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Original Article

Relationship between Grit, Academic Emotions, and Academic Achievement of Secondary School Students in Kiambu County, Kenya

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ABSTRACT

The purpose of this study was to examine the relationship between grit and academic emotions in predicting academic achievement among secondary school students. A random sample of 258 form three students (127 Males and 131 Females) was chosen from public secondary school students in Kiambu County, Kenya. The study used an explanatory sequential mixed methods study design, and data were collected using self-report questionnaires. Validity and reliability measures were established with appropriate adjustments made to the questionnaires. Academic achievement was obtained from an analysis of the students' examination records. To examine relationships, the study used the Pearson product-moment correlation method, while the t-test for independent samples was used to determine gender differences between students' grit and academic emotions. Thematic analysis was applied to qualitative data to correlate the findings from the quantitative analysis. Results revealed that the two variables, grit and academic emotions, significantly influence academic achievement, while there was no significant gender difference between them. The study recommended that all educational stakeholders should focus on strategies that enhance non-cognitive skills in teaching and learning, such as grit and emotional regulation, and that they should also enhance students' sense of control over their academic pursuits

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INTRODUCTION

Academic achievement is a key determinant of future success among students in secondary schools as it influences their career prospects, economic opportunities, and overall societal development. According to Murayama et al. (2017), high academic achievement is associated with improved cognitive skills, better employment opportunities, and increased lifetime earnings. Academic achievement is also linked to personal growth and development. It enhances critical thinking and problem-solving skills that are necessary in today's knowledge-based economy (Wigfield et al., 2016). Governments and education policymakers across the globe recognise the pivotal role of academic achievement in national development and, as a result, invest heavily in education systems to ensure students acquire the necessary knowledge and skills (Hanushek & Woessmann, 2020).

Despite its importance, academic achievement remains an important challenge worldwide. Studies show that many students fail to attain the required academic standards, leading to concerns about educational quality and student preparedness for future roles. Several factors have been identified as contributing to poor academic achievement, ranging from psychological and environmental influences to socio-economic and school-related variables.

Defined as a psychological construct encompassing consistency of interest and perseverance towards long-term goals, GRIT has gained prominence in educational research due to its probable impact on academic success (Khajavy & Aghaee, 2022). GRIT comprises two main domains: consistency of interest and Perseverance of effort (Wang et al., 2021). Maintaining consistency of interest entails keeping a steady focus on long-term academic objectives, despite distractions or shifting interests. This persistence is critical for students to remain committed to their goals over time (Alamer, 2021). Perseverance of effort refers to the sustained and diligent application of effort towards these objectives even in the face of obstacles and setbacks (Sudina et al., 2020). Together, these domains of GRIT foster a positive mindset, value long-term commitment and resilience, which are key to academic achievement. In cultivating GRIT, students are better equipped to overcome obstacles, remain motivated, and achieve higher levels of academic achievement as they can continuously strive towards their educational aspirations with unwavering determination (Wei et al., 2020).

Academic emotions are another critical psychological factor that significantly influences students' academic achievement. The emotions encompassing enjoyment, hope, pride, anger, anxiety, shame, hopelessness, and boredom significantly impact students' learning processes and outcomes (Peercy & Svenson, 2019). Positive academic sentiments, such as delight and aspiration, foster enhanced motivation, strategic learning methods, and superior academic performance. Conversely, negative emotions like anxiety and hopelessness can impede learning, reduce motivation, and lead to lower academic achievement (Mokski et al., 2022). Comprehending the significance of academic emotions proves vital, particularly in designing interventions aimed at fostering student emotional welfare, thereby promoting their academic accomplishments. In enhancing positive academic emotions and mitigating negative ones, educators can create a more supportive and conducive quiet learning

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environment that promotes better academic outcomes (Essin, 2021).

Integrating the understanding of GRIT and academic emotions provides a thorough framework for examining and enhancing academic achievement. In addressing these psychological factors, educators and policymakers can implement more effective strategies to support students in their academic journeys and close the performance gap within educational settings (Khajavy & Aghaee, 2022).

