

Empirical Factors that Influence Academic Performance in Secondary Grade Result

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Abstract

Academic performance is influenced by both students' personal characteristics and the social and educational environments in which learning takes place. This study examined intrinsic and extrinsic factors associated with the academic performance of Grade IX students in a secondary school in Bhutan, with particular attention to grit and academic motivation. A mixed-methods, descriptive cross-sectional design was employed with 87 Grade IX students. Quantitative data were collected through a structured questionnaire and students' examination results, while qualitative data were obtained through semi-structured interviews with 10 students. Descriptive statistics, correlation and regression analyses were used to examine relationships between selected factors and academic performance, while interview data were analysed thematically. The mean examination score was 66.3% (SD = 8.9), with mean grit and academic motivation scores of 3.92 (SD = 1.42) and 4.85 (SD = 1.62), respectively. Grit and academic motivation demonstrated comparatively strong positive relationships with academic performance. Other internal factors, including study habits, interest, self-discipline, and learning attitude, were also positively associated with academic performance. Among extrinsic factors, parental support, teacher support, learning resources, and school environment showed positive relationships, while home responsibilities showed a negative relationship. The qualitative findings reinforced the importance of perseverance, motivation, family support, peer relationships, and learning conditions. Overall, the findings suggest that academic performance is multidimensional and associated with interactions between students' internal characteristics and their learning environments.

Keywords: Grit; Academic Motivation; Academic Performance; Grade IX Students; Bhutanese Secondary Education.

Chapter I: Introduction

1.1. Background of the Study

Academic performance is an important indicator of students' learning and of the extent to which educational processes support the development of knowledge, skills, competencies, and attitudes. It is commonly reflected through examination results, grades, classroom assessments, and other measures of educational achievement. Beyond representing students' immediate learning outcomes, academic performance is often associated with students' progression to higher levels of education, future employment opportunities, and lifelong learning (OECD, 2019). Consequently, improving students' academic achievement remains an important concern for schools, teachers, parents, and education systems.

Academic performance, however, cannot be understood solely through examination scores. Students' achievement develops through the interaction of personal characteristics and the environments in which learning takes place. These influences can broadly be understood as intrinsic and extrinsic factors. Intrinsic factors originate within the learner and include motivation, interest, self-discipline, study habits, confidence, learning attitudes, self-efficacy, and persistence. Such characteristics influence how students approach learning, respond to difficulties, regulate their behaviour, and sustain effort when academic tasks become challenging (Eccles & Wigfield, 2020). Among these factors, grit and academic motivation are particularly relevant because they relate to students' willingness to persist and their reasons for engaging in learning.

Grit refers to perseverance and sustained effort toward long-term goals (Duckworth, 2007). In an educational context, students with greater perseverance may be more willing to continue working on challenging tasks rather than abandoning them. Research has found that grit is positively associated with academic achievement, although the relationship is generally modest and should not be regarded as the sole explanation for students' academic success. Academic motivation, similarly, concerns the reasons and willingness that encourage students to engage in academic activities. Motivated students may devote greater effort to their studies, participate more actively in learning, and persist when they encounter academic challenges. Self-Determination Theory proposes that students' motivation is influenced by their psychological needs for autonomy, competence, and relatedness (Deci & Ryan, 2000; Ryan & Deci, 2020). Students, however, do not learn in isolation. Extrinsic factors arising from the social and educational environment can either support or constrain academic engagement and achievement. These include parental support, teacher support, peer relationships, school environment, availability of learning resources, and family circumstances (UNESCO, 2021). Bronfenbrenner's (1979) ecological perspective further emphasizes that students' development takes place through continuous interaction with different environmental systems, including family, school, peers, and the wider society. A student may possess strong motivation and perseverance but still experience challenges arising from limited resources, competing responsibilities, peer influence, or inadequate support. Conversely, supportive teachers, parents, peers, and learning environments may strengthen students' engagement and provide conditions that enable them to sustain their academic efforts.

The relationship between motivation and achievement can also be understood through Expectancy-Value Theory. Eccles et al. (2020) explain that students' achievement-related behaviour is influenced by their expectations of success and the value they attach to academic tasks. Students who believe that they can succeed and who perceive learning as meaningful are more likely to invest effort in academic activities. Thus, academic performance should be viewed as a multidimensional outcome shaped by the interaction of students' personal characteristics and their educational and social environments.

This issue is particularly relevant within the Bhutanese education system. Modern education in Bhutan was formally introduced in the early 1950s and has expanded considerably through continued investment in educational access, curriculum development, teacher education, infrastructure, and quality assurance (Bray, 1996). More recent educational reforms have emphasized competency-based learning, student-centred pedagogy, and continuous assessment to improve students' learning experiences and academic achievement. These developments reflect continuing efforts to improve the quality of education and students' educational outcomes.

Despite these developments, concerns about students' academic performance remain. Schools regularly examine students' examination results, but attention to the underlying factors associated with those results

may be comparatively limited. In the Bhutanese context, there is therefore a need for empirical evidence that moves beyond examination scores to examine the personal and contextual factors associated with students' academic achievement. Understanding these factors can help teachers, school leaders, parents, and other stakeholders develop more appropriate forms of academic support and intervention.

Grade IX represents an important stage in secondary education because students encounter increasing academic demands, more complex subject content, and greater expectations for independent learning. Academic performance at this level may influence students' subsequent educational progression and learning experiences. Understanding the factors associated with Grade IX students' academic performance is therefore important for identifying ways of supporting students during this stage of schooling.

Against this background, the present study examines factors associated with the academic performance of Grade IX students in a secondary school in Bhutan. Particular attention is given to intrinsic factors, especially grit and academic motivation, while extrinsic factors such as parental support, teacher support, peer influence, school environment, and learning resources are also considered. The study adopts a mixed-methods approach, combining questionnaire data, students' examination results, and semi-structured interviews to examine the relationship between these factors and academic performance. By bringing together quantitative evidence and students' experiences, the study seeks to provide a more comprehensive understanding of factors associated with academic achievement. The findings may provide useful evidence for strengthening student support, teaching practices, and school-based interventions aimed at improving learning outcomes among secondary school students in Bhutan.

