Is There a Relationship between Motivational Beliefs and Cognitive Strategy Use and Self-Regulation?

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ABSTRACT

Understanding how learners' beliefs influence their use of cognitive strategies and self-regulation is an important issue in educational psychology, as motivational beliefs, cognitive strategy use, and self-control are interconnected. And there is a cyclical relationship between these three components. Motivational beliefs drive the use of cognitive strategies, which in turn enhance self-control. This cycle leads to better academic outcomes and the development of lifelong learning skills. The researchers were motivated to carry out this study because investigating this allows them to understand how these factors impact students' learning outcomes and can provide instructors with insights into more effective teaching strategies. The objective of this study is to explore the motivational factors that influence learning among undergraduate students. A quantitative approach was employed for this study. A 5-point Likert-scale survey, based on Pintrich & De Groot (1990), was used to measure the relevant variables. The survey consists of three sections: Section A includes demographic questions, Section B contains 22 items on motivational beliefs, and Section C comprises 22 items on self-regulated learning strategies.The survey was completed by a purposive sample of 282 undergraduate students from the largest public university in Malaysia. The findings of this study is that students generally have moderate to high confidence in their abilities, strong motivation to learn, and moderate levels of test anxiety suggesting that motivation plays a vital role in students' learning experiences and performances. Next, students actively use cognitive strategies to process information and apply self-regulation techniques, although some areas need improvement. Lastly, there is a moderately positive correlation between motivational beliefs and self-regulated strategies, suggesting that students who are more motivated tend to use more cognitive strategies and self-regulation techniques which has significant implications for teaching and learning by focusing on fostering both motivation and self-regulation. There is the need to enhance student motivation through goal-setting exercises, positive feedback, and relevant teaching materials. Developing self-regulated learning skills by integrating metacognitive training to help students monitor their progress, adjust their study strategies, and become more independent learners are also encouraged. Future researchers could investigate whether early interventions aimed at improving student motivation lead to long-term academic success.

Keywords: Motivation, Motivational Beliefs, Cognitive Strategy, Self-Regulation, Language Learning.

INTRODUCTION

Background of Study

Motivation is one of the most important key elements in making sure learning can be achieved. This paper will elaborate on motivational beliefs which are the core factors in how students choose and approach learning. Strong self-efficacy will help students in increasing their beliefs for success which will lead them to persevere in challenging tasks and use deeper learning strategies. When students are engaged in high task value, they will learn more from the content. The type of goal orientation they adopt also influences their learning behaviours—mastery-oriented learners seek to deeply understand concepts and use advanced cognitive strategies, while performance-oriented learners may focus on surface-level memorisation just to achieve high grades.

These motivational beliefs shape the cognitive strategies students choose to process and retain information. Some rely on rehearsal strategies, which involve simple repetition for memorisation, while others use elaboration strategies, connecting new knowledge with prior learning to enhance understanding. More advanced learners engage in organisational strategies, structuring information meaningfully, which aids recall and problem-solving. The choice of these cognitive strategies depends on motivation—students with strong intrinsic motivation tend to use deeper strategies, while those with low motivation often rely on surface learning techniques.

As students apply these cognitive strategies, they develop self-regulation skills, which allow them to manage their learning effectively. Self-regulated learners engage in a forethought phase, where they plan, set goals, and assess their motivation. During the performance phase, they apply cognitive strategies and monitor their progress, adjusting their learning approaches when necessary. Finally, in the self-reflection phase, they evaluate their performance and refine their learning methods for future tasks. This process ensures continuous improvement and adaptation to learning challenges.

Overall, there is a cyclical relationship between these three components. Motivational beliefs drive the use of cognitive strategies, which in turn enhance self-regulation. As students become more self-regulated, they build stronger motivation, reinforcing their ability to learn effectively. This cycle leads to better academic outcomes and the development of lifelong learning skills

Statement of Problem

Students in the current era (2025), are facing different struggles in learning. Mass information available readily at all times may have decreased students' motivation in learning due to the availability of information anytime and anywhere. It can be challenging to students to have pure motivational beliefs in learning due to the environment presented to them. Therefore this study will deep dive into the modern approach in maintaining high motivational beliefs and connect it all together with cognitive strategy use.