The selection of GRIT and academic emotions as key variables in this study is grounded in the aim of developing a comprehensive understanding of the factors influencing academic achievement among students in Kiambu County, Kenya. These variables represent the intricate interplay between individual characteristics, emotional experiences, and cognitive processes that contribute to or hinder academic success (Christopoulou et al., 2018; Eksterowicz, 2020; Chitpin, 2021). As such, investigating these variables jointly provides a comprehensive understanding of how psychological factors intertwine to impact academic achievement, enabling the identification of nuanced interactions.

Considering how GRIT and academic emotions vary across genders, it is key for a holistic analysis to uncover the multifaceted nature of these disparities (Eksterowicz, 2020). Existing research suggests that gender disparities in educational experiences and outcomes are multifaceted, influenced by societal expectations, cultural norms, and individual perceptions (Fernández & Brenlla, 2022; Bevolo & Blaise, 2022). The interplay between GRIT and academic emotions may manifest differently for male and female students, as gender-specific societal pressures and expectations may shape their responses to academic challenges (Lehman, 2019; Teng et al., 2022).

In the past six years, KCSE results in Kiambu County have consistently revealed a concerning trend. Unlike other counties where public secondary schools exhibit relatively uniform performance, Kiambu County presents a stark contrast. While some public schools consistently rank among the top institutions nationally, others continuously perform among the poorest in the country (KNEC 2019-2023). This academic disparity raises concerns about underlying factors

Many investigations have delved into academic success within Kiambu County, but they primarily concentrate on factors other than grit and academic emotions. This research aimed to address a major gap in Kenya's scholarly dialogue by investigating the role of grit and academic emotions as predictors of academic achievement among form three students in Kiambu County. It also explores the intervening role of gender in these relationships. In addressing these gaps, the study provided empirical evidence that can inform policies and educational interventions to enhance students' achievement and reduce academic disparities in the county.

Aims of the Study and Research Questions

The main objective of the study was to establish whether Grit and Academic emotions predict academic performance among secondary school students in Kiambu County, Kenya. The study thus sought to answer the following question:

- Is there a relationship between GRIT and academic achievement among form three students in Kiambu County, Kenya? Pearson product-moment correlation was used to assess this relationship.
- Is there a relationship between academic emotions and academic achievement among form three students in Kiambu County, Kenya? Pearson product-moment correlation was used to assess this relationship.
- Are there gender differences in GRIT and academic emotions among form three students in Kiambu County, Kenya? A sample independent t-test was used to assess the differences.

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METHOD

Participants

The study involved 258 (127 Male and 151 Female) form three students sampled from 40 public schools in Kiambu County, Kenya. This county was selected as a suitable location for this research as a focal area due to its contrasting performance levels among public secondary schools. The schools have four categories: National, Extra-County, County, and Sub-County schools. Proportionate stratified random sampling was employed to randomly pick schools from each of the four school classifications for representativeness and generalizability. Further consideration was made under each category to ensure sampling was done to include the categories of boys and girls, as well as boarding versus day schools.

Instruments

Grit and academic emotions were measured through self-report questionnaires, while academic achievement was determined from examination score analysis as described below.

Measure for Grit

The instrument to measure students' GRIT was adapted from the GRIT-O scale (Duckworth et al., 2007), which is available in the public domain. The GRIT measure contained two sub-scales: perseverance and consistency of interest, each with 6 items. The Participants responded to each of the items on a 5-point scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*. Means of 2.4 and below were scored as low GRIT, while means between 2.5 and 3.4 were scored as average GRIT. Mean scores of 3.5 and above were considered high GRIT.

Content validity was performed to guarantee instrument accuracy and content authenticity. The items were changed and adjusted following the pilot study's findings. For instance, the item "I have overcome setbacks to conquer an important challenge" was deleted from the scale on GRIT and was not included in the final questionnaire. This made the questionnaire and interview schedule more appropriate for data collection because it eliminated uncertainty and made the items more meaningful. Reliability was also established through Cronbach's alpha analysis. The initial coefficient was at 0.5. Item adjustment was made, and Cronbach's alpha increased to 0.72.

