

## What is The Relationship between Burnout and Motivation to Learn?

Nur Asyikin Nazri<sup>1</sup>, Dr Fadiatul Hasinah Muhammad<sup>2</sup>, Siti Nur Yasmin Sheikh Suhaimi<sup>3</sup>, Hanin Naziha Hasnor<sup>4</sup>, Nurhafizah Saidin<sup>5</sup>, Suhaiza Ngah<sup>6</sup>, Noor Hanim Rahmat<sup>7</sup>

<sup>1,2,3,4</sup>Centre of Foundation Studies, Universiti Teknologi MARA, Cawangan Selangor, Kampus Dengkil, Dengkil 43800, Selangor, Malaysia, <sup>5</sup>Jabatan Matematik, Pusat Asasi UIAM, Kampus Gambang, <sup>6</sup>Foundation in Business Section, Universiti Kuala Lumpur Business School,

<sup>7</sup>Akademi Pengajian Bahasa, Universiti Teknologi MARA Cawangan Johor, Kampus Pasir Gudang

Email: asyikin2750@uitm.edu.my, sitinuryasmin@uitm.edu.my,  
haninhasnor@uitm.edu.my, nurhafizahsaidin@iium.edu.my, uhaiza@unikl.edu.my,  
noorh763@uitm.edu.my

Corresponding Author Email: fadiatul@uitm.edu.my

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### Abstract

Academic achievement and the well-being of students are crucial factors in educational settings. In recent years, the phenomenon of burnout has gained significant attention due to its detrimental effects on individuals' mental health and overall performance. The purpose of this study was to explore learners' perceptions of their motivation and the causes of burnout among students in Malaysia. This quantitative study aimed to examine the motivation factors for learning among undergraduates in Malaysia. A purposive sample of 172 participants responded to the survey. The respondents were from two different institutions: Foundation students from two public universities. The instrument used was a 5-point Likert scale survey consisting of five components: value, expectancy, effectiveness, burnout and exhaustion, and burnout disengagement. These results suggest possible reasons for learners' perceptions of burnout by indicating that physical and emotional exhaustion is a common component of burnout experiences in the learning environment. Understanding these causes can help create strategies to reduce burnout and increase learners' motivation in the educational environment, as it sheds light on the relationship between burnout and motivation to study. The results also suggest a moderate positive relationship between burnout and the value components, burnout and expectancy, as well as burnout and affective components. **Keywords:** Burnout, Motivational Components, Value Components, Expectancy Components, Affective Components in Learning.

**Introduction****Background of Study**

Burnout and motivation to learn are two important factors that can impact the academic success of Malaysian students. Burnout is a psychological condition characterized by depersonalization, diminished self-worth, and emotional exhaustion. It often affects individuals experiencing chronic stress, including students who face significant academic pressure. Conversely, student motivation for learning plays a crucial role in learning outcomes, influencing engagement, perseverance, and overall success (Erentaitė et al., 2028; Ronen et al., 2021).

Recent research indicates that 60 percent of Malaysian students experience burnout at some point during their academic careers (Muhamad et al., 2021). Burnout can have detrimental effects on students' academic achievement, mental health, and general well-being, making it a serious concern (Walburg, 2014).

Various factors contribute to burnout among Malaysian students, including academic pressure, financial difficulties, and family issues. Motivation to learn can be influenced by factors such as parental support, teacher encouragement, and peer pressure (Ri et al., 2026). This paper aims to explore the relationship between burnout and motivation to learn among Malaysian students. It reviews relevant literature and discusses the implications of this research for educators and policymakers.

**Statement of Problem**

Mahdavi (2023) found a strong connection between academic achievement and motivation to accomplish, as measured by the General Health Questionnaire (GHQ) and Achievement Motivation Test (AMT). Their study concluded that students who are more motivated to achieve their educational goals perform better in examinations and achieve greater academic success. Additionally, they found that academic achievement and mental health are not directly related (Mahdavi et al., 2023). Similarly, Ni et al (2022) reported that psychological health is correlated with motivation, using a multidimensional concept of health-related quality of life (HRQoL) that included dimensions such as psychological health, physical health, social health, achievement motivation, and job performance.

Therefore, this study aims to contribute further to the research by utilizing different instruments suitable for university students. The instrument consists of five components: value, expectancy, effectiveness, burnout and exhaustion, and burnout disengagement. Additionally, this study seeks to examine the relationship between burnout and students' motivation.

We hypothesize that students with good mental health status and high achievement motivation will demonstrate excellent academic performance compared to those experiencing burnout. This study is expected to reveal that science students may not have appropriate mental health status, which can influence their motivation and, consequently, their educational performance. The findings of this study may contribute to improving the mental and psychological health of medical science students, ultimately enhancing their educational performance and raising the quality of health services in the community.

**Objective of the Study and Research Questions**

This study is done to explore perception of learners on their motivation and causes of burnout. Specifically, this study is done to answer the following questions;

- How do learners perceive causes of burnout in learning?

- How do learners perceive value components in learning?
- How do learners perceive expectancy components in learning?
- How do learners perceive affective components in learning?
- Is there a relationship between causes of burnout and motivational components?

## **Literature Review**

### *Motivation to Learn*

Motivation is widely recognized as a crucial factor contributing to student success and plays a significant role in determining the effectiveness of learning activities. Rehman et al (2020) emphasized the importance of motivation as the driving force that directs students to fulfill their academic responsibilities and enhances the learning process. According to the theory of self-determination proposed by Ryan and Deci (2017), motivation can be categorized into two types: intrinsic and extrinsic. Intrinsically motivated learners engage in learning activities out of personal interest and enjoyment, without the need for external incentives. On the other hand, extrinsically motivated learners are driven by external factors or expectations (Ryan and Deci, 2020).

Motivation to learn is considered a vital factor in education. Woolfolk (2019) defined motivation in learning as an internal state that stimulates, drives, and sustains individuals' learning behaviors. Furthermore, Koff and Mullis (2011) stated that students' motivation to learn emerges when they make an effort to learn and willingly participate in specific learning activities. Retelle et al. (2005) conducted a study that revealed motivated learners achieve more and demonstrate better learning outcomes, including higher persistence and reduced levels of stress. In the realm of education, students' motivation has been recognized as an influential factor in determining their success and serves as a driving force for effective learning.

### *Causes of Burnout*

Burnout is a complex process influenced by various factors such as workload, stress, organizational climate, and individual traits. Similarly, the desire to learn is influenced by personal interests, goals, self-efficacy, and the learning environment. While burnout can negatively affect motivation to learn, it is crucial to address and manage the underlying causes of burnout to ensure a healthy and sustainable learning environment. Students with mental illnesses may also engage in substance use, further exacerbating the short- and long-term consequences (Cleary et al., 2012). Additionally, psychological disorders interfere with normal organ functioning and disrupt the thinking process. Recognizing these challenges and teaching students how to cope with them can have a significant impact on learning skills and educational quality (Delaram et al., 2012; Mousave et al., 2007).

