Multidimensional Predictors of University Students' Examination Performance: A Quantitative Analysis of Psychological, Environmental, And Skill-Based Factors

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ABSTRACT

While examinations remain a key tool for assessing students' learning, their performance is influenced by interrelated factors beyond academic capabilities. The present study examines the interactions among psychological, environmental, behavioural, and skill-oriented factors to predict university students' examination performance. A quantitative cross-sectional correlational study was conducted using instruments including Likert-scale questionnaires administered to 180 FSPPP UiTM undergraduates, covering extrinsic and intrinsic aspects of examination-related data and profiles, psychological traits, achievement targets, study habits/skills, and attitudes towards self-attribution. Correlations showed all variables were positively and significantly related to each other, and achievement goals were significantly associated with attribution and study habits. Clear evidence for this is seen in the multiple regression analysis, which shows that achievement goals for examination performance are the most influential predictors, with psychological factors, study habits/skills, and extrinsic and intrinsic exam factors accounting for insignificant effects when other predictors are examined. These results show that internal drives of motivation, emotional regulation, cognitive interpretations, and self-regulatory behaviours have much stronger effects on performance in examinations than external factors during the exam process. The study has raised relevant issues for holistic education that would stimulate students' motivation to study for assessments, prevent test anxiety, and build a sincere commitment to the study process, leading to improved test results and fairer evaluation of students' potential.

Keywords: Assessment; examination; performance

INTRODUCTION

Examinations are a critical element of the education system, as they are a vital means of defining an individual student's level of attainment toward a goal in the educational progression and of assessing an individual student's academic proficiency. In school and in industry, they are the bedrock of the large-scale decisions that are made about what is best for the individual as they move on to the next stage of life. Without such an assessment, the extent of what students may have learned will be difficult to determine, so the ultimate goal of the examination is to assess whether they are achieving the expected level of learning. For students across all levels of education, the assessment system is one of the primary tools for evaluating student quality, progress and knowledge. They not only measure achievement level and knowledge but also represent important contributors to readiness and promotion opportunities. According to educational theory, testing is used to assess the effectiveness of instruction within a predetermined framework set by the examiner. However, systems analysis is difficult because the student system's measurement of success involves multiple aspects.

These factors are grouped into psychological, physical, socio-economic and educational factors. Test anxiety, lack of preparation, and environmental factors all count, according to research. Eventually, a student's outcome targets (learning content or surpassing peers) are significant signals of performance in recent research. It is not that most students fail because of low intellect, but rather that they face a set of barriers to achieving these. Whether examination should be considered a valid gauge of intellectual advancement is disputed. Existing

systems, these critics say, may be more focused on memorising facts through rote learning or on acclimating to a particular exam style than on understanding. But the high-stakes college exams can put pressure on performance in ways that mean that it isn't always about how well you're actually studying the subject, but something less important. The effects of these influencing factors go well beyond the scope of the study. Exam performance can be affected by external factors, including the physical exam room, the internal environment (when determining the structure of the question paper), and personal factors such as mental status or family dynamics. Hence, it is essential for both teachers and administrators to not only recognise the complexity of performance evaluation but also to understand that the assessment outcome is an approximation of the child's abilities.

Problem Statement

The significance of exams has, of course, been acknowledged, but there is widespread consensus among educators, learners, and the public that current examination systems have significant shortcomings. Some students are bright; however, they fall so far below expectations because of a million obstacles. It isn't simple, however, and can fall prey to systemic issues such as poorly worded questions, the tendency to grade based on the assessment, and the physical condition of the exam venue, which could negatively impact performance. In the education context, individual-level factors like negative cognitive test anxiety, family issues and economic challenges also contributed to limiting the optimal outcome on the final assessments. Students in mathematics, for example, lack the knowledge required to solve a problem (so-called factorisation) and do not do their job by searching for an answer. Problems associated with behaviours thought to delay final project and thesis completion, and related to self-regulation, affect students' ability to uphold and develop academic integrity in these processes.

