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(IJEPC)**www.ijepr.com**EXPLORING THE RELATIONSHIP BETWEEN BELIEFS
ABOUT MOTIVATION AND USE OF SELF-REGULATED
LEARNING STRATEGIES: A STUDY AT UNIVERSITI
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DOI: 10.35631/IJEPC.955048.**Abstract:**

Self-regulated learning (SRL) refers to one's ability to take control of his emotions, cognitions, behaviour, and environment during a learning experience. With rapid evolution and challenges in teaching and learning, students now need to acquire self-regulated learning skills even more. Moreover, many studies have also revealed that the worldwide pandemic has affected students' motivation to learn, especially in situations where there is a shortage of information technology facilities and a lack of social support from classmates and lecturers. This issue continues to present in the context of post Covid-19 period as hybrid learning is implemented at university. Therefore, this study aims to explore learners' perception on their motivational beliefs and use of self-regulated learning strategies. A quantitative survey using questionnaires was done to explore this relationship. The sample of this study was 160 undergraduates of Universiti Teknologi MARA, Kelantan Branch. The questionnaire which has four sections used a 5 Likert-scale survey and is adapted from Pintirch and DeGroot (1990). This study discovered that there is a high significant association between motivational beliefs and self-regulated learning strategies. This study gives insights to educators to incorporate SRL theory into their classroom teaching practice. It also encourages educators to assist their students to develop SRL and be self-regulated learners as the sooner

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they apply the skill, the more successful and fulfilling their learning experience will be.

Keywords:

Hybrid Learning, Motivational Beliefs, Open-Distance Learning, Post Covid-19 Period, Self-Regulated Learning

Introduction

Background of Study

Researches on motivation and self-regulated learning (SRL) discovered that a student's success in academic learning is influenced by his motivational belief and SRL strategy used. According to Abdala and Alemu (2023) and Yew et al., (2023) SRL practices foster students' development of metacognition, motivation and strategic action. These underlying learning competencies, consequently improve students' academic, social, emotional and career outcomes. SRL, which is a skill simulated by motivation, empowers students to strategize learning to hit the academic goal that he, himself has set. Self-regulated students are able to take control of his emotions, cognitions, behaviour and environment during a learning experience.

SRL has gained significant attention in educational psychology over the past few decades. The growing interest in SRL can be attributed to several key factors, namely educational reforms, technological advancements and COVID-19 pandemic. According to Brenner (2022) there is a growing emphasis on student-centered learning approaches, which require students to take more responsibility for their learning. SRL aligns with these educational reforms by empowering learners to set goals, monitor their progress, and adjust strategies as needed. Secondly, technological advancements. According to Albelbisi and Yusop (2019), the rise of online learning platforms and Massive Open Online Courses (MOOCs) has highlighted the importance of SRL in digital learning environments. This study indicates that learners with strong self-regulation skills are more likely to succeed in online courses, as they can effectively manage their learning processes in less structured settings. Thirdly, the COVID-19 pandemic has significantly increased attention on SRL due to the abrupt shift to online education and the unique challenges it presented. According to Pelikan, Lüftenegger, Holzer *et al.* (2021) the transition to remote learning required students to exhibit higher levels of self-regulation and intrinsic motivation, as traditional classroom structures were disrupted. Bannister and Tuck (2022) stated students who effectively self-regulate their learning are better equipped to adapt to these challenges, which has led to a greater emphasis on teaching SRL skills during this period.

In Malaysia, awareness of SRL significantly increased during the COVID-19 pandemic in 2019, as teaching and learning methods rapidly transitioned from face-to-face instruction to Open-Distance Learning (ODL). This issue continues to exist in the post-COVID-19 era, especially with the implementation of hybrid learning models at universities. These models demand students to be autonomous and highly motivated to overcome all the challenges that come in the form of emotions, cognitions, behaviour and environment during learning experiences.

It follows that motivational beliefs significantly affect students' engagement in SRL. If students lack confidence in their abilities or fail to recognize the relevance of their tasks, they may be less likely to employ effective self-regulation strategies, impacting their learning and performance. With this in mind, research is needed to investigate how students' motivational beliefs influence their use of SRL strategies in the context of post-COVID-19 hybrid learning environments in Malaysia. The scope of this study is the relationship between these two constructs and their impact on students' academic performance and overall learning experiences.

Statement of Problem

ODL has gained popularity during the global spread of Covid-19 virus. There are many studies that found positive impacts of ODL compared to traditional face-to-face classroom teaching. However this sudden transition is very challenging to students. It requires them to expand beyond their used capabilities; they have to be highly motivated and self-regulate their learning. And these new-form of academic challenges will continue to stay as universities welcome hybrid teaching and learning approach. According to Ya-Hui Kuo (2010), many students are not able to self-regulate their learning when they could and should. In addition, Cheng and Xie (2021) in his study 'Why College Students Procrastinate in Online Courses: A Self-Regulated Learning Perspective' discovered that students tend to put off learning and procrastinate their assignments in online courses. The findings also revealed that academic procrastination in online courses was a complex phenomenon and stemmed from the interrelationships between college students' perceptions of learning context, personal characteristics, and motivational beliefs. Pedrotti and Nistor (2019) had also shared a similar discovery where the findings reveal a dramatically suboptimal use of SRL strategies in online learning experiences.