Lin and Huang (2014) concluded that self-identity stress, interpersonal stress, future development stress, and academic stress collectively predict student academic burnout. Meanwhile, Pitt et al (2018) identified several major burnout sources, including academic, financial/work, personal, family-related, interpersonal, social support, and university/life balance burnout. The prevalence of these burnouts varied throughout the semester, with certain academic-related burnouts, starting university, family-related burnout, and financial/work-related burnout being more prominent at different times. In a recent study by Liu (2023), the contribution of burnout among students was compared based on academic and demographic factors, revealing that academic-related burnout made the largest contribution.

*Past Studies on Learners' Motivation*

Recent studies have shown that different types of motivation are associated with various outcomes in the fields of education and physical education (Howard et al., 2020; Howard et al., 2021; Toste et al., 2020; Vasconcellos et al., 2020). Martinek, Zumbach, and Cermignola (2022) discovered a significant contribution of motivation to improved student performance. This finding was based on testing Deci and Ryan's self-determination theory with a sample of 812 secondary school students. Another study by Mendoza et al (2022) found that higher levels of motivation, in conjunction with teacher involvement, were associated with higher levels of achievement. They conducted a multilevel mediation analysis using Rasch-calibrated data from 796 students. Their research demonstrates that student motivation and self-assessment practices are relevant psychological and behavioral mechanisms, respectively, that help explain how the teaching environment can influence achievement (Mendoza, Yan, King, 2022).

*Past Studies on Burnout*

Numerous studies have been conducted on student burnout, with consistent findings indicating a negative association between burnout characteristics and learners' motivation (Singh et al., 2016). In one particular study examining the relationship between gender and burnout subscales, the results revealed that the risk of burnout increases with the duration of study, while no significant correlation was found between gender and any of the burnout subscales (Frajerman, 2019; Alttannir, 2019). The study included 276 participants with a mean age of  $20.62 \pm 1.58$ , of whom 54% were males and 46% were females. Statistical analyses such as the chi-square test were used to identify significant differences, and binary logistic regression was employed to determine predictors of burnout (Alttannir, 2019).

**Conceptual Framework**

Figure 1 shows the conceptual framework of the study. According to Rahmat, et.al (2021), what learners focus on attention becomes their motivation. For some learners, they may begin with motivation to learn. According to Pintrich & De Groot (1990), there are three types of motivation and they are (a) value components, (b) expectancy components and (c) affective components. Value components are sub-divided into (i) intrinsic goal orientation, extrinsic goal orientation and (iii) task value beliefs. Expectancy components are divided into (i) students' perception of self-efficacy and (ii) control beliefs for learning. Nevertheless, even motivated learners may face burnout. According to Campos,et.al (2011), burnout can be caused by (i) exhaustion or (b) disengagement.

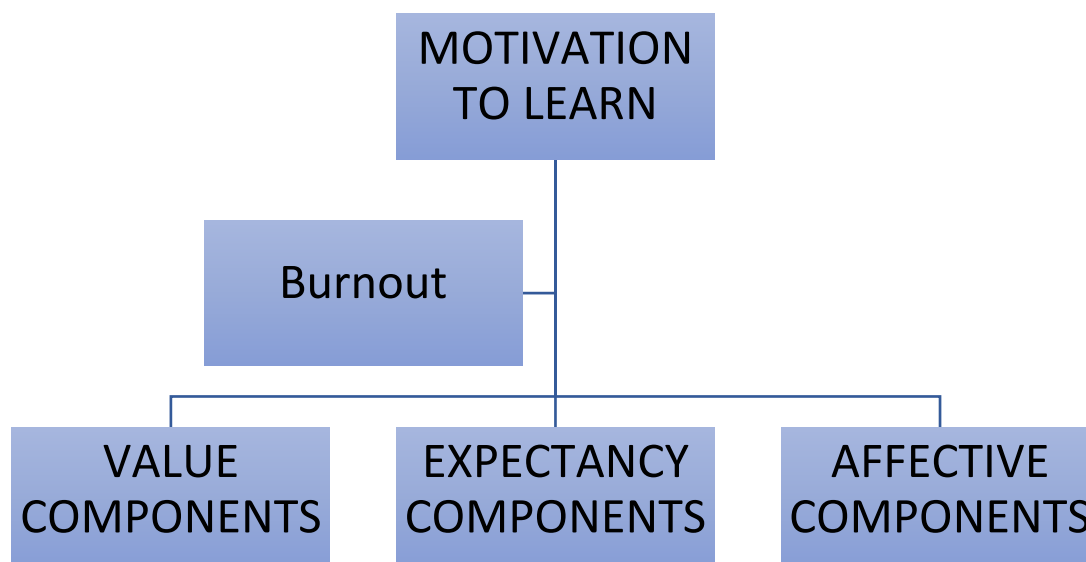


Figure 1- Conceptual Framework of the Study- Relationship between Burnout and Motivation to Learn

### Methodology

This quantitative study is done to explore motivation factors for learning among undergraduates. A purposive sample of 172 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is rooted from Pintrich & De Groot (1990) for motivation and Campos, et.al (2011) for causes of burnout to reveal the variables in table 1 below. The survey has 5 sections. Section A has items on demographic profile. Section B has 12 items on Value components and 7 items on expectancy components. Section C has 5 items on affective components. Section D has 8 items on burnout-exhaustion and section E has 8 items on burnout-disengagement.

Table 1

*Distribution of Items in the Survey*

SECT	CONSTRUCT		VARIABLE	No Of Items	Total Items
B	VALUE COMPONENTS	(i)	Intrinsic Goal Orientation	4	12
		(ii)	Extrinsic Goal Orientation	3	
		(iii)	Task Value Beliefs	5	
	EXPECTANCY COMPONENT	(i)	Students' Perception of Self-Efficacy	5	7
		(ii)	Control Beliefs for Learning	2	
C	AFFECTIVE COMPONENTS				5
D	BURNOUT-EXHAUSTION				8
E	BURNOUT-DISENGAGEMENT				8
TOTAL NO OF ITEMS					40

Table 2

*Reliability of Survey***Reliability Statistics**

Cronbach's Alpha	N of Items
.885	40

Table 2 shows the reliability of the survey. The analysis shows a Cronbach alpha of .885, thus, revealing a good reliability of the instrument chosen/used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

