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Unseen barriers: Types and magnitudes of academic adversities facing at-risk secondary school students in Tanzania

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Abstract

Academic adversities faced by at-risk students hinder their academic progress and impede national development. This paper investigates the types and magnitude of these adversities in the Tanzanian context. While some at-risk students manage to overcome challenges, many do not. Previous studies have identified various adversities but have paid little attention to the magnitude of the impact of adversities on at-risk students. Using a retrospective cross-sectional design, quantitative data were collected from 384 at-risk students across three universities through structured questionnaires, supplemented by qualitative data from interviews and focus groups. The study identified three major types of adversities: home (8.1 scores), school (5.3 scores), and community (2.0 scores). The findings indicate that both the types and magnitude of adversities vary based on individual circumstances and environmental factors. Understanding these adversities can inform effective interventions, ultimately enhancing academic success and contributing to the country's development.

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Introduction

Academic adversities, which are challenges that at-risk students encounter during their studies, have long been a focus of scholarly attention due to their detrimental impact on the academic advancement of these students. However, there has been little scholarly focus on the major types of adversities and the quantitative data regarding their magnitude. Inadequate improvements have been made to reduce adversities among at-risk students globally over the past few decades. In low- and middle-income countries, such as sub-Saharan Africa (SSA), despite some efforts to assist at-risk students and the provision of educational materials and infrastructure, approximately 70% of students encounter various types of adversities, including learning poverty, during their studies (UNICEF, 2024). This significantly impacts global education objectives and the associated Sustainable Development Goals.

According to UNESCO (2022), there were approximately 244 million children aged between 6 and 18 years out of school globally in 2021 due to various academic challenges. Among these, 57 million were adolescents in lower secondary education and 121 million were youths in upper secondary education. Lévano et al. (2022) indicate that over 90% of students encountering academic adversities globally live in low-income countries. In sub-Saharan Africa (SSA), there were 98 million children out of school in 2021, making it the region with the highest out-of-school population (UNESCO, 2022). The same report highlights that the most significant challenges in SSA are in lower and upper secondary education, where the rates of out-of-school children have remained stagnant since 2010, at 33% and 48% respectively. UNICEF (2016) indicates that more than 50% of at-risk students do not qualify for enrollment in the universities in many Sub-Saharan countries as the results of adverse learning environment they encounter in their lower levels of studies. UNESCO (2024) notes that of the 244 million children out of school globally, more than 6.7 million are in Tanzania. The report further indicates that 70% of children aged 14 to 17 are out of secondary education in Tanzania due to various academic adversities. Despite the alarming number of at-risk secondary school students out of school in Tanzania, there has been limited scholarly attention on the major types and magnitude of adversities that predict secondary school dropout.

Globally, at-risk students are exposed to various types of adversities that affect their academic achievements. UNESCO (2024) identifies global academic challenges, including health crises, climate change, and social injustices. Specifically, academic adversities in America, Europe, and Asia encompass issues such as race and class disparities, living with single parents, natural disasters, and poor health conditions (Waxman, Gray, & Padron, 2003a; Fallon, 2010; Williams, 2011). In sub-Saharan Africa, adversities include inadequate and unevenly distributed educational resources and poor educational infrastructure (Olaniyan & Oje, 2011; Mwangi & Ngugi, 2014; Myende, 2014; Carter, 2015).

UNESCO (2022) highlights poverty, conflicts, and inadequate academic resources as significant adversities in SSA. Ahmed (2024) further demonstrates that poor academic infrastructures, such as a lack of educational materials and facilities, contribute to academic underachievement. Banerjee (2016) shows that students from low socio-economic families often have limited access to educational materials, such as textbooks, which hinders their academic progress. Moreover, Banerjee (2016) argues that students from low socio-economic backgrounds face low expectations from both teachers and peers, which can negatively affect their self-esteem and, consequently, their academic achievement. Lévano et al. (2022) also highlight that household challenges, including food crises, loss of livestock, and the family learning environment, significantly impact students' academic success.

Unlike prior studies that primarily identify adversity types (e.g., Bhattarai et al., 2023; Malhi et al., 2019), this study introduces a quantitative framework to assess adversity magnitudes (Tables 9–11), providing a prioritized ranking of challenges that can guide targeted interventions in Tanzania. Additionally, Gubbels et al. (2019) indicates that previous researches on academic adversities have primarily focused on the types of adversities, with most studies conducted in developed countries. This highlights the need for more studies on academic challenges in developing countries such as Tanzania. Although Gubbels et al. (2019) indicate that certain academic adversities, such as low socio-economic status and poor academic infrastructure, negatively impact at-risk students in both developed countries and sub-Saharan Africa, UNESCO (2021) argues that some educational challenges are specific to social and economic contexts. Mwangi, Okatcha, Kinai, and Ireri (2015)

suggest that adversities vary depending on the individual and the socio-economic environment in which they are situated. This underscores the necessity of identifying adversities in specific contexts, such as Tanzania.