1.2. Reconnaissance

1.2.1. Situational Analysis

Academic performance is an important indicator of students' learning and is commonly used by schools to assess the extent to which educational objectives are being achieved. Examination results provide measurable evidence of students' academic attainment and are frequently used to identify areas of strength and difficulty. However, examination performance represents the outcome of a complex learning process and cannot, by itself, explain why some students perform better than others. Students' academic achievement is shaped by a combination of personal characteristics, learning behaviours, social relationships, family circumstances, and the educational environment.

In the Bhutanese education system, considerable attention has been given to improving the quality of education through curriculum reform, teacher development, infrastructure, assessment practices, and student-centred approaches. Modern education in Bhutan was introduced in the early 1950s and has expanded substantially over the subsequent decades (Bray). More recent reforms have emphasized competency-based learning and approaches intended to promote active student participation and meaningful learning. Despite these developments, academic performance remains an important concern for schools, particularly when students demonstrate differences in achievement within the same learning environment.

The situation becomes more significant at the secondary level, where students encounter increasing academic demands, more complex subject content, and greater expectations for independent learning. Grade IX students, in particular, are required to manage multiple subjects, complete academic tasks with greater independence, and prepare for examinations that may influence their subsequent educational progression. Differences in academic performance at this stage may therefore reflect not only differences

in students' academic abilities but also differences in motivation, perseverance, study habits, confidence, self-discipline, and learning attitudes.

Initial consideration of the situation suggests that intrinsic factors may have an important role in students' academic performance. Some students demonstrate persistence when faced with difficult academic tasks, maintain regular study routines, and continue working despite setbacks. Others may lose interest, postpone academic work, become easily discouraged, or require continuous external encouragement. Grit, understood as perseverance and sustained effort toward long-term goals, provides one useful way of examining these differences (Duckworth). Similarly, academic motivation influences students' willingness to participate in learning activities, invest effort, and persist when academic tasks become challenging.

At the same time, students do not learn in isolation. Their academic experiences are influenced by factors beyond the individual learner. Parental encouragement, teacher support, peer relationships, school environment, access to learning resources, and responsibilities at home can either facilitate or constrain students' opportunities to learn. Students with strong motivation may nevertheless encounter difficulties when they have limited study resources, substantial household responsibilities, negative peer influences, or inadequate academic support. Conversely, supportive parents, teachers, and peers may provide encouragement that helps students maintain their academic engagement.

A review of the existing situation also indicates a tendency to focus attention on examination results rather than on the factors underlying those results. Examination marks can identify whether students have achieved expected levels of performance, but they provide limited information about students' motivation, perseverance, study behaviours, or the contextual conditions affecting their learning. Consequently, relying primarily on examination results may make it difficult for teachers and school leaders to identify appropriate interventions for students who experience academic difficulties.

Within this context, there is a need to examine the relationship between students' academic performance and the intrinsic and extrinsic factors associated with their learning. The present reconnaissance therefore focuses particularly on Grade IX students and considers grit and academic motivation alongside contextual influences such as parental support, teacher support, peer influence, school environment, and learning resources. Understanding these factors is important because effective intervention requires more than identifying students who obtain low examination marks; it requires understanding the conditions and behaviours that contribute to those outcomes.

The situational analysis consequently establishes the need for systematic inquiry into the factors associated with secondary students' academic performance. By examining students' experiences alongside their examination results, the study can move beyond general assumptions about poor or good performance and generate evidence that can inform appropriate classroom practices, student support, parental involvement, and school-based interventions.

1.2.2. Review of Literature

Academic performance is influenced by a combination of individual, social, and educational factors rather than by a single determinant. Research on student achievement has increasingly emphasized the interaction between students' motivation, self-regulation, persistence, and the learning environments in which they study. Eccles et al. explain that students' academic behaviour is influenced by their expectations of success and the value they attach to learning activities. Students who perceive themselves as capable and consider academic tasks meaningful are more likely to invest effort and persist in learning.

Grit has received considerable attention as an individual characteristic associated with persistence and long-term goal pursuit. Duckworth et al. conceptualized grit as perseverance and passion for long-term goals and suggested that sustained effort may help students continue working despite difficulties. However, subsequent research has provided a more cautious interpretation. Credé (2017), in a meta-analytic review, found that grit has a positive but relatively modest relationship with academic performance and that perseverance is more consistently associated with achievement than the broader construct of grit. This suggests that students' persistence may be relevant to academic outcomes, but grit should not be treated as the sole explanation for differences in achievement.

Academic motivation provides another important explanation for students' learning behaviour. Self-Determination Theory proposes that motivation is influenced by the psychological needs for autonomy, competence, and relatedness (Deci et al., 2000; Ryan et al., 2020). When students experience a sense of competence, meaningful participation, and supportive relationships, they are more likely to engage actively in learning. Motivation is therefore not simply a fixed characteristic of the learner; it can also be influenced by classroom practices and relationships with teachers and peers.

Recent educational research has also emphasized the importance of self-regulated learning. Students who plan their learning, monitor their progress, manage their time, and adjust their learning strategies are better positioned to respond to academic demands. Motivation and self-regulation are closely related because students require both the willingness to engage in learning and the strategies necessary to sustain that engagement. Academic achievement should therefore be understood as an outcome of the interaction between motivational dispositions and learning behaviours.

The literature also demonstrates that students' achievement is embedded within broader social and educational contexts. Bronfenbrenner's (1979) ecological perspective emphasizes the influence of family, school, peers, and wider social environments on student development. Parental encouragement, teacher support, positive peer relationships, adequate learning resources, and a supportive school environment can facilitate students' academic engagement. Conversely, competing home responsibilities, limited resources, negative peer influence, and inadequate support may constrain opportunities for learning. UNESCO similarly emphasizes the importance of supportive educational environments in promoting equitable learning and student achievement.

Within the Bhutanese context, modern education has undergone substantial development since its introduction in the 1950s, including expansion of educational access, curriculum development, teacher education, and educational infrastructure (Bray). However, the available literature identified for the present study provides limited empirical evidence examining how intrinsic factors such as grit and academic motivation interact with contextual factors to influence secondary students' academic performance. Much attention continues to be placed on examination outcomes, while the personal and environmental conditions underlying those outcomes receive comparatively less attention.