**Findings**

## Findings for Demographic Profile

## Q1 Gender

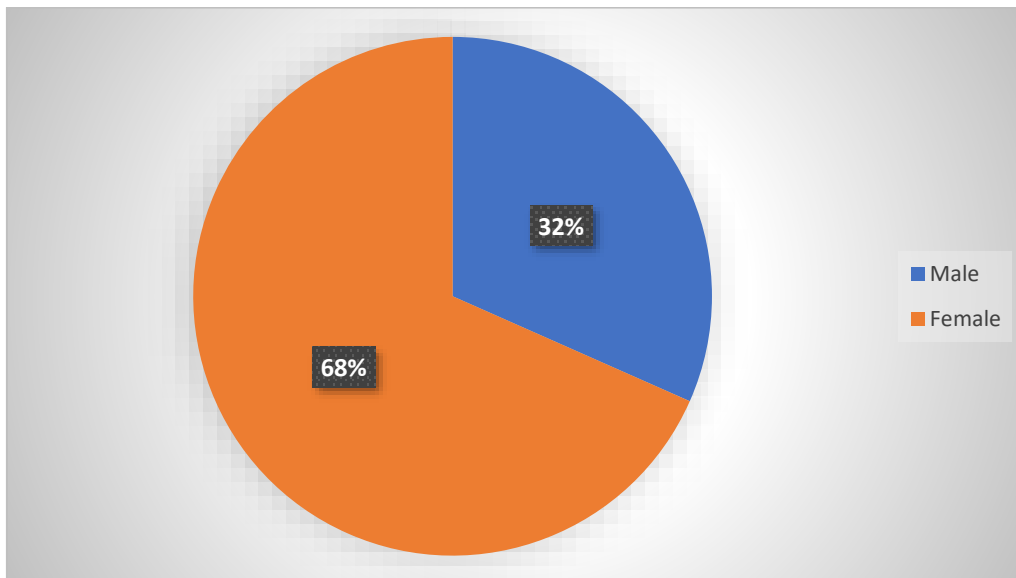


Figure 2- Percentage for Gender

A total of 172 questionnaires were administered to the foundation students. Figure 2 tabulated the finding for demographic profile of the respondents where 67% of the respondents are female and 31% are male.

Q2 Institution

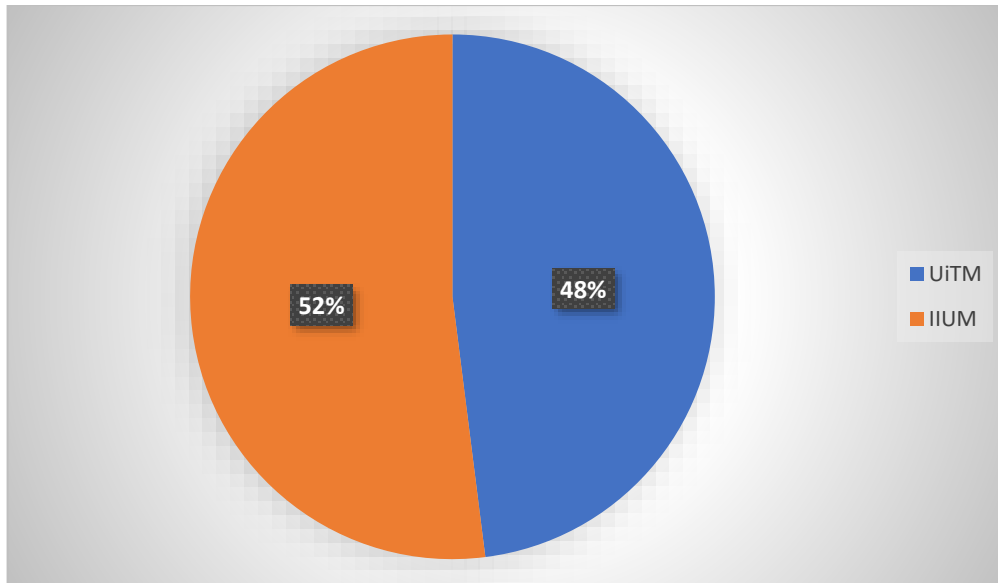


Figure 3- Percentage for Institution

Figure 3 demonstrates the percentages of the students from two different institutions where 48% of the respondents are from UiTM while 52% are from IIUM.

Q3 Discipline

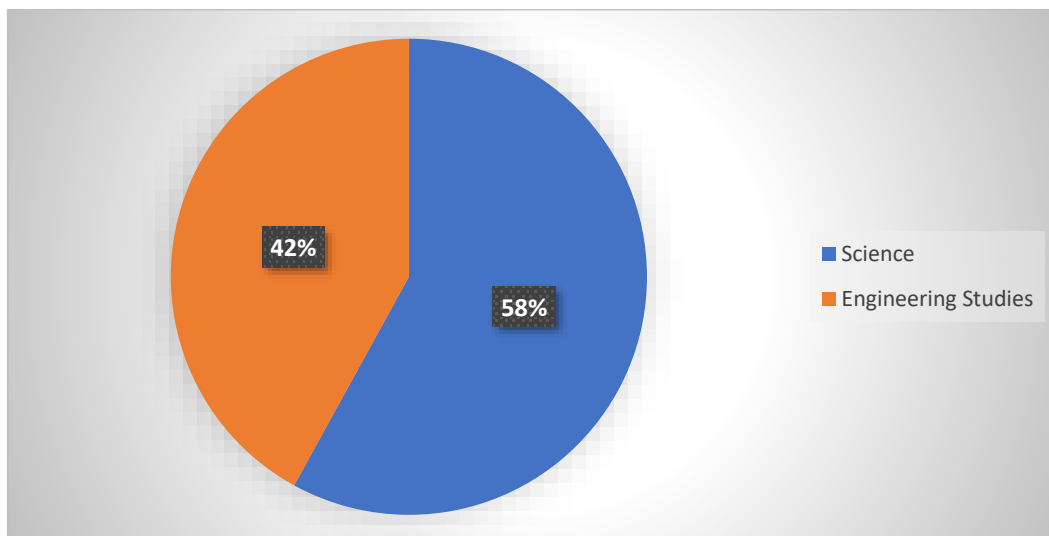


Figure 4- Percentage for Discipline

Figure 4 shows the percentage for discipline of the respondents where there are 58% from Science students while another 42% are from Engineering students.

*Findings for Burnout*

This section presents data to answer research question 1- How do learners perceive causes of burnout in learning?