Malhi et al. (2019) indicate that some studies on academic challenges have focused on specific contexts, limitedly addressing the magnitudes of the impacts of these adversities. Similarly, Bhattarai et al. (2023) demonstrate that various studies have identified academic adversities based on general categories, such as socio-economic status, while paying insufficient scholarly attention to analysing the magnitude of these adversities. This underscores the need to identify the magnitudes of adversities. Thus, the current study, in addition to identifying the academic adversities that at-risk students experience in Tanzania, analyses the magnitudes of these adversities. Understanding the magnitude of adversities is crucial for informing policy development and assisting educational practitioners and the government in prioritising funding for the most at-risk groups.

Bronfenbrenner (1979) explains the various environments that can affect an individual's development, including home, school, and community levels. Similarly, Masten (2011) argues that adversities can occur at multiple ecological levels. This study, therefore, focuses on identifying the types of academic adversities and their magnitudes at the home, school, and community levels within the context of Tanzania. Addressing challenges across these different settings offers a comprehensive view of the adversities and enables targeted interventions tailored to each specific environment.

Using a retrospective cross-sectional design, the researcher aimed to answer the following questions: 1) what are the major academic adversities that at-risk students encounter while attending secondary schools in Tanzania? 2) What is the magnitude of these academic adversities faced by at-risk students in secondary schools in Tanzania? By delving deeper into the major types and magnitudes of academic adversities faced by at-risk students within the Tanzanian context, scholars can generate insights that inform the development of targeted interventions and support systems. This, in turn, can empower more at-risk students to navigate and overcome the challenges they encounter, ultimately contributing to their academic achievement and the broader socio-economic development of the country.

Theoretical Framework

This study is guided by Bronfenbrenner's Ecological Systems Theory (EST), developed by Urie Bronfenbrenner in 1979 (Bronfenbrenner, 1979). Bronfenbrenner's theory posits that an individual's development is influenced by their surrounding environment. According to Bronfenbrenner (1979), the theory divides a person's environment into five distinct systems or layers.

The first is the microsystem, which is the layer closest to the individual and includes the structures and institutions with which the person has direct contact, such as home and school. Key components of the microsystem are family, friends, classmates, and teachers. It is considered the most influential level in the ecological system, with the home identified as the primary structure affecting an individual's development.

The second is the mesosystem. This layer consists of the interactions between different parts of a person's microsystem, such as home-school relationships, which can indirectly impact an individual's development.

The third is the exosystem, which refers to settings that do not involve the person as an active participant but still affect them, such as a parent's job promotion or job loss.

The fourth is the macrosystem, which encompasses the broader cultural environment in which the person lives, as well as all other systems that influence them. For example, the socio-economic status of the parents can contribute to the academic adversities faced by at-risk students.

The fifth is the chronosystem. This layer incorporates the dimension of time as it relates to a child's environment, including transitions and shifts throughout one's lifespan, such as divorce or the death of a parent, which can significantly impact development.

The theory suggests that an individual is at the centre of these five layers and is influenced by experiences related to each layer.

EST has been applied in this study to highlight the various variables within different layers that contribute to academic adversities. For instance, the microsystem, which encompasses the closest environments to at-risk students, including home and school, significantly influences the academic challenges they face (Green & Hennefield, 2023). Understanding the types and magnitudes of adversities within each layer is essential for developing holistic interventions and fostering collaboration across different levels that affect the academic achievement of at-risk students. Moreover, identifying which layer has the most negative impact on students' academic performance can assist educational practitioners and policymakers in prioritising their efforts. This focused approach can ultimately enhance the academic achievement of at-risk students and contribute to the broader development of the country.

Methodology

The study employed a mixed-methods approach, incorporating both quantitative and qualitative methods. It was retrospective in nature, focusing on investigating a phenomenon that has occurred in the past (Matt & Matthew, 2013), specifically examining the experiences of university students during their time in secondary school. A cross-sectional design was utilised, enabling the collection of data concerning these past experiences (Patel, 2017).

By utilising a retrospective cross-sectional design, which introduces recall bias due to participants' reliance on memory to report secondary school experiences. This limitation could affect the accuracy of reported adversities, particularly for less salient or emotionally charged events. To mitigate recall bias, the study employed structured questionnaires with clear, context-specific prompts to guide participants' recollections. Additionally, triangulation of data from student interviews, focus group discussions, and key informant interviews with teachers and parents helped validate the reported experiences.

Three universities were included in the study: the University of Dodoma (UDOM), the University of Dar es Salaam (UDSM), and Sokoine University of Agriculture (SUA). These universities were purposively selected for two primary reasons. First, they have the highest enrollment levels among other universities in the country (University Ranking, 2017), attracting students from various geographical regions, socio-economic backgrounds, and cultural contexts. Second, they offer a wide range of programs that combine different disciplines (University Ranking, 2017), accommodating students with diverse professional and career goals. As government institutions with relatively low tuition costs, these universities are more accessible to at-risk students compared to private institutions.

