typical of Malaysian or Southeast Asian education systems, should be incorporated into future frameworks. Although SRL has been studied in Western settings rather extensively, empirical data is still lacking in Southeast Asia, particularly in Malaysia. Few local studies (e.g., Masre et al., 2018; Yew et al., 2023) have investigated their dynamic relationship in a single, integrated framework; rather, prior local studies have looked at motivation or SRL in isolated form. This study closes that gap by showing how, more so than by self-efficacy alone, the SRL strategies of Malaysian university students are greatly influenced by their intrinsic motivating orientations.

Furthermore, the results answer important issues raised in the Malaysia Education Blueprint 2015–2025 (Higher Education), which stresses developing lifetime learners and advancing learner autonomy and adaptation. The study offers proof that can support changes in curriculum design toward more interesting, student-centered learning environments by exposing that intrinsic value is the strongest predictor of SRL in this context ($r = 0.654$). Course development can prioritize, for instance, instructional strategies that support personal relevance—such as problem-based learning, interest-driven project work, and values-based reflection assignments.

Policy wise, this study provides information for academic leaders trying to match teaching and learning strategies with Malaysia's goals for global competitiveness. Including results into staff development initiatives, national quality assurance standards, and teaching evaluation criteria helps to support coordinated efforts to apply SRL ideas across many disciplines.

In the end, this study not only clarifies theoretical knowledge of SRL-motivation links in a Malaysian environment but also offers practically relevant consequences for changing the way education is organized and supported in universities all around the region.

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CONFLICT OF INTEREST

No conflict of interest present.

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