Attribution biases matter as well; students often attribute positive results to internal factors (e.g., ability) and negative results to external factors (e.g., bad luck, bad essays, failure). It can increase anxiety, and also, ahead of future exams, lower commitment. Therefore, it is necessary to gain insight into and examine the four intrinsic, extrinsic, and personal influences that are harmful to undergraduate students in university-level examinations. However, while there is a single fact about test-taking, exam-taking is viewed very differently. It's not so much about dumbness as it is about low smartness, low academic aptitude when students lack the tools to be successful, researchers conclude is the main cause of the low academic achievement among themFor example, students in math classes may not be able to come up with a clear solution as they have high-level problem-solving skills but can still solve the problem wrong as once they aren't adept at basicknowledge like if that is factorizable or else if they cannot reduce the difficulty of the problem. Psychological roadblocks, including exam anxiety and poor self-esteem, heavily stymie performance. High levels of cognitive test anxiety are systematically associated with poor performance through distractibility and poor cue use. Thesis writing, if procrastinated due to a lack of selfrestraint and motivation, can lead to significant delays in graduation courses and, hence, further affect academic efficiency within the higher education system. Students' tendency to blame external failure on tough testing or good luck instead of fixed internal traits hinders their ability to adapt and learn as well.

The gap of study and the research objectives.

While research has examined the determinants of academic achievement among students, several key gaps remain unaddressed. Most of the literature focuses on GPA as a general indicator rather than on its relationship to exam performance and other coursework. Second, learners' own perceptions of attitude, anxiety, and selfrelated factors have been addressed in research. Still, few studies have investigated whether exam-taking factors, as defined by students themselves, have a significant effect on students' exam performance. Another large gap involves exam completion speed. It is unknown whether the earlier or later someone finishes the exam is a true predictor of performance or merely a byproduct of other factors, including language, anxiety, or test-taking strategy. The literature is mixed on whether there is a linear vs U pattern, but empirical evidence is still scarce. In addition, previous research largely considers student variables in isolation, even though psychological factors (e.g., cognitive anxiety), personal traits, and exam-related conditions intermingle in complex ways. Despite the need for in-depth integration of a complex model, there is a dearth of studies that consider both internal (e.g., anxiety, attribution, skill levels) and external (e.g., exam administration, environment) factors simultaneously. Studies on attribution biases, in general, also take place in controlled environments without the actual examination, and as a result, we have the least knowledge to inform how students identify success and

failure during the experience of taking an exam. Finally, there are a few existing, comprehensive frameworks that combine psychological, behavioural, and other environmental determinants of exam performance. The present study fills these gaps by considering the effects of combined psychological explanations, attribution pathways, a lack of background skills, and the environmental context on individual exam performance across a range of educational settings.

LITERATURE REVIEW

Intrinsic and Extrinsic Examination Factors

The importance of the intrinsic examination component, such as the formality of the question structure and whether the questions align with the learning objective, is a current focus of studies on student performance. Misaligned or ambiguous questions create construct-irrelevant difficulty and prevent students from demonstrating understanding, even when they have studied previous topics (Khan et al., 2025). The theoretical and experimental background of assessment quality emphasises the importance of items aligned with curriculum goals for a valid assessment; when alignment is poor, students exhibit confusion and inconsistent performance outcomes (Lestari & Yusuf, 2025). Moreover, item-writing defects, such as vague wording and irrelevant difficulty, are already associated with discrimination and difficulty parameters in assessments; thus, poor item design can skew performance ratings and undermine assessment fairness (Schmucker & Moore, 2025). Although there is a paucity of large-scale research on educational policy, student surveys indicate that varying question paper patterns and unexpected, sometimes ambiguous question items can be barriers to achieving expected results when responses do not reflect the course content or purpose.