Despite extensive research on student learning, many learners struggle to effectively regulate their learning processes, leading to poor academic performance and disengagement. Motivational beliefs, cognitive strategy use, and self-regulation are critical factors that influence how students approach learning, yet their interconnections remain underutilized in educational practice. Many students lack the motivation to engage deeply with learning tasks, often relying on ineffective cognitive strategies such as rote memorization rather than deeper processing techniques like elaboration and organization. Furthermore, self-regulation skills, including goal setting, progress monitoring, and reflection, are often underdeveloped, limiting students' ability to adapt and sustain their learning efforts.

The challenge lies in understanding how motivational beliefs shape cognitive strategy use and how both factors contribute to the development of self-regulation. Without a clear framework that connects these elements, educators struggle to design interventions that foster intrinsic motivation, effective learning strategies, and self-directed learning habits. Addressing this issue is crucial for improving student outcomes and preparing learners for lifelong learning.

Objective of the Study and Research Questions

This study is done to investigate how learners perceive their motivational beliefs and the use of self-regulated strategies. Specifically, the study will address the following research questions:

How do learners perceive their motivational beliefs?

How do learners perceive their use of cognitive strategies?

Is there a correlation between motivational beliefs and self-regulated strategies?

LITERATURE REVIEW

Theoretical Framework

Motivational Beliefs

Motivational strategies can assist students in initiating their schoolwork, maintaining effort despite motivational challenges, or redirecting their focus from non-learning to learning objectives. (Smit et al., 2017). Pintrich and De Groot (1990) has identified that there are three key motivational factors which influence classroom academic performance; self-efficacy, intrinsic values and test anxiety. According to Pintrich and De Groot (1990), self-efficacy involves a student being confident in their own abilities, including their perceived competence and their confidence in performing academic tasks. Self-efficacy is the belief in one's own ability to successfully complete a task and learners who have self-efficacy beliefs are able to comprehend the concepts taught in class and are able to study the materials in class (Zainuddin et al., 2023). Meanwhile, intrinsic value refers to a student's internal interest in and perceived significance of coursework, as well as their preference for challenges and goals related to mastery (Pintrich and De Groot, 1990). Bandura and Schunk (1981) explained in their research o, that intrinsic interest can be fostered from the satisfaction gained from achieving subgoals. Students are interested in learning what they like, studying important subjects and learning interesting and useful information (Yew at el., 2023). Finally, test anxiety involves feelings of worry and mental distractions during exams (Pintrich and De Groot, 1990). Yew at el. (2023) argued that the high motivation to achieve academic excellence results in the prominent level of test anxiety among learners. In this study, self-efficacy, intrinsic values and test anxiety is examined to investigate how Japanese and English language perceive motivational beliefs.

Self-Regulated Strategies

Self-regulated learning is not a mental ability or an academic skill, but rather a self-guided process in which students convert their cognitive abilities into goal-focused academic skills (Marucci, 2023). Pintrich and De Groot (1990) discussed that there are components of self-regulated learning which are especially vital for classroom performance; metacognitive strategies, self-regulation and cognitive strategy. Metacognitive strategy involved planning, monitoring, and modifying students' cognition (Pintrich and De Groot, 1990). Meanwhile, cognitive strategy is referred to as the strategies that learners' utilized to to learn, memorize, and comprehend the learning material (Pintrich and De Groot, 1990; Corno & Mandinach, 1983; Zimmerman & Pons, 1986, 1988). On the other hand, self-regulation refers to students' ability to manage and control their effort on academic tasks in the classroom (Pintrich and De Groot, 1990). Corno and Mandinach (1983) explained that the act of directing effort to academic tasks by students is a form of cognitive engagement and if this intellectual activity continues, students will be able to utilize the learning approaches they used in school. Yew (2023) explained that cognitive strategy and self-regulation are highly correlated with self-regulated learning when achieving students' goals. Thus, through these two components, this study aimed to investigate how Japanese and English language students perceived self-regulated learning strategies.