Measure of Academic Emotions

The study adapted the academic emotion scale developed by Pekrun et al. (2019), available in the public domain. This consists of five sub-scales: enjoyment, Hope, anger, anxiety, and boredom, each containing 11 items. Participants rated each item on a Likert scale, which typically ranges from 1 (strongly disagree) to 5 (strongly agree). The mean scores for each sub-scale were calculated to determine the overall emotional state. Mean scores of 2.4 and below were categorised as indicating negative emotions, scores between 2.5 and 3.4 were classified as average emotions, and scores of 3.5 and above were considered indicative of positive emotions. The Cronbach alpha was 0.75, which indicated good internal consistency and that the items effectively measured the construct as intended.

Proforma Summary of Students' Examinations

To evaluate the academic progress of the students in form three, the study examined form three learners' total marks for mid-term and end-term of term two of 2024. Each student's mean score on the two exams was tabulated. Two or three sciences (biology, chemistry, or physics); two languages (Kiswahili and English), Mathematics, and one or more humanities (religious education, geography, or history). Students' mean scores were computed by averaging their Term Two mid-term and end-term exam results of the year 2024. The mean results were converted into z-scores and then t-scores for comparison among the schools.

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Interview Schedule

In line with the explanatory sequential mixed-methods design adopted in this study, an interview schedule was administered to a smaller, purposively selected subset of participants following the quantitative phase. This qualitative component allowed for an in-depth exploration of individual experiences and perspectives, complementing the broader statistical trends identified through the survey (Bryman, 2016). Responses were audio-recorded with informed consent, transcribed verbatim, and subjected to thematic analysis. This approach enabled the study to validate and elaborate on the quantitative findings, thereby enhancing the overall interpretive depth and credibility of the results.

Procedure

The researcher sought a letter of authorisation from Kenyatta University's Graduate School before collecting any data. Approval was sought from the National Council for Science, Technology, and Innovation (NACOSTI). To obtain permission to visit the chosen schools, the investigator showed the research authorisation letter from the university to the Kiambu County Commissioner and then the County Director of Education. The participating school principals' approval was sought through the researcher's permit and authorisation letter. The research also sought consent from the participating students by explaining to them the purpose of the study and assuring them of confidentiality. They were allowed 30 minutes to complete and hand back the questionnaires. Before the main research, a pilot study was carried out as a preliminary study. This was aimed at ensuring that the tools were valid and reliable, and after which the instrument was revised and utilised in the main study. A total of 46 students (12% of 382) from one public secondary school with similar characteristics to those studied were recruited. These students were not part of the main study.

RELATIONSHIP BETWEEN GRIT AND ACADEMIC ACHIEVEMENT

Preliminary diagnostic tests were conducted on the data for Grit, including Multicollinearity, Normality, Homogeneity of Variance, Linearity, and correlation Analysis. They all ascertained that the data was valid for inferential analysis. The study tested the first question on whether GRIT has a relationship with academic achievement among form three students in Kiambu County, Kenya. The results are presented through Pearson's correlation analysis in Table 1.

Table 1: Correlation Between Grit and Academic Achievement

		Academic achievement	GRIT
Academic achievement	Pearson Correlation	1	.64**
	Sig. (2-tailed)		.00
	N	258	258
GRIT	Pearson Correlation	.64**	1
	Sig. (2-tailed)	.00	
	N	258	259

**. At the 0.01 level, a significant correlation exists (2-tailed).

From Table 1, the Pearson correlation coefficient between academic achievement and GRIT is 0.64, which is statistically significant at the 0.01 level ($p = 0.00$). This shows a strong positive correlation, meaning that as GRIT increases, academic achievement tends to improve. Since $p < 0.05$, the study fails to accept the null hypothesis (H01), confirming that GRIT has a significant effect on academic achievement.

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RELATIONSHIP BETWEEN ACADEMIC EMOTIONS AND ACADEMIC ACHIEVEMENT

Preliminary diagnostic tests were conducted for data on academic emotions, including Multicollinearity, Normality, Homogeneity of Variance, Linearity, and correlation Analysis. They all ascertained that the data was valid for inferential analysis. The investigation assessed the second question of whether academic emotions predict academic achievement among students in Form Three of Kiambu County, Kenya. To determine if there is a relationship between these variables, Pearson's correlation coefficient, as shown in Table 2, was employed.