Beyond intrinsic design features, the exam room's extrinsic environmental context is critical in determining the effect of the exam setting on participants' performance. Studies conducted in classroom settings show that temperature, noise level, and seating configuration influence cognitive processes in academic contexts (Kirkil, 2025). As with many things in life, thermal comfort (temperature) is known to strongly predict student satisfaction and learning, meaning that students with such discomfort are easily distracted and have slower or inferior cognitive ability to accomplish their work (Pradhan et al., 2024), as observed in controlled research. Also, studies of noise levels reveal that background ambient noise can be a distraction that interferes with focused work, including information processing. Seating configurations and the design of examination halls also affect how active and attentive students will be, because the more crowded a room or hall is, the more they may be distracted and focus less. In the context of invigilation behaviour, recommendations for effective examination management specify that when invigilators strike a balance between authority and empathy, they buffer against stress and influence performance (however, there has been insufficient evidence of this specific factor in recent peer-reviewed empirical studies). Taken together, the findings underscore the point that a calm, regulated environment is critical for students to reliably perform at their best, while poor physical or procedural conditions merely heap more stress and harm performance.

Psychological Factors: Anxiety and Attribution

Psychological variables (including test anxiety) play particular roles in predicting students' success in contemporary educational studies. Test anxiety in the cognitive domain is characterised by long-term worry, intrusive thoughts about failure, and self-doubt before assessment, which damage working memory and attention, the study states (Putwain et al., 2021). New studies also demonstrate that student test anxiety significantly predicts lower academic achievement in secondary and tertiary settings (Thomas et al., 2022). This anxiety is frequently attributed to external factors (e.g., worrying about a parent's negative reaction, insecure self-worth, feeling unprepared), resulting in greater emotional suffering and lower academic self-esteem (Gherasim et al., 2020; Putwain & Daly, 2019). Similarly, attribution theory offers a broader interpretation of how students cognitively understand their results and the downstream effects of these cognitive understandings on future performance. In recent studies, researchers have found a self-serving bias in which successful students place greater emphasis on internal, controllable determinants of success (i.e., attribution). Successful students are more likely to attribute their success to personal factors (such as effort and ability). In contrast, unsuccessful students are more likely to attribute their failure to external factors (such as task challenges and bad luck) (Bardach et al., 2020). This attributional framework promotes short-term self-protective behaviour through selfesteem; however, over time, it may reduce students' long-term motivation and academic resilience if they perceive a problem with a source beyond their control (Haynes et al., 2021).

The achievement goal theory develops this relationship, building on what has been described in relation to academic goals and motivation, and, in many ways, seeks to explain why motivation affects academic achievement. Performance-approach goals focus mainly on demonstrating competence and surpassing peers and are a strong predictor of academic success and exam adherence (Senko et al., 2020), as shown in multiple studies. Conversely, performance-avoidance goals motivated by fear of failure and negative evaluation are significantly associated with an increase in anxiety, avoidance behaviours, and academic decline (Putwain et al., 2020). Indeed, recent longitudinal research suggests that students who engage in avoidance plans are more likely to decrease their school-related performance due to anxiety. In contrast, approach-oriented goals neutralize the influence of evaluative stress (Linnenbrink-Garcia et al., 2021). These findings thus collectively demonstrate the significant importance of psychological factors, including anxiety coping, attributional beliefs, and motivational orientations, on academic achievement.

Foundational Competencies and Cognitive Skills

In recent years, as research has accumulated, it has increasingly been recognised that weaknesses in foundational competencies pose a major obstacle to students' achievement in quantitative topics, such as calculus and number solving, particularly in cumulative subjects (including mathematics). It seems over and over that problems with algebraic manipulation for calculus and limits are not, for instance, the result of being unable to conceptualize new content but of limited skills mastery of previous elementary skills related to algebra and factorization learned in earlier schooling (Bostic et al., 2019; Hodds et al., 2022). These types of rote learning occur when children are taught procedures (procedures are imputed to people without the conceptual understanding) and the construction of fragile conceptual knowledge structures, which cannot be easily replicated to higher-level problems requiring a much more detailed approach (Trninic, 2020), thus the fact that the phenomenon continues to use rote learners. Hence, it is difficult for a learner in advanced mathematics to perform well when these gaps remain unclosed, as cumulative learning problems cause the learner to fall behind. Language proficiency, especially English proficiency, is now widely seen as a strong predictor of academic achievement and test-taking performance. Recent empirical studies similarly demonstrate this effect: English-proficient students achieve at higher levels and complete tests or examinations faster, and so on, because comprehension of questions and decision-making are easier with higher English proficiency (Solano-Flores & Wang, 2020; Abedi et al., 2020).