**BURNOUT (EXHAUSTION)**

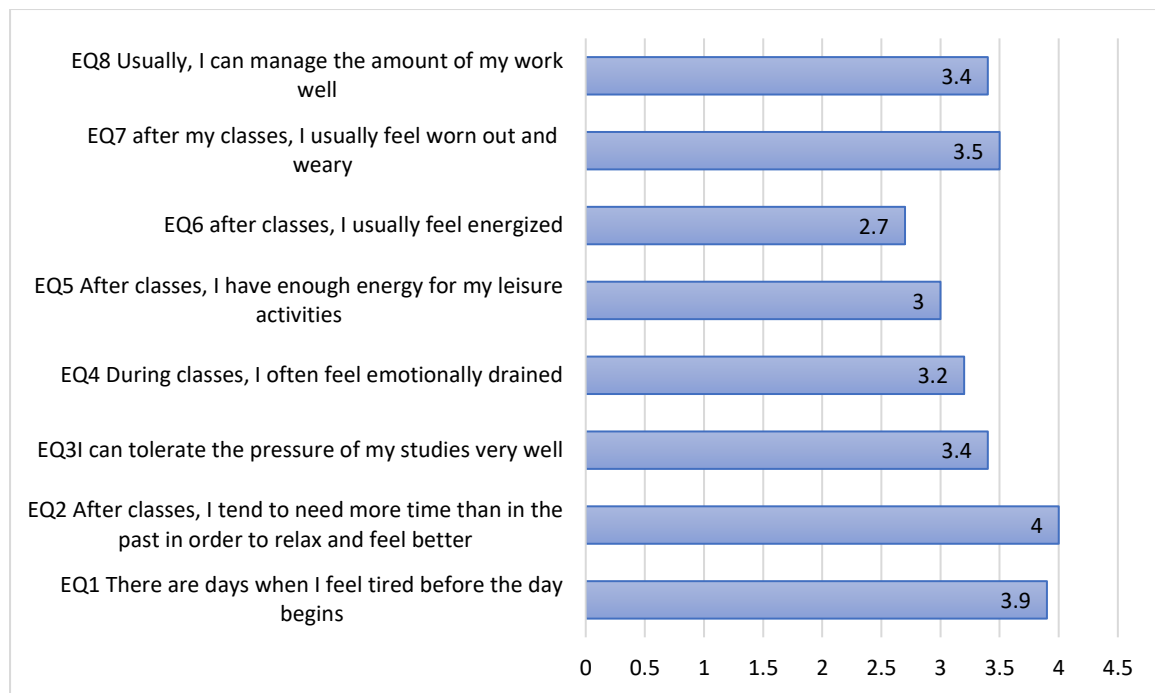


Figure 5- Mean for Exhaustion

Based on the findings presented in figure 5, the mean scores for the various exhaustion-related statements provide insights into how learners perceive the causes of burnout in their learning experiences. The results indicate that learners frequently experience feelings of tiredness before the day even begins (mean = 3.9), requiring more time to relax and recover after classes compared to the past (mean = 4). Additionally, learners often feel emotionally drained during classes (mean = 3.2) and worn out and weary after their classes (mean = 3.5). These findings suggest that learners' experiences of burnout in the learning environment are characterized by physical and emotional exhaustion, indicating potential factors contributing to their perception of burnout. Understanding these causes can shed light on the relationship between burnout and motivation to learn, informing the development of interventions to alleviate burnout and enhance learners' motivation in educational settings.



## Disengagement

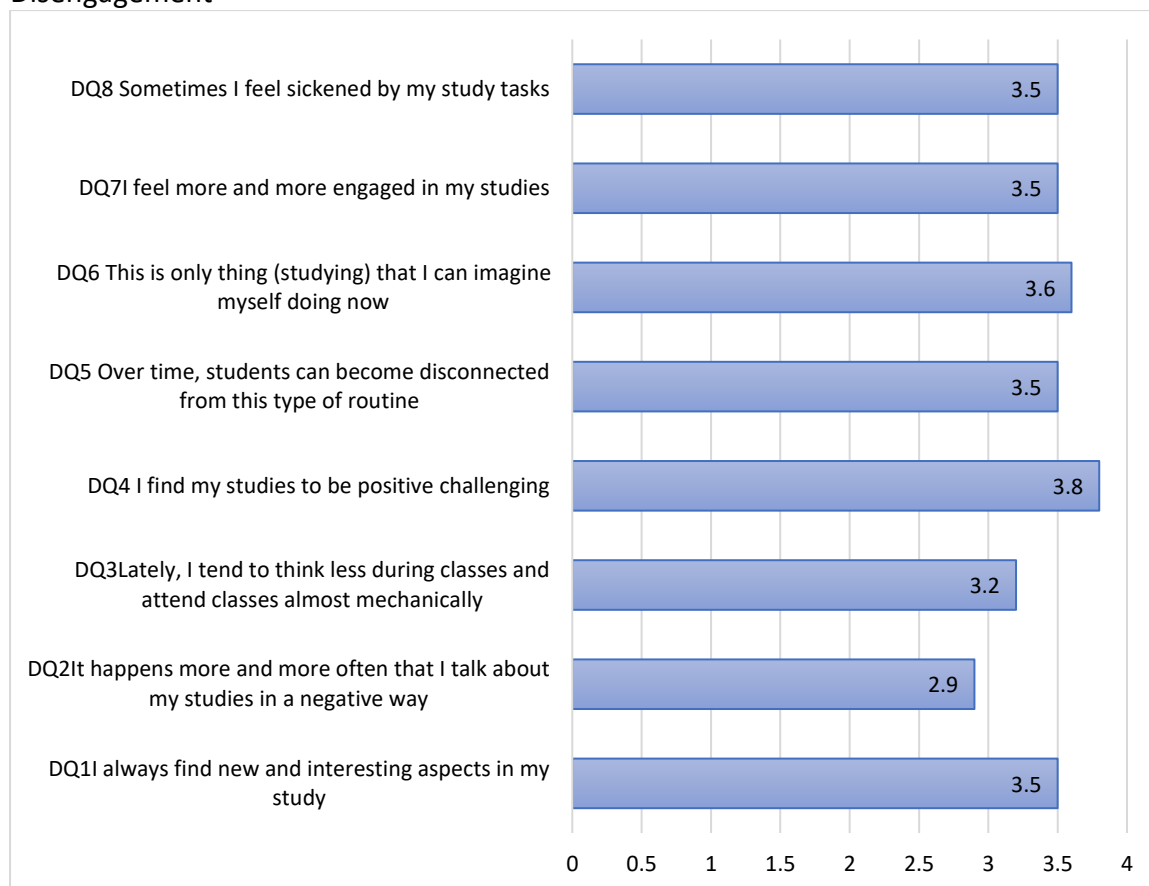


Figure 6- Mean for Disengagement

The data presented in figure 6 provides insights into the level of disengagement experienced by students in relation to their motivation to learn. The mean scores for each item suggest varying degrees of disengagement. It is noteworthy that students reported finding new and interesting aspects in their studies (mean = 3.5) and feeling more engaged in their studies (mean = 3.5). However, some negative indicators of disengagement were also evident, such as talking about studies in a negative way (mean = 2.9), attending classes mechanically (mean = 3.2), and feeling sickened by study tasks (mean = 3.5). These findings indicate a mixed pattern of disengagement and engagement among the students, highlighting the need for further investigation into the factors influencing their motivation to learn and the potential impact of burnout on their educational experiences.

*Findings for Value Components*

This section presents data to answer research question 2- How do learners perceive value components in learning? In the context of this study, value components are measured by (i) intrinsic goal orientation, (ii) extrinsic goal orientation and (iii) task value beliefs.

Value Component

(i) INTRINSIC GOAL ORIENTATION (4 items)