Past Studies

Past Studies on Motivational Beliefs

In recent studies, motivational beliefs were examined among students at tertiary level. These studies concluded that motivational beliefs components have a positive relationship with academic performance. However, what components are significant varies in these studies.

Gharghani et al. (2019) explored the relationship between motivational beliefs, cognitive and metacognitive strategies, and academic achievement among students. A total of 250 medical and health students from Shiraz University of Medical Sciences were selected using Levy and Lemeshow sampling formula. Data were collected through the Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich and de Groot. Gharghani et al. (2019) found that, among the components of motivational beliefs, self-efficacy had a significant positive correlation with academic performance. Through multiple regression analysis, Gharghani et al. (2019) determined that self-efficacy demonstrates a prominent positive correlation with academic performance.

Students with stronger self-efficacy beliefs, who reinforce their confidence, are more likely to achieve better academic outcomes.

Zainuddin et al. (2023) investigated learners' perceptions of their use of learning strategies. A total of 140 participants were given questionnaires based on the Motivated Strategies for Learning Questionnaire (MSLQ), developed by Paul R. Pintrich and Debra J. De Groot. The data were analyzed by calculating the mean scores for self-efficacy, intrinsic value, test anxiety, cognitive strategy, and self-regulation. Zainuddin et al. (2023) discovered that intrinsic value had the highest mean, indicating that students feel positive about their academic progress and what they expect to achieve. Zainuddin et al. (2023) also reported being good at understanding and applying the information they learn, relating it to their existing knowledge. However, self-efficacy had the lowest mean, as students generally did not compare themselves with their peers and did not believe they knew as much about the subject.

Yew et al. (2023) examined how learners' motivational beliefs and self-regulated learning strategies impact their learning process. This quantitative study is based on the conceptual framework of Pintrich & DeGroot (1990). The study sample included 51 ESL undergraduates from a public university. A 5-point Likert-scale survey, adapted from Pintrich & DeGroot (1990), was used to gather data. Yew et al. (2023) revealed that the most significant motivational belief component was intrinsic value, with students expressing motivation to learn because they enjoy the subject, find it important, and view it as both interesting and useful. Additionally, Yew et al. (2023) concluded that the learning strategies of post-Covid-19 pandemic students are strongly influenced by their motivational beliefs and self-regulated learning strategies, particularly among diploma students.

In the studies mentioned, academic performance has a positive relationship with motivational beliefs components. Intrinsic values and self-efficacy are the most significant components in achieving an excellent academic performance. This indicates that students who enjoyed their classes and are confident have higher chances to perform better in class.

Past Studies on Self-Regulated Strategies

The past studies regarding self-regulated learning strategies have varied on whether these strategies have a positive relationship with academic performance or not. Some discovered that these strategies lead more to increasing a student's effort in getting better grades.

Smit et al. (2017) investigated how students use motivational strategies as intermediaries between their beliefs about the value of schoolwork, their sense of competence, and their motivational engagement. The study involved 3,602 students aged 11 to 21 from 49 pre-vocational secondary education schools, who completed Wolters' questionnaire on strategies in Dutch. Smit et al. (2017) revealed that self-regulated learners were able to set goals, plan, and adjust their motivation accordingly through the use of self-regulated learning strategies. Smit et al. (2017) also argued that using more motivational strategies could increase a student's effort but not their achievement. Thus, Smit et al. (2017) suggested that students need to be trained first to utilize cognitive and meta-cognitive strategies.

In their 2019 study, Gharghani et al. examined the connection between motivational beliefs, cognitive and metacognitive strategies, and academic success among students. Using the Levy and Lemeshow sampling formulas, they selected 250 medical and health students from Shiraz University of Medical Sciences, who then completed the Motivated Strategies for Learning Questionnaire (MSLQ) created by Pintrich and de Groot. The findings revealed that only metacognitive learning strategies were significant predictors of academic performance. Additionally, the study concluded that students who utilize a broader range of cognitive strategies tend to achieve better academic results.