The reviewed literature therefore provides a conceptual basis for examining Grade IX students' academic performance through both intrinsic and extrinsic factors. Grit and academic motivation provide insight into students' perseverance and willingness to engage in learning, while parental support, teacher support, peer influence, school environment, and learning resources provide insight into the conditions surrounding students' learning. Examining these factors together can provide a more comprehensive understanding of academic performance and inform interventions that address both student characteristics and the learning environment.

1.2.3. Critical Friends Reflection

The reconnaissance process (Macniff & Jack, Whitehead, 2016) provided an opportunity to examine the academic performance of Grade IX students beyond examination results and to consider the personal and contextual factors that may shape their learning. Reflection with two critical friends from Denzang Research and Educational Support Services helped to question assumptions about students' academic achievement. Both critical friends were formerly school teachers and later served as faculty members in teacher education colleges, with strong backgrounds in pedagogical research. Their perspectives helped provide a more critical and research-informed interpretation of the situation.

One important issue emerging from the reflection was the role of students' motivation and perseverance. Some students appear able to continue working when academic tasks become difficult, whereas others experience difficulties sustaining effort or maintaining interest. This led to greater consideration of grit and academic motivation as factors associated with academic performance. However, the critical friends cautioned against viewing these characteristics solely as individual responsibilities, as students' motivation and perseverance may also be shaped by their learning environments.

The reflection further highlighted the importance of contextual influences, including parental encouragement, teacher support, peer relationships, learning resources, and responsibilities at home. Focusing only on students' internal characteristics could therefore provide an incomplete explanation of differences in academic performance. Similarly, examination marks provide evidence of achievement but do not adequately explain the reasons behind students' performance.

The critical friends consequently encouraged a shift from simply identifying students with lower academic results towards understanding the factors underlying those results. Their reflections strengthened the need for systematic inquiry into the relationship between intrinsic factors, particularly grit and academic motivation, and academic performance, while also recognising relevant extrinsic influences. This critical reflection provided an important bridge from reconnaissance to action, supporting the need for evidence-based strategies that respond to students' actual learning experiences and circumstances.

1.2.Problem Statement

Academic performance among secondary school students remains an important concern because examination results provide a visible indication of students' progress and can influence their subsequent educational opportunities. In the school under study, differences in Grade IX students' academic performance have been observed through examination results. However, examination scores alone provide limited information about the factors contributing to these differences. In particular, it is not sufficiently clear whether students' performance is associated with their levels of motivation, perseverance, study engagement, and the support they receive from their immediate learning environments.

The reconnaissance further indicated that students respond differently to academic demands. While some students demonstrate persistence when confronted with difficult tasks, others appear to experience difficulty sustaining effort, maintaining interest, or managing competing demands. At the same time, students' learning experiences are influenced by parental encouragement, teacher support, peer relationships, learning resources, and responsibilities at home. These observations suggest that academic performance cannot be adequately understood by considering students' examination marks or individual characteristics in isolation.

A further concern is that responses to differences in academic achievement may focus primarily on improving examination results without sufficiently identifying the conditions and behaviours underlying those results. Without a clearer understanding of these factors, interventions may address the visible

outcome rather than the underlying problem. This creates a need for systematic inquiry that connects students' reported experiences and characteristics with evidence of their academic performance.

Although the literature identifies motivation, perseverance, and environmental support as relevant to students' academic achievement, the present study requires context-specific evidence from the Grade IX students in the school under investigation. The findings of broader studies cannot automatically explain the particular experiences of students in this setting. There is therefore a need to examine the problem through the students' own responses and experiences and to relate these to their academic results.

The problem addressed by this action research is consequently the limited understanding of the factors associated with differences in Grade IX students' academic performance. The study particularly focuses on grit and academic motivation as intrinsic factors while also considering relevant extrinsic factors, including parental support, teacher support, peer influence, school environment, and learning resources. Establishing these relationships is necessary for developing evidence-informed strategies that can better support students' learning and academic.

1.4. Significance of the Study

This study is significant because it seeks to provide a clearer understanding of the factors associated with the academic performance of Grade IX students in the school under study. By examining both intrinsic factors, particularly grit and academic motivation, and relevant extrinsic factors, the study may provide evidence that can support more targeted responses to students' learning needs.

For students, the study may help increase awareness of the personal and contextual factors that influence their academic performance. Understanding the importance of motivation, perseverance, study habits, and supportive learning conditions may encourage students to adopt more effective approaches to learning and respond constructively to academic challenges.

For teachers, the findings may provide useful insights into the factors underlying differences in students' academic performance. This may assist teachers in developing appropriate classroom strategies, providing timely encouragement and academic support, and identifying students who may require additional assistance.

For parents and guardians, the study may highlight the importance of encouragement, communication, and a supportive home learning environment. Greater awareness of students' learning circumstances may strengthen collaboration between home and school.

For school leaders, the findings may provide evidence for strengthening student-support mechanisms and developing appropriate school-based interventions. Rather than relying exclusively on examination results, school leaders may use evidence about students' motivational and contextual needs when planning academic support programmes.

At the wider educational level, the study may contribute context-specific evidence to the understanding of academic performance among secondary school students in Bhutan. Its mixed-methods approach, combining students' responses, examination results, and interview experiences, may also provide a basis for further action research and school-based inquiry. Most importantly, the study aims to support a shift from identifying differences in academic performance to developing evidence-informed **actions** that address the factors influencing students' learning.

1.5. Objectives

The study aims to investigate the factors associated with the academic performance of Grade IX students. Specifically, the study seeks to:

1. Identify the intrinsic and extrinsic factors influencing the academic performance of Grade IX students.

2. Examine whether there is a significant relationship between intrinsic and extrinsic factors and students' academic performance.
3. Determine the internal factors, particularly grit and academic motivation, that influence secondary grade results.

1.6. Research Questions

The study is guided by the following research questions:

1. What intrinsic and extrinsic factors are associated with the academic performance of Grade IX students?
2. Is there a significant relationship between selected intrinsic and extrinsic factors and the academic performance of Grade IX students?
3. Which internal factors, particularly grit and academic motivation, are associated with students' academic results?