With the foregoing premises, this study is conducted to answer the following questions:

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

Objective of the Study and Research Questions

This study is done to explore perception of learners on their motivational beliefs and use of self-regulated learning strategies. Specifically, this study is done to answer the following questions;

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

Literature Review

Online and Traditional Studies

SRL plays an essential role in students' academic success in higher education (Dent & Koenka, 2016; Hattie & Donaghue, 2016). Hence, comprehending what motivates students to engage in SRL has become an important concern to many researchers (Schunk & Zimmermann, 2008; Zimmerman, 2011). On top of that, SRL is more important now as learning methods are constantly changing and require the students to plan a task, monitor their performance, and

then reflect on the outcome. In other words, self-regulation skill is a manifestation of learner autonomy. There have been many past studies on how SRL is linked with various motivational constructs such as achievement goals and attributions. Motivation is vital in initiating and sustaining SLR according to Boekaerts (2010), Pinrich (1999) and Zimmerman (2011).

Azhari and friends (2022) state that the role of motivation in students' learning activities during online learning assists them in completing numerous assignments, showing the tendency to revise learning materials and having study schedule. The study by Azhari et. al was set out to determine the relationship between self-regulated learning on learning motivation and student learning activities during e-learning. The findings highlight the vital role of SLR in raising students' awareness in learning activities and the importance of encouraging independent learning during e-learning.

According to Anuar et. al (2023), motivation is a vital part of autonomous learning, which refers to the process of acquiring skills or knowledge without being under direct monitoring of a teacher or instructor. The quantitative study carried out by Anuar et. al (2023) involved 122 undergraduate students of a public university in Malaysia. The findings revealed that performance and self-reflection influenced learners' motivation to self-regulate. This suggests the important role of educators. They should facilitate students during the teaching and learning process. As for students, they have to be responsible of their own learning.

Motivational Beliefs among Learners

The concept of motivation has been explored by many researchers. Simon (1967) describes motivation as a cognitive process in which "a goal-terminating mechanism permits the processor to satisfice, dealing generally with one goal" (p.39). According to Ryan and Deci (2000), being motivated means "to be moved to do something" (p.54). Motivational belief is an intrinsic motivation that encourages a learner to self-motivate through specific strategies. Wolters and Rosenthal (2000) state that studies on learners' motivational beliefs have showed that learners with higher task value and a learning goal orientation tend to develop "greater use of strategies that are designed to regulate learners' cognitive and meta cognitive engagement in academic tasks" (p.806). Students who have high motivational beliefs apply motivational regulation strategies than the ones who have low motivational beliefs. Students' beliefs include the value they give to a task or material, their perceptions of self-efficacy, their goals to achieve comprehension and their engagement, effort and persistence in academic tasks (Wolters & Rosenthal, 2000).

Using Self-Regulated Learning Strategies

The investigation of self-regulation processes is a new research area in which learners integrate "social and academic goals and regulation" (Pintrich, 2003, p. 675). Self-regulated learning is the individuals' beliefs in their potential and strategies they develop in learning. Being aware of what they know and how they obtain knowledge, learners initiate their own learning strategies. Learners' independent activity in learning without the guidance of a tutor is defined as self-regulated learning (SRL) (Rheinberg, Vollmeyer & Rollett 2000).

Past Studies on Motivation and Self-Regulated Learning Strategies (SLR)

There have been many past studies to investigate the two concepts, motivation and self-regulated learning (SRL). Prior research has shown that learners' motivational beliefs influence their use of learning strategies, and that this motivational beliefs and use of learning

strategies are in turn related to learners' academic achievement (Schunk & Zimmerman, 1994,1997,1998; Zimmerman, 1998a, 1998b, 2000). In a study, the researchers examined the individual differences in the ways students responded to self-regulation learning training. They were 58 college students who attended an introductory math course in New York City. The researchers predicted that students' motivational beliefs would be associated with at-risk college students' use of self-regulated learning strategies, homework completion, and academic performance. A path analysis revealed that a) motivational beliefs play a significant causal role in college students' homework completion, self-regulatory processes, and academic success, b) these associations are mediated by students' use of self-regulation, delay of gratification, and homework completion, and c) students who engage in self-regulation are better able to delay personal rewards and complete their homework more frequently. Four educational implications were noted from this study. First, although this study did not directly assess the effectiveness of the instructional intervention, it did reveal that at-risk students' self-regulatory processes and motivational beliefs played a causal role in their academic success. Second, the results show the importance of assisting at-risk college students to become active and responsible of their own learning. Third, teachers should be trained in using self-regulation learning strategies in their classroom in order to serve as social models to their students. Students learn through social modeling (Bandura, 1997). Fourth, tutors should be trained in how to use self-regulatory learning strategies and not just in content material. Tutors are essential social models that influence learners' motivational beliefs and use of self-regulated strategies.

In another study, relationships between self-regulated learning and selected motivational beliefs (namely self-efficacy, control beliefs, and anxiety) were explored. A total of 322 Malaysian students from two secondary schools were involved in this research. The Learning Strategies Sub scale, developed by Pintrich, Smith, Gracia, and McKeachie (1991), was used to measure students' self-regulated learning. Their self-efficacy, control beliefs, and anxiety were gauged by another sub scale, the Motivation Subscale, also developed by Pintrich, et al. Both of these sub scales were taken from the Motivated Strategies for Learning Questionnaire. Findings provide evidence that self-efficacy and control beliefs were positively and significantly related to self-regulated learning. The opposite result, however, was obtained for anxiety. It has a negative and significant relationship with self-regulated learning. Further analyses have revealed that there was a positive and significant association between self-efficacy and control beliefs while anxiety was negatively related to both of the motivational beliefs.