Sampling of at-risk students enrolled in Universities were conducted in three stages: 1) purposive selection on the Universities in which at-risk students were enrolled, 2) stratification of the specific Universities into strata based on collages, schools, department and degree programs to

get representatives from each strata, 3) simple random selection of the at-risk students to be involved in the study. The sample frame of the study included the list of at-risk students enrolled in the three Universities namely UDOM, UDSM and SUA who received education loans from Higher Education Student's Loan Board (HESLB) under the needy category participants. Sample size was determined by using Magnani (1997) formula which takes into consideration the prevalence of the variable of interest, desirable level of confidence and acceptable margin of error (equation 1).

$$n = \frac{t^2 \times p\,(1-p)}{m^2} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where:

n = required sample size

t =confidence level at 95% (standard value of 1.96)

p = estimated prevalence of population of students in the population of interest (50%)

m = margin of error at 5% (standard value of 0.05).

This made the estimated sample size of 384 among the at-risk students who were proportionally distributed in the specific Universities whereas UDOM – 128 students, UDSM – 192 students and SUA – 64 students.

Secondary and primary data collection methods were both employed in this study. At-risk students who gave informed consent were interviewed face to face by the trained researchers using structured questionnaires. Focus Group Discussions (FGDs) were also conducted using FGD guide to 6-10 at-risk students as it is suggested by Barbour (2011). In-depth interviews were employed to key informants (6 teachers, 8 parents, 2 community leaders and 1 education Officer) using the checklist. Pilot test was conducted to 30 students from UDOM to ensure reliability of the tools. Quantitative data were collected using a structured questionnaire while qualitative data from Key Informant Interviews and Focus Group Discussions were collected using interview guides.

The major academic adversities were determined based on the likeliness to occur (probability as reflected by the number of students affected) and their impacts (in terms of weighted mean) to at risk students. With regards to this, two steps were followed.

The first step was to establish the frequency of at-risk students affected by each type of adversity. Adversities with relatively large frequencies were considered to be the major ones. At this step, the frequency of affected students was then related to the likeliness of adversity to occur and categorized in five scales of likeliness as indicated in Table 1.

Table 1: Likeliness of Adversities to Occur

Frequency (%)	Probability scale	Description
95-100	5	The occurrence is certain
75->95	4	Very likely to occur
50->75	3	Likely to occur
25->50	2	Unlikely to occur
1->25	1	Very unlikely to occur

This categorization was adopted from Dumbravă and Iacob (2013)

The second step was to combine the likeliness and the impact of adversities. Impact (in terms of weighted mean) was established based on the responses of at-risk students on how each adversity affected them and the frequency (probability) of at-risk students affected. Where students' explanations resulted to establishment of Likert scale of 1 to 3 scores as indicated in Table 2 which was used in this case.

Table 2: Impact Categorization

Score	Category	Description
3	High	Adversity affects the psychology (confidence and concentration in class), school attendance and health.
2	Moderate	Adversity affects the students psychologically and school attendance
1	Low	Adversity affect the students psychologically

According to Dumbravă and Iacob (2013), the product of likeliness (P) and impact scores (I) results to different levels (magnitude) of adversity to be managed by development stakeholders (Eq 2)

M=P* I.....(2)

Where: M = magnitude of the adversity; P = Likeliness to occur; I = Impact of the adversity.

In this step different colors were used to indicate the levels of adversities as explained in Table 3.

Table 3: Guideline for Magnitude of Adversity

Magnitude (Score)	Color code	Description
0-<5	Green	Moderate
5-<10	Yellow	Severe
10-15	Red	Very Severe

The administration of the UDOM, UDSM and SUA approved the study and all the participants were informed of the study procedures and data collection process. Anonymity and confidentiality were also taken care to ensure ethics throughout the study. The researchers requested for verbal informed consent from all participants before interviews.

To ensure trustworthiness, the study employed several strategies, including triangulation of data sources and data collection methods. The researcher translated the data collection tools into Kiswahili to facilitate understanding among participants. Additionally, a clear explanation of the study's objectives was provided to all participants. Research assistants received training in research skills and ethics to ensure they were well-equipped to conduct accurate and effective interviews.

Findings

Socio-economic Characteristics of the Respondents

Table 4 shows that 77.3% of respondents (n=384) were male, suggesting that female at-risk students face significant adversities, such as familial and socio-cultural responsibilities (e.g., domestic chores), which may hinder their progression to tertiary education (Nyiransabimana et al., 2024). Additionally, 90.8% of respondents were aged 20–25 years, consistent with the typical age range for tertiary education (UNESCO Institute for Statistics, 2019). Voyles (2011) notes that students in this age range are better equipped to handle academic challenges, contributing to their success. The results also indicate that 98.7% of at-risk students enrolled directly in universities, with only 1.3% using equivalent pathways, reflecting strong secondary school performance. Respondents came from all geographical zones in Tanzania, with the Lake Zone contributing the largest share (31%), likely due to population size and cultural adversities, particularly for girls in regions like Shinyanga (UNICEF, 2011).