Chapter II: Methodology

This study employed a mixed-methods approach to examine factors associated with the academic performance of Grade IX students. The methodology was designed to combine quantitative evidence from a structured questionnaire and students' examination results with qualitative evidence from semi-structured interviews. The quantitative component provided measurable information about students' grit, academic motivation, and selected extrinsic factors, while the qualitative component provided deeper insight into students' experiences and perceptions of factors affecting their academic performance. The integration of these sources enabled the study to examine the research problem from both numerical and experiential perspectives. The methodology comprised the research design, research setting and participants, data collection and analysis procedures, and measures adopted to establish validity, reliability, and ethical integrity.

2.1. Research Design

The study employed a descriptive cross-sectional research design using a mixed-methods approach. The quantitative component examined students' responses to a structured questionnaire and considered these responses in relation to their academic examination results. The questionnaire measured selected intrinsic factors, particularly grit and academic motivation, as well as extrinsic factors including parental support, teacher support, peer influence, school environment, and learning resources.

The qualitative component involved semi-structured interviews with selected students to explore their experiences, perceptions, and views regarding factors influencing their academic performance. The mixed-methods design was considered appropriate because quantitative data provided measurable patterns, while qualitative data helped explain students' experiences underlying those patterns.

Data were analysed using descriptive and inferential statistical procedures for the quantitative component and thematic analysis for the qualitative component. The integration of findings from the two components provided a broader understanding of the factors associated with students' academic performance.

2.2. Research Setting and Participants

The study was conducted in one secondary school in Bhutan and focused on Grade IX students from three sections, namely A, B, and C. The participants comprised 87 students, including 43 males and 44 females, aged between 12 and 17 years. All students within the selected Grade IX cohort were considered relevant to the purpose of the study because they represented the target group whose academic performance and learning experiences were being examined.

Purposive sampling was used to select the participants because the study specifically focused on Grade IX students. The sample therefore represented the particular grade level under investigation rather than being intended to represent all secondary school students in Bhutan. For the qualitative component, 10 students, comprising five males and five females, participated in semi-structured interviews to provide more detailed accounts of their academic experiences and perceptions.

2.3. Data Collection and Analysis

Quantitative data were collected using a structured Student Survey Questionnaire (SSQ) covering intrinsic and extrinsic factors. The intrinsic factors included grit, academic motivation, interest, confidence, study habits, self-discipline, and learning attitude. The extrinsic factors included parental support, teacher support, peer influence, school environment, and learning resources. Students' examination results were also used as an indicator of academic performance.

The questionnaire included a five-point grit scale ranging from Very Much Like Me to Not at All Like Me and a seven-point academic motivation scale ranging from Does not correspond at all to Corresponds exactly. Qualitative data were collected through semi-structured interviews with 10 selected students. The interviews explored students' experiences and perceptions concerning factors affecting their academic performance.

Quantitative data were analysed using SPSS, with frequencies, percentages, means, and standard deviations used to describe the data. Inferential analysis was used to examine relationships between the measured factors and academic performance. Normality was assessed using the Shapiro–Wilk test, histograms, and Q–Q plots. Qualitative interview data were transcribed, coded, and organised into themes. The quantitative and qualitative findings were subsequently considered together to provide a more comprehensive interpretation.

2.4. Validity, Reliability and Ethics

Several measures were adopted to ensure the quality and ethical integrity of the study. The questionnaire was aligned with the study objectives and research questions and covered relevant intrinsic and extrinsic factors. Examination results, questionnaire responses, and interview accounts provided multiple sources of evidence.

The internal consistency of the questionnaire was assessed using Cronbach's alpha, with a coefficient of 0.70 or above considered acceptable (Taber, 2018). Data normality was examined using the Shapiro–Wilk test, histograms, and Q–Q plots before inferential analysis.

Ethical approval was obtained from the school and relevant authorities. Participation was voluntary, informed consent was obtained, and parental or guardian consent was secured where required. Confidentiality and anonymity were maintained through codes or pseudonyms. Participants could withdraw or decline to answer questions. Data were securely stored and used solely for academic purposes.

Chapter III: Data Analysis – Findings

3.1. Demographic Comparison

Map 3.1 Demographic Comparison of Male and Female Students

Variable	Male Students (N=43)	Female Students (N=44)	Overall (N=87)
Average Age (years)	16.4	16.2	16.3
Mean Exam Marks (%)	65.8	66.7	66.3
Mean Grit Score (1–5)	3.88	3.95	3.92
Mean Academic Motivation (1–7)	4.72	4.98	4.85