Conceptual Framework

Figure 1 shows the conceptual framework of the study. This study is rooted from Pintirch and DeGroot (1990) motivational beliefs and self-regulated learning strategies. They believed that learners' motivational beliefs are related to their abilities to use self-regulated strategies. Motivational beliefs comprise of self-efficacy, intrinsic value and also test anxiety. Self-regulated learning strategies include the use of cognitive strategy and self-regulation.

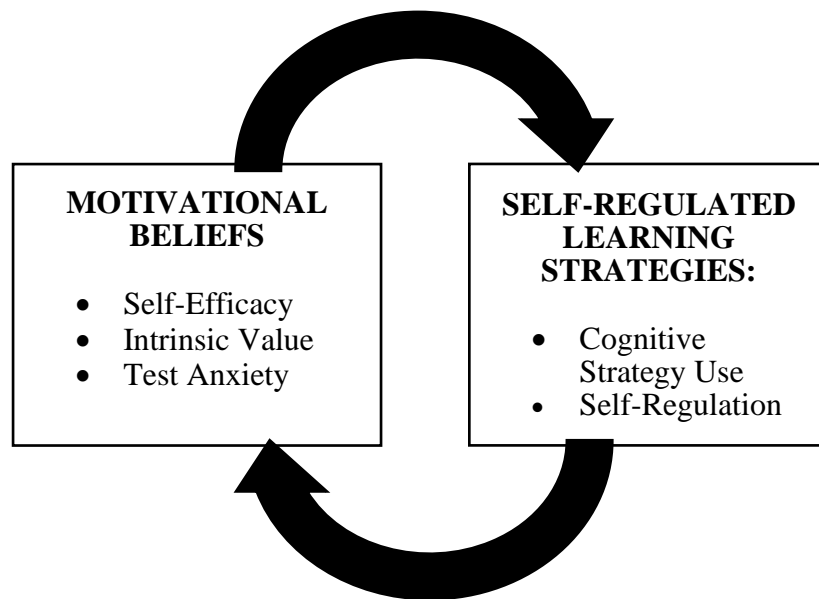


Figure 1: Conceptual Framework of the Study-Relationship between Motivational Beliefs and use of Self-Regulated Learning Strategies

Methodology

This study was done to explore learners' perception on their motivational beliefs and use of self-regulated learning strategies. The study employs quantitative data analysis methods, specifically utilizing descriptive statistics to analyze the survey responses from a purposive sample of 160 participants. They were undergraduates enrolled at Universiti Teknologi MARA (UiTM) Kelantan Branch during the October 2023 semester. The data was collected through a 5-point Likert-scale survey adapted from Pintrich and De Groot (1990).

The data analysis method used to study the correlation between motivational beliefs and self-regulated learning strategies is Structural Equation Modeling (SEM). This method allows researchers to assess the relationships among various constructs, such as motivational beliefs and self-regulated learning strategies, and their impact on academic performance. SEM facilitates the examination of both direct and indirect effects, providing a comprehensive understanding of how these variables interact and influence each other in educational contexts.

Table 1 shows the distribution of items in the survey. The survey has three sections. Section A has items on demographic profile. Section B has three items on motivational beliefs. Lastly, section C has two items on self-regulated learning strategies.

**Table 1: Distribution of Items in the Survey
Pintrich & DeGroot (1990)**

Part	Strategy	Scale	No Of Item	Total Item
One				
Two	Motivational Beliefs	A Self-Efficacy	9	22
		B Intrinsic Value	9	
		C Test Anxiety	4	
Three	Self-Regulated Learning Strategies	D Cognitive Strategy Use	13	22
		E Self-Regulation	9	
Total No of Item				44

Table 2 shows the reliability of the survey. SPSS analysis shows a Cronbach alpha of .932, thus, revealing a good reliability of the instrument used. Further analysis is done to present findings to answer the research questions for this study.