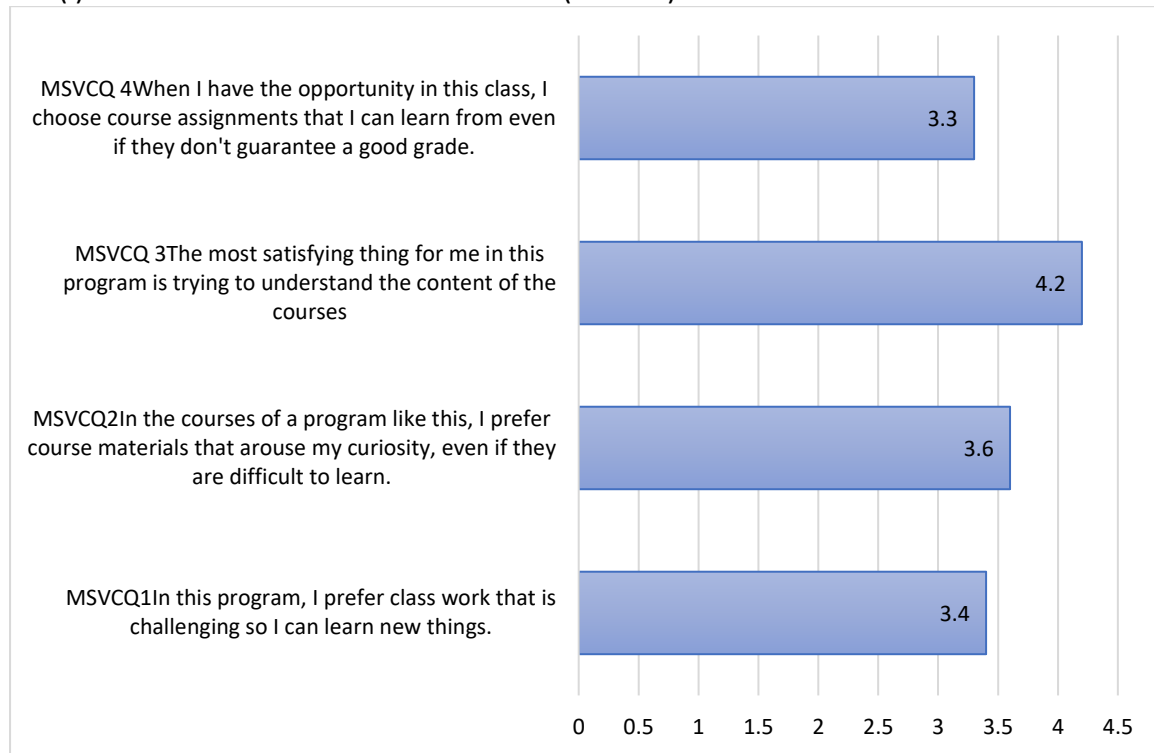


Figure 7- Mean for Intrinsic Goal Orientation

The findings in figure 7 indicate that overall, students value challenging class work and course materials that arouse their curiosity (mean = 3.4 and 3.6). They find the most satisfaction in trying to understand the content of the courses (mean = 4.2). Additionally, students prioritize learning from course assignments over achieving high grades (mean = 3.3). While the mean ratings for these preferences vary slightly, ranging from 3.3 to 4.2, they collectively suggest a strong emphasis on intellectual stimulation and a willingness to engage with difficult material in pursuit of knowledge.

(ii) Extrinsic Goal Orientation (3 items)

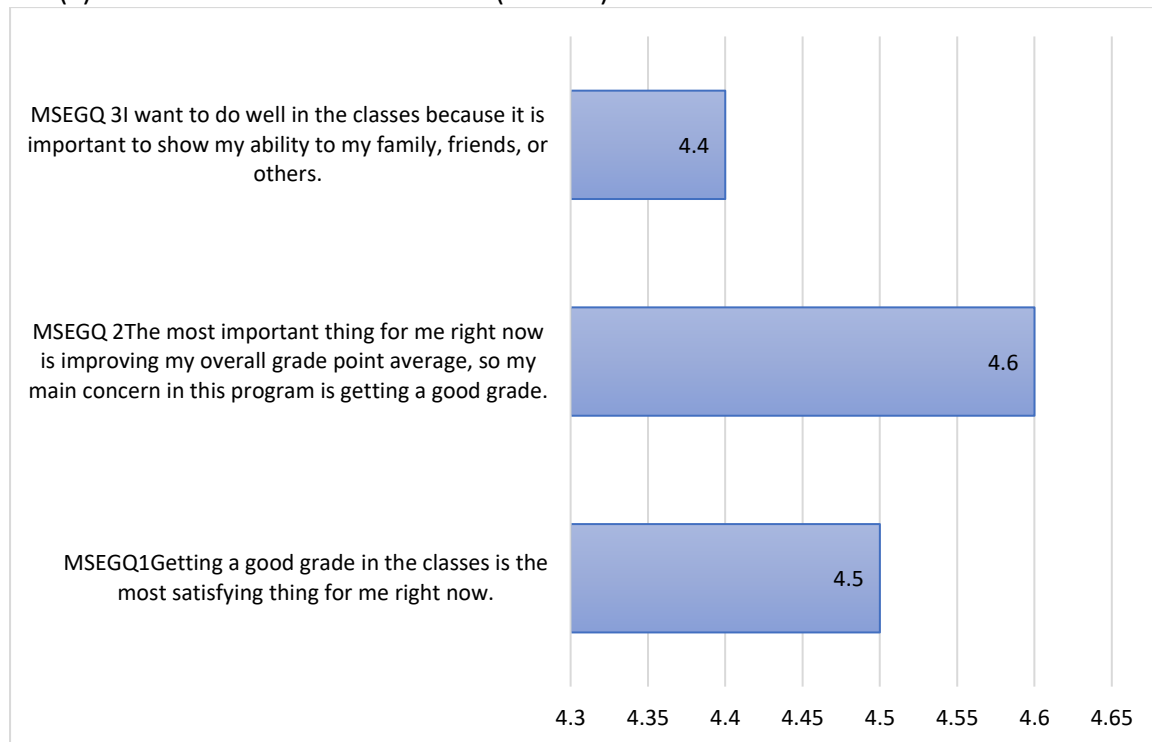


Figure 8- Mean for Extrinsic Goal Orientation

On the other hand, based on figure 8, students indicate achieving a good grade is highly satisfying and holds significant importance to them (mean = 4.6). Improving their overall grade point average is a primary concern for them, demonstrating a strong focus on academic performance (mean = 4.5). Moreover, students express a desire to perform well in their classes as a means of showcasing their abilities to their family, friends, and others (mean = 4.4). The consistent high mean ratings of 4.5 and 4.6 highlight the emphasis placed on grades as a source of personal satisfaction, motivation, and external validation.

(iii) Task Value Beliefs (5 items)