Yew et al. (2023) investigated the influence of learners' motivational beliefs and self-regulated learning strategies on their learning processes. This quantitative study was grounded in the conceptual framework of Pintrich & DeGroot (1990). The sample consisted of 51 ESL undergraduates from a public university, and data was collected using a 5-point Likert-scale survey adapted from Pintrich & DeGroot (1990). The results revealed that, in terms of self-regulated learning strategies, students primarily rely on cognitive strategies, such as memorizing

facts for exams. Furthermore, regarding self-regulation, students put in effort to achieve good grades even if they do not enjoy the class.

The studies mentioned above discovered that cognitive strategies are the most utilized strategies in self-regulated learning strategies. Students tend to memorize facts for better grades. However, the studies vary when it comes to academic performance. Gharghani et al. agreed that self-regulated learning strategies predict the academic performances of students. However, Smit et al. (2017) and Yew et al. (2023) argued that they only improve student's effort but not their grades.

Conceptual Framework

Figure 1 presents the conceptual framework of the study, which explores the relationship between motivational beliefs and the components of self-regulated learning strategies. Motivation not only helps learners sustain their learning but also fosters independence in their pursuit of knowledge (Rahmat & Thasrabiab, 2024). Learners' motivational beliefs can be categorized into self-efficacy, intrinsic value, and test anxiety (Pintrich & De Groot, 1990). Independent learners are able to utilise self-regulated learning strategies, including cognitive strategy use and self-regulation (Pintrich & De Groot, 1990).

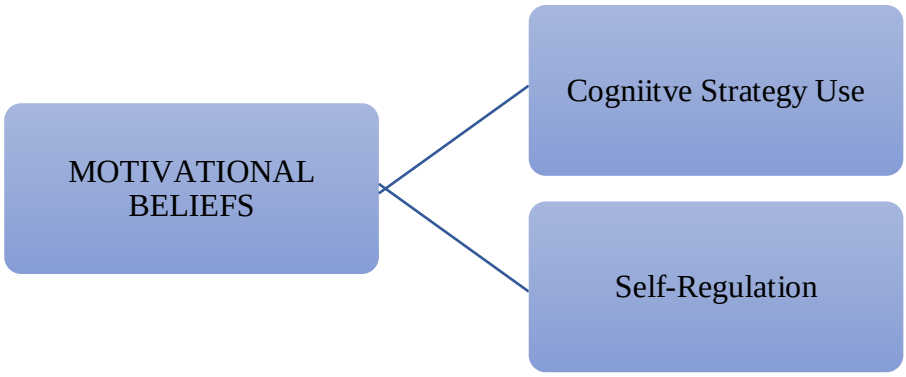

Figure 1 - Conceptual Framework of the Study -

Relationship between Motivational beliefs and Cognitive Strategy use and Self-Regulation

METHODOLOGY

This quantitative study is done to explore motivational factors for learning among undergraduates. A purposive sample of 282 participants responded to the survey. The instrument used is a 5-point Likert-scale survey, adapted from Pintrich & De Groot (1990) to reveal the variables presented in Table 1 below. The survey consists of 3 sections. Section A has items on demographic information. Section B has 22 items on motivational beliefs. Section C has 22 items on self-regulated learning strategies.

Table 1 - Distribution of Items in the Survey

PART	STRATEGY		SCALE	No Of Items	Total Items	
TWO	MOTIVATIONAL BELIEFS	A	SELF-EFFICACY	9	22	.871
		B	INTRINSIC VALUE	9		
		C	TEST ANXIETY	4		

THREE	SELF-REGULATED LEARNING STRATEGIES	D	COGNITIVE STRATEGY USE	13	22	.890
		E	SELF-REGULATION	9		
	TOTAL NO OF ITEMS				44	.929

Table 1 displays the reliability of the survey. The analysis reveals a Cronbach's alpha of .871 for motivational beliefs and .890 for self-regulated learning strategies. The overall reliability for all 44 items is .929, indicating good reliability of the instrument used. Further analysis was conducted using SPSS to present the findings that address the research questions of this study.

FINDINGS

Findings for Demographic Profile

Table 2 - Gender of the Respondents

NO	ITEM	PERCENTAGE
1	Male	35%
2	Female	65%

The percentage of gender findings in Table 2 delineates that the majority of respondents were female, accounting for 65% of the participants, while males constituted the remaining 35%.