Table 2: Reliability of Survey

Reliability	Statistic
Cronbach's Alpha	N of Item
.932	44

Findings

Findings for Demographic Profile

Q1. Gender

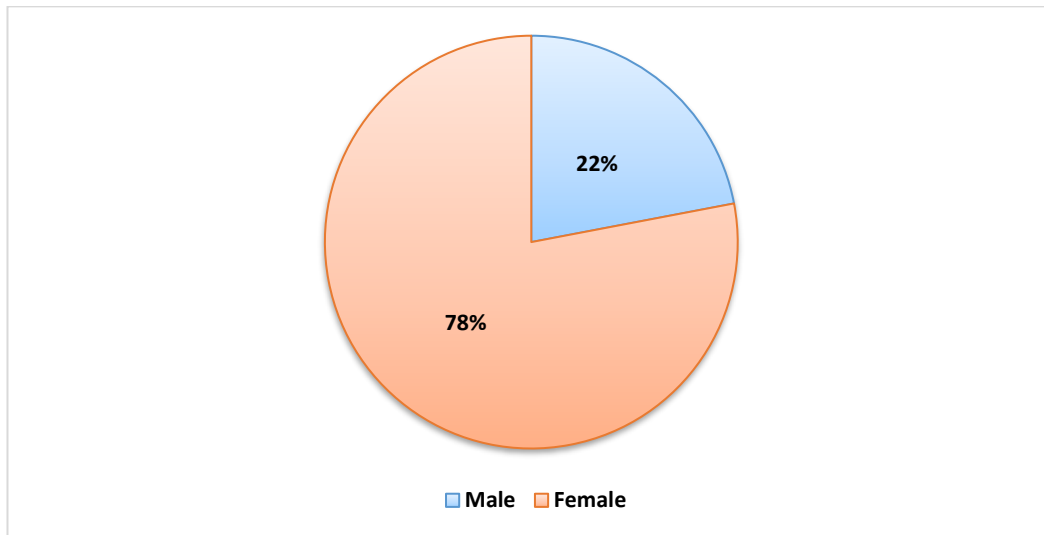


Figure 2: Percentage for Gender

Figure 2 shows the demographic information of the respondents. A total of 160 students participated in the survey and they were all from October 2023 to February 2024 semester. Majority of the respondents were female, represented by 78% and only 22% of the total population were male.

Q2. Age Group

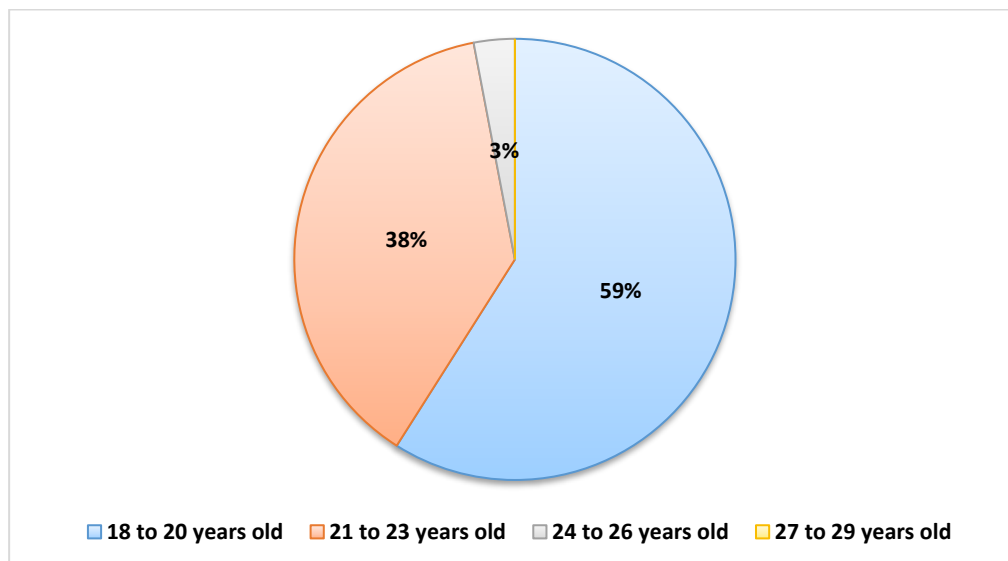


Figure 3: Percentage for Age Group

Based on figure 3, majority of respondents (59%) aged 18 to 20 years old. It is followed by respondents aged 21 to 23 years old with 38% and the lowest age group is 24 to 26 years old, 3%.

Q3. Discipline

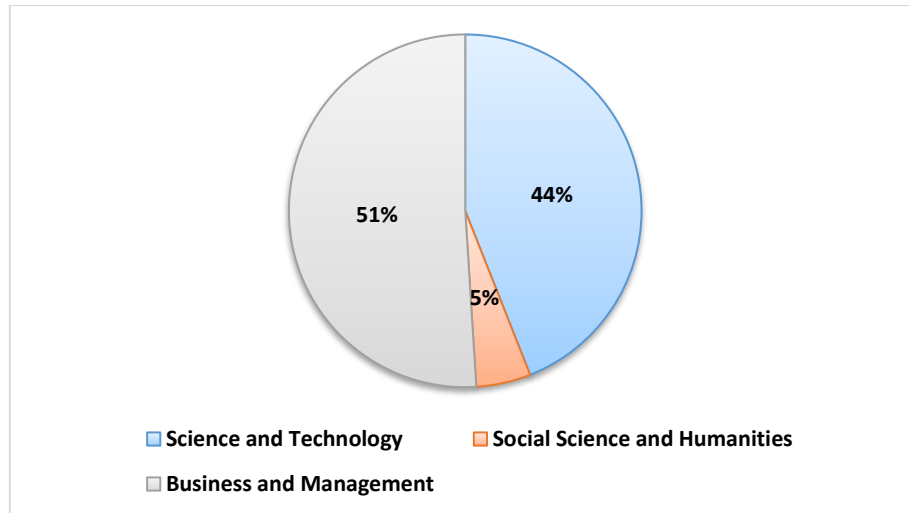


Figure 4: Percentage for Discipline

Figure 4 shows academic discipline of the respondents. 51% of the respondents was from Business and Management. 44% was from Science and Technology and only 5% was from Social Science and Humanities discipline.

