

Exploring the impact of financial exclusion on student performance and retention: A cross-sectional study at Mangosuthu university of technology (MUT).

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Abstract

Background

Financial exclusion remains a critical barrier to student success in South African higher education, where socio-economic inequalities continue to affect access and retention. At Mangosuthu University of Technology (MUT), many students face financial hardship that limits access to essential academic resources such as textbooks, accommodation, transportation, and food. These constraints can negatively impact academic performance and increase the risk of dropout. This study explores the impact of financial exclusion on student performance and retention at MUT.

Methods

A cross-sectional study using a structured survey was conducted with 220 undergraduate students, selected through stratified random sampling to ensure representation across faculties, years of study, gender, and funding status. The survey measured financial access, self-reported GPA, attendance rates, and retention intentions. Descriptive statistics and Pearson correlation analysis were used to examine the relationship between financial hardship and academic outcomes.

Results

A total of 198 students responded (90% response rate). Of these, 61% received full financial support via NSFAS, 24% were self-funded, and 15% had partial support. Among financially excluded students (self-funded or partially supported), 68% reported frequent class absenteeism due to unmet basic needs, while 43% were uncertain about completing the academic year. A statistically significant negative correlation ($r = -0.51$, $p < 0.01$) was found between financial stress and academic performance, indicating that higher financial hardship is linked to lower academic outcomes.

Conclusion

Financial exclusion significantly affects academic engagement, performance, and retention among MUT students, particularly those lacking consistent financial support.

Recommendation

MUT should enhance its financial aid structures, introduce emergency relief funding, and strengthen coordination with external funders. Implementing early identification systems for financially at-risk students, combined with academic support interventions, could improve both performance and retention rates.

Keywords: Financial exclusion, Student performance, Academic retention, Higher education Funding support, Mangosuthu University of Technology (MUT), NSFAS, Student dropout Socio-economic inequality, Academic Access

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Introduction

of public funding through schemes such as NSFAS has improved tuition coverage for many students, broader

Higher education in South Africa is increasingly accessible to students from disadvantaged backgrounds, yet financial exclusion remains a significant barrier to academic success and completion. While the expansion financial needs such as housing, food, transport, and study materials often go unmet. These limitations may result in absenteeism, academic underperformance, and

increased risk of dropout, especially in institutions that serve under-resourced communities. At Mangosuthu University of Technology (MUT), financial pressure is a common feature of the student experience. Despite available funding mechanisms, the gap between tuition support and actual living and learning costs continues to jeopardize student persistence. This study seeks to explore the impact of financial exclusion on students' academic performance and their ability to remain enrolled and complete their qualifications.

Background Information

South Africa's history of social and economic inequality continues to manifest in higher education, particularly among students who are the first in their families to attend university. While financial aid programs like NSFAS have expanded access, they do not always address the full cost of student participation. Recent reports and institutional reviews suggest that many students who qualify for higher education face difficulties sustaining their academic journey due to financial hardship. At MUT, students often cite financial stress as a reason for absenteeism, poor academic results, and emotional strain. Those without consistent funding are more likely to experience food insecurity, struggle with transport, and live in unstable housing, all factors that negatively affect their academic engagement and retention. However, little empirical research has been conducted to investigate the full impact of financial exclusion on student performance at MUT, highlighting the need for this study.

Research Objectives

The primary objective of this study is to investigate the impact of financial exclusion on student academic performance and retention at Mangosuthu University of Technology. Specific objectives include:

1. To determine the extent of financial exclusion among undergraduate students at MUT.
2. To examine the relationship between financial exclusion and academic performance.
3. To assess the correlation between financial hardship and students' retention intentions.
4. To identify key financial challenges faced by students.
5. To provide recommendations for institutional strategies to support financially excluded students.

Research Questions

1. To what extent does financial exclusion beyond tuition affect academic performance and retention among undergraduate students at MUT?
2. What specific financial challenges most significantly impact students' academic engagement, and what institutional interventions can improve retention for financially excluded students?