Table 2: Correlation between Academic Emotions and Academic Achievement

		Academic achievement	Academic emotions
Academic achievement	*R*	1	.60**
	Sig. (2-tailed)		.00
	N	258	258
Academic emotions	*R*	.60**	1
	Sig. (2-tailed)	.00	
	N	258	258

**. At the 0.01 level, a significant correlation exists (2-tailed).

Source: *Research Data (2024)*

The correlation coefficient in Table 4.17 ($r = 0.60$, $p = .00$) shows a positive association that is moderate to strong between academic emotions and academic achievement. This suggests that students with higher positive academic emotions tend to achieve better academically. The significant *p-value* (.00) confirms that this relationship is statistically significant. The study rejects the null hypothesis (H_{02}) since the *p-value* is less than 0.05 and concludes that academic emotions significantly predict academic achievement**.**

Gender Differences in Grit and Academic Emotions

Grit and Gender Differences

The study examined whether there were gender differences in the relationship between GRIT and the academic performance of form three students in Kiambu County, Kenya. The analysis is shown in Tables 3 and 4 below.

Table 3: Gender Differences in GRIT

	Gender	N	Mean	Std. Deviation	Std. Error Mean
GRIT	Female	124	37.78	5.80	.52
	Male	135	38.26	7.68	.66

Table 3 presents the mean GRIT scores for female and male students. Female students ($N = 124$) had a mean GRIT score of $M = 37.78$, $SD = 5.80$, while male students ($N = 135$) had a slightly higher mean of $M = 38.26$, $SD = 7.68$. However, the responder variability is indicated by deviations from the mean, particularly among male students. Table 4 presents the results of the independent samples t-test, which examined whether the observed difference in mean GRIT scores between genders is statistically significant.

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Table 4: T-test for Equality of Means for Gender Differences in GRIT

		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Difference
GRIT	Equal variances assumed	8.51	.00	-.56	257	.58	-.48	.85
	Equal variances not assumed			-.57	247.88	.57	-.48	.84

As presented in Table 4, the *F-statistics* = 8.51, with a significant value of $p = .00$ ($p < .05$), indicating that the assumption of equal variances is violated. Hence, the t-test results for "equal variances not assumed" are more appropriate for interpretation. The t-value for GRIT under the "equal variances not assumed" condition is t (247.88) = -0.57, with a *p*-value of .57**.** Since p > .05, the result is not statistically significant since the *p* value (.57) exceeds the conventional threshold of .05, the study fails to reject the null hypothesis concluding there is no substantial gender disparity in GRIT scores amongst students in Form Three at Kiambu County. Although a slight divergence was observed in the mean GRIT score between male and female students, this discrepancy was inconsequential and statistically negligible.

Gender Differences in Academic Emotions

The investigation subsequently sought to challenge the hypothesis that no significant gender differences exist concerning the correlation between academic emotions and academic achievement among Form Three students within Kiambu County, Kenya. The results of this examination are presented in Tables 5 and 6.

Table 5: Gender Differences in Academic Emotions

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Academic emotions	Female	124	143.6290	11.28887	1.01377
	Male	135	143.0889	9.95997	.85722

Table 5 presents the mean academic emotions scores for female and male students. Female students ($N = 124$) had a mean academic emotions score of $M = 143.63$, $SD = 11.29$, while male students ($N = 135$) had a slightly lower mean of $M = 143.09$, $SD = 9.96$. The standard deviations indicate similar levels of variability in responses for both groups. Table 6 presents the results of the independent samples t-test, which examined whether the observed difference in mean academic emotions scores between genders is statistically significant.

Table 6: T-test for Equality of Means for Gender Differences in Academic Emotions

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Academic emotions	Equal variances assumed	.96	.33	.41	257	.68	.54	1.32
	Equal variances not assumed			.41	246.23	.68	.54	1.33

The *F-statistic* = 0.96, with a significance value of $p = .33$ ($p > .05$), indicating that the equal variations premise is satisfied. As a consequence, the "equal variations presumed" t-test results might be

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interpreted. The t-value for academic emotions under the "equal variances assumed" condition is t (257) = 0.41, with a *p-value* of .68. Since $p > .05$, the result is not statistically significant. Since the *p*-value (.68) exceeds the conventional threshold of .05, the study fails to reject the null hypothesis (H_{04-2})**.** This indicates that there is no statistically significant gender difference in academic emotions among Form Three students in Kiambu County. Although female students had a slightly higher mean score, the difference is negligible and not statistically meaningful.