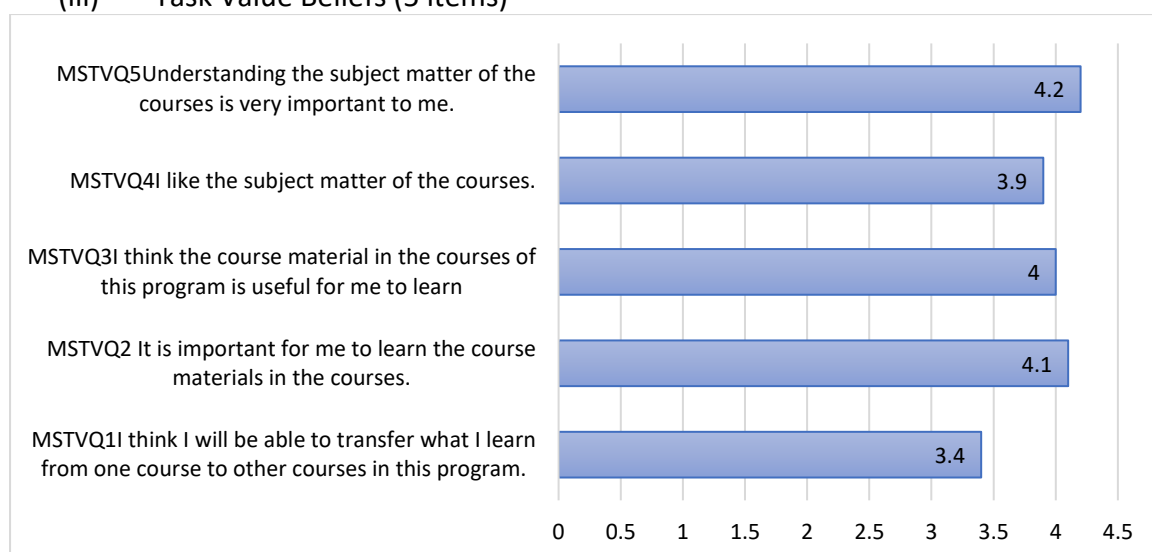


Figure 9- Mean for Task value Beliefs

The findings in figure 9 suggest that students generally perceive value in the course materials and subject matter. They express confidence in their ability to transfer their learning across different courses (mean = 3.4), indicating a belief in the interconnectedness of their education. Students also emphasize the importance of learning the course materials (mean = 4.1) and find them useful for their personal growth and development (mean = 4.0). Furthermore, students exhibit a strong liking for the subject matter (mean = 3.9) and emphasize the significance of understanding the content (mean = 4.2). The mean ratings ranging from 3.4 to 4.2 indicate that students perceive considerable value in the courses and their content, highlighting their motivation to engage and derive meaning from their academic experience.

### Findings for Expectancy Components

This section presents data to answer research question 3- How do learners perceive expectancy components in learning? In the context of this study, expectancy components are measured by (i) students' perception of self-efficacy, and (ii) control beliefs for learning.

#### EXPECTANCY COMPONENT- 7 items

##### (i) STUDENTS ' PERCEPTION OF SELF-EFFICACY (5 items)

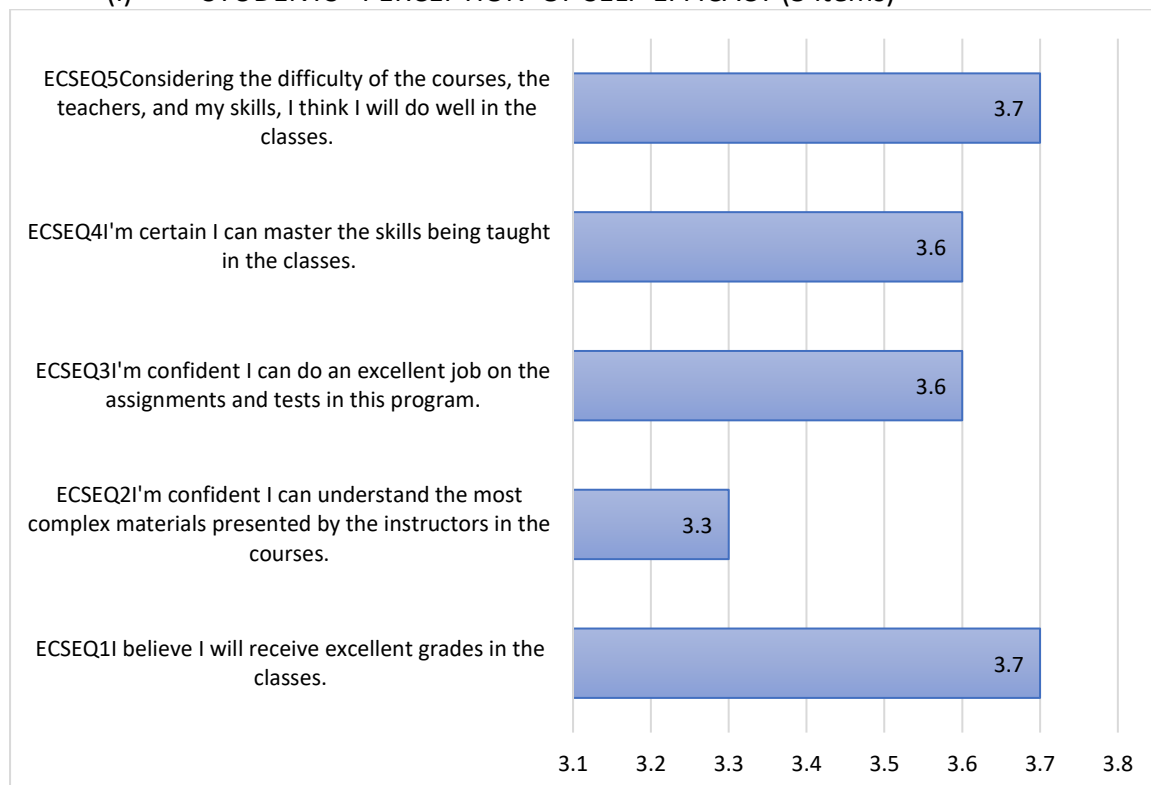


Figure 10- Mean for Students' Perception of Self-Efficacy

The data presented in figure 10 provides insights into the level of students' perception of their self-efficacy. The results show that the students indicate their confidence to receive excellent grades on their class assessments (mean = 3.7). Students also express their confidence in their ability to understand the most complex lessons in class taught by their instructors (mean = 3.3). As a manifestation of understanding the lessons, students showcase their confidence to outstandingly complete all the assignments and tests in class (mean = 3.6). Apart from that, the students express certainty that they have the capacity to master the skills

being taught by their instructors (mean =3.6). Moreover, students exhibit their belief in their capability to do well in the classes, despite the difficulty of the courses and challenges from their instructors or their own lack of skills (mean =3.7). The consistent high mean ratings ranging from 3.2 to 3.7 reflects the high self-efficacy among the students, thus leading to their ability to control their own motivation.

(ii) CONTROL BELIEFS FOR LEARNING (2 items)