Methodology

Research Design

This study adopted a cross-sectional quantitative survey design to investigate the impact of financial exclusion on student academic performance and retention at Mangosuthu University of Technology (MUT). The design was suitable for capturing data at a single point in time and identifying associations between financial status and academic outcomes. A structured, self-administered questionnaire was used to collect data. The study was conducted over a three-week period from 15 February to 7 March 2025.

Study Setting

The study was conducted at Mangosuthu University of Technology (MUT), a public higher education institution located in Umlazi Township, Durban, KwaZulu-Natal, South Africa. MUT serves a predominantly economically disadvantaged student population and comprises five academic faculties: Engineering, Management Sciences, Natural Sciences, Education, and Information and Communication Technology.

Participants

The target population included all registered undergraduate students across the five faculties at MUT. Inclusion criteria: students had to be currently enrolled in a full-time undergraduate program and aged 18 years or older. Exclusion criteria: part-time students, postgraduate students, and those not willing to provide consent were excluded from the study.

Sample Size Determination

A sample size of 200 students was selected using stratified random sampling, ensuring balanced representation across faculties, gender, funding status

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(NSFAS-funded, self-funded, or partially funded), and year of study. The sample size was determined based on statistical guidelines for survey research with a 95% confidence level and 5% margin of error, suitable for the undergraduate population at MUT.

- Stratified random sampling ensured demographic and academic diversity across the sample.
- The use of both online and in-person survey formats helped avoid selection bias related to internet access.
- A pilot test of the questionnaire was conducted with 10 students to refine question clarity and response consistency.
- Researchers maintained neutrality in survey administration and clarified items only, when necessary, to avoid influencing responses.
- Anonymity and confidentiality were emphasized to reduce social desirability bias.

Page | 3 **Data Collection Procedure**

Data were collected using a structured questionnaire distributed in both online (Google Forms) and paper-based formats to accommodate students with limited internet access. The instrument included closed-ended items (multiple choice and Likert scales) assessing financial background, class attendance, academic engagement, self-reported GPA, and retention intentions. Open-ended questions were included to gather qualitative insights into financial challenges. Surveys were administered in classrooms, computer labs, and via faculty mailing lists. Participation was voluntary, and students were informed that they could withdraw at any time.

Data Analysis

Quantitative data were entered into IBM SPSS version 27 for analysis. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize student demographics, financial status, and academic performance. Inferential statistics, including Pearson correlation and linear regression, were used to examine the relationship between financial exclusion and academic outcomes. Cross-tabulations were applied to explore subgroup differences, such as commuting vs. residential students and year-of-study variations. Missing data were minimal and addressed through follow-up queries and case-wise deletion where appropriate.

Bias Mitigation

Several strategies were implemented to minimize potential sources of bias:

Ethical Considerations

Ethical approval was obtained from the Mangosuthu University of Technology Research Ethics Committee. All participants were provided with an information sheet outlining the study's purpose, procedures, and rights. Informed consent was obtained before participation. Participation was voluntary, and students were assured that their responses would remain confidential and anonymous. Completed questionnaires were stored securely in password-protected digital files accessible only to the research team.

Results and Findings

Participants

A total of 220 students were initially invited to participate in the study through email invitations, classroom visits, and faculty communication platforms. Of these:

- 210 students were examined for eligibility.
- 204 students met the inclusion criteria (i.e., full-time undergraduate status, age 18+, and willingness to participate).
- 198 students completed the full questionnaire and were included in the final analysis, resulting in a 90% response rate.

Table 1: Most Significant Financial Challenges Reported by Financially Excluded Students at Mangosuthu University of Technology (n = 198)

Variable	Category	Frequency (%)
Gender	Female	112 (56.6%)
	Male	86 (43.4%)
Age Group	18–21 years	102 (51.5%)
	22–25 years	73 (36.9%)
	Over 25 years	23 (11.6%)