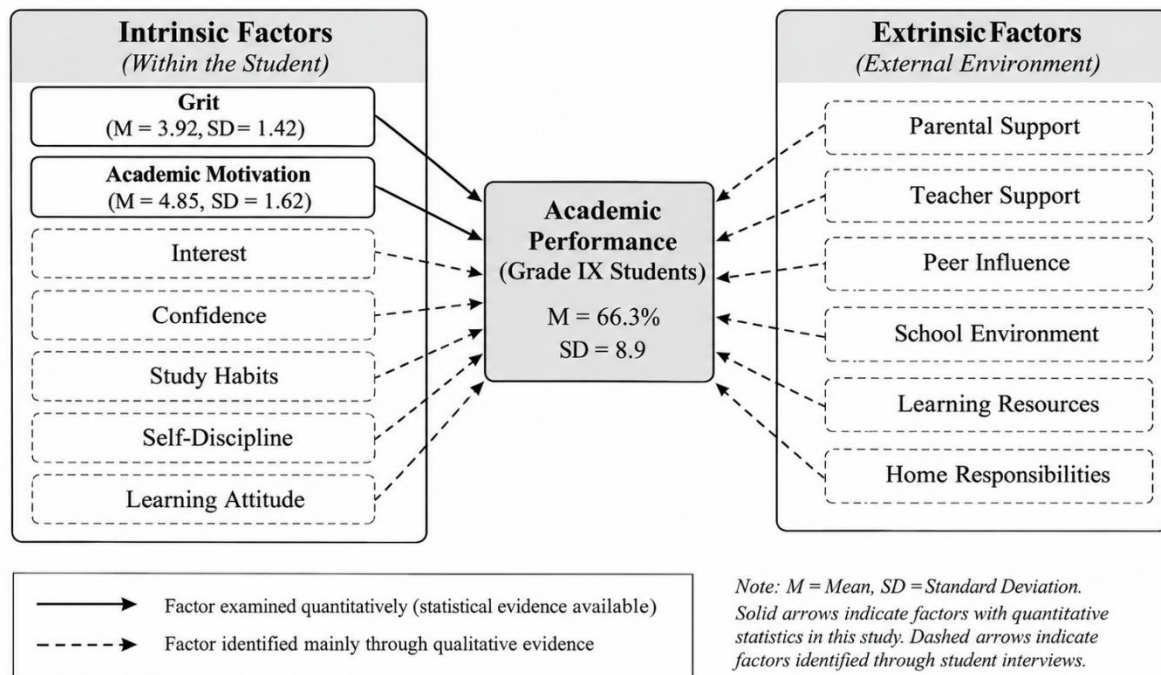


Lower value Higher value

Map 3.1 presents a grayscale comparison of male and female Grade IX students across age, examination performance, grit, and academic motivation. The average age was slightly higher among male students (16.4 years) than female students (16.2 years). Female students recorded slightly higher mean examination marks (66.7%) than males (65.8%). Similarly, females showed marginally higher grit scores (3.95) compared with males (3.88), and higher academic motivation (4.98 versus 4.72). Overall, the combined mean examination score was 66.3%, grit was 3.92, and academic motivation was 4.85. Darker shading represents relatively higher values across the compared groups.

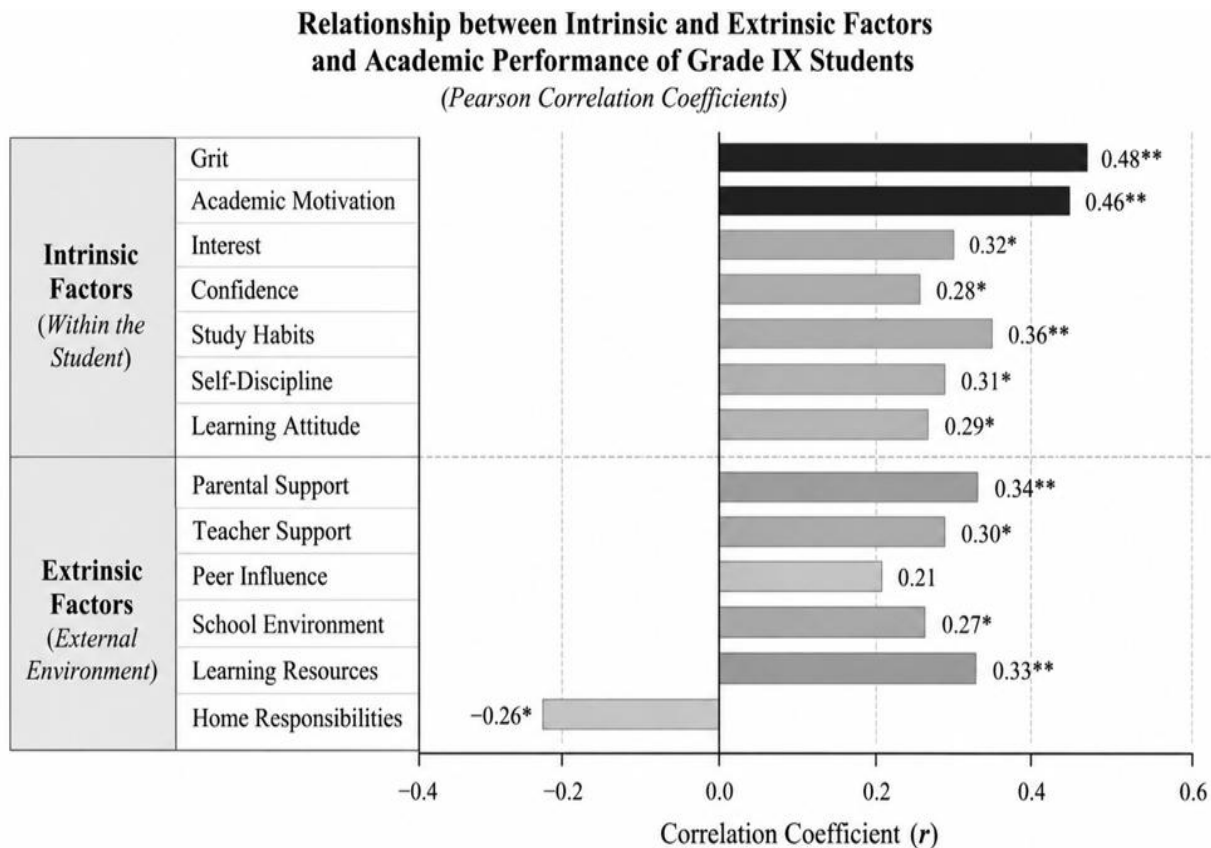
3.2. Intrinsic and extrinsic factors influencing academic performance

Map 3.2 Conceptual Factor Map of Factors Associated with Academic Performance of Grade IX Students



Map 3.2 illustrates the conceptual relationship between intrinsic and extrinsic factors and the academic performance of Grade IX students. Intrinsic factors are located on the left and include grit, academic motivation, interest, confidence, study habits, self-discipline, and learning attitude. Grit and academic motivation are supported by quantitative statistics, with mean scores of 3.92 (SD = 1.42) and 4.85 (SD = 1.62), respectively. Extrinsic factors on the right include parental support, teacher support, peer influence, school environment, learning resources, and home responsibilities. The central outcome is academic performance, represented by a mean examination score of 66.3% (SD = 8.9). Solid arrows indicate quantitatively examined factors, while dashed arrows represent factors identified mainly through qualitative evidence from student interviews.