In the case of students who learn language more slowly, however, their attention is split between decoding the language and processing what they read, which harms their content knowledge as well. These effects are especially apparent in a time-sensitive test-taking environment, where linguistic concerns may postpone responses and lead to errors. Second, previous research has highlighted mental underdevelopment among university students, particularly in inductive reasoning and elementary numeracy skills, not only in relation to subject-specific competencies. Large-scale assessments and cognitive diagnostics have revealed that, in certain higher education settings, students at higher education levels can perform as well as kids entering primary and secondary education in basic cognitive areas such as counting and logical reasoning (OECD, 2021; Schneider & Stern, 2022), and at lesser proficiency in terms of linguistic abilities, math, language skills, and social interaction. The findings align with evidence of systemic hurdles to the development of broad cognitive competency across all stages of the educational pipeline. This is why literature emphasises the need to attend to foundational knowledge, conceptual clarity, and underlying cognitive skills, thereby promoting further academic success in higher education.

Behavioral Factors

In contrast, procrastination is one of the long-standing behavioural barriers to success in school-based work (notably in long-term projects such as theses and dissertations). Recent studies have characterised delay as an inability to self-regulate and as a matter of low self-efficacy, low self-control, and low intrinsic motivation (Sirois & Pychyl, 2019). Students regularly put off academic challenges not for insufficient time use per se, but instead pick simple, satisfying, or ‘fun’ ways to complete them, and they cannot cope with the unpleasant emotions of challenging work, including anxiety, fear of failure, or perfectionism (Eckert et al., 2022). The literature has provided strong evidence that there is an association between chronic procrastination and not only lower achievement but also greater psychological distress (Hen & Goroshit, 2020), perpetuating the cycle of avoidance and poor performance over time. Also, in a testing context, the rate at which subjects take tests has been studied in relation to performance, with various studies using a multiple-choice test as a measure of validity.

Students who require extensive time for examination evaluation are more likely to exhibit weaker language proficiency, higher test anxiety scores, and more review-oriented strategies such as frequent rereading and answer rechecking (Goldhammer et al., 2019; Thomas et al., 2022). Those students react more slowly because of a coping strategy for uncertainty, not because of what's being demonstrated about a more basic understanding of the content. Language processing and anxiety-influenced cognitive interference increase decision-making delays and decision-making under time pressure. It is also particularly relevant here, given emerging evidence that completing the exam more quickly is not indicative of greater ability. In these controlled studies, these authors found that examination completion time was not a strong predictor of academic achievement when accounting for the impact of preparation, cognitive ability, and test anxiety (Goldhammer et al., 2019; DeMars & Wise, 2021). Exam responses appeared not to indicate mastery of the content, but rather heterogeneity in emotion regulation and in how students responded to tests. It concludes that procrastination and exam pacing are behavioural manifestations of broader motivational and emotional processes, not just physiological problems, and that a firm endorsement of self-regulation, anxiety prevention, and tactical learning is warranted.

Study framework

The study outlines a way to influence the student's exam performance as follows.