Year of Study	First-year	49 (24.7%)
	Second-year	61 (30.8%)
	Third year	59 (29.8%)
	Fourth year	29 (14.6%)
Faculty	Engineering	60 (30.3%)
	Natural Sciences	41 (20.7%)
	Management Sciences	36 (18.2%)
	ICT	34 (17.2%)
Funding Status	Applied Science and Health	27 (13.6%)
	Fully NSFAS-funded	121 (61.1%)
	Self-funded	48 (24.2%)
Residence Type	Partially funded	29 (14.6%)
	University residence	79 (39.9%)
	Off-campus	119 (60.1%)

As Figure 1 shows in the first graph, a majority of students (61%) are financially supported through the National Student Financial Aid Scheme (NSFAS), while 24% are entirely self-funded, and 15% receive partial support. This distribution underscores the heavy

dependence on government financial aid among MUT students, reflecting the socio-economic vulnerability of the student population. The relatively high proportion of self-funded and partially funded students may indicate gaps in financial coverage or barriers to accessing public funding, which could leave a significant number of students financially marginalized.

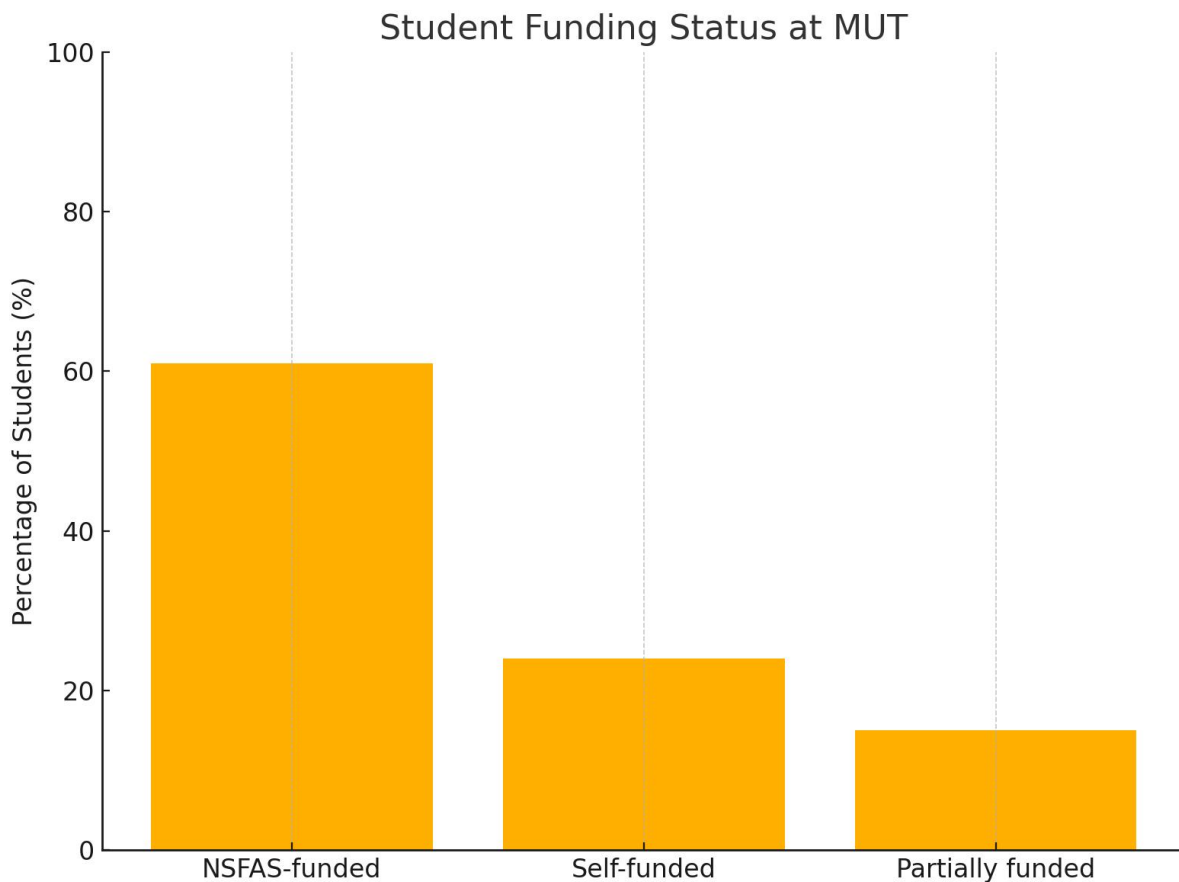


Figure 1: The graph shows Student Funding Status where the majority (61%) of students rely on NSFAS funding, followed by 24% who are self-funded and 15% partially funded.