Table 3 - Cluster of Study

NO	ITEM	PERCENTAGE
1	Science & Technology	33%
2	Social Sciences	60%
3	Business	7%

The findings for the Cluster of Study in Table 3 indicates that the majority of respondents were from the Social Sciences discipline (60%), followed by Science & Technology (33%) and Business (7%).

Table 3 - Languages Taken by Respondents

NO	ITEM	PERCENTAGE
1	English	26%
2	Japanese	33%
3	Both	41%

The findings from Table 3 shows the languages that respondents are learning. 41% of respondents are learning both English and Japanese, 33% are learning Japanese, and 26% are learning English.

Table 5 - Semester of the Respondents

NO	ITEM	PERCENTAGE
1	Semester 1-2	33%
2	Semester 3-4	52%
3	Semester 5 and above	15%

The findings for the semester of the respondents in Table 5 depicts that the majority were in Semester 3-4 (52%), followed by Semester 1-2 (33%), and Semester 5 and above (15%).

Findings for Motivational Beliefs

This section presents data to answer Research Question 1: How do learners perceive their motivational beliefs? In the context of this study, this refers to (i) self-efficacy, (ii) intrinsic value, and (iii) test anxiety.

Table 6 - Mean for (i) Self-Efficacy (9 items)

ITEM	MEAN
MBSEQ1Compared with other students in this class I expect to do well.	3.4
MBSEQ2I'm certain I can understand the ideas taught in this course.	3.9
MBSEQ 3I expect to do very well in this class.	3.9
MBSEQ 4Compared with others in this class, I think I'm a good student	3.3
MBSEQ5I am sure I can do an excellent job on the problems and tasks assigned for this class.	3.7
MBSEQ61 think I will receive a good grade in this class.	3.8
MBSEQ 7My study skills are excellent compared with others in this class.	3.0
MBSEQ8Compared with other students in this class I think I know a great deal about the subject.	3.2
MBSEQ9I know that I will be able to learn the material for this class	3.9

Table 6 illustrates the mean scores for self-efficacy items, which ranged from 3.0 to 3.9. The highest mean score (3.9) was observed for three items: certainty in understanding course ideas (MBSEQ2), expecting to do very well (MBSEQ3), and confidence in learning course material (MBSEQ9). The lowest mean score (3.0) was reported for study skills compared to others (MBSEQ7). Other items scored between 3.2 and 3.8, reflecting moderate to high levels of self-efficacy among the respondents.

Table 7 - Mean for (ii) Intrinsic Value (9 items)

ITEM	MEAN
MBIVQ1I prefer class work that is challenging so I can learn new things.	3.5
MBIVQ2It is important for me to learn what is being taught in this class.	4.3
MBIVQ3I like what I am learning in this class.	4.3

MBIVQ 4I think I will be able to use what I learn in this class in other classes.	3.9
MBIVQ 5I often choose paper topics I will learn something from even if they require more work.	3.5
MBIVQ 6Even when I do poorly on a test I try to learn from my mistakes.	4.2
MBIVQ7 I think that what I am learning in this class is useful for me to know.	4.3
MBIVQ 8I think that what we are learning in this class is interesting.	4.3
MBIVQ 9Understanding this subject is important to me.	4.4

The mean scores for intrinsic value in Table 7 demonstrates that items ranged from 3.5 to 4.4. The highest mean score (4.4) was observed for the importance of understanding the subject (MBIVQ9), followed by items emphasizing the usefulness and interest of the content (4.3 each for MBIVQ2, MBIVQ3, MBIVQ7, and MBIVQ8). Moderate scores (3.5) were recorded for preference for challenging work (MBIVQ1) and choosing topics to learn from despite the effort (MBIVQ5). Overall, the data reflect strong intrinsic motivation among respondents to learn and value the course material.