Q4. Academic Level

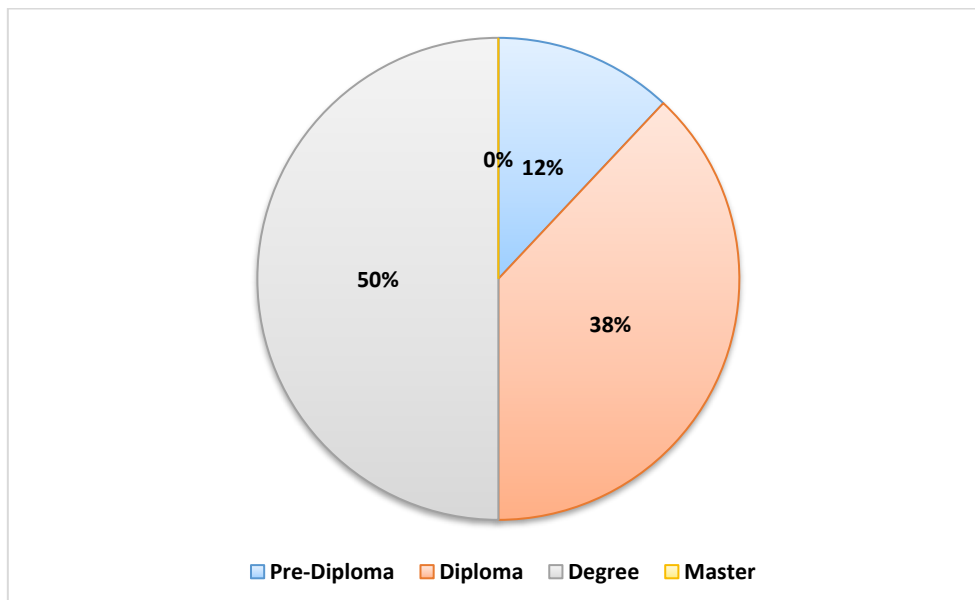


Figure 5: Percentage for Academic Level

Out of 160 respondents, 50% of them were degree students. 38% were diploma students and the least percentage, 12% were pre-diploma students.

Findings for Motivational Beliefs

This section presents data to answer research question 1- How do learners' motivational beliefs influence their learning? In the context of this study, this is measured by (1) self-efficacy, (ii)intrinsic value and (iii) test anxiety.

(i) SELF-EFFICACY (9 items)

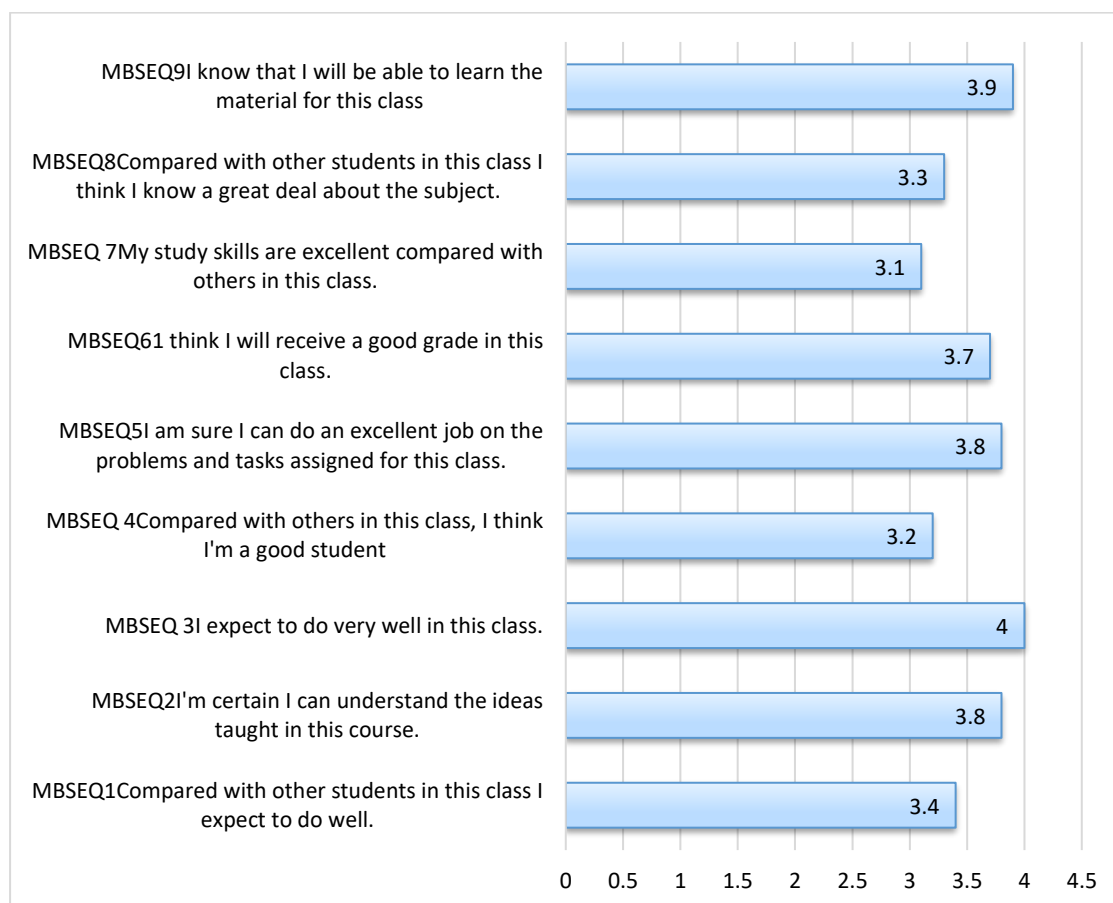


Figure 6: Mean for Self-Efficacy

Figure 6 represents the mean score for self-efficacy. The highest mean score is 4 with the statement 'I expect to do very well in this class'. The lowest mean score is 3.1 for the statement 'My study skills are excellent compared with others in this class'. The overall mean score derived from Figure 6 is 3.57. In short, the self-efficacy value has a positive high mean score.