Figure 2 shows the second graph highlights a stark contrast in academic engagement based on financial status. A staggering 68% of financially excluded students reported frequent class absenteeism, compared to only 22% among financially supported students. This suggests that financial hardship likely related to food insecurity, lack of transportation, or inability to purchase learning materials directly hinders students' ability to attend and participate in academic activities. This absenteeism may also contribute to poor academic performance, reinforcing the cycle of underachievement and dropout risk

Figure 3 illustrates the third graph, revealing that 43% of financially excluded students are uncertain about completing their academic year. This is an alarming figure, as it implies that nearly half of financially vulnerable students may be at risk of academic attrition.

This uncertainty is a clear indicator of the psychological and practical burden of financial exclusion, which not only affects academic engagement but also undermines students' long-term educational aspirations.

Figure 4 illustrates the most significant financial challenges experienced by financially excluded students at Mangosuthu University of Technology. Transport costs emerged as the most frequently reported barrier, affecting 72% of respondents, followed closely by food insecurity at 68%. These challenges are critical as they directly impact students' ability to attend classes and concentrate academically. The inability to afford essential study materials, such as textbooks and printing, was reported by 65% of students, while 39% cited unstable housing as a major concern. These findings highlight how financial hardship extends beyond tuition and fees, influencing daily academic engagement and contributing to absenteeism, reduced academic performance, and increased risk of dropout.