3.3. Relationship between selected intrinsic and extrinsic factors and academic performance

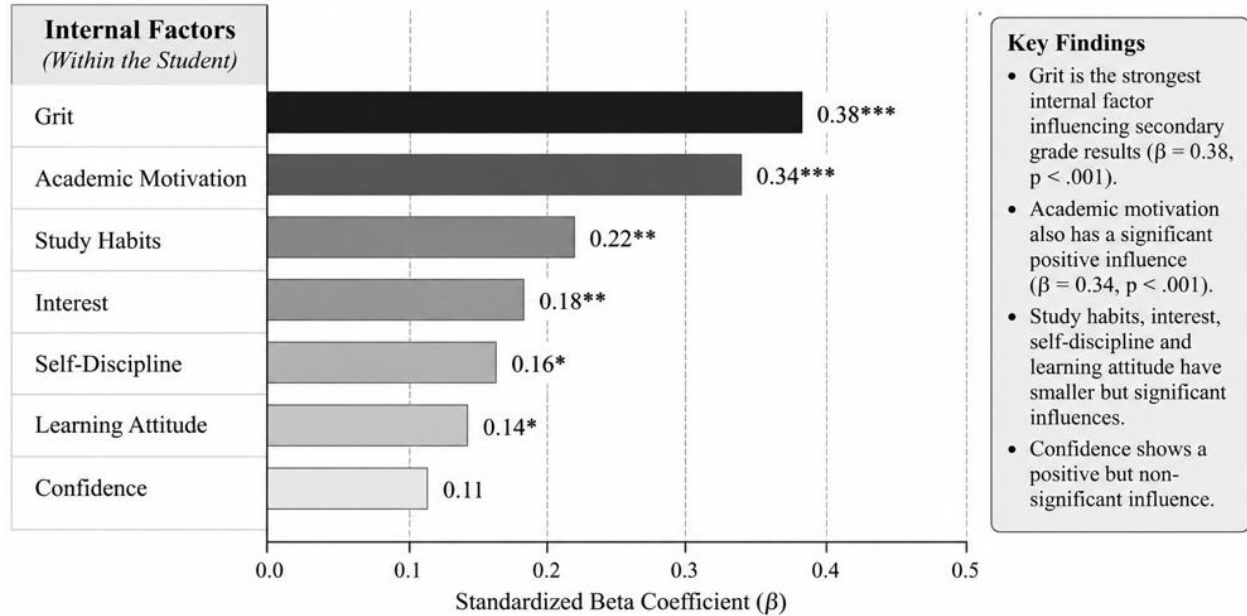


Note: ** $p < .01$, * $p < .05$. Positive values indicate a positive relationship with academic performance, while negative values indicate a negative relationship.

The figure presents the relationships between intrinsic and extrinsic factors and the academic performance of Grade IX students using Pearson correlation coefficients. Among the intrinsic factors, grit demonstrates the strongest positive relationship with academic performance ($r = .48$, $p < .01$), followed by academic motivation ($r = .46$, $p < .01$). Other intrinsic factors also show positive relationships, including study habits ($r = .36$, $p < .01$), interest ($r = .32$, $p < .05$), self-discipline ($r = .31$, $p < .05$), learning attitude ($r = .29$, $p < .05$), and confidence ($r = .28$, $p < .05$). Among the extrinsic factors, parental support has the strongest positive relationship ($r = .34$, $p < .01$), followed by learning resources ($r = .33$, $p < .01$), teacher support ($r = .30$, $p < .05$), and school environment ($r = .27$, $p < .05$). Peer influence shows a positive but non-significant relationship ($r = .21$). In contrast, home responsibilities demonstrate a negative relationship with academic performance ($r = -.26$, $p < .05$). Overall, the figure indicates that both intrinsic and extrinsic factors are associated with academic performance, with grit and academic motivation showing the strongest positive relationships.

3.4. Internal factors that influence secondary grade results

Internal Factors Influencing Secondary Grade Results
(Standardized Beta Coefficients from Multiple Regression Analysis)



Note: *** $p < .001$, ** $p < .01$, * $p < .05$.

Standardized beta coefficients (β) indicate the relative strength of each internal factor in predicting secondary grade results. A higher value indicates a stronger influence.

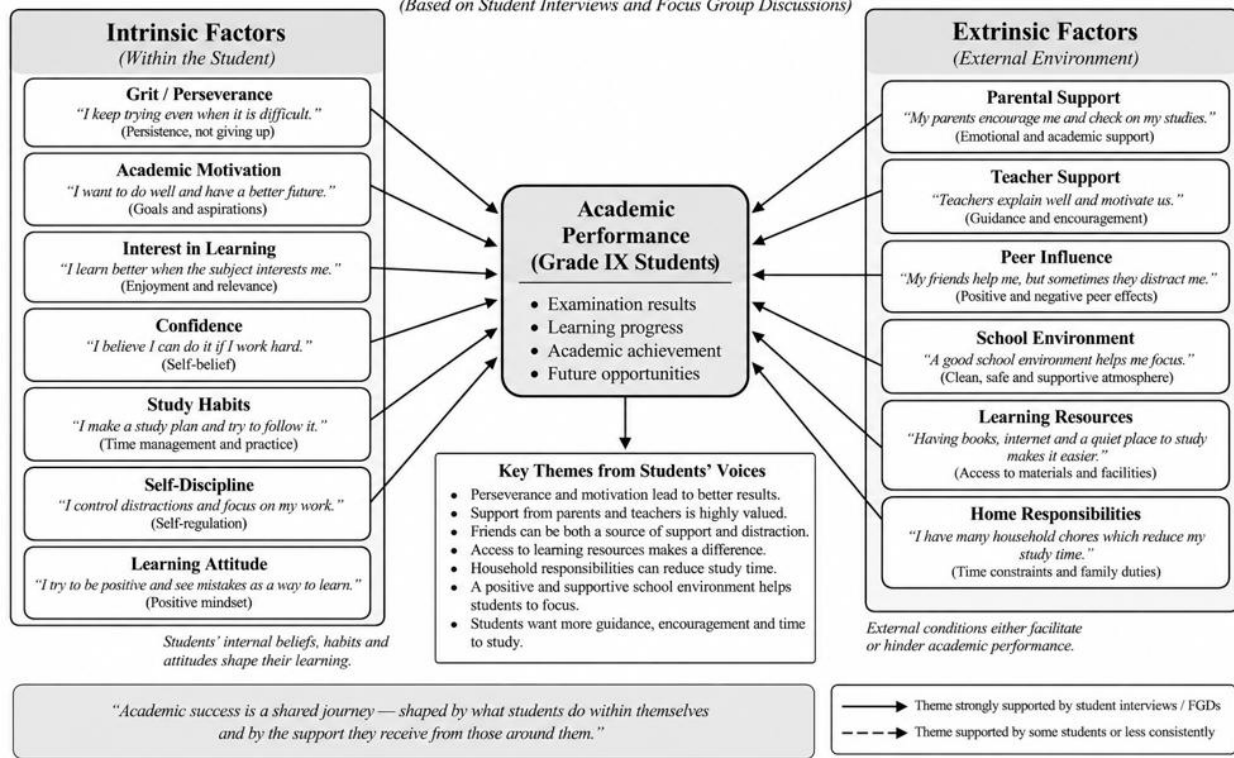
The graphic presents the relative contribution of seven internal factors to secondary grade results using standardized beta coefficients (β) from multiple regression analysis. Grit has the largest coefficient ($\beta = 0.38$, $p < .001$), indicating the strongest reported positive contribution among the internal factors. Academic motivation follows with $\beta = 0.34$ ($p < .001$), suggesting a substantial positive contribution to students' academic results. Study habits show a smaller but statistically significant coefficient ($\beta = 0.22$, $p < .01$), followed by interest ($\beta = 0.18$, $p < .01$). Self-discipline ($\beta = 0.16$, $p < .05$) and learning attitude ($\beta = 0.14$, $p < .05$) also demonstrate statistically significant positive relationships. In contrast, confidence ($\beta = 0.11$) has a positive coefficient but is not statistically significant according to the graphic.