Table 8 - Mean for (iii) Test Anxiety (4 items)

ITEM	MEAN
MBTAQ1I am so nervous during a test that I cannot remember facts I have learned.	3.2
MBTAQ 2I have an uneasy, upset feeling when I take a test.	3.1
MBTAQ 3I worry a great deal about tests.	3.5
MBTAQ 4When I take a test I think about how poorly I am doing.	3.3

Table 8 exhibits the mean scores for test anxiety items, which range from 3.1 to 3.5. The highest mean score (3.5) was observed for worrying a great deal about tests (MBTAQ3), followed by thinking about poor performance during a test (MBTAQ4) at 3.3. The lowest scores were recorded for nervousness affecting memory (MBTAQ1) at 3.2 and having an uneasy feeling during tests (MBTAQ2) at 3.1. These results suggest moderate levels of test anxiety among the respondents.

Findings for Cognitive Strategy Use

This section presents data to answer Research Question 2: How do learners perceive their cognitive strategy use? In the context of this study, this refers to (i) cognitive strategy use and (ii) self-regulation.

Table 9 - Mean for (i) Cognitive Strategy Use (13 items)

ITEM	MEAN
SRLSCSUQ1When I study for a test, I try to put together the information from class and from the book.	4.1
SRLSCSUQ 2When I do homework, I try to remember what the teacher said in class so I can answer the questions correctly.	4.2
SRLSCSUQ 3It is hard for me to decide what the main ideas are in what I read.	3.2

SRLSCSUQ 4When I study, I put important ideas into my own words.	3.9
SRLSCSUQ 5I always try to understand what the teacher is saying even if it doesn't make sense.	3.9
SRLSCSUQ 6When I study for a test, I try to remember as many facts as I can.	4.2
SRLSCSUQ 7When studying, I copy my notes over to help me remember material.	3.9
SRLSCSUQ 8When I study for a test, I practice saying the important facts over and over to myself.	4
SRLSCSUQ 9I use what I have learned from old homework assignments and the textbook to do new assignments.	4
SRLSCSUQ 10When I am studying a topic, I try to make everything fit together.	3.9
SRLSCSUQ 11When I read material for this class, I say the words over and over to myself to help me remember.	3.9
SRLSCSUQ 12I outline the chapters in my book to help me study.	3.7
SRLSCSUQ 13When reading I try to connect the things, I am reading about with what I already know.	4

The mean scores in Table 9 highlights that cognitive strategy use items ranged from 3.2 to 4.2. The highest mean scores (4.2) were recorded for recalling teacher instructions during homework (SRLSCSUQ2) and memorizing facts for tests (SRLSCSUQ6). Scores of 4.0 were observed for practicing important facts (SRLSCSUQ8), using prior knowledge for new assignments (SRLSCSUQ9), and connecting new information to prior knowledge (SRLSCSUQ13). The lowest score (3.2) was recorded for difficulty identifying main ideas in readings (SRLSCSUQ3). Overall, the findings reflect strong utilization of cognitive strategies for learning among the respondents.

Table 10 - Mean for (ii) Self-Regulation (9 items)

ITEM	MEAN
SRLSSRQ1I ask myself questions to make sure I know the material I have been studying.	3.8
SRLSSRQ 2When work is hard I either give up or study only the easy parts.	3.1
SRLSSRQ 3I work on practice exercises and answer end of chapter questions even when I don't have to.	3.4
SRLSSRQ 4Even when study materials are dull and uninteresting, I keep working until I finish.	3.6
SRLSSRQ 5Before I begin studying, I think about the things I will need to do to learn.	3.8
SRLSSRQ 6I often find that I have been reading for class but don't know what it is all about.	3.2
I find SRLSSRQ 7that when the teacher is talking, I think of other things and don't really listen to what is being said.	2.9
SRLSSRQ 8When I'm reading, I stop once in a while and go over what I have read.	3.7
SRLSSRQ 91 work hard to get a good grade even when I don't like a class.	4

The mean scores for self-regulation items, as denoted in Table 10, ranged from 2.9 to 4.0. The highest mean score (4.0) was observed for working hard to achieve good grades even in disliked classes (SRLSSRQ9). Scores of 3.8 were recorded for planning study strategies (SRLSSRQ5) and self-questioning during study (SRLSSRQ1). The lowest score (2.9) was reported for lack of focus during the teacher's explanations (SRLSSRQ7). Overall, the findings suggest varying levels of self-regulation among respondents, with strengths in goal-driven effort and strategic preparation.