DISCUSSION OF FINDINGS

The present study found GRIT significantly predicts academic achievement, with a *beta* value of 0.35 and a *p-value* less than 0.05. This suggests that students exhibiting higher degrees of perseverance and ardour for long-term objectives tend to excel academically. GRIT, defined as perseverance and commitment towards long-term objectives, has consistently emerged as a significant predictor of success in diverse domains, such as academia. As underscored by Duckworth et al. (2007), who found that GRIT accounted for unique variance in academic achievement beyond other personality traits like IQ or conscientiousness. Similarly, Lam and Zhou (2019) found that GRIT positively influenced students' academic success, particularly in challenging environments where persistence is required to overcome obstacles. Pekrun and Colleagues (2002) posited that positive academic emotions serve as catalysts for engagement, tenacity, and motivation, ultimately propelling superior academic achievements. The authors substantiated their claim by illustrating how these factors interplay, thereby promoting enhanced learning experiences and favourable performance.

While GRIT has been consistently linked to academic achievement in Western contexts, the present study adds to this body of literature by examining this relationship in the context of secondary school students in Kiambu County, Kenya. This provides a broader cultural perspective, suggesting that perseverance and sustained effort play an important role in academic success regardless of geographical and cultural differences. This research additionally disclosed that academic emotions, or feelings related to academic tasks, hold significance in this context as well. Positive academic emotions, as discerned from this study, significantly correlate with academic success (β = 0.31; p = .00). Evidently, students exhibiting favourable feelings towards their scholastic responsibilities tend to attain superior academic results. Enjoyment, pride, and interest in learning are strongly related to academic achievement.

In the realm of Kiambu County's secondary schools, the academic performance of students might also be significantly affected by factors such as the school environment, pedagogical approaches, and the pupils' capacity to manage academic stress. As Akunne and Anyanmene (2021) highlighted, those secondary school learners who exhibit favourable emotions towards their studies often excel academically. This observation aligns with our current study, revealing that students exhibiting positive emotional reactions towards academic tasks consistently outperform in examinations and assessments. The correlation between academic emotions and academic success thereby emphasises the significance of socioemotional learning interventions within educational institutions. The nurturing of emotional self-regulation and the fostering of positive academic sentiments become imperative.

Qualitative Analysis

To ensure a rigorous and systematic approach to qualitative data analysis, thematic analysis was employed following the guidelines outlined by Braun and Clarke (2006). The interview transcripts were first transcribed verbatim and thoroughly read to gain an in-depth understanding of the students' responses. Meaningful segments of data were identified and systematically categorised into initial codes. These codes were then examined for patterns and grouped into broader themes that captured the

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key aspects of how students remained motivated despite academic challenges.

The themes that emerged that students attributed to academic performance included the influence of role models, reflection on socioeconomic backgrounds, spiritual practices, parental and familial influence, support from teachers and mentors, focus on strengths, hope and self-motivation, and guidance and counselling. Pseudonyms were assigned to protect participants' identities, adhering to ethical considerations for qualitative research (Creswell & Poth, 2018). Direct quotations from student participants were further incorporated to illustrate each theme. Providing depth and authenticity to the findings.

Qualitative Analysis on the Relationship between Grit and Academic Achievement

To complement the quantitative analysis of GRIT, a thematic analysis of interview responses was conducted to explore how students remain motivated in the face of academic challenges and setbacks. The analysis identified a number of key themes from the responses, including the influence of role models, reflection on socioeconomic backgrounds, spiritual practices, parental and familial influence, support from teachers and mentors, focus on strengths, hope and self-motivation, and guidance and counselling.

The integration of quantitative and qualitative findings provides a comprehensive understanding of how GRIT influences academic achievement among Form Three students in Kiambu County. While the quantitative results establish a strong statistical relationship, the qualitative insights offer contextual explanations, revealing the specific ways in which students cultivate and sustain perseverance in their academic journeys.