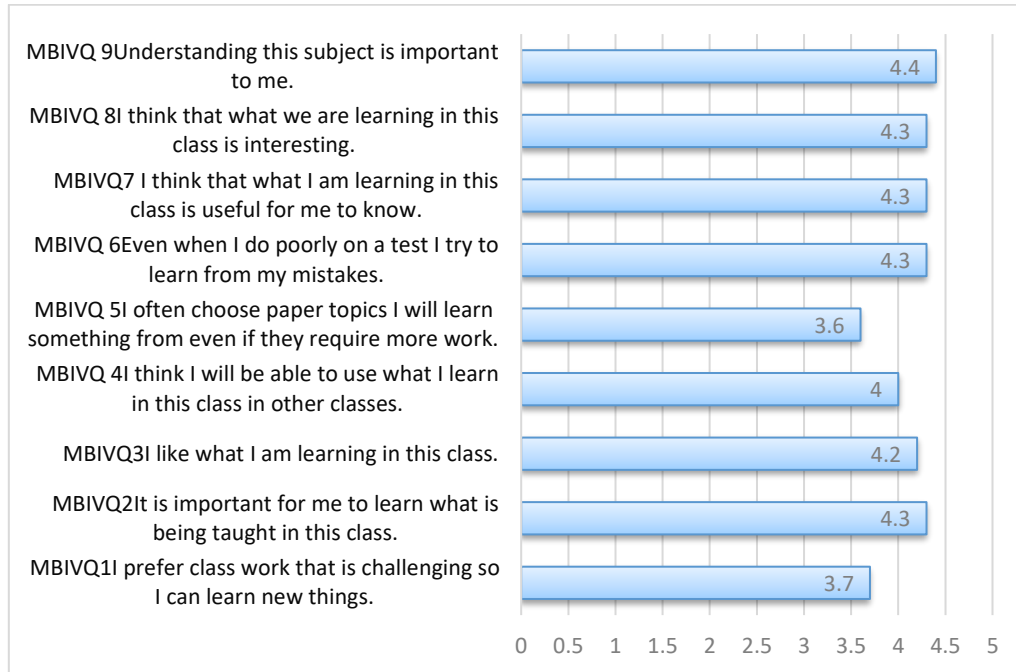
(ii) INTRINSIC VALUE (9 items)**Figure 7: Mean for Intrinsic Value**

Figure 7 shows the mean score for intrinsic value. The highest mean score is 4.4 with the statement 'Understanding this subject is important to me'. The lowest mean score is 3.6 for the statement 'I often choose paper topics I will learn something from even if they require more work'. The overall mean score derived from Figure 7 is 4.1. In brief, the intrinsic value has a positive high mean score.

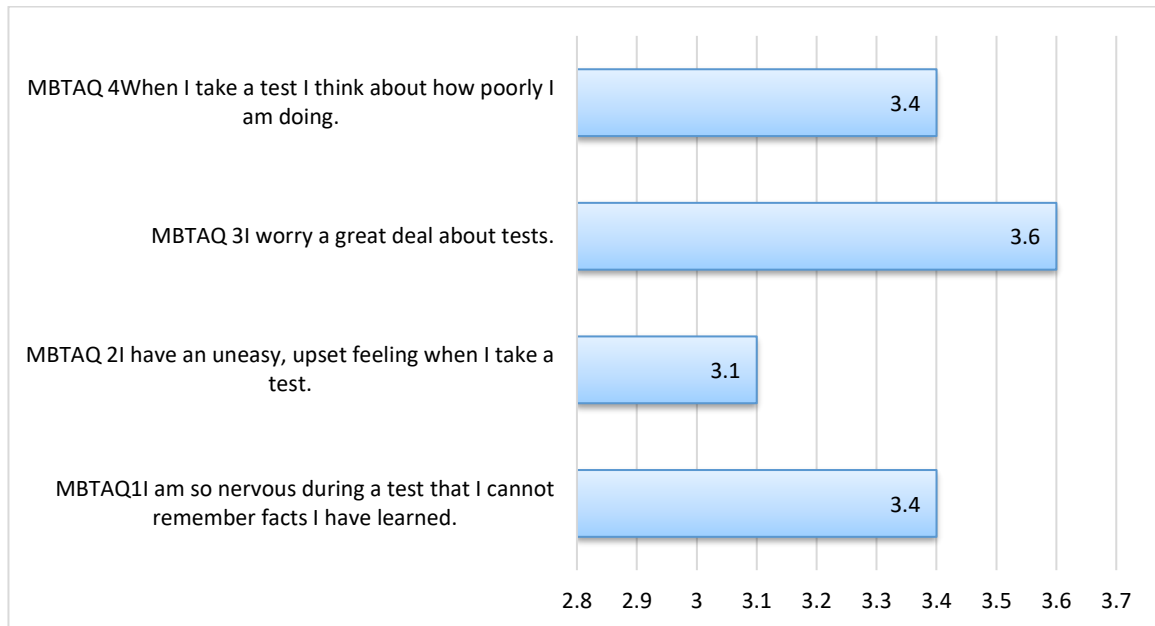
(iii) TEST ANXIETY (4 items)**Figure 8- Mean for Test Anxiety**

Figure 8 shows the mean score for test anxiety. The highest mean score is 3.6 with the statement 'I worry a great deal about tests'. The lowest mean score is 3.1 for the statement 'I have an uneasy, upset feeling when I take a test'. The overall mean score derived from Figure 8 is 3.3. In short, the students' test anxiety has a positive high mean score.