Thus policymakers should develop intervention programs, such as scholarships and mentorship, to support female at-risk students, addressing socio-cultural barriers like early marriage and domestic responsibilities (Nyiransabimana et al., 2024). Additionally, they should implement programs encouraging at-risk students to enroll within the 20–25 age range to leverage

their resilience to academic challenges (Voyles, 2011). Furthermore, policymakers should initiate community awareness campaigns and enforce laws like the Law of Marriage Act (1971) in regions like the Lake Zone to address cultural barriers, promoting gender equality in education (UNICEF, 2011).

Table 4: Socio-economic Characteristics of the Respondents

Variable	Description	Respondents (%) (n=384)
Sex	Male	77.3
	Female	22.7
Age groups (yrs)	<20	0.3
	20 – 25	90.8
	> 25	8.9
Enrolment status	Direct entry	98.7
	Equivalent	1.3
Geographical zones	Northern	19.5
	Lake	31.0
	Central	9.6
	Coastal	10.9
	Western	4.4
	Southern Highlands	23.2
	Zanzibar	1.3

Source: Field data, 2018

Additionally, Table 4 shows that almost all respondents (90.8%) were aged between 20 and 25 years, which is consistent with the typical age range (20-24 years) for tertiary education (UNESCO Institute for Statistics, 2019). Voyles (2011) argues that students within the required age range tend to be more academically successful, as they are better equipped to handle various challenges, including academic adversities. Understanding the importance of age in academic achievement, policymakers should develop programmes that encourage at-risk students to enroll in schools within the appropriate age range. This will help prepare them for their academic advancement, despite the adversities they encounter in their studies.

The results further reveal that nearly all students (98.7%) were directly enrolled in universities, while only a small percentage (1.3%) enrolled through equivalent pathways. This suggests that the majority of at-risk students performed well in secondary school, qualifying for direct entry into university.

Furthermore, the study indicates that at-risk students came from all geographical zones of Tanzania, with the majority originating from the Laze zone (31%). Population size and cultural aspects could be reason for many at-risk students in Lake Zone as also explained by UNICEF (2011) who urges that many girls in some regions of the zone such as Shinyanga encounter a lot of cultural adversities. Therefore, policymakers should take initiatives to address cultural factors that affect the academic achievement of at-risk students in specific contexts. This will help promote gender equality in education across all regions of the country.

Secondary School Categories

Table 5 shows that more than three quarter (84.9%) of at-risk students were enrolled in government schools during their Ordinary level studies and 86.5% during their Advanced-levels. The reasons for this could be due to the fact the government school are relatively cheap and close (within)

their location thus at-risk students' parents can afford as compared to private schools. This suggest that, the policymakers should keep investing in public schools and improve their educational infrastructures and facilities for academic success of at-risk students. They should also maintain their costs to enable many at-risk students to enroll.

Table 5: Categories of Secondary School At-risk Students Enrolled

Secondary Schools	Categories	Frequency	Percent (%)
O-Level	Government	326	84.9
	Private	58	15.1
A-Level schools	Government	337	86.5
	Private	47	13.5

Source: Field data, 2018

The predominance of at-risk students in government schools (84.9% at O-Level, Table 5) exacerbates school adversities, such as limited textbooks (52.5%, Table 10), due to constrained budgets in public institutions.

Socio Economic Characteristics for Household Heads

Table 6 indicates that 70% of household heads completed only primary education, with education levels ranging from non-formal to tertiary. Additionally, 64.3% are farmers, reflecting the low socio-economic status of at-risk students' families, as defined by HESLB guidelines. These factors limit household income, restricting access to quality educational services (Suitts, 2015). Policymakers should invest in adult education programs to enhance the educational attainment of household heads, improving their income to better support their children's education.

Table 6: Socio Economic Characteristics of Household's Heads

Status	Categories	Frequency	Percent (%)
Education level	Non formal	30	7.8
	Primary	269	70.1
	Secondary	63	16.4
	Tertiary	22	5.7
Employment status	Farmers	247	64.3
	Small businesses	86	22.4
	Formal employment	51	13.3

Source: Field data, 2018

Major Academic Adversities That At-Risk Students Encountered while at Secondary Schools in Tanzania

The results regarding the major types and magnitude of academic adversities encountered by at-risk students during their secondary education were categorized into three main areas: home, school, and community adversities. The following section provides detailed insights into these adversities at each level.

Home Adversities

Home of adversities include financial difficulties, household chores, poor health conditions, cultural believe and poor family relations as indicated in Table 9. The magnitudes for home adversities

ranged from moderate to very severe. This aligns with Bronfenbrenner (1979), who argues that the closer a system is to the individual, the greater its impact.