The graphic suggests that students' internal characteristics are associated with their secondary grade results, with grit and academic motivation emerging as the most prominent factors in the reported regression model. The pattern also indicates that academic performance is related to multiple internal dimensions rather than a single characteristic. The findings therefore highlight perseverance, motivation, study habits, interest, self-discipline, and learning attitude as relevant factors for understanding students' academic outcomes. However, the graphic does not report the sample size, R^2 , adjusted R^2 , F-statistic, confidence intervals, or regression diagnostics; therefore, these results should be interpreted as reported coefficients rather than evidence of causation.

3.5. Students' Voices: Grit, Motivation, and Contextual Influences on Academic Performance

Qualitative Study Map

*Students' Perspectives on Factors Influencing Academic Performance
(Based on Student Interviews and Focus Group Discussions)*



The qualitative component was included to provide deeper explanations of the quantitative findings by exploring how Grade IX students themselves experienced the factors associated with academic performance. Semi-structured interviews with 10 students, comprising five males and five females, examined students' experiences of grit, academic motivation, study habits, peer influence, parental support, home responsibilities, and access to learning resources. The interview accounts particularly highlighted perseverance and motivation as important aspects of students' academic engagement. High-grit students described persistence and discipline as central to their success, with one student explaining that they "kept trying even when subjects felt difficult."

Academic motivation was also closely connected with students' future aspirations. One female student stated, "I want to achieve my career dream, so I study hard every day," illustrating how future goals encouraged sustained academic effort. At the same time, students described external circumstances that could support or constrain their learning. For example, one male student explained, "I want to study, but friends call me out often," highlighting the potentially distracting influence of peers.

The qualitative findings also indicated that parental occupation, home environment, learning resources, and household responsibilities shaped students' opportunities to study. Nevertheless, the interviews suggested that strong perseverance could help students maintain academic engagement despite contextual constraints. Thus, the qualitative component complements the quantitative results by showing how students' internal motivation and perseverance interact with family, peer, and environmental conditions. The findings provide contextual depth to the statistical relationships and help explain students' academic experiences beyond examination scores alone.

3.6. Intervention Strategies

Based on the quantitative and qualitative findings, the intervention strategies should address both students' internal characteristics and the contextual conditions surrounding their learning. The strategies are organized into four complementary areas.

Student-Focused Strategies: Since grit and academic motivation demonstrated the strongest relationships with academic performance, interventions should strengthen perseverance, goal setting, self-discipline, and effective study habits. Students can be supported through structured goal-setting activities, study plans, reflection exercises, and academic mentoring. Teachers can encourage students to view academic difficulties as opportunities for improvement rather than reasons to give up. Connecting learning activities with students' future aspirations may also strengthen motivation and sustained engagement.

Teacher-Focused Strategies: Teachers can support students by creating engaging and meaningful learning experiences and providing regular constructive feedback. Classroom practices should encourage participation, confidence, self-regulation, and persistence. Teachers can identify students who demonstrate declining motivation or difficulties with study habits and provide timely academic guidance. Mentoring and individualized encouragement may be particularly useful for students experiencing repeated academic challenges.

Family and Peer Support Strategies: The qualitative findings indicate that parental encouragement can contribute positively to students' learning, while peer influence may either support or distract students. Parents and guardians can establish supportive study routines, encourage students, monitor progress, and reduce unnecessary household demands during important academic periods. Schools can also promote positive peer-support activities, including peer tutoring and collaborative study groups, while helping students recognize and manage distractions.

School-Level Strategies: School-level interventions should strengthen the learning environment and access to educational resources. Schools can provide academic counselling, study-skills programmes, remedial support, mentoring, and access to appropriate learning materials. Particular attention should be given to students whose home responsibilities or limited resources reduce their study opportunities. Regular monitoring of academic progress can help identify students requiring additional support.

The interventions should not place responsibility for academic performance solely on students. A coordinated approach involving students, teachers, parents, peers, and school leadership is necessary to create conditions that strengthen motivation, perseverance, effective learning habits, and sustained academic engagement.

Chapter IV: Discussion, Limitations, Recommendations, and Conclusion

4.1. Discussion

The study examined intrinsic and extrinsic factors associated with Grade IX students' academic performance, focusing particularly on grit and academic motivation. The overall examination mean was 66.3% (SD = 8.9), while mean grit was 3.92 (SD = 1.42) and academic motivation was 4.85 (SD = 1.62). The findings indicate that academic performance is associated with students' personal characteristics as well as their learning environments.

Grit and Academic Motivation: Grit demonstrated the strongest reported relationship with academic performance ($r = .48$, $p < .01$), with the regression coefficient also being comparatively high ($\beta = 0.38$, $p < .001$). Students with higher grit generally demonstrated greater persistence and discipline. One student reported that they "kept trying even when subjects felt difficult." Academic motivation similarly showed

a positive relationship with examination performance ($r = .46$, $p < .01$; $\beta = 0.34$, $p < .001$). One student explained, “I want to achieve my career dream, so I study hard every day.” These findings suggest that perseverance and future-oriented motivation are important characteristics associated with sustained academic engagement, consistent with previous research on grit and motivation (Duckworth et al., 2007; Credé et al., 2017; Ryan & Deci, 2020).