Findings for Use of Self-Regulated Learning Strategies

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

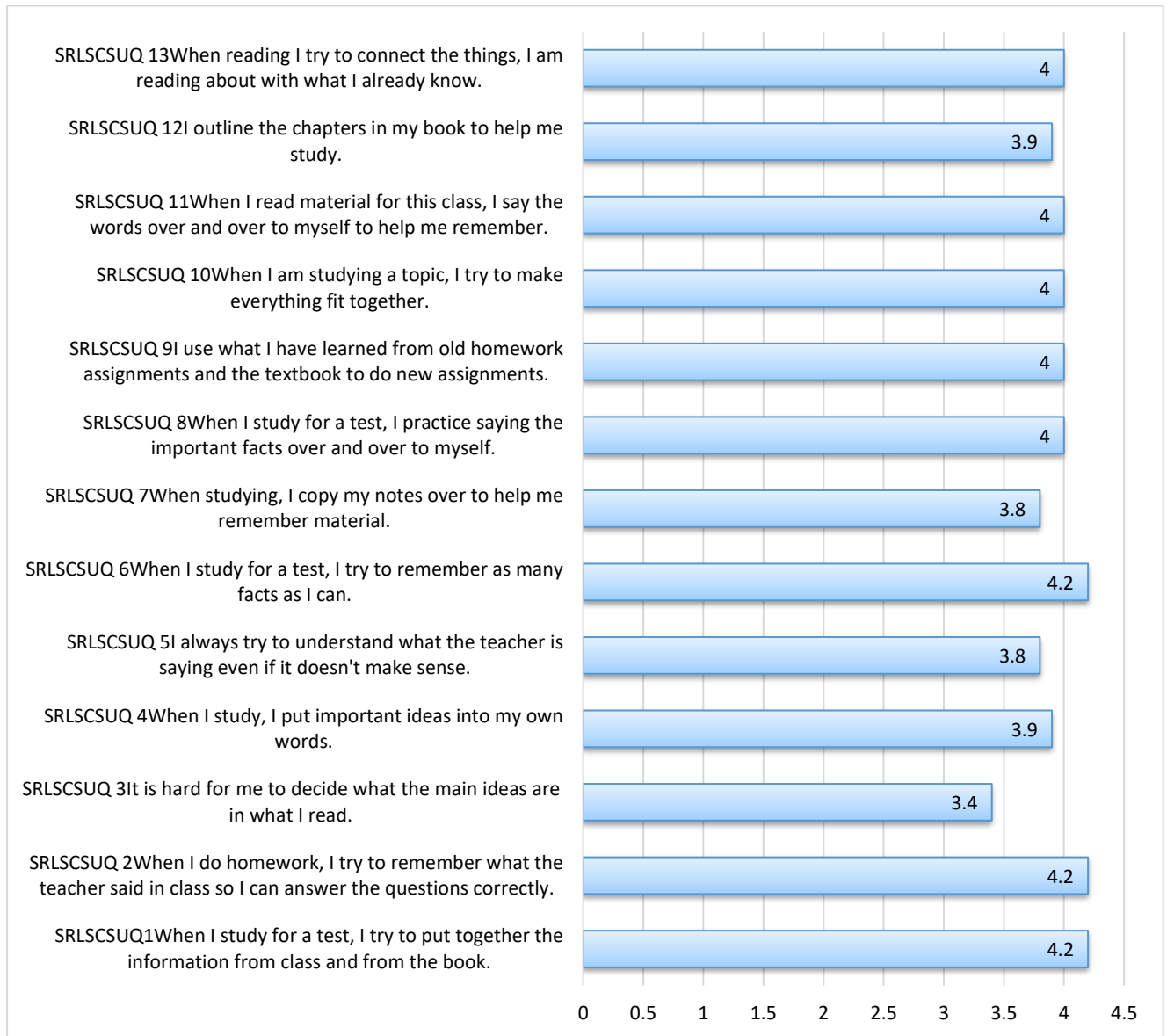
(i) **COGNITIVE STRATEGY USE (13 items)****Figure 9: Mean for Cognitive Strategy**

Figure 9 shows the mean score for cognitive strategy. The highest mean score is 4.2 with the three statements where the respondents stated ‘When I study for a test, I try to put together the information from class and from the book’, ‘When I do homework, I try to remember what the teacher said in class so I can answer the questions correctly’ and ‘When I study for a test, I try to remember as many facts as I can’. The lowest mean score is 3.4 for the statement ‘It is hard for me to decide what the main ideas are in what I read’. The overall mean score derived from Figure 9 is 4.1. In brief, the intrinsic value has a positive high mean score.