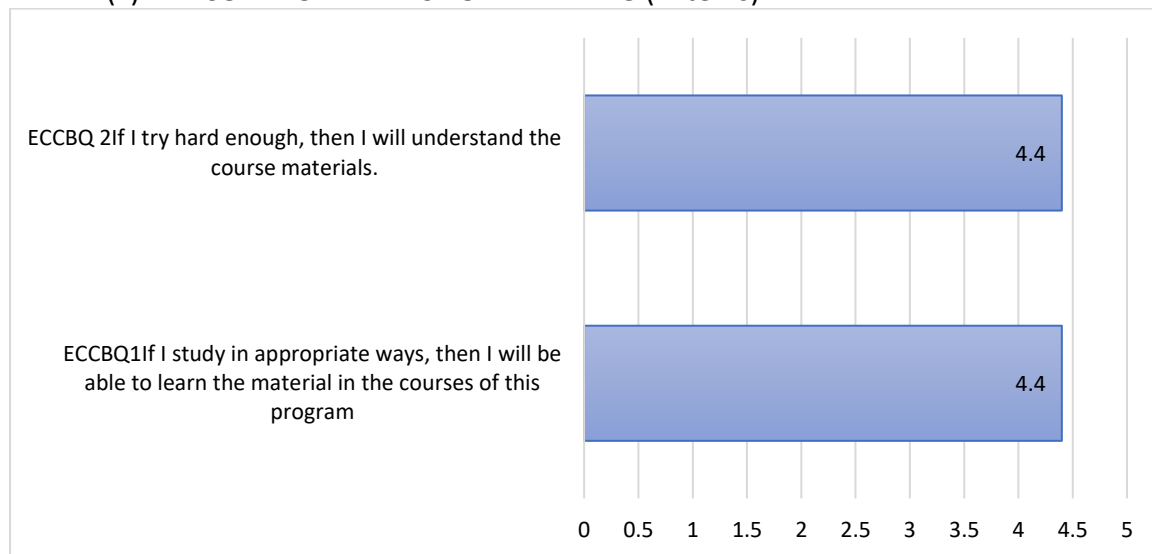


Figure 11- Mean for Control Beliefs

The data presented in figure 11 provides insights into the students' control beliefs of learning. The result shows that given the appropriate way of study, students are confident in learning the material in the courses of this program if they study in appropriate ways (mean=4.4). In addition, students exhibit their belief in their capability of understanding the course materials if they try hard enough (mean=4.4). The consistent high mean ratings of 4.4 for both items reflects the high control belief in learning, thus leading to their learning motivation.

## Findings for Affective Components

This section presents data to answer research question 4- How do learners perceive affective components in learning?

## AFFECTIVE COMPONENT -reversing (5 items)

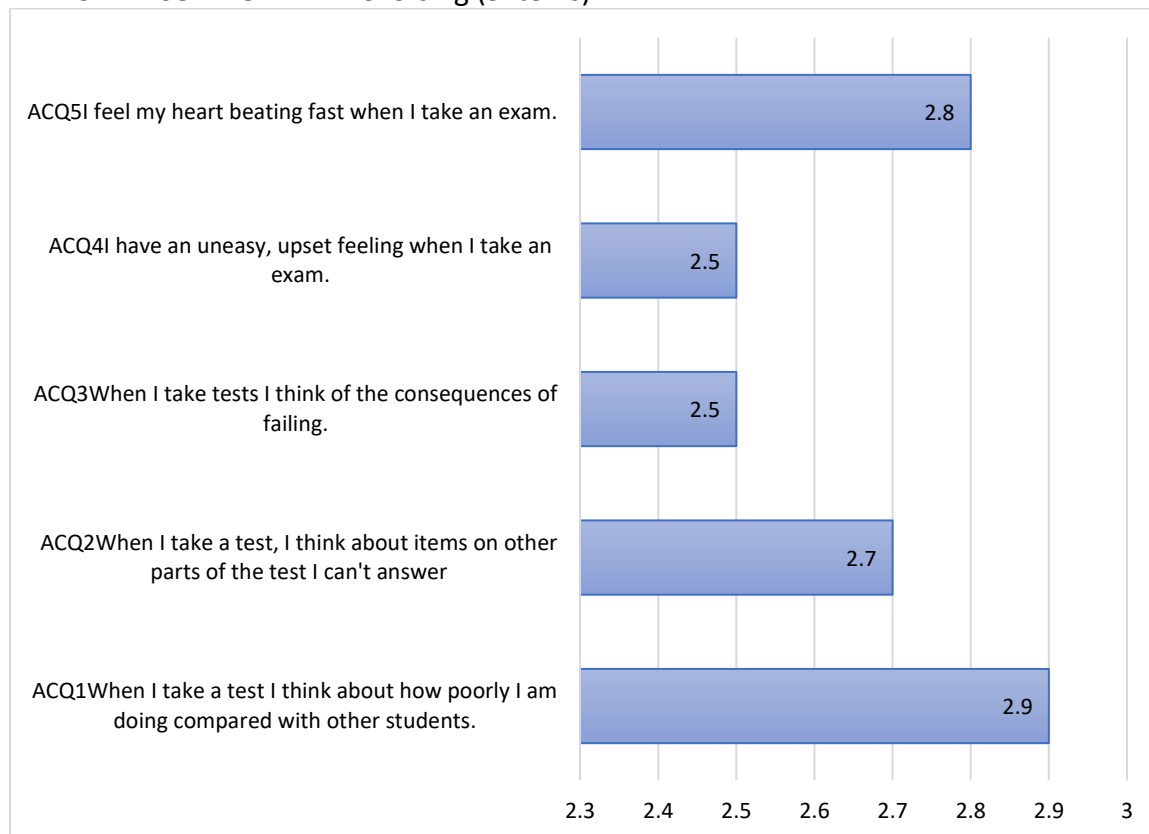


Figure 12- Mean for Affective Components

The data presented in figure 12 provides insights into 5 reversed items on the affective component. The findings suggest that students generally perceive value in the affective components in learning. They express their disagreement on the feelings of comparing their achievements in tests with their classmates (mean =2.9). Furthermore, they display a coherent non-negative feeling while taking an examination, such as on the worriedness on questions that are difficult to answer (mean =2.7) and the consequences of failing the examination (mean =2.5). Apart from that, they disagreed on the feeling of uneasiness (mean = 2.5) and fast heartbeats (mean = 2.8) during the examination. The consistent low mean ratings ranging from 2.5 to 2.9 reflects the high affective components among the students, thus leading to their learning motivation.

## Findings for Relationship between

This section presents data to answer research question 5- Is there a relationship between causes of burnout and motivational components? 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, 4, 5 and 6 below.

Table 3

*Correlation between Burnout and Value Components*

		BURNOUT	VALUE
BURNOUT	Pearson Correlation	1	.481**
	Sig. (2-tailed)		.000
	N	172	172
VALUE	Pearson Correlation	.481**	1
	Sig. (2-tailed)	.000	
	N	172	172

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

Table 3 shows there is an association between burnout and value components. Correlation analysis shows that there is a moderate significant association between burnout and value components ( $r=.481^{**}$ ) 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 moderate positive relationship between burnout and value components.

Table 4

*Correlation between Burnout and Expectancy Components*

		BURNOUT	EXPECTANCY
BURNOUT	Pearson Correlation	1	.393**
	Sig. (2-tailed)		.000
	N	172	172
EXPECTANCY	Pearson Correlation	.393**	1
	Sig. (2-tailed)	.000	
	N	172	172

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

Table 4 shows there is an association between burnout and expectancy components. Correlation analysis shows that there is a moderate significant association between burnout and expectancy ( $r=.393^{**}$ ) 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 moderate positive relationship between burnout and expectancy.

Table 5

*Correlation between Burnout and Affective Components*

		BURNOUT	AFFECTIVE
BURNOUT	Pearson Correlation	1	.225**
	Sig. (2-tailed)		.003
	N	172	172
AFFECTIVE	Pearson Correlation	.225**	1
	Sig. (2-tailed)	.003	
	N	172	172

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

Table 5 shows there is an association between burnout and affective components. Correlation analysis shows that there is a weak significant association between burnout and affective components ( $r=.225^{**}$ ) 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 weak positive relationship between burnout and affective components..

## Conclusion

### *Summary of Findings and Discussions*

The primary objective of this study was to investigate learners' perceptions of motivation and the causes of burnout in the learning environment. The findings shed light on various aspects related to burnout and its impact on learners' motivation.