Figure 1: Psychological, environmental, and skill-based factors of examination performance

METHODOLOGY

This study aims to examine the factors that impact students' examination performance. To achieve this, quantitative analysis has been applied. A total of 180 respondents were recruited from UiTM Seremban's Faculty of Administrative Science and Policy Studies, and a series of questionnaires were administered. A non-probability sampling strategy specifically convenience and purposive sampling was employed to identify and recruit participants for the population about 3600 peoples. This approach was selected because it allows researchers to access respondents efficiently by approaching individuals within the general population, attending common campus areas, and requesting their voluntary participation. Such sampling methods are commonly used in educational research due to their practicality and suitability for studies requiring timely data collection. They also make it possible to gather simple and manageable samples that fit most research contexts, especially when the population is easily accessible. Once data collection was completed, the responses were coded and analyzed using the Statistical Package for the Social Sciences (SPSS). The statistical procedures were applied to interpret the findings, including descriptive statistics, correlation and regression analyses to discuss further on the findings.

FINDINGS

Profiling analysis

A demographic analysis (see Table 1) indicated that both genders were equally represented in the survey, with 90 males and 90 females. This gender-neutral distribution of studies meant the results were less sensitive to gender and more transferable. The majority of participants (34.4%) were between 21 and 22 years old, and the next-largest age group was 23-24 years old (29.4%). This indicates that the majority were presumably in the midst of their tertiary studies, which may have affected their experience and views on the theme covered. The maximum number, 51.7 %, of Year 2 students in the sample provides a strong representation of what students experience and think, who are not yet at the programme's beginning or end point. The BAS course was more inclusive (28.3%) than the BEVA programme (10%). There are less visible types (e.g. BEVA), but this diversity of programs provides a wider scope.

Table 1: Demographic profile

Items		Frequency (f)	Percent (%)
Gender	Male Female	90 90	50.0 50.0

Age	19-20 years old 21-22 years old 23-24 years old 25 and above	17 62 53 48	9.4 34.4 29.4 26.7
Current year of study	Year 1 Year 2 Year 3	42 93 45	23.3 51.7 24
Programme	DPA DCA BCA BEVA BAS	45 33 33 18 51	25 18.3 18.3 10 28.3

Correlation analysis

Associations among extrinsic/intrinsic predictors, personal/psychological predictors, achievement goals, habit/skills, and attribution were analysed using Pearson correlations (N = 180). All correlations are positive and significant (all $p < .001$). There was a strong association between attribution and achievement goal ($r = .761$); therefore, students had a greater attribution-related predisposition when they were more achievement-oriented. These results also show strong positive correlations with habit/skills ($r = .610$) and achievement goals ($r = .607$). Stronger achievement goal orientations and attribution patterns predict study habits/skills. Extrinsic/intrinsic factors showed a strong positive relationship with habit/skills ($r = .574$), lending support to the hypothesis that a more positive perception of exam conditions and educational aspects is associated with stronger academic habits and skills. Individual/psychological factors were moderately associated with habit/skills ($r = .500$) and attribution ($r = .493$), and extrinsic/intrinsic dimensions were slightly associated with achievement goal ($r = .370$) and attribution ($r = .335$). The correlation between extrinsic/intrinsic and personal/psychological factors was weaker ($r = .257$), though still statistically significant.

Table 2: The factors contribute to the examination performance

		Extrinsic & Intrinsic	**Personal/ psychological**	**Achievement goal**	**Habit/skills**	**Attribution**
Extrinsic & Intrinsic	Pearson Correlation (r)	1	.257**	.370**	.574**	.335**
	Sig. (2tailed)		<.001	<.001	<.001	<.001
	N	180	180	180	180	180

Personal/ psychological	Pearson Correlation (r)	.257**	1	.318**	.500**	.493**
	Sig. (2tailed)	<.001		<.001	<.001	<.001
	N	180	180	180	180	180
Achievement goal	Pearson Correlation (r)	.370**	.318**	1	.607**	.761**
	Sig. (2tailed)	<.001	<.001		<.001	<.001
	N	180	180	180	180	180
Habit/skills	Pearson Correlation (r)	.574**	.500**	.607**	1	.610**
	Sig. (2tailed)	<.001	<.001	<.001		<.001
	N	180	180	180	180	180
Attribution	Pearson Correlation (r)	.335**	.493**	.761**	.610**	1
	Sig. (2tailed)	<.001	<.001	<.001	<.001	
	N	180	180	180	180	180