The correlation analysis demonstrated that grit has a strong, positive effect on academic achievement, confirming that students who exhibit higher levels of perseverance and passion for long-term goals tend to perform better in school. The qualitative findings reinforce this by highlighting key factors that contribute to students' resilience, including the influence of role models, socio-economic background, parental support, teacher mentorship, and self-motivation. Students reported drawing inspiration from successful figures, striving to improve their families' circumstances, and receiving encouragement from parents and teachers, all of which contribute to their ability to remain diligent and focused on academic success.

Many students cited role models, such as successful individuals or figures they admire, as a source of motivation. This aligns with the high mean scores for GRIT items like "I am diligent" (*Mean* = 4.14) and "I work hard" (*Mean* = 4.20), suggesting that students who admire and emulate their role models tend to exhibit higher levels of perseverance and work ethic. Role models can instil a sense of purpose and drive, reinforcing students' resilience and long-term commitment to their goals. A student shared:

> *"I just imagine the life I want to live in the future by looking at my role model, and that really motivates me"* (Interview Respondent, National School).

On socioeconomic background, students also reported being motivated by remembering their poor family backgrounds. This theme underscores a strong intrinsic motivation to succeed, driven by a desire to improve their family's situation. The descriptive results, particularly the item "Failures do not deter me" (*Mean* = 3.58), reflect a moderate level of resilience among students, indicating their determination to overcome difficulties and achieve success despite challenging circumstances.

A student intimated:

> *"My poor background at home motivates me to work harder"* [Interview Respondent, Extra County School]

Praying was mentioned as a coping mechanism for dealing with academic setbacks. This highlights the

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role of spirituality in enhancing perseverance, particularly in contexts where students face resource or emotional constraints. The reliance on prayer as a form of resilience aligns with the GRIT dimensions of maintaining effort and passion for goals, even under adverse conditions (Duckworth et al., 2007). A student commented:

> *"I pray to God does not lose hope"* [Interview Respondent, County School]

Encouragement from educators and guides often emerged as a consistent theme throughout the interviews. This external motivation underscores the importance of constructive affirmation in fostering resilience. Students who receive mentorship are more likely to exhibit the high levels of diligence and hard work observed in the descriptive results. A student noted:

> *"We receive motivation talks from teachers…"* [Interview Respondent, Sub County School]

Responses like "hoping for improvement" and self-motivation suggest that students maintain an optimistic outlook even when facing setbacks. These findings resonate with the overall composite GRIT score (*Mean* = 3.52), which reflects moderate levels of perseverance and passion for long-term goals among the participants. A student is intimidated:

> *"I tell myself hard work never goes unrewarded"* [Interview Respondent, Extra County School]

Guidance and counselling emerged as a critical theme, where students acknowledged the role of institutional support in helping them navigate challenges. This highlights the importance of structured interventions to enhance resilience, complementing individual GRIT traits like resilience ("Failures do not deter me" – *Mean* = 3.56). A student shared:

> *"I seek help from guidance and counselling…"* [Interview Respondent, National School]

This finding is further supported by qualitative evidence showing that students adopt grit-driven behaviours such as hard work, resilience, and focus on their strengths to maintain academic progress. Many students reported persevering through setbacks by concentrating on subjects they excel in, using goal-setting strategies, prayer, and positive reinforcement to stay motivated.

The study confirmed that students with high GRIT scores tend to achieve better academic outcomes. The qualitative findings align with this by illustrating how students develop self-discipline and perseverance through external and internal motivation. The qualitative findings align with this by illustrating how students develop self-discipline and perseverance through external and internal motivation. Institutional support systems such as mentorship programs and guidance and counselling play a necessary role in sustaining students' efforts, providing them with necessary encouragement and strategies to navigate academic challenges.

In conclusion, the combined evidence from both quantitative and qualitative approaches strongly supports the conclusion that GRIT is a major predictor of academic success. The statistical findings provide measurable proof of this relationship, while the qualitative themes offer deeper insights into the personal, social, and institutional factors that reinforce perseverance and resilience among students. This synthesis underscores the importance of enhancing GRIT-related traits in educational settings to enhance academic achievement and long-term student success.