Findings for Relationship between motivational beliefs and self-regulated strategies

This section presents data to answer Research Question 4: Is there a relationship between motivational beliefs and self-regulated strategies? To determine if there is a significant association between the mean scores of motivational beliefs and self-regulated strategies, the data were analyzed using SPSS for correlations. The results are presented separately in Tables 11 and 12 below.

Table 11 - Correlation between Motivational Beliefs and Cognitive Strategy Use

Correlations

		MOTIVATIVATIONAL_BELIEFS	COGNITIVE_STRATEGY
MOTIVATIVATIONAL_BELIEFS	Pearson Correlation	1	.698**
	Sig. (2-tailed)		.000
	N	282	282
COGNITIVE_STRATEGY	Pearson Correlation	.698**	1
	Sig. (2-tailed)	.000	
	N	282	282

**. Correlation is significant at the 0.01 level (2-tailed).

Table 11 manifests that there is an association between motivational beliefs and cognitive strategy. Correlation analysis shows a highly significant association between motivational beliefs and cognitive strategy (r = .698**, p = .000). According to Jackson (2015), the coefficient is significant at the .05 level, and the positive correlation is measured on a scale from 0.1 to 1.0. A weak positive correlation is in the range of 0.1 to 0.3, a moderate positive correlation ranges from 0.3 to 0.5, and a strong positive correlation is from 0.5 to 1.0. This indicates a strong positive relationship between motivational beliefs and cognitive strategy.

Table 12 - Correlation between Motivational Beliefs and Self- Regulation

Correlations

		MOTIVATIVATIONAL_BELIEFS	SELF_REGULATION
MOTIVATIVATIONAL_BELIEFS	Pearson Correlation	1	.562**
	Sig. (2-tailed)		.000
	N	282	282
SELF_REGULATION	Pearson Correlation	.562**	1
	Sig. (2-tailed)	.000	
	N	282	282

**. Correlation is significant at the 0.01 level (2-tailed).

Table 12 reveals an association between motivational beliefs and self-regulation. Correlation analysis indicates a highly significant association between motivational beliefs and self-regulation (r = .562**, p = .000).

According to Jackson (2015), the coefficient is significant at the .05 level, and positive correlation is measured on a scale from 0.1 to 1.0. A weak positive correlation ranges from 0.1 to 0.3, a moderate positive correlation ranges from 0.3 to 0.5, and a strong positive correlation ranges from 0.5 to 1.0. This suggests a strong positive relationship between motivational beliefs and self-regulation.

CONCLUSION

Summary of Findings and Discussions

5.1.2 RQ 1 (How do learners perceive their motivational beliefs?)

This study examines how learners perceive their motivational beliefs, focusing on self-efficacy, intrinsic value, and test anxiety. The results show that students generally have moderate to high confidence in their abilities, strong motivation to learn, and moderate levels of test anxiety. These findings suggest that motivation plays a key role in students' learning experiences and performance. For self-efficacy, students felt confident in their ability to understand course material and perform well. They believed they could learn the subject, but some lacked confidence when comparing themselves to their peers, especially in study skills. This aligns with Bandura's (1997) theory, which suggests that students with higher self-confidence tend to put in more effort and persist in learning. Similarly, Pintrich and De Groot (1990) found that self-efficacy helps students stay motivated and use effective learning strategies. In terms of intrinsic value, students showed strong motivation to learn. They found the subject interesting, useful, and important. Even when they faced difficulties, they were willing to learn from mistakes. These findings align with Eccles and Wigfield's (2002) theory, which suggests that students are more engaged when they see value in what they are learning. Research by Deci and Ryan (2000) also shows that students with high motivation tend to work harder and perform better. For test anxiety, students reported moderate levels of worry about exams. Many felt nervous or feared performing poorly, but this anxiety did not reach extreme levels. Research by Zeidner (1998) suggests that test anxiety can interfere with concentration and lower performance. While the students in this study did experience some anxiety, proper support and test-taking strategies could help them manage it better.