Multiple Regression analysis

In addition to the correlation study, a multiple regression analysis was performed to assess the predictive power of individual independent variables in explaining factors that affect examination performance. This test is also important because it considers which of the Four Contributing to the Performance will have the greatest effect. It was carried out to examine, using a multiple linear regression, the predictive validity of predictors such as extrinsic & intrinsic factors, personal/psychological factors, achievement goals, and habits/skills. The combined model of the predictors was significant ($F = 130.474$, $p < .001$), indicating that the predictors together account for substantial variability in the dependent variable. The model had good explanatory power ($R = .811$, $R^2 = .657$, Adjusted $R^2 = .649$), implying that about 65.7% of the variance in test performance can be attributed to the factors. Among the predictors, goal achievement was the strongest positive predictor [$B=0.637$, $\beta=0.614$, $t=11.025$, $p<.001$]. Personal/psychological variables also predicted results and habit/skills ($B = 0.139$, $\beta = 0.137$, $t = 2.000$, $p = .047$). Still, extrinsic and intrinsic factors had little impact on the model when other factors were controlled for ($B = -0.039$, $\beta = -0.032$, $t = -0.595$, $p = .553$).

Table 3: Regression analysis on the factors contributes to examination performance

	Unstandardized Coefficients		**Standardized Coefficient**	**t**		**p-value**
	B	Std. Error	Beta			
Constant	.252	.281		.899		.370

Extrinsic & Intrinsic	-.039	.066	-.032	-.595		.553
Personal/ psychological	.251	.054	.237	4.633		<.001
Achievement goal	.637	.058	.614	11.025		<.001
Habit/skills	.139	.070	.137	2.000		.047
Model R			.811			
R^2			.657			
Adjusted R^2			.649			

DISCUSSION AND CONCLUSION

Discussion

The findings of the present study provide strong empirical support for the multidimensional examination of students' achievements. The correlations and regression analyses illustrate the strong relationships: psychological determinants, academic goals, habits and skills, and attribution processes all contribute to student achievement to a considerable degree. This confirms the classical wisdom in educational psychology that assessment ability often does not emanate from a single factor, but rather from combinations of cognitive, emotional, behavioural, and environmental factors. The most critical result was the high predictive strength of achievement goals, which was the best determinant of examination performance. It aligns with the Achievement Goal Theory, which states that students with mastery or performance-oriented goals tend to display greater persistence, resilience, and constructive responses when evaluated. The association between achievement goals and attribution is highly significant, arguing that students' motivational orientations influence how they view success and failure. In addition, students with high achievement goals are likely to attribute success to internal (controllable) factors (e.g., effort and the success of a strategy) that promote continuous motivation and reduce helplessness. Specific, personal, and psychological variables like test anxiety and emotional regulation also affected performance.

It further aligns with cognitive interference theory, which explains how intrusive anxiety, self-doubt, and fear of negative feedback inhibit working memory, thereby preventing problem-solving and meaning making during the exam. Highly anxious students also score high on performance-avoidance goals, which further reduce outcomes. Given a moderate relationship between psychological factors and other constructs, it is reasonable to assume that students' emotional climate acts independently and indirectly, through motivation and cognitive interpretation. Habits and dispositions, including study techniques, pace, and self-regulation, were also strong predictors of performance. A higher degree of positive behavioural habits and strengths (i.e., strong habits and skills) predicted achievement and learning goals, as well as adaptive attribution behaviours among students, indicating that these behavioural characteristics are consistent with effort support, motivation and cognitive preparedness. The following statistics confirm that study skills are more than motor-behavioural activities and that they are included in students' self-perceptions, dispositions and attitudes; they are part of their self-concept, mind-set and learning beliefs.