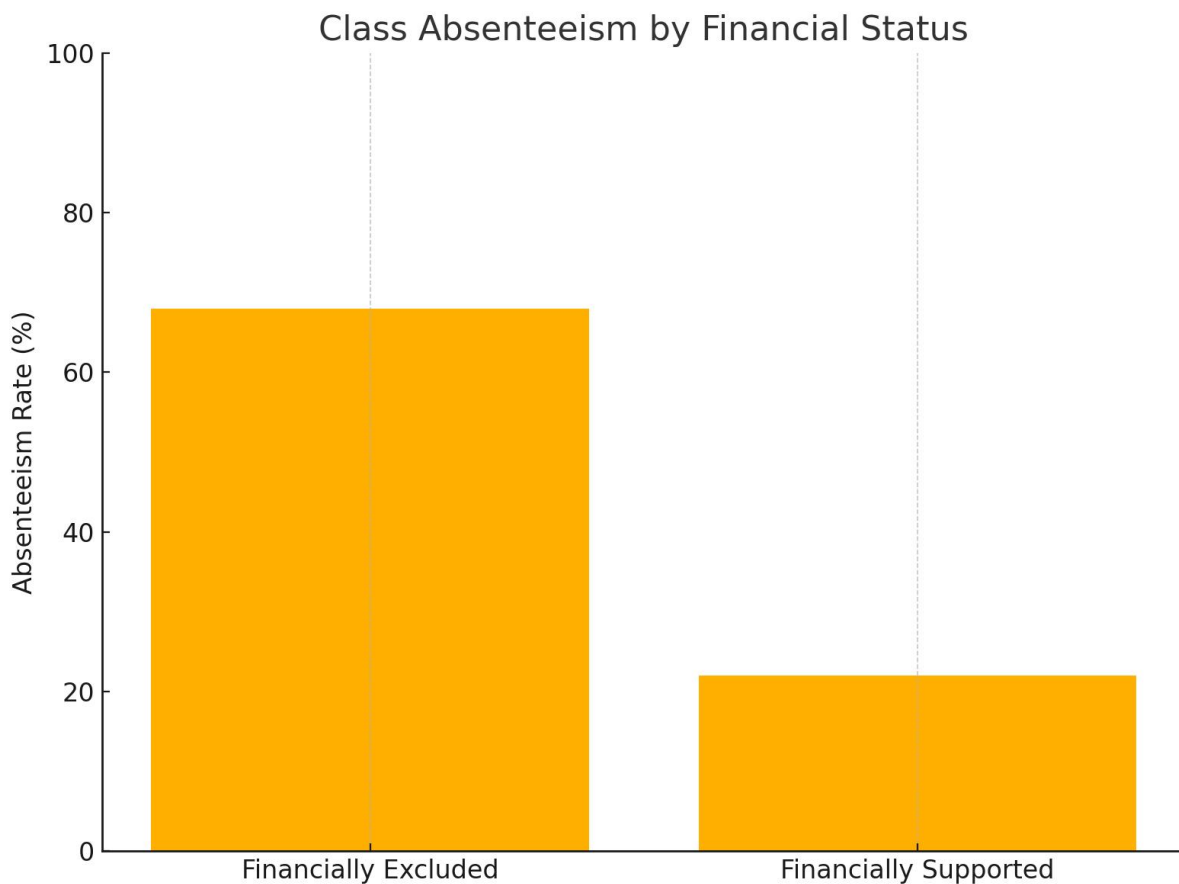


Figure 2: The graph illustrates Class Absenteeism by Financial Status, where students experiencing financial exclusion reported significantly higher-class absenteeism (68%) compared to financially supported peers (22%).

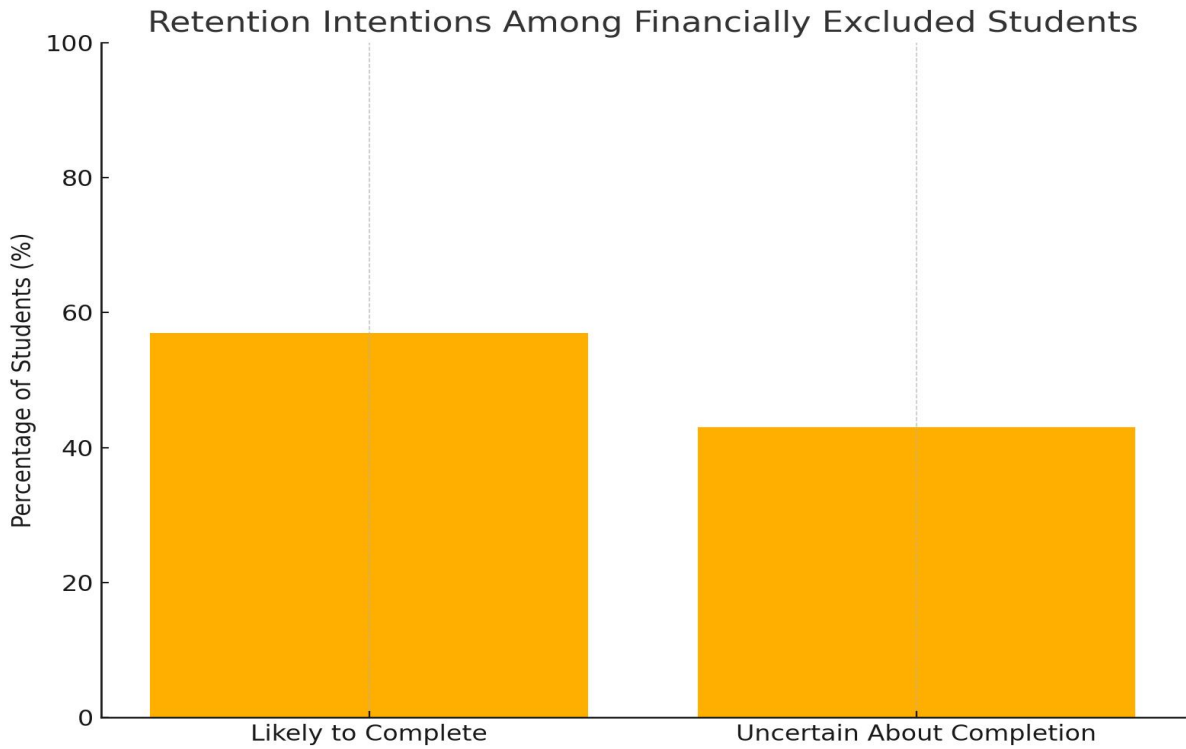


Figure 3: The graphs illustrate Retention Intentions Among Financially Excluded Students where while 57% intend to complete their academic year, 43% of financially excluded students expressed uncertainty about continuing.