Table 9: The Magnitude of Home Adversities

Home Adversities	Frequency (%)	Likeliness P	Overall Impact I	Magnitude(M) (M=P*I)
Financial difficulties	97.1	5	3	15
Household chores	76.0	4	2.8	11.2
Poor health condition	26.0	2	3	6
Cultural believes	25.0	2	3	6
Poor family relations	18.2	1	2.7	2.7

Source: Field data, 2018.

The magnitude of each adversity was calculated as the product of its likeliness (P, based on frequency of occurrence, Table 1) and impact (I, based on student-reported effects, Table 2). For instance, financial difficulties, with a likeliness of 5 (97.1% frequency) and impact of 3, yielded a magnitude of 15, indicating a very severe adversity (Table 3).

Financial Difficulties

Table 9 indicates that almost all (97.1%) of at-risk students encountered financial difficulties during their studies. Poor socio-economic status of their household heads and cost sharing in education either for direct or indirect school costs indicated to be among of the reasons for financial difficulties. The school costs included costs for school uniforms, school fees, tuition fees, transport, stationeries and house rents to some of the students whose homes were located far from their schools. These all cost indicated to be higher on the side of at-risk students and their family members to afford and implied to have impact on their academic achievement as one of the students explained:

> I had only one pair of school uniform which I was given by a friend as my parents could not afford to buy for me. I faced a lot of challenges with that one pair. Sometimes I had to miss some classes especially during rain seasons to allow the clothes to dry off after washing them. It was horrible as teachers could not allow us to go to school without school uniforms. (At-risk student, SUA, March 2018).

The high prevalence of financial difficulties (97.1%, Table 9) aligns with UNICEF (2018) findings that cost-related barriers significantly contribute to school dropout in Tanzania. However, this study extends prior research by quantifying the magnitude of this adversity (M = 15, very severe), highlighting its critical impact on at-risk students' academic achievement. In contrast, Banerjee (2016) emphasizes low teacher expectations as a key factor in academic underachievement, which was not directly assessed in this study but could be inferred from the reported shortage of teachers (60.9%, Table 10). In this regard, the government should sustain fee-free education to alleviate the direct costs for at-risk students. Simultaneously, it should develop programs aimed at assisting these students with their indirect costs, such as school uniforms and stationery. This can be achieved by engaging specific communities and NGOs to provide support for at-risk students.

Household Chores

Table 9 show that more than three quarters (76%) of at-risk students were involved in household chores either at home or in labor market during their studies. The household chores ranged

from farm activities to domestic works such us cooking and fetching water which interfered with their studies. The magnitude for household chores indicated to be severe. Reasons for engaging in household chores included: to provide support their parents and to obtain some money to meet their schooling costs. Some students indicated to miss some days to school, did their homework late at night or went to school very tired and with less concentration in classes. Cha (2024) concurs with this as he urges that household chores contributes to absentees and drop outs thus students fail to advance academically. Contrary to this, some studies encourage students to be involved in labor works especially at home for their accountability (Blake, 2015; Yeo, 2016), however, balancing the two (household chores and studies) is important for smooth academic achievement of students. In this context, families need to be educated about the importance of prioritizing educational issues, especially when they conflict with household chores. Additionally, schools should identify at-risk students who face significant household responsibilities and explore ways to support them, such as providing extra tutoring to enhance their academic performance.

Poor Health Conditions

Table 9 indicates that very few (26%) of at-risk students suffered from various diseases such as headache, stomachache, chest, eyes, and legs problems with the very severe magnitude. These diseases were likely to be associated with deprived socio-economic status such as poor housing conditions and limited access to health care as almost all at-risk students came from families with financial challenges (Table 9). This is complemented by narrations from some of the students.

> ...My eyes problem was a result of using of local lamps "koroboi" during my study revisions at night. Our home had no electricity as my parents could not afford it. (At-risk student, UDSM, March 2018).

It is evident from the finding that dealing with a disease especially for students from poor families is very constraining as the treatment costs place a heavy burden on families which they can least afford. This would cause some students to miss some days to schools, have poor school grades and increases the likelihood of school dropout, thus limit their academic advancement. Shaw *et al.* (2015) is in line with this as also indicates that poor health conditions to affect students' school attendance and academic performance. The government should continue to support low-income families by providing accessible and affordable healthcare services, ensuring that at-risk students receive the necessary care without compromising their education.

Cultural Believes

Cultural beliefs, such as superstitions about witchcraft, were reported by 25% of students (Table 9) and were particularly prevalent in rural areas like the Lake Zone (Table 4). Students described fears of being bewitched, leading to loss of concentration and absenteeism. Additionally, gender norms prioritizing male education or early marriage for girls, as noted by Petroni et al. (2017), were evident in FGDs, with female students reporting pressure to marry to alleviate family poverty.