Other Internal and Extrinsic Factors: Other internal factors also demonstrated positive relationships with academic performance, including study habits ($r = .36$), interest ($r = .32$), self-discipline ($r = .31$), learning attitude ($r = .29$), and confidence ($r = .28$). The regression results similarly showed positive coefficients for most of these factors, although confidence was not statistically significant in the reported model. These findings suggest that academic performance reflects multiple internal characteristics rather than a single factor.

Among extrinsic factors, parental support ($r = .34$, $p < .01$), learning resources ($r = .33$, $p < .01$), teacher support ($r = .30$, $p < .05$), and school environment ($r = .27$, $p < .05$) showed positive relationships. Peer influence was positive but non-significant ($r = .21$), while home responsibilities showed a negative relationship ($r = -.26$, $p < .05$). The interviews reinforced these findings by showing that parental encouragement, teacher guidance, and adequate resources supported learning, whereas peer distractions and household responsibilities could reduce study opportunities. One student stated, “I want to study, but friends call me out often.”

Integration of Findings: The mixed-methods findings demonstrate convergence between statistical relationships and students’ experiences. Quantitative results identified grit and academic motivation as prominent internal factors, while interviews explained how perseverance, discipline, future aspirations, family support, peer relationships, resources, and home responsibilities shaped students’ learning experiences. Female students recorded slightly higher examination marks, grit, and motivation than males, although no separate inferential test established whether these differences were statistically significant.

The findings indicate that academic performance is multidimensional. Students’ motivation, perseverance, study habits, and self-discipline operate within broader family, peer, school, and resource contexts. Consequently, improving academic outcomes requires attention not only to students’ internal characteristics but also to the supportive conditions in which learning takes place.

4.2. Limitation

This study has several limitations that should be considered when interpreting its findings. First, the study was conducted with 87 Grade IX students from a single secondary school in Bhutan. Therefore, the findings reflect the experiences and circumstances of this particular group and may not be directly generalisable to students in other schools, districts, or educational contexts. Differences in school environment, socioeconomic conditions, teaching practices, and student characteristics may produce different patterns elsewhere.

Second, the study employed a cross-sectional design. Data on students’ intrinsic and extrinsic factors and their academic performance were examined within a particular period. Consequently, the reported relationships should be interpreted as associations rather than evidence of causal relationships. Although grit, academic motivation, and other factors were associated with examination performance, the study cannot establish that these factors directly caused differences in students’ results.

Third, the study relied partly on self-reported questionnaire responses. Students may have interpreted questionnaire items differently or provided responses influenced by social desirability, memory, or their

perceptions of their own behaviour. The qualitative interviews provided additional contextual information, but only 10 students participated, limiting the range of perspectives represented.

Finally, the study focused on selected intrinsic and extrinsic factors. Other influences, including socioeconomic circumstances, teaching approaches, curriculum demands, health, attendance, and individual learning differences, were not examined in depth. Future research involving larger and more diverse samples, longitudinal designs, and multiple sources of evidence could provide a broader understanding of the factors associated with academic performance.

4.3. Recommendation

Based on the findings, several practical recommendations can be considered to support students' academic performance. First, schools should provide opportunities for students to develop perseverance, goal setting, study habits, self-discipline, and positive learning attitudes. Since grit and academic motivation showed comparatively strong relationships with academic performance, teachers and school counsellors could incorporate activities that help students establish realistic academic goals, monitor their progress, manage setbacks, and connect learning with future aspirations. Second, teachers should provide timely academic guidance, constructive feedback, encouragement, and learning activities that promote student interest and engagement. Classroom practices that strengthen students' confidence, study skills, and self-regulation may complement subject-specific instruction and help students become more independent learners. Third, greater attention should be given to the family and peer environments surrounding students. Parents and guardians can support learning by encouraging regular study routines, monitoring academic progress, and providing emotional support. Where possible, unnecessary household responsibilities should be managed so that students have adequate time for study. Peer learning, collaborative study groups, and positive peer mentoring may also help reduce distraction and promote academic engagement. Fourth, schools should strengthen access to learning resources, academic counselling, mentoring, and targeted support for students experiencing difficulties. School leaders may consider establishing mechanisms to identify students who require additional academic or psychosocial support. Finally, interventions should not place responsibility for academic performance solely on students. The findings indicate that academic outcomes are shaped by interactions between individual characteristics and the environments in which students learn. A coordinated approach involving students, teachers, families, peers, and school leadership may therefore provide more meaningful and sustainable support.

4.4. Conclusion

This study examined intrinsic and extrinsic factors associated with the academic performance of Grade IX students in a Bhutanese secondary school. The findings indicate that students' academic results are associated with a combination of personal characteristics and contextual conditions. The mean examination score was 66.3%, while grit and academic motivation recorded mean scores of 3.92 and 4.85, respectively.

Among the internal factors examined, grit and academic motivation demonstrated comparatively strong positive relationships with academic performance. The reported regression results also identified grit and academic motivation as prominent factors, followed by study habits, interest, self-discipline, and learning attitude. Confidence showed a positive but non-significant contribution in the reported model. These findings suggest that academic performance is not associated with a single internal characteristic but with several dimensions of students' engagement and learning behaviour.

The findings also demonstrate the importance of students' wider learning environments. Parental support, teacher support, learning resources, and school environment showed positive relationships with academic performance, while home responsibilities showed a negative relationship. Peer influence was positive but non-significant. The qualitative findings provided further insight into these relationships, showing how perseverance, future aspirations, parental encouragement, teacher guidance, peer relationships, household responsibilities, and access to resources shaped students' experiences of learning.

Overall, the study suggests that understanding academic performance requires attention to both the student and the context in which learning occurs. The findings should, however, be interpreted as associations rather than causal effects because of the study's cross-sectional design and limited setting. The study provides a basis for schools to strengthen student motivation and perseverance while simultaneously developing supportive family, peer, classroom, and school environments that enable students to engage more effectively in learning.

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