Qualitative Analysis on the Relationship between Academic Emotions and Academic Achievement

Using the interview responses provided, the thematic analysis identified key emotional themes that align with the descriptive findings. These themes include positive emotions, negative emotions, and boredom, each reflecting the students' academic experiences.

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The correlation results indicate that students with positive academic emotions tend to perform better, a finding supported by qualitative insights into how feelings of happiness, confidence, and pride enhance motivation and engagement. Statements like “I feel very happy when I do well” and “I feel proud when I accomplish something” confirm the high mean score (M = 4.41) for motivation driven by the hope of success. These qualitative responses illustrate that positive emotions reinforce effort and academic persistence, validating the quantitative conclusion that academic emotions significantly predict achievement (F = 144.82, p = 0.00).

The quantitative findings suggest that negative emotions can hinder academic achievement, and the qualitative data provide a deeper understanding of this effect. Students reported experiencing disappointment, frustration, and regret when they underperformed, with statements like “I feel very bad and emotionally damaged when I fail” and “I regret not preparing enough”. These emotions often led to disengagement and reduced motivation, aligning with the lower mean scores for frustration-related items (M = 2.64) and concerns over understanding class material (M = 2.90). The qualitative findings confirm that negative emotions contribute to self-doubt and avoidance behaviours, reinforcing the statistical evidence that emotions significantly shape academic outcomes.

The quantitative analysis highlighted boredom as a factor influencing academic engagement (M = 3.25), and the qualitative findings confirm this by showing how boredom affects students differently. Some students linked boredom to poor performance, stating that failure made them disengage from learning, while others associated academic success with increased enthusiasm. This duality supports the statistical finding that emotions, whether positive or negative, play a crucial role in academic achievement, with motivation and engagement being key mediators.

The qualitative findings strongly confirm the quantitative results by illustrating how emotions directly impact students' academic behaviours. Academic emotions, such as positive ones fostering motivation, negatives precipitating disengagement, and boredom impacting interest, offer tangible, real-life instances corroborating their statistical importance in forecasting academic accomplishment. These insights reinforce the conclusion that emotional regulation. Motivation strategies are vital for improving academic achievement.

CONCLUSION AND RECOMMENDATIONS

The findings substantiate the significant impact of academic emotions on academic success, demonstrating a moderate to robust positive correlation. Students exhibiting favourable academic sentiments, such as pride, enthusiasm, and delight, tend to excel academically more frequently. This underscores the necessity of fostering nurturing and intellectually stimulating academic emotions to boost student accomplishments. Thus, educators and policymakers should consider enhancing grit as part of academic development programs.

Despite initial presumptions, t-test statistics demonstrated no substantial gender differences in grit and academic emotions. These findings imply that the effects of grit and academic emotions on academic success are not significantly different between male and female students. This underscores the importance of addressing these factors consistently for both genders to promote overall academic achievement.

In relation to Policy and practice, the study recommends that Policies in schools shouldn’t just focus on delivering content but shape how students approach life. Resilience, goal setting, and persistence aren't side effects of a good education; they’re core to it. These qualities should be built into both classroom and extracurricular activities consistently. Team projects, structured obstacles, and reflective writing are all ways to practice these

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skills. When students face real problems and must push through, the process itself teaches grit.

Schools should teach emotional regulation alongside math, writing, and science. A group project should ask students to handle disagreement as much as deadlines. Embedding these moments into daily routines, instead of isolating them in a workshop or assembly, makes them more useful. Over time, students build a toolkit they can use outside of school, too.

There's no consistent evidence that boys and girls differ in traits like grit, emotional outlook, or academic outcomes, yet some policies still rely on outdated assumptions. Support systems should be built around the student, not the stereotype. Labels based on gender miss the complexity of individual differences. They can also cause real harm when they shape how teachers and administrators treat students. Data should guide decisions, but only when it's used with precision.

Early support makes a difference, especially when it's informed by real-time data. Schools should track factors like grit and emotional status, among other factors, to spot issues before they escalate. That means investing in systems that work and making sure they're used with care. When done right, this approach avoids generic fixes and allows for targeted support.

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