Several signs for ritual were identified such as being attacked by a disease; loss of concentration in class, mental illness and death. Students affirmed to live a fearful life for witches, miss some days in school for treatment and sometimes shift from their home places to relatives to hide from the witches which in one way or the other affected their academic performance. In correspondence with this, one student explained:

> I often felt like I was living in fear of witches. The superstitions around us made it hard to focus on my studies. Sometimes I had to leave my home to stay with

> relatives just for fear of witches. All of this really impacted my ability to perform well academically. (At-risk student, UDOM, March 2018).

Crossman (2024) affirmed that superstition impact the reasoning and thinking capacity of students thus impact academic performance in schools. Therefore, the government should raise awareness in communities and among students about the impact of witchcraft and superstitions. Additionally, families and schools can identify and provide counselling for students who have been affected by these beliefs.

Female students (22.7%, Table 4) reported higher exposure to cultural adversities, such as forced marriage, compared to their male counterparts. In the Lake Zone (31% of respondents), FGDs indicated that girls faced additional risks, such as harassment during long commutes to school, exacerbating absenteeism and dropout risks. Reasons for forced marriage included pressure from parents and relatives, to guarantee their parents against poverty and to protect the cultural norms of their families such as education priority to males. The finding that cultural beliefs, such as early marriage, affect 25% of at-risk students (Table 9) corroborates Petroni et al. (2017), who report that 15 million girls annually face early marriage in sub-Saharan Africa, disrupting their education. In the Tanzanian context, Nyiransabimana et al. (2024) highlight similar gender-specific cultural barriers, suggesting that these issues are deeply rooted in socio-cultural norms, particularly in regions like the Lake Zone. In this regard, the government should enforce laws to protect children's rights against forced marriages. Simultaneously, communities and families need to continue educating themselves to avoid violating children's rights.

Poor Family Relations

The results in Table 9 show very few (18%) of at-risk students had poor relationship with their families during their studies with the magnitude being severe. Reasons for poor family relations included misunderstandings and mistreatments that resulted mainly from the fight of either family properties such as farms after the death of their parents. It was further observed that parental divorce also caused a lot of pain to some students which sometimes resulted to some parents either fathers or mothers being unsupportive to their children. These all are likely to cause stress, depression and frustration among the students that in turn affected their academic achievement (Huang *et al*, 2022). Thus, schools need to identify and counsel students who are passing through conflicts, misunderstands or any kind of stress that impact their studies, in so doing they may be reducing adversities that may impede students' academic achievement. Therefore, schools need to identify and provide counselling for students who are experiencing conflicts, misunderstandings, or any form of stress that impacts their studies. By doing so, they can help reduce the adversities that may hinder students' academic achievement.

> My family struggles had really taken a toll on me. Misunderstandings over property after my father's death caused me a lot of stress, making it difficult for me to concentrate seriously on my studies and personal revision. (At-risk student, SUA, March 2018).

Generally, recall bias may have led to an overemphasis on severe adversities, such as financial difficulties, which were reported by 97.1% of respondents, while less salient issues, such as poor family relations (18.2%), might be underreported. This could skew the perceived magnitude of certain adversities.

School Adversities

Table 10 shows the types of school adversities to include lack of lunch, limited teachers, limited text books, long distances to schools, limited classroom and toilet with the magnitudes ranging from moderate to severe.

Table 10: The Magnitude of School Adversities

School Adversities	Frequency (%)	Likeliness P	Overall Impact I	Magnitude(M) (M=P*I)
Lack of lunch	68.5	3	2.7	8.1
Limited teachers	60.9	3	2.0	6
Limited texts books	52.5	3	2.0	6
Long distance to school	46.4	2	2.0	4
Few desks	43.5	2	2.6	5.2
Limited toilets	39.5	2	2.5	5
Limited class rooms	38	2	2	4
Limited labs.	32	2	2	4

Source: Field data, 2018

The magnitude of each adversity was calculated as the product of its likeliness (P, based on frequency of occurrence, Table 1) and impact (I, based on student-reported effects, Table 2).

Lack of Lunch and or Breakfast

Findings in Table 10 indicate more than half (68.5%) of at-risk students lacked some meals while in schools at the severe magnitude. Lack of some meals was due to luck of lunch meals at school and or breakfast; and lack of breakfast at their homes before going to schools. This implies that some at-risk students spent sometimes more than eight hours without eating anything thus missed essential nutrients for their health. Mukra (2024) indicates that unhealthy diets affects student's memory and concentration in classes. One of the students explained:

> Sometimes I spent more than eight hour without eating as I always missed breakfast at home and we never had lunch at school. With an empty stomach, it wasn't easy to focus in class sometimes. (At-risk student, UDOM, March 2018).

This underscores the importance of families providing their children with breakfast before they go to school. Simultaneously, schools can initiate meal programmes specifically for at-risk students who cannot afford breakfast at home. Communities can also collaborate to ensure these programmes remain sustainable, even when some families or schools are unable to cover all the costs.