RQ 2 (How do learners perceive their use of cognitive strategies?)

The findings indicate that students actively use cognitive strategies to process information and apply self-regulation techniques, although some areas need improvement. For cognitive strategy use, students frequently combine information from different sources, recall teacher instructions, and use memorisation techniques to enhance learning. They also apply prior knowledge to new assignments and organise information in meaningful ways. However, some students struggle with identifying main ideas in reading materials, which may affect their comprehension. These results align with Weinstein and Mayer's (1986) model of cognitive strategies, which emphasizes the importance of organizing and elaborating on information for better learning outcomes. Similarly, Pintrich and De Groot (1990) found that students who actively engage in cognitive strategies tend to perform better academically. Regarding self-regulation, students show strong motivation to complete tasks and achieve good grades, even in subjects they dislike. They also use planning strategies, such as thinking ahead about study requirements and asking themselves questions to check understanding. However, some students struggle with staying focused during lessons and occasionally find themselves reading without understanding the material. This supports Zimmerman's (2001) theory of self-regulated learning, which suggests that students who set goals, monitor their progress, and adjust their strategies are more successful. Additionally, research by Schunk and Ertmer (2000) highlights that students with strong self-regulation skills are better at managing challenges and persisting through difficult tasks. Highest cognitive strategy similar to what is suggested by Smit et al. (2017) also recommended that students should first be trained in using cognitive strategy as using more motivational strategies may boost a student's effort, it does not necessarily lead to improved achievement.

RQ 3 (Is there a correlation between motivational beliefs and self-regulated strategies?)

The findings indicate a moderately positive correlation between motivational beliefs and self-regulated strategies, suggesting that students who are more motivated tend to use more cognitive strategies and self-regulation techniques. The analysis in Table 11 shows a moderately significant correlation ($r = .698$, $p = .000$)

between motivational beliefs and cognitive strategy use. This means that students who believe in their abilities and value their learning tend to use strategies like organizing information, summarising, and recalling prior knowledge to enhance understanding. This aligns with Pintrich and De Groot's (1990) study, which found that students with strong motivational beliefs engage more in deep learning strategies and perform better academically. Similarly, Table 12 reveals a moderately significant correlation ($r = .562$, $p = .000$) between motivational beliefs and self-regulation. This suggests that motivated students are more likely to plan their studies, monitor their progress, and persist through challenges. Zimmerman (2002) emphasised that self-regulated learners set goals, use strategies to stay on track, and reflect on their performance, all of which contribute to academic success. Furthermore, Schunk and Ertmer (2000) highlighted that motivation plays a crucial role in self-regulation, as students who see value in learning are more likely to sustain effort and adopt effective learning habits.

Pedagogical Implications and Suggestions for Future Research

The findings of this study suggest a moderate correlation between motivational beliefs and self-regulated learning strategies, which has significant implications for teaching and learning. Educators should focus on fostering both motivation and self-regulation to enhance student learning outcomes. One key implication is the need to enhance student motivation through goal-setting exercises, positive feedback, and making learning materials more relevant. When students see the value in their education and believe in their ability to succeed, they are more likely to engage in deep learning strategies.

Developing self-regulated learning skills is equally important. Teachers can integrate metacognitive training to help students monitor their progress, adjust their study strategies, and become more independent learners. Encouraging students to use learning journals or reflection logs can be an effective way to track their development. Additionally, assessments should not only focus on correct answers but also reward the use of effective learning strategies. Schools can also introduce digital tools such as self-paced learning apps, gamified platforms, and AI-driven personalised feedback systems to support self-regulated learning. Online discussion forums and collaborative learning environments can further enhance motivation and cognitive engagement.

Despite the strong correlation found in this study, several areas remain unexplored, offering opportunities for future research. Future researchers could investigate whether early interventions aimed at improving student motivation lead to long-term academic success. Additionally, studying the influence of cultural, socio-economic, and institutional factors on the relationship between motivation and self-regulation could provide insights into how these strategies vary across different learning contexts.

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