Moreover, habits and skills describe the types of behavioural predispositions students have, such as time management, avoidance behaviours, and pacing patterns during examinations, which influence how students experience tests in terms of getting around them. While positive correlations with analysis of other examination factors have been established, and the multiple regression analysis showed that extrinsic and intrinsic examination factors did not significantly predict performance, the independent variables, extrinsic and intrinsic examination factors, did. This indicates that question elements and environment variables are relevant (i.e. getting about), which may explain the higher scores of other examination variables. They affect the student

experience", but indirectly if other more robust internal factors (such as motivation, anxiety and self-regulation) are included. Performance may be influenced by states of mind, such as the physical condition of the exam, invigilation behaviour, or the type of issue being asked. A room that is loud or uncomfortable, say, should produce anxiety rather than dropping scores, which might happen instead. The final result is that external factors cannot explain performance without internal cognitive and emotional state factors to be accounted for as well. Collectively, the conclusions provide an overview of performance on the test: the tendency of students to think, feel, plan and translate their results mirrors their internal state more than it does the external exam environment. This idea aligns with prior research suggesting that psychological and motivational mechanisms are fundamental drivers of performance assessment, despite imperfections introduced by extrinsic factors.

Conclusion

The present paper examined multidimensional predictors and multifaceted factors of university students' examination performance using a multidimensional approach. It was concluded from their work that internal conditions, such as academic performance goal achievement, psychological readiness, and self-regulation skills in particular, are more significant for academic success. The conditions of examination and the question structures might play a role, but they are indirect indicators of much larger changes in motivation, emotional regulation, and behavioural habits. In this context, when achievement objectives prevail, it becomes an ugly reminder for educators of the need to cultivate further motivation orientations in students. Much of the positive effect of a performance-enhancement intervention that would foster a mastery-oriented learning orientation, boost confidence in academic success, and reduce avoidance motivation for achievement is attainable. Similarly, the significant motivational effects with psychological dimensions point to the need to address test anxiety using counselling support, stress management training, and increased emotional insight into examination behaviour. Habits and study skills provide the fundamental building blocks of motivation and help alleviate anxiety. With structured training, time management programs and scaffold programs around basic skills (such as language and numeracy), this should work even better. In aggregate, the findings confirm that students' educational achievement is not just a matter of intellect, but a holistic task that affects students' dispositions and how they think, feel, plan, and work under evaluation. If the assessment were to shift to a more holistic, student-centred paradigm that includes psychological support, motivational support, and skill-building, it would have a greater impact on examination improvements and on an equitable assessment of student potential.

RECOMMENDATION

To extend the findings of this study regarding the predominance of internal motivation and psychological factors over external exam conditions, several avenues for future research are recommended. As this study provides a comprehensive overview of factors influencing student success, subsequent research should focus on the practical application of these insights to support students. The current findings indicate that faculty may benefit from implementing psychological support, stress management training, and time-management programs. Future studies should empirically evaluate the effectiveness of interventions such as mastery-oriented learning programs or test anxiety counselling by measuring their direct impact on exam performance. Rather than solely observing existing challenges, researchers should assess whether these targeted support systems enhance students' resilience and academic outcomes. Given that this research was conducted with 180 undergraduates from the Faculty of Administrative Science and Policy Studies at UiTM Seremban, it is important to determine the generalizability of these results. Future research should include larger, more diverse populations, encompassing multiple universities, academic disciplines (e.g., STEM and arts majors), and cultural backgrounds, to evaluate the universality of these psychological and behavioural predictors. In addition, future research could adopt a longitudinal approach to track students throughout their academic careers. Such studies would provide deeper insights into how achievement goals, attribution biases, and study habits evolve from entry to graduation, and how these changes influence exam performance over time. In summary, future research should transition from identifying the causes of student difficulties to empirically testing comprehensive, student-centred interventions that foster motivation, emotional regulation, and essential academic skills.

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Conflict of Interest Statement

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

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