Shortage of Teachers

Table 10 indicates shortage of teachers affected more than half (60.9%) of at-risk students with severe magnitudes. The shortage of teachers included unproportions teachers – students' ratio that could have been be due to increased enrolment due free education and lack of teacher for specific subjects especially the science teachers. All these that compromise with learning process

(Subair and Talabi 2015). The increase in student enrolment in both lower and upper secondary schools due to fee-free education highlights the need for the government to recruit more teachers to support this growth and enhance the academic achievement of at-risk students. Additionally, schools can collaborate with nearby universities to engage university students as volunteer or practice teachers. This approach can reduce teaching costs while simultaneously advancing the education of at-risk students.

Limited Text Books

The results in Table 10 show that more than half (52.5%) of at-risk students indicated that shortage of text books at severe magnitude. This meant never having access of some books at all and sharing of one single text book by more than required number (seven) students. It was noted that increased enrollment, financial difficulties and limited budgets in education sector contributed to shortage of text books. This impacted students' performance as explained by some of the students:

> We used to share a single book to more than ten students in the class sometimes. This was very much embarrassing as some students would find it difficult to access the contents thus miss up some concepts. (At-risk student, SUA, March 2018).

The government should allocate additional funds for textbooks to accommodate the increased number of students. At, the same time, students living near public libraries should also be encouraged to utilise the resources available there. Furthermore, communities can be motivated to support school budgets for textbooks, particularly for at-risk students.

Long Distances to School

The results in Table 10 indicate 46.4% of students walked long distances to and from schools while doing their studies. It was noted that some students walked more than ten (10) kilometers to and from school on every school day. Walking long distances can cause students to arrive late to schools or homes, sex abuse to girls, fear of attack especially for albinos, fear of wild animals and difficulties to cross the rivers during rain seasons. A girl from UDSM explained it clearly:

> I vacated more than ten kilometers to school every day, it wasn't easy and sometimes I was late to school. As a girl, I was also scared of harassment and attacks. (At-risk student, SUA, March 2018).

This in return can result to school absentees, poor grades and sometimes even school dropouts. On top of that, Zeragaber *et al*, (2024) indicate a direct relationship between home- school distances and dropout. Therefore, the government needs to allocate a larger budget, particularly in areas where students are most affected by transportation issues. Students should also be educated about the importance of walking to school in groups to mitigate any challenges they may encounter along the way. Additionally, schools can monitor attendance registers to identify students who are missing school due to transportation problems and determine how best to assist them. This can be achieved in collaboration with community members on a voluntary basis.

Lack of desks

As indicated in Table 10, 43.5% of at-risk students lacked desks while schooling at the severe magnitude. Lack of desks may force students to seat down on floors or many students to share a single desk than is required. This can result to students feeling uncomfortable hence lose concentration in classes. Marrison (2019) indicates that poor sitting habits in class results to back pains and fatigue which affect students academically. The government should therefore allocate additional funds for desks. Additionally, they should continue to encourage communities and families

to contribute to the provision of school desks. This will enable students to sit comfortably in class and concentrate better, ultimately leading to improved academic achievement.

Limited toilets

Limited toilets identified to affect 39.5% students at severe magnitudes as indicated in Table 10. Limited toilets threatens the health and academic achievement of the students (WaterAid, 2018) as also one students explained:

> We used to a toilet pit by more than 40 students on average. On top of that, the toilets were unclean and not hydrated thus UTI was very common among students. (At-risk student, UDOM, March 2018).

Thus, the government should allocate additional funds to provide more toilets in accordance with the number of students. Schools must also ensure that toilets are well-maintained, so students are not adversely affected by the negative impacts of dirty or poorly maintained facilities. Furthermore, students should be educated on how to make the best use of the limited toilet facilities available at their school. This approach will promote good hygiene and health among at-risk students, ultimately improving their academic achievement.

Limited classrooms

Results in Table 10 indicates 38% of students were affected by limited classrooms in terms of the ratio of classes per students at the severe magnitude. This is also reflected by explanations from one of the students:

> My seat was in the middle of a crowded classroom, making it difficult for teachers to come over and provide personal assistance when I needed. (At-risk student, UDSM, March 2018).

This is supported by Shan (2012) who indicates that overcrowded classrooms can impact academic success as teachers can hardly give individual instructions and assistance to students. The government needs to consider increasing the budget for school infrastructure, particularly for classrooms. At the same time, communities can initiate classroom-building programs as self-help initiatives to support their children and enhance local schools. Additionally, teachers can implement breakout sessions to improve the learning environment. These measures can contribute to more effective teaching and learning, ultimately leading to improved academic achievement.

Limited laboratories

Table 10 indicates that 32% of at-risk students were affected by limited laboratories (in terms of limited availability of laboratory structure and or laboratory equipment) at a severe magnitude. It is evident that limited laboratories affect student achievement as some fail to reach their dreams or being scientists and opt for art in which sometimes could have never been their capable subjects. The findings concur with that of the Odutuyi (2014) that indicate laboratories learning environment affect students' performance. In this regard, the government can increase funding to enhance learning experiences for students, ultimately leading to improved academic achievement.