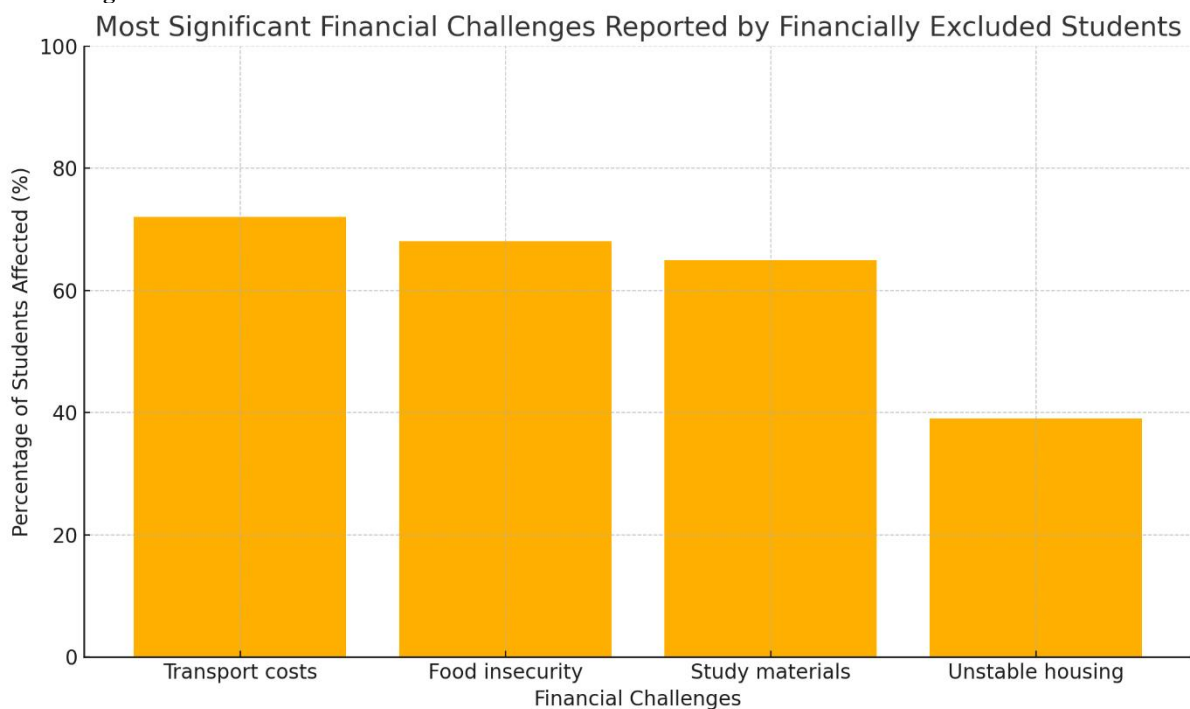


Figure 4: The graph showing the most significant financial challenges reported by financially excluded students

basic needs leads to academic underperformance and psychological distress.

Academic Performance and Retention

The statistically significant negative correlation ($r = -0.51$, $p < 0.01$) between financial hardship and self-reported GPA suggests that students under financial pressure are more likely to perform poorly academically. In addition, 43% of financially excluded students reported being uncertain about their ability to complete the academic year. This demonstrates how financial strain not only disrupts academic engagement but also weakens student confidence and persistence. Such findings support the observations of the Council on Higher Education (CHE, 2016), which links inadequate financial support to extended time-to-degree and increased dropout rates in historically disadvantaged institutions.