The findings on burnout reveal that learners' experiences of burnout are characterized by emotional and physical exhaustion in the learning environment, which contributes to their perception of burnout. The study also highlights the varying degrees of disengagement experienced by students, which impact their motivation to learn and the potential consequences of burnout on their educational experiences. This is consistent with the findings of Yang (2004), who reported that students experiencing burnout are likely to have negative effects on academic achievement, high absenteeism rates, and low motivation to learn.

Furthermore, our study demonstrates that learners place significant importance on both intrinsic and extrinsic goal orientations and task value beliefs. According to Lin (2017), combining students' intrinsic interest with extrinsic rewards from teachers can create a motivational learning environment. Additionally, our study emphasizes learners' motivation to actively engage in and find meaning in their academic experiences.

Regarding expectancy components in learning, the findings highlight high self-efficacy and strong control beliefs among learners in the learning environment. However, control



beliefs for learning received a higher mean rating compared to students' perception of self-efficacy. This finding aligns with the work of Pintrich and De Groot (1990), who emphasized the importance of control beliefs in learning, as students' belief in their efforts leading to better performance plays a crucial role in motivation for learning.

On the other hand, the consistently low mean ratings in reverse affective components reflect the high levels of affective components among learners, which can act as demotivating factors affecting students' motivation to learn.

Additionally, this study provides evidence of a positive correlation between burnout and value components, expectancy components, and affective components. These characteristics are critical factors in enhancing learners' motivation to learn and may predict their success at higher levels of education, in their careers, and in life.

#### *Pedagogical Implications and Suggestions for Future Research*

It is suggested that future research looks into more factors that hinders burnout among learners. Future studies could also focus on the ways to convert from extrinsic motivation to intrinsic motivation during learners' period of study. In addition, further research is required to determine the effect of adaptation on motivation and burnout.

#### **References**

- Altannir, Y., Alnajjar, W., Ahmad, S. O., Altannir, M., Yousuf, F., Obeidat, A., & Al-Tannir, M. (2019). Assessment of burnout in medical undergraduate students in Riyadh, Saudi Arabia. *BMC medical education*, *19*(1), 1-8.
- Campos, J. A. D. B., Zucoloto, M. L., Bonafe, F. S. S., Jordani, P. C., and Maroco, J. (2011). Reliability and Validity of Self-Reported Burnout in College Students: A Cross Randomized Comparison of Paper-and-Pencil vs. Online Administration. *Computers in Human Behavior*, *27*, 1875-1883. <https://doi.org/10.1016/j.chb.2011.04.011>
- Capdevila-Gaudens, P., Garcia-Abajo, J. M., Flores-Funes, D., Garcia-Barbero, M., & Garcia-Estan, J. (2021). Depression, anxiety, burnout and empathy among Spanish medical students. *PloS one*, *16*(12), e0260359.
- Erentaite, R., Vosylis, R., Gabrielaviciute, I., & Raiziene, S. (2018). How does school experience relate to adolescent identity formation over time? Cross-lagged associations between school engagement, school burnout and identity processing styles. *Journal of Youth and Adolescence*, *47*(4), 760–774.
- Frajerman, A., Morvan, Y., Krebs, M. O., Gorwood, P., & Chaumette, B. (2019). Burnout in medical students before residency: a systematic review and meta-analysis. *European Psychiatry*, *55*, 36-42.
- Jackson, S. L. (2015) *Research methods and Statistics-A Critical Thinking Approach* (5<sup>th</sup> Edition) Boston, USA:: Cengage Learning.
- Koff, L., & Mullis, R. (2011). Nutrition education and technology: Can delivering messages via new media technology effectively modify nutrition behaviors of preschoolers and their families? *Journal of Nutrition Education and Behavior*, *43*(4), S40-S40.
- Lin, M. H., Chen, H. C., and Liu, K. S. (2017). A study of the effects of digital learning on learning motivation and learning outcome. *EURASIA Journal of Mathematics Science and Technology Education* *13*(7), 3553-3564.
- Martinek, D., Zumbach, J., & Carmignola, M. (2022). How Much Pressure Do Students Need to Achieve Good Grades?—The Relevance of Autonomy Support and School-Related

- Pressure for Vitality, Contentment with, and Performance in School. *Education Sciences*, 12(8), 510.
- Mendoza, N. B., Yan, Z., & King, R. B. (2022). Domain-specific motivation and self-assessment practice as mechanisms linking perceived need-supportive teaching to student achievement. *European Journal of Psychology of Education*, 1-24.
- Muhamad, S. B. Y., Siti, N. H. H., and Yasin, M. A. M. (2021). The roles of emotional intelligence, neuroticism, and academic stress on the relationship between psychological distress and burnout in medical students . *BMC Medical Education* (2021) 21:293
- Pintrich, P. R., & De Groot E. V. (1990). Motivational and self-regulated learning Components of classroom academic performance. *Journal of Educational Psychology*, 82(1), 33–40. Retrieved from <https://psycnet.apa.org/doi/10.1037/0022-0663.82.1.33>
- Rahmat, N. H., Sukimin, I. S., Sim, M. S., Anuar, M., & Mohandas, E. S. (2021) Online Learning Motivation and Satisfaction: A Case Study of Undergraduates Vs Postgraduates. *International Journal of Asian Social Science*, Vol 11(2), pp 88-97. <http://dx.doi.org/10.18488/journal.1.2021.112.88.97>
- Ratelle, C. F., Larose, S., Guay, F., & Senecal, C. (2005). Perceptions of parental involvement and support as predictors of college students' persistence in a science curriculum. *Journal of Family Psychology*, 19(2), 286–293.
- Rehman, A. U., Bhuttah, T. M., & You X. (2020). Linking burnout to psychological well-being: The mediating role of social support and learning motivation. *Psychology Research and Behaviour Management*, 13, 545-554.
- Ri, W. A. C., Yun, Y. C., Min, N. G., Nur, F. M., Muhammad, S. B. Y., Mung, S. W. Y. Y. L. (2016) Prevalence of burnout among Universiti Sains Malaysia medical students, *Education in Medical Journal*, 8(3), 61-74.
- Ronen, Z., Nathaniel, G., Sean, T., & Robert, L. (2021) The association between medical students' motivation with learning environment, perceived academic rank, and burnout, *International Journal of Medical Education*, 12, 25-30.
- Ryan, R. M., and Deci, E. L. (2017). *Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness*. Guilford Press.
- Ryan, R. M., & Deci, E. L. (2020). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55 (1), 68–78.
- Singh, P., Aulak, D. S., Mangat, S. S., & Aulak, M. S. (2016). Systematic review: factors contributing to burnout in dentistry. *Occupational Medicine*, 66(1), 27-31.
- Woolfolk, A. (2019). *Educational Psychology* (14th ed.). Pearson.
- Yang, H. J. (2004). Factors affecting student burnout and academic achievement in multiple enrollment programs in Taiwan's technical–vocational colleges. *International Journal of Educational Development*, 24(3), 283-301.
- Walburg, V. (2014) Burnout among high school students: A literature review, *Children and Youth Services Review*, 42, 28-33