Community Adversities

The findings in Table 11 indicate community adversities include: unsupportive community, poor school-community relationships and poor home-community relationship with their magnitudes ranging from moderate to severe. The details of these adversities are explained in the next section

Unsupportive community

Table 11 shows almost half (48%) of at-risk students indicated unsupportive community to be one of their school adversities at the moderate magnitude. It was indicated community ignorance

contributed to communities being unsupportive as they were not aware or sensitive about the at-risks students and their needs. Without community support, at-risk students are likely not to feel the sense of belonging which in one way or the other affects their performance. One of the students explained:

> I tried to seek support from some community members, but they didn't seem to understand my challenges. I felt truly lost in my own community. (At-risk student, SUA, March 2018).

On the other hand, the study by Sebenius (2016) indicates that community support facilitate students engagement in schools thus minimize school absences and reduce the effect on the students' academic attainment. This highlights the need for policymakers to raise awareness in the community about the academic challenges faced by at-risk students and the importance of supporting them. Schools can also facilitate connections between at-risk students and well-wishing families or organizations that can assist with their educational needs. This support can provide students with a sense of belonging and easier access to academic resources, ultimately improving their academic achievement.

Table 11: Magnitude of Community Adversities

Community Adversities	Frequency (%)	Likeliness P	Overall Impact I	Magnitude(M) (M=P*I)
Unsupportive community	48	2	2.0	4
Poor school community relations	11.4	1	1.1	1.1
Poor home community relations	2.3	1	1.0	1

Source: Field data, 2018

The magnitude of each adversity was calculated as the product of its likeliness (P, based on frequency of occurrence, Table 1) and impact (I, based on student-reported effects, Table 2).

Poor Home/School Community Relations

Other community adversities indicated in Table 4.6 were poor home/school-community relationships which on average affected less than half (10%) of at-risk students at moderate magnitude. Explaining on poor home-community relations, one at-risk student said:

> I passed through a very terrible experience which is still in my memory. When my brother passed away, it's almost six years past, now .... Mhh...it was so sad that community members did not contribute for his funeral with the argument that our mum... a poor widow, used not to contribute for other funerals. Yes, she never contributed in most occasions since she had nothing, nothing at all most of the time, unfortunately nobody understood our situation. (At-risk student, SUA, March 2018).

With those dreadful experiences, moderate magnitude for community adversities could be due to the fact that they do not have direct contact with at-risk students thus less likely to affect their academic achievement. This is in line with Bronfenbrenner's (1979) Ecological Systems Theory which recognizes some settings such as school-community relationships that do not involve the person as an active participant, but still affects them. In this context, policymakers can foster strong relationships among schools, families, and the community, which is crucial for the academic wellbeing of at-risk students. It is essential to recognize that at-risk students are integral members

of their communities. When they receive support and achieve academic success, they can ultimately contribute to the development of those communities.

Conclusion and Recommendations

Based on the results from this study, it can be concluded that the types and magnitudes of adversities identified vary depending on the individual—specifically, the at-risk student—and the surrounding environment (context) in which they exist. In this study, the environment encompasses the home, school, and community levels, where at-risk students encounter various adversities throughout their secondary education in Tanzania. The findings further reveal that financial difficulties, inadequate educational resources, and unsupportive community dynamics are particularly detrimental, highlighting the need for targeted interventions.

It is also evident that the magnitudes of adversities within and between each level vary, with home adversities generally exhibiting a higher magnitude on average, followed by school adversities, and lastly community adversities. This leads to the conclusion that the home—being the institution closest to the students—has the most significant impact on academic achievement compared to the school and community levels. This aligns with Bronfenbrenner's Ecological Systems Theory (1979), which posits that individuals are most influenced by the structures or institutions with which they have direct contact.

Therefore, a holistic approach is required, involving policymakers, educational institutions, families, and communities working collaboratively to address the challenges facing at-risk students. Such an approach will enable these students to attain higher education and contribute to resolving development challenges at the household, community, and national levels, ultimately fostering sustainable development.

It is therefore recommended that policymakers, as well as development and education professionals, take action to improve academic achievement among at-risk students, considering the types and magnitudes of adversities. When the magnitude of adversity is very severe, stakeholders should prioritise this issue and take immediate action. If the adversity is severe, it warrants serious concern and higher priority, necessitating prompt measures. For adversities classified as moderate, while they may require attention, they can be considered for action at a later stage.

Additionally, the Tanzanian government should explore public-private partnerships with organizations like UNICEF or local NGOs to fund textbook provision and classroom construction. Furthermore, reallocating a portion of the education budget to prioritize rural schools, where adversities like long distances to school (46.4%, Table 10) are prevalent, could address infrastructure gaps. Schools should also initiate counselling programmes for at-risk students who are facing personal or family challenges. By implementing these measures, the academic achievement of at-risk students can be enhanced, contributing to the overall development of our country.

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