Institutional Gaps and Support Needs

The study also revealed gaps in institutional support. Only 31% of financially excluded students were aware of available emergency aid or food support mechanisms. The majority expressed a need for earlier disbursement of NSFAS funds, bridge funding at the start of semesters, and improved access to food and learning materials. These insights suggest that although funding schemes exist, awareness and responsiveness remain insufficient.

Retention Intentions

The impact of financial exclusion is further reflected in Figure 3, which shows that 43% of financially excluded students expressed uncertainty about completing the academic year. This high level of insecurity signals a serious retention risk. It is evident that financial hardship does not only affect day-to-day academic engagement but also erodes students' confidence in their ability to persist through their studies. Students who are unsure about completing their academic programs are more likely to disengage, experience stress-related academic failure, or exit the university system entirely (Tinto, 1993; Thomas, 2012). Collectively, the results indicate that financial exclusion has a profound impact on student performance and retention at MUT. Financially excluded students are more likely to miss classes, fall behind academically, and consider dropping out. These findings align with the national and international literature on the consequences of financial stress in higher education (CHE, 2016; Sibanyoni & Pillay, 2020). The study confirms that while tuition support through NSFAS is critical, it is not sufficient on its own. Many students face indirect financial burdens that threaten their

Student Funding Status

As illustrated in Figure 1, the majority of respondents (61%) were funded by the National Student Financial Aid Scheme (NSFAS), with 24% fully self-funded and 15% receiving partial support. This indicates a high level of financial dependency among the student population, mirroring the broader socio-economic conditions faced by many South African students. The substantial proportion of students who are self-funded or only partially supported underscores the presence of financial vulnerability across the student body. These students are more likely to face exclusion from academic and support resources, which are essential for successful learning and progression.

Impact on Class Attendance

Figure 2 demonstrates a clear disparity in class attendance between financially excluded and supported students. While only 22% of funded students reported frequent absenteeism, a striking 68% of financially excluded students indicated that they often missed classes. These absences were primarily attributed to unaffordable transport, inadequate food, and lack of accommodation stability. This aligns with earlier research by Letseka and Maile (2008), which found that financial hardship is a major contributor to student disengagement and attrition. Mlambo (2021) similarly argues that financial insecurity can erode students' ability to fully participate in the academic environment, ultimately affecting their performance and retention prospects.

Key Financial Challenges

As depicted in Figure 3, the most commonly reported financial barriers were transport costs (72%), food insecurity (68%), lack of study materials (65%), and unstable housing (39%). These findings reinforce the multifaceted nature of financial exclusion, showing that students are not only burdened by tuition but also struggle to meet essential day-to-day academic and living costs. These unmet needs hinder students' concentration, motivation, and ability to perform consistently, as shown in studies by Bojuwoye (2002) and Calitz (2019), who found that inadequate access to

academic progress, issues that must be addressed through broader institutional support strategies. Emergency financial aid, food security programs, transport vouchers, and targeted psychosocial support could serve as critical interventions to bridge this gap and support at-risk students.

Limitations

While this study provides valuable insights into the impact of financial exclusion on student performance and retention at MUT, several limitations must be acknowledged. These limitations may affect the interpretation and generalisability of the findings and should be considered when applying the results to broader contexts. Firstly, the study relies on self-reported data, particularly concerning students' financial status and academic performance. This approach introduces the possibility of response bias, where participants may underreport or exaggerate aspects of their experiences due to social desirability, memory recall issues, or a lack of accurate personal records. As a result, the accuracy of the data may be compromised, potentially affecting the reliability of the conclusions drawn. Secondly, the study employs a cross-sectional research design, capturing data at a single point in time. While this design is effective for identifying relationships between variables, it does not allow for an assessment of how financial exclusion may influence student outcomes over an extended period.

A longitudinal approach would provide a more comprehensive understanding of the long-term effects of financial hardship on academic performance and retention. A third limitation relates to the institutional scope of the research. The study was conducted exclusively at Mangosuthu University of Technology, an institution with a specific socio-economic and academic profile. Therefore, the findings may not be generalizable to all higher education institutions in South Africa, especially those with different student demographics, support structures, or geographic contexts. Finally, the study did not control for external variables that may also affect student outcomes. Factors such as psychological stress, levels of family support, employment during studies, or mental health challenges were not assessed but could significantly influence both academic performance and retention. Including these variables in future studies could offer a more holistic understanding of the student experience and the complex dynamics of financial exclusion.