(ii) **SELF-REGULATION (9 items)****Figure 10: Mean for Self-Regulation**

Figure 10 shows the mean score for self-regulation. The highest mean score is 4 with the statement 'I work hard to get a good grade even when I don't like a class'. The lowest mean score is 3 for the statement 'I find that when the teacher is talking, I think of other things and don't really listen to what is being said'. The overall mean score derived from Figure 10 is 3.54.

Findings For Relationship Between Motivational Beliefs And Use Of Self-Regulated Learning Strategies

This section presents data to answer research question 3- Is there a relationship between motivational beliefs and use of self-regulated learning strategies.

To determine if there is a significant association in the mean scores between metacognitive, effort regulation, cognitive, social and affective strategies data is analysed using SPSS for correlations. Results are presented separately in table 3 below.

Table 3: Correlation between Motivational Belief and Self-regulated Learning Strategies

Correlations		Motivational Beliefs	Self-Regulated
Motivational Beliefs	Pearson Correlation	1	.711**
	Sig. (2-tailed)		.000
	N	160	159
Self-Regulated	Pearson Correlation	.711**	1
	Sig. (2 - tailed)	.000	
	N	159	159

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

Table 3 shows there is an association between motivational beliefs and self-regulated learning strategies. Correlation analysis shows that there is a high significant association between motivational beliefs and self-regulated learning strategies. ($r=.711^{**}$) and ($p=.000$). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between motivational beliefs and self-regulated learning strategies.

Conclusion

Summary of Findings and Discussions

Based on the findings, all the three established objectives have been met. This study has provided more insight into the effects of motivational beliefs on self-regulated learning. Students' high motivational beliefs in learning, as determined by the findings, show that they trust their ability to learn new things, finish assignments, and maintain their motivation to learn in spite of all the obstacles and setbacks they faced. It does not, however, imply that test anxiety in students is lessened as the data recorded the students' test anxiety is quite high. In addition, the study also showed that students' SRL is strong because they are adept at setting objectives, organising and navigating their learning techniques throughout the learning experiences to achieve learning objectives, and tracking the results.

The data also demonstrates a strong positive relationship between motivational beliefs and self-regulated learning strategies. This finding is consistent with many past studies about the close

association between motivational beliefs and SRL (Yen, Ng et al., 2005; Bai & Guo, 2019; Bai & Wang, 2020; Nen et al, 2022). Therefore, it can be said, students with a high motivation level in learning are also self-regulated learners. They are able to take control of their emotions, cognitions, behaviour and environment throughout the learning process to achieve their learning objectives.

Based on researchers' previous experiences conducting research, the researchers anticipated a few challenges in this research, with survey bias being the primary concern. One notable issue was selection bias. The research conducted at Universiti Teknologi MARA, Kelantan Branch, involved a limited sample size of 160 participants. This small and potentially homogenous group lacked diversity in responses and may not adequately represent the broader student population, leading to results that are not generalizable. Another form of survey bias identified was social desirability bias. The study highlights that self-regulated learning practices are crucial for fostering metacognition, motivation, and strategic action among students. However, the reliance on self-reported data may introduce bias, as respondents might not accurately reflect their self-regulatory abilities or motivations, but provide answers they perceive as socially acceptable. This tendency can lead to skewed data, further compromising the validity and reliability of the findings.

To overcome these two challenges and at the same time, ensure data integrity, the researchers employed random sampling. This approach utilizes random methods to select participants from the population of interest. This helps ensure that every individual has an equal chance of being included in the survey, reducing the likelihood of bias. Additionally, to address social desirability bias, the researchers assured respondents that their answers would remain anonymous. This approach can reduce social desirability bias, encouraging participants to provide honest responses for insightful and meaningful data.

(Pedagogical) Implications and Suggestions for Future Research

Based on the findings of this research, several key implications and suggestions for future studies emerge: Firstly, the strong positive relationship between motivational beliefs and self-regulated learning highlights the importance of fostering both motivation and self-regulatory skills in students. Educational interventions should aim to enhance both components for optimal learning outcomes. Secondly, while students exhibited high motivational beliefs, the study also found that test anxiety remained quite high. This suggests the need to develop strategies to help students manage test-related stress and anxiety.

Thirdly, the data indicates that students possess strong self-regulated learning abilities, demonstrating proficiency in setting goals, organizing learning strategies, and monitoring outcomes. Educators should build upon these existing strengths to further develop self-regulatory skills. Lastly, the close association between motivational beliefs and self-regulated learning is consistent with previous research. This highlights the interrelated nature of these constructs and the need for a holistic approach in supporting students' learning.

There are several recommendations for future research: Firstly, it is recommended that future research expand the study population. Future research should consider a larger and more diverse sample to enhance the generalizability of findings. Comparing results across different educational institutions or cultural contexts could provide valuable insights. Secondly, employ mixed-methods approaches. Combining quantitative surveys with qualitative interviews or

observations could yield a richer understanding of the complex relationships between motivation, self-regulation, and learning outcomes. Last but not least, examine the influence of contextual factors. Future studies should consider the impact of classroom environment, teaching methods, and social interactions on the development and interplay of motivational beliefs and self-regulated learning.

In summary, by addressing these implications and incorporating these suggestions, future research can further elucidate the complex dynamics between motivation, self-regulation, and academic success, ultimately informing educational practices that support student learning and achievement.

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