Generalization

Given its focus on one university of technology, the generalisability of the study is limited. However, the core

findings, particularly the link between financial exclusion, academic underperformance, and student uncertainty, are likely applicable to similar institutions serving low-income and first-generation students. The results offer a foundation for comparative studies across institutions and may guide national policy on student funding and retention. Further research should be conducted at multiple universities using both quantitative and qualitative approaches to deepen the understanding of how financial barriers affect academic success and to inform systemic solutions.

Conclusion

This study has shown that financial exclusion significantly affects student performance and retention at Mangosuthu University of Technology (MUT). Financially excluded students reported higher rates of class absenteeism and greater uncertainty about completing their academic year. A negative correlation was observed between financial hardship and academic performance, confirming that unmet basic needs, such as transportation, accommodation, and food, directly impact learning outcomes and academic confidence. The findings suggest that while government support mechanisms such as NSFAS are critical, they do not sufficiently cover the broader financial needs of many students. Without holistic support, financially vulnerable students remain at risk of academic failure and dropout, undermining institutional goals for student success, equity, and graduation rates.

Recommendations

Based on the findings of this study, several key recommendations are proposed to address the impact of financial exclusion on student performance and retention at Mangosuthu University of Technology (MUT). Firstly, MUT should consider expanding financial aid coverage in collaboration with national funding bodies. Current funding mechanisms such as NSFAS are essential but limited in scope, often covering only tuition and basic accommodation. To reduce academic disruption, financial aid should be extended to address other essential needs, including transportation, food, and educational resources. This expansion would alleviate pressure on students from low-income backgrounds and help ensure equitable access to learning opportunities. Secondly, the university should establish an Emergency Student Relief Fund. This fund would provide short-term financial assistance to students facing acute financial crises that threaten their academic participation. By offering immediate support in times of need, such as

during family emergencies or funding delays, MUT can help prevent absenteeism and reduce dropout rates linked to temporary financial hardship. A third recommendation is to strengthen early warning systems that can proactively identify students at financial risk. The university should implement mechanisms that use indicators such as class attendance, academic performance, and self-reported financial difficulty to detect students who may be struggling. This data-driven approach would enable timely intervention and ensure that support services reach the students who need them most.

MUT should improve financial literacy and planning support for its students. Many students lack foundational knowledge about budgeting, scholarship opportunities, and financial planning. By offering workshops and advisory sessions, the university can empower students to manage their financial resources more effectively and reduce dependency on emergency aid. Finally, it is essential to integrate student support across different units within the university. Financial aid offices, academic advising departments, and student counseling services should work collaboratively to develop a holistic response to financial exclusion. A coordinated support structure will ensure that students receive comprehensive, consistent, and context-sensitive assistance throughout their academic journey.

Biography

Dr. Sibonelo Thanda Mbanjwa is a dedicated lecturer in the Department of Nature Conservation at Mangosuthu University of Technology (MUT), South Africa. He holds a Ph.D. in Environmental Science and specializes in biodiversity conservation, sustainable development, and environmental education. Dr. Mbanjwa is deeply committed to community engagement, student mentorship, and the integration of indigenous knowledge systems into conservation practices. His work bridges academia and practical application, empowering students and communities through innovative teaching, research, and outreach initiatives.

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Competing Interests

The author has no relevant financial or non-financial interests to disclose.

Author Contributions

I, the author, contributed to the study's conception and design. Material preparation, data collection, and research were performed by Mbanjwa S.T. The first draft was written by Mbanjwa S.T.

Data Availability

The data supporting the findings of this study are available upon reasonable request from the corresponding author. Due to ethical considerations and confidentiality agreements, individual participant data cannot be publicly shared. However, anonymized and aggregated data may be provided for academic or research purposes upon